I just read 296 trade agreements

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Abstract

Until now, conventional gravity-equation studies of trade agreements and international trade have assumed all agreements to be equal. This is witnessed by the use of binary variables to account for the presence of such economic integration agreements (EIAs). Although convenient, this instrument fails to account for potential differences between EIAs. Identifying what drives these differences may be crucial to understanding why some EIAs are more effective in promoting trade than others. This paper opens the proverbial black box and takes stock of the provisions covered by almost all EIAs in the world economy to date. This approach provides a new means to quantify the heterogeneity of trade agreements and to study their effects on international trade. The possibility of using EIAs' content to construct an index of trade regulation is explored, as well as an investigation of the determinants of comprehensive trade agreements. The paper also uncovers an important finding in the debate on whether EIAs threaten to undermine or may actually complement the WTO. I find that virtually all EIAs build, to a large extent, on existing WTO policies. A minority of agreements contains provisions that are not currently part of the WTO's mandate. As such, an analysis of what is written in EIAs shows that these agreements are—being firmly rooted in WTO policy—complements, not threats, to the multilateral trade system. However, opening this black box also reveals that not all provisions are good for trade. In fact, some provisions are found to actually decrease trade, which stresses the importance of addressing both the purpose and context of individual provisions and agreements in EIA-based research.

Keywords: gravity model, international trade, trade agreements (*JEL* F13, F15).

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1 Introduction

The expansion of economic integration agreements (EIAs) since the 1990s is a cause of concern for trade policy makers and economists. The issue at hand is whether these agreements could complement or undermine commitments made at the multilateral level of the World Trade Organization (WTO).

One view is that countries may strengthen their existing WTO commitments with a select number of partners who are willing and able to implement more aggressive liberalization than multilaterally feasible. These trade-promoting forces are thought to ultimately seep into the multilateral trade system and stimulate liberalization favoring other WTO members (see Baldwin, 1997).

An opposing view is that countries' frustration with lengthy and complex multilateral negotiations may provide incentives for governments to abandon or stall the process. Instead, they will prioritize on capitalizing on faster and more flexible trade concessions with other like-minded partners. It is argued that by strengthening discriminatory trade policies with EIAs, potentially greater benefits that could have been extended to all through the WTO's non-discriminatory MFN principle is are lost (see Bhagwati, 1993, 2008).

Despite its merits, the empirical literature suggests that the discussion about whether regionalism curses or complements the multilateral trade system should no longer be focused on preferential tariffs alone. Why?

First, the WTO's World Trade Report (WTO, 2011b) finds that non-discriminatory (most-favored nation, MFN) tariff bindings are continually decreasing lower levels. Half of world trade is even subject to zero MFN tariff rates, which is a testimony to the extensive trade liberalization that the multilateral trade system has fostered throughout its existence. But there is only so much tariff-cutting that can be done, as tariff margins grow increasingly thinner. Strikingly, Keck and Lendle (2011) find that this is true for both the WTO and EIAs.

Of course, the Report also acknowledges that there are still ample product categories that enjoy high MFN rates. The "protection for sale" literature (see Grossman and Helpman, 1994) suggests that domestic import-opposing lobbies oppose trade liberalization. Interestingly, Damuri (2009) shows that commodities with a high degree of protection at the WTO-level are typically also exempted from liberalization efforts enforced through regionalism. Taken together, these new facts give the distinct impression that, while tariffs have been largely cut multilaterally, industries that do remain protected in the WTO are also protected from EIAs. The original focus of the "building vs. stumbling block" debate is therefore running out of steam: it is no longer just about tariffs. But then, the first question that arises is: "Why do countries sign EIAs?" One study provides useful clues. Baier and Bergstrand (2004) investigate the economic determinants of trade agreements. The authors demonstrate that similar economic conditions in terms of GDP levels and and capital per worker, geographic proximity and geographical remoteness contribute to the likelihood that countries enforce a common EIA.

The second question is: "What are they signing?" Empirical studies extensively show that there is considerable variation in the degree to which individual EIAs affect

international trade (for an overview, see Kohl, 2012, ch. 4). Moreover, Horn et al. (2010) show that trade agreements differ by design, i.e., the undertakings to which the trade partners are legally bound will vary, depending on the intention and outcome of the negotiations.

Nevertheless, the common approach in empirical studies of trade agreements is to ignore inherent differences between trade agreements. Most notably, the gravity equation only accounts for EIAs with a proverbial binary "straightjacket". All EIAs are treated equally. Countries with an EIA are indicated with a 1, countries that do not have an EIA are assigned a 0. As a consequence, potentially insightful information arising from inherent differences between EIAs is lost.

However, EIAs may differ by design and, in turn, have different outcomes on trade. Paraphrasing George Orwell, "all EIAs are equal, but some are more equal than others." As such, the central aim of this study is to assess differences between EIAs in terms of the provisions that they contain. This information can then be used to construct a quantifiable measure of EIA's comprehensiveness. In doing so, I explore the value-added of explicitly accounting for EIA heterogeneity in empirical studies of international trade. It will be shown, for example, that identifying *what* countries agree to in their EIAs may also explain *why* they sign them.

The contributions and organization of this paper are as follows.

The first contribution is data coverage. In seminal work, Horn et al. (2010) study the contents of 31 EIAs involving either the European Community (EC) or United States. In contrast, the present study extends the sample to contain no less than 296 trade agreements that have been enforced all over the world during the period 1948-2011 among WTO members and non-members alike, making it the most exhaustive survey to date. Section 2 takes stock of the provisions contained in these EIAs and identifies the policy domains contributing to the most prominent similarities and differences among the agreements. In doing so, it addresses the question *what* nations are signing.

The second contribution is quantification. Section 3 uses the information on the EIAs' provisions to quantify the extent to which the agreements' contents are comprehensive. This measure, called the EIA comprehensiveness index, is subsequently used to shed light on the question as to *why* nations sign EIAs. Strikingly, WTO membership will be shown to be of significant importance.

The final contribution is that it explores whether the EIA dummy can successfully be replaced by the "smarter" EIA index in a typical setting of the gravity equation. This is done in section 4 to determine how an EIA's comprehensiveness is associated with its estimated effect on international trade. Remarkably, not all provisions contained in EIAs are trade-promoting. Provisions that are in line with WTO regulations are found to be trade-promoting, while measures that go beyond the WTO's mandate actually *decrease* trade. Section 5 discusses these outcomes and concludes.

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2   What's in an EIA?

2.1   Literature

Horn, Mavroidis and Sapir (2010) provide the first systematic study of 17 EIAs involving the EC and 14 involving the US. The authors take stock of the various policy areas that are covered by the undertakings laid out in these agreements. In doing this, attention is paid to (1) the legal enforceability of the provisions and (2) the extent to which the undertakings are included in the WTO's mandate.

Ad 1. For each provision identified by Horn et al. (2010), they did not only account for a provision being covered by an EIA, but also for its legal enforceability. This is because a policy area could be covered, but the undertaking may be too imprecisely formulated to give rise to a legal obligation that would be enforceable in the event of a dispute settlement proceeding. Provisions are considered to be legally enforceable only if the undertaking "specified at least some obligation that is clearly define, and that is likely to effectively bind the Parties" (Horn et al., 2010, p. 1572). It may also be the case that undertakings are not legally enforceable because they are explicitly excluded from the EIA's dispute settlement procedures.

Ad 2. Provisions that confirm countries' existing multilateral obligations and that may also deepen such commitments are categorized as "WTO+" provisions. Examples of WTO+ provisions are measures on anti-dumping, restrictions on state aid and the liberalization of trade in services. In contrast, "WTOX" provisions involve policy areas that are not covered by the WTO's current mandate and may compromise the WTO's ability to expand into these legal territories with binding, non-discriminatory policy. Examples range from anti-terrorism to environmental and labour market regulations.

Horn et al. find that both the EC and US are strongly committed to legally enforceable WTO+ undertakings, although the EC emphasizes obligations on state trading enterprises (STEs) more than the US. In turn, the US focuses on trade-related investment measures (TRIMs), technical barriers to trade (TBT) and trade in services (GATS). WTOX provisions feature more prominently in the EC's agreements, but often lack enforceability. However, both trade powers also have credible WTOX commitments. The World Trade Report (WTO, 2011b) extends Horn et al.'s coverage to 96 EIAs and shows that traditional WTO+ provisions on tariff liberalization are abundant and legally enforceable. This also applies to the newer WTO+ policy areas such as intellectual property rights and investment and WTOX areas on competition policy and capital mobility.

The contribution of this section is that it takes stock of the content of 296 EIAs, thereby including almost all EIAs that have been enforced to date. It builds on Horn et al. (2010) and WTO (2011b) by examining the coverage and legal enforceability of 13 WTO+ and 4 WTOX policy areas and introduces 9 indicators of institutional quality (IQ).

The remainder of this section is structured as follows. The coding approach employed in this study is described at length in section 2.2, followed by an overview of the underlying EIAs in section 2.3. Section 2.4.1 provides two sets of results. First,

it compares the methodological approaches by benchmarks the present dataset with that of Horn et al. (2010). Second, descriptive statistics of the main trends in the data are presented.

2.2   Approach

This study draws on the Global Preferential Trade Agreements Database (GPTAD), which was developed by the World Bank and the Tuck Centre for International Business World Bank (2011b). GPTAD is an extensive database that contains the legal texts of virtually all trade agreements that have been enforced in the post-war period. Its unique feature is that it makes the agreements text searchable for a large number of keywords.

The provisions contained in each agreement have been classified according to WTO criteria, which allows the user to compare provisions across agreements. So, a researcher interested in measures on anti-dumping and countervailing measures may search the database with these keywords. All agreements containing provisions on this topic will then be listed, along with the relevant chapters, titles and/or articles for each agreement.

As discussed in WTO (2011b), the number of policy areas depends on the identification strategy. Horn et al. (2010), for instance, use chapter and article headings of the agreements in their sample to reach a total of 52 policy areas. An alternative would be to compile a detailed list of each and every single policy area that could conceptually be included in an EIA. Although this approach has the merit of exhaustiveness and precision, which is arguably a preferred route when analyzing a limited set of agreements, it introduces even more complexity when the objective of a study such as this one is to identify the key areas of importance for a substantial number of EIAs.

What are the provisions identified in the present study? First, GPTAD features 13 WTO+ policy areas. These provisions, all of which are part of the WTO's current mandate, are listed in Table 1, along with a brief intuition of how it relates to trade. Table 2 describes the purpose of an additional four WTOX policy domains that extend beyond the scope of the WTO. Finally, details on nine relevant indicators of the agreement's institutional quality (IQ) are provided in Table 3.

Table 1: Provisions in GPTAD: WTO+

Provision	Description
Agriculture	Agreement to liberalize trade in agricultural commodities by reducing/abolishing barriers to trade such as tariffs, quotas and subsidies. Agreement to harmonize agricultural policies may also be included. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994/WTO Agriculture Agreement.
Anti-Dumping & Countervailing Measures (AD & CVM)	Agreement with rules on anti-dumping and countervailing measures that specify the conditions under which parties may deviate from their liberalization commitments to offset injury caused by dumping. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994/WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement).
Customs Administration	Agreement to reduce administrative barriers to trade by simplifying customs administration with respect to issues such as import licensing requirements, valuation and nomenclature. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994/WTO Agreement on Import Licensing Procedures.
Export Restrictions	Agreement to liberalize duties, charges and/or quantitative restrictions on exported goods. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994.
Import Restrictions	Agreement to liberalize duties, charges and/or quantitative restrictions on imported goods. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994.
Intellectual Property Rights (IPR)	Agreement on the protection of intellectual property rights (copyrights, patents, trademarks, etc.) in foreign markets. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).
Investment	Agreement to prohibit discriminatory trade-related investment practices such as local content requirements, trade balancing requirements and foreign exchange restrictions. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the WTO Agreement on Trade-Related Investment Measures (TRIMS).
Public Procurement	Agreement to grant access to foreign parties and further liberalize the market for public procurement. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the WTO Agreement on Government Procurement (GPA).
Sanitary & Phytosanitary Measures (SPS)	Agreement to simplify and/or harmonize import requirements with respect to food safety and animal and plant health. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the WTO Sanitary and Phytosanitary (SPS) Agreement.
Services	Agreement to liberalize trade in services. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the General Agreement on Trade in Services (GATS).
State Aid	Agreement to restrict any form of aid that could give rise to unfair competitive advantages. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994/WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement).
State Trading Enterprises (STE)	Agreements to ensure market access and non-discriminatory behaviour by governmental enterprises. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the GATT 1994.
Technical Barriers to Trade (TBT)	Agreements to reduce barriers to trade by simplifying and harmonizing standards and technical barriers such as testing and certification procedures. Undertakings may be in line with, deepen and/or broaden the scope of provisions specified in the WTO Agreement on TBT.

Source: World Bank (2011*b*).

Table 2: Provisions in GPTAD: WTOX

Provision	Description
Capital Mobility	Agreement to improve capital mobility by relaxing restrictions on foreign capital and facilitating cross-border financial transfers.
Competition	Agreements on competition policy to restrict or prohibit monopolies' activities to promote undistorted competition.
Environment	Agreement to uphold environmental laws, provided that they are not used as disguised barriers to trade. Commitments to enforce environmental laws so as not to attract (foreign) business activity that would exploit environmental resources
Labour	Agreement to uphold labour laws so as not to attract (foreign) business activity that would exploit employees and/or to facilitate labour mobility.

Source: World Bank (2011b).

Table 3: Provisions in GPTAD: Institutional Quality

Provision	Description
Consultations	Signatories wishing to address issues arising from the implementation of the EIA, or their broader economic partnership in general, may engage in a diplomatic dialogue known as consultations "with a view to finding a mutually satisfactory solution". When specified, consultation procedures provide details on when and where consultations are to be held, which parties (e.g. non-governmental organizations, external advisors, etc.) may be allowed to attend, and the issues that may be addressed. In most cases, signatories must first attempt to solve disputes according to consultation procedures before having access to the EIA's dispute settlement mechanism.
Definition	By providing definitions of key concepts, signatories increase the clarity, scope and certainty of their commitments.
Dispute Settlement	By agreeing on dispute settlement procedures, signatories reduce ambiguity and create a judicially binding mechanism that ensures the implementation of the EIA.
Duration & Termination	Signatories reduce ambiguity about their commitments by specifying the duration of the EIA and the means by which it can be terminated.
Evolutionary Clause	Signatories commit themselves to a built-in periodic review mechanism that facilitates amendments and improvements to the original EIA.
Institutional Framework	The signatories provide details on the institutional framework that will be used to oversee the implementation of the EIA.
Objectives	The signatories enhance the clarity and context of their commitments by specifying the objectives they envision by signing the EIA.
Plan & Schedule	The signatories commit themselves to a specific timetable by detailing the schedule according to which the EIA is to be implemented.
Transparency	The signatories commit themselves to creating greater institutional transparency, e.g. by agreeing on how and when information on economic policy will be shared.

Source: World Bank (2011b).

Having identified the provisions that can be extracted from GPTAD, every EIA can now be coded. GPTAD is used to assign a binary variable to each policy area that is covered by the EIA under investigation. Policy areas for which the agreement contains a provision are coded 1 and 0 otherwise.

In order for a provision to be considered "covered" (C) and scored 1, all that is needed is for the provision to reflect agreement by both parties to somehow cooperate with a view of trade liberalization. The issue of legal enforceability is not relevant at this stage.

Hence, a provision calling for an exchange of Parties' information on their environmental policies would score a 1, but so would provisions that give rise to obligations to protect natural resources. The odd provisions that only state that Parties reserve the right to protect their natural resources are scored 0 because such measures are essentially protectionist and do not require any form of cooperation.

A provision that is also deemed to be legally enforceable scores 1 for "enforceability" (E). The criteria build on those laid down in Horn et al. (2010). These provisions typically use the word "shall". For example: "Parties shall grant service providers treatment no less favorable than that accorded to their own."

Timing is also important. A provision calling for gradual liberalization of government procurement policies, without indicating the date by which the liberalization must be complete, scores 0. This is because it is unclear when the Party must be able to meet that particular requirement.

Provisions stating that Parties "shall negotiate", "shall consider" or "shall cooperate" are also difficult to be enforced. Negotiations may still fail and not abolish trade barriers. It also seems very unlikely that it would be able to prove that Parties have not given due consideration to a matter or that they have not cooperated.[1]

For clarity and ease of replication, several excerpts from actual trade agreements are provided below. Table 4 shows examples of WTO+ provisions and classifies them as being either enforceable or non-enforceable, based on the criteria discussed above. The same is done for WTOX provisions in Table 5.

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[1] All IQ provisions enjoy a 100 percent legal enforceability because they provide the underlying organizational mechanism that are needed to implement the agreed upon commitments, including consultations and dispute settlement.

Table 4: Coding examples: WTO+

Provision	Covered, but not legally enforceable	Covered and legally enforceable
AD & CVM	(. . .) The provisions of this Article shall not be subject to the dispute settlement provisions of this Agreement.	Each Party retains its rights and obligations under Article VI of GATT 1994 and the WTO Agreement, and their successors, with regard to the application of antidumping and countervailing duties.
Customs Administration	The Member States recognise that the objectives of this Agreement may be promoted by harmonisation of customs policies and procedures in particular cases. Accordingly the Member States shall consult at the written request of either to determine any harmonisation which may be appropriate.	The Parties shall apply the provisions of Article VII of GATT 1994 and the WTO Agreement on the Implementation of Article VII of GATT 1994 for the purposes of determining the customs value of goods traded between the Parties.
IPR	Each Party, recognizing the importance of protecting intellectual property in further improving the business environment in the Party, shall: (a) endeavor to improve its intellectual property protection system; (b) comply with the obligations set out in the international agreements relating to intellectual property to which it is a party; (c) endeavour to become a party to international agreements relating to intellectual property to which it is not a party; (d) endeavour to ensure transparent and streamlined administrative procedures concerning intellectual property; (e) endeavor to ensure adequate and effective enforcement of intellectual property rights; and (f) endeavor to further promote public awareness of protection of intellectual property.	The Parties agree that the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights shall govern and apply to all intellectual property issues arising from this Agreement. // Each Party affirms its rights and obligations with respect to each other Party under the TRIPS Agreement. Each Party shall accord to the nationals of each other Party treatment no less favourable than it accords to its own nationals with regard to the protection1 of intellectual property, subject to the exceptions provided in the TRIPS Agreement and in those multilateral agreements concluded under the auspices of WIPO. // The Parties shall grant and ensure adequate and effective protection of intellectual property rights on a non-discriminatory basis, including effective measures for enforcing such rights against infringement, and particularly against counterfeiting and piracy.
Investment	To promote investments, the Parties agree to enter into negotiations in order to progressively liberalise the investment regime. // To promote investments and to create a liberal, facilitative, transparent and competitive investment regime, the Parties agree to enter into negotiations in order to progressively liberalise their investment regimes, strengthen cooperation in investment, facilitate investment and improve transparency of investment rules and regulations, and provide for the protection of investments. // If a Party grants to a non-Party, after the entry into force of this Agreement, a more favourable investment framework than under this Agreement, it shall afford adequate opportunity to the other Parties to seek to obtain, including through possible negotiations, comparable conditions, on a mutually beneficial basis.	The Sides will not: - impose local taxes or charges, directly or indirectly on goods, covered by the present agreement, of another Side, at the rate that exceeds the level of relevant taxes or charges imposed on analogous goods of the local production or those produced in third countries; - introduce special restrictions or demands towards export and import of goods, covered by the present agreement, that in similar cases are not used towards analogous goods of the local production or those produced in third countries;- use different rules towards warehousing, unloading, storage, shipment of goods, originated from another country to the agreement, as well as towards repayments and remittances, with the exception of rules that in similar cases are used towards domestic goods or those originated from third countries.

Table 4 (continued)

Provision	Covered, but not legally enforceable	Covered and legally enforceable
Public Procurement	The Parties will progressively develop their respective rules, conditions and practices on public procurement and shall grant suppliers of the other Party access to contract award procedures on their respective public procurement markets not less favourable than that accorded to companies of any third country. // The Parties consider the liberalization of their respective public procurement markets as an objective of this Agreement. The Parties aim at opening up of the award of public contracts on the basis of non-discrimination and reciprocity. // The Parties shall, subject to their laws, regulations and policies, exchange information in respect of their government procurement policies and practices.	The Parties consider the opening up of the award of public contracts on the basis of non-discrimination and reciprocity, to be a desirable objective. 2. As of the entry into force of this Agreement, both Parties shall grant each others companies access to contract award procedures a treatment no less favourable than that accorded to companies of any other country.
SPS	The Parties shall aim to reduce differences in standardisation and conformity assessment. To this end the Parties shall conclude where appropriate agreements on mutual recognition in the field of conformity assessment.	Each party affirms its rights and obligations with respect to each other Party under the SPS Agreement. // Each Party undertakes not to adopt or maintain any prohibition or quantitative restriction on the importation of any goods of the other Parties or on the exportation of any goods destined for the territory of the other Parties, except in accordance with its WTO rights and obligations or other provisions in this Agreement. // The Parties reaffirm the rights and obligations relating to SPS measures under the SPS Agreement among those Parties that are parties to the said Agreement. // The Parties shall apply their regulations in sanitary and phytosanitary matters in a non-discriminatory fashion and shall not introduce any measures that have the effect of unduly obstructing trade.

Table 4 (continued)

Provision	Covered, but not legally enforceable	Covered and legally enforceable
Services	The Parties agree to enter into negotiations to progressively liberalise trade in services with substantial sectorial coverage. // Each Party shall provide free transit over the territory of its country for goods originated within the customs territory of the other Party or having originated in third countries and destined for the customs territory of the other Party or any third country, and shall supply the exporters, importers, and shipping companies involved in such transit operations with all the available resources and services required for the execution of these transit operations on terms (including financial) that are not worse than the terms for providing the same resources and services to exporters, importers, and national shipping companies of any other third country. Contracting Parties shall conclude a special agreement on transit.	Each Party shall accord services and service suppliers of any other Party treatment no less favourable than that provided by those of the Party. // There shall be free movement of services.
State Aid	The Parties shall review the issue of disciplines on subsidies related to trade in services in the light of any disciplines agreed under Article XV of GATS with a view to their incorporation into this Agreement.	Each Party agrees to eliminate and not reintroduce all forms of export subsidies for agricultural goods destined for the other Parties. // The following are incompatible with the proper functioning of this Agreement in so far as it affects trade between the Contracting Parties: any state aid which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods. // Contracting Parties shall not use state aid in the form of subsidies to enterprises or in any other form if the result of such state aid would be the distortion of normal economic conditions in the territory of the other Contracting Party. // The Parties confirm their rights and obligations arising from the WTO Agreement on Subsidies and Countervailing Measures.

Table 4 (continued)

Provision	Covered, but not legally enforceable	Covered and legally enforceable
STE	The Contracting Parties shall adjust progressively any state monopoly of a commercial character so as to ensure that no discrimination regarding the conditions under which goods are procured and marketed exists between nationals of the Contracting Parties.	The Parties shall adjust progressively any state monopoly of a commercial character so as to ensure that by the date of entry into force of this Agreement, no discrimination regarding the conditions under which goods are procured and marketed exists between nationals of the Parties. // Each Party shall ensure that any state monopoly supplier of a service in its Area does not, in the supply of the monopoly service in the relevant market, act in a manner inconsistent with the Partys commitments under this Chapter. // The States Parties to this Agreement shall ensure that any state monopoly of a commercial character be adjusted, subject to the provisions laid down in Protocol D, so that no discrimination regarding the conditions under which goods are procured and marketed will exist between nationals of Party 1 and of Party 2.
TBT	The parties agree to strengthen their co-operation in measures including technical barriers to trade/non-tariff measures. // The Member States shall:(a) examine the scope for taking action to harmonise requirements relating to such matters as standards, technical specifications and testing procedures, domestic labelling and restrictive trade practices; and (b) where appropriate, encourage government bodies and other organisations and institutions to work towards the harmonisation of such requirements.	Member States shall eliminate other non-tariff barriers on a gradual basis within a period of five years after the enjoyment of concessions applicable to those products. // Each Party undertakes not to adopt or maintain any prohibition or quantitative restriction on the importation of any goods of the other Parties or on the exportation of any goods destined for the territory of the other Parties, except in accordance with its WTO rights and obligations or other provisions in this Agreement. // The Parties reaffirm the rights and obligations relating to standards, technical regulations and conformity assessment procedures under the TBT Agreement among those Parties that are parties to the said Agreement. // The rights and obligations of the Parties, relating to technical barriers to trade (technical regulations, standards and conformity assessment procedures) and the respective measures, shall be governed by the WTO Agreement on Technical Barriers to Trade.

Source: World Bank (2011*b*)   .

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Table 5: Coding examples: WTOX

Provision	Covered, but not legally enforceable	Covered and legally enforceable
Capital Mobility	Not available	Each Party shall permit all transfers relating to a covered investment to be made freely and without delay into and out of its territory. Such transfers include: (a) contributions to capital; (b) profits, dividends, interest, capital gains, royalty payments,management fees, and technical assistance and other fees; (c) proceeds from the sale of all or any part of the covered investment or from the partial or complete liquidation of the covered investment; (d) payments made under a contract entered into by the investor, or the covered investment, including payments made pursuant to a loan agreement; (e) payments made pursuant to paragraphs 1 and 2 of Article 10.6 and Article 10.11; and (f) payments arising under Section B. 2. Each Party shall permit returns in kind relating to a covered investment to be made as authorised or specified in a written agreement between the Party and a covered investment or an investor of the other Party. 3. Each Party shall permit transfers relating to a covered investment to be made in a freely usable currency at the market rate of exchange prevailing on the date of transfer.
Competition	The Commission shall adopt, at the General Secretariats proposal, the rules which are needed to guard against or correct practices which may distort competition within the Subregion, such as dumping, improper price manipulations, manoeuvres made to upset the normal supply of raw materials and others with a like effect. In this respect, the Commission shall consider the problems that could derive from the imposition of levies and other restrictions on exports.	Where a Partys monopoly supplier competes, either directly or through an affiliated company, in the supply of a service outside the scope of its monopoly rights and which is subject to that Partys specific commitments, the Party shall ensure that such a supplier does not abuse its monopoly position to act in its territory in a manner inconsistent with such commitments.

Table 5 (continued)

Provision	Covered, but not legally enforceable	Covered and legally enforceable
Environment	Member Countries shall undertake joint policies that enable a better use of their renewable and non-renewable natural resources and the preservation and improvement of the environment.	A Party shall not fail to effectively enforce its environmental laws, through a sustained or recurring course of action or inaction, in a manner affecting trade between the Parties, after the date of entry into force of this Agreement. // Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between the Parties where the same conditions prevail, or a disguised restriction on international trade, nothing in this Chapter shall be construed to prevent the adoption or enforcement by a Party of measures: (a) necessary to protect public morals; (b) necessary to protect human, animal or plant life or health. // Each Party recognizes that it is inappropriate to encourage investments by investors of the other Party by relaxing its environmental measures. To this effect each Party should not waive or otherwise derogate from such environmental measures as an encouragement for establishment, acquisition or expansion of investments in its Area.
Labour	Cooperation between the Parties will complement the cooperation set out in other Chapters of this Agreement. Areas of cooperation may include but should not be limited to: science, agriculture including the wine industry, food production and processing, mining, energy, environment, small and medium enterprises, tourism, education, labour, human capital development and cultural collaboration. Cooperation on labour and employment matters of mutual interest and benefit will be based on the concept of decent work.	Neither Party shall require labour market testing, labour certification tests or other procedures of similar effect as a condition for temporary entry in respect of natural persons on whom the benefits of this Chapter are conferred. // Each Party shall grant entry and temporary stay to nationals of the other Party in accordance with this Chapter including the provisions of Annex 13.

Source: World Bank (2011*b*)   .

It is useful to reflect on some of the comments on Horn et al. (2010)'s notion of legal enforceability discussed in WTO (2011b, p. 129-130).

Firstly, the question whether an undertaking is sufficiently formulated to give rise to an obligation is a matter of treaty interpretation. For example, dispute settlement rulings of the WTO Appellate Body have shown that obligations may arise from statements using the word "should" instead of "shall".

Secondly, provisions that are excluded from the agreements dispute settlement system may still be subject to dispute settlement flowing from commitments that the Parties may have elsewhere. This argument applies not only to WTO+ provisions related to other commitments at the WTO, but also to WTOX commitments arising from, for example, international treaties on labour standards and environmental protection.

Thirdly, the legal enforceability of a provision that allows the use of countermeasures to enforce rights or obligations may be limited by commitments stemming from other agreements.

Finally, provisions not subject to dispute settlement may still be enforceable through political and diplomatic channels, but the reverse could also hold: it may not at all times be possible to enforce provisions which are subject to dispute settlement, due to political, non-legal and/or resource considerations.

Indeed, it is important to acknowledge that there are limitations to the extent to which the legal enforceability of an undertaking can be determined with absolute certainty. However, it is still useful to differentiate, in one way or another, between those undertakings that instill in the reader some sense of concrete and imminent policy liberalization and those that merely reflect a loosely defined agreement to explore possible avenues of future cooperation.

2.3 Data

Table 6 lists the 344 EIAs that are or have been enforced in the period 1948-2011. 296 of these agreements have been classified by GPTAD and included in this study.

As discussed above, this is the first study to date that quantifies the provisions contained in such a large number of EIAs. Earlier studies by Horn et al. (2010) and WTO (2011b) rely on restricted samples of 31 and 96 EIAs, respectively.

Contrary to Horn et al. (2010) and following WTO (2011b), agreements with non-WTO members are included. This is useful to investigate possible differences or similarities between the nature and number of provisions contained in (non) WTO members' trade policy commitments.

Moreover, the sample is not restricted to only those agreements that have been notified to the WTO. The reason for this is because notification is neither a legal prerequisite for governments to be able to enforce an EIA, nor some form of WTO endorsement that it is a real EIA. Of the 296 EIAs in the sample, 193 have been notified to the WTO.Finally, agreements are included even if they have already expired. This is because these agreements also contain information about the areas for which their governments (at some point in time) enforced the specific trade policies that are of interest in this study.

Table 6: EIAs by year of enforcement

Year	EIA
<1950	Belgium-Netherlands-Luxembourg Customs Union (Benelux) (1957)*, Southern African Customs Union (SACU).
1958	European Community (EC).
1960	European Free Trade Association (EFTA).
1961	Central American Economic Integration Agreement (CAEIA) (1966)*
1966	Central American Common Market (CACM) (1970)*
1968	Association of Southeast Asian Nations (ASEAN) Free Trade Agreement (AFTA).
1971	EC-Malta (2004), EC-Overseas Countries and Territories (EC-OCT).
1973	Caribbean Community (CARICOM), Costa Rica-Panama, EC-Cyprus (2004), EC-Egypt, EC-Iceland, EC-Norway, EC-Switzerland-Liechtenstein, Honduras-Panama.
1976	Asia Pacific Trade Agreement (APTA), Australia-Papua New Guinea (PATCRA), EC-Algeria.
1977	EC-Syria.
1981	Gulf Cooperation Council (GCC), India-Maldives, Latin American Integration Association (LAIA), South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA/PACER).
1982	Australia-New Zealand (ANZCERTA), Organization of Eastern Caribbean States (OECS)*.
1984	China-India.
1985	Economic Community of Central African States (ECCAS), Economic Cooperation Organization (ECO), Israel-US.
1988	Andean Community (Cartanega).
1989	Arab Maghreb Union (AMU), Canada-US Free Trade Agreement (CUSFTA) (1994)*.
1990	Central American Common Market (CACM) (revival)
1991	EC-Andorra, India-Nepal, Laos-Thailand, Mercado Comun del Sur (MERCOSUR).
1992	Armenia-Russia, Belarus-Ukraine, Czech Republic-Slovak Republic (2004), EC-Czech Republic (2004), EC-Hungary (2004), EC-Poland (2004), EC-Slovak Republic (2004), EFTA-Czech Republic (2004), EFTA-Slovak Republic (2004), EFTA-Turkey, Faroe Islands-Norway, Kyrgyz Republic-Russia.
1993	Armenia-Moldova, Bolivia-Chile, CARICOM-Venezuela, Chile-Venezuela, EC-Bulgaria (2007), EC-Romania (2007), Economic Community of West African States (ECOWAS), EFTA-Bulgaria (2007), EFTA-Hungary (2004), EFTA-Israel, EFTA-Poland (2004), EFTA-Romania (2007), Russia-Ukraine.
1994	Armenia-Kyrgyz Republic, Armenia-Ukraine, Baltic Free Trade Area (BAFTA) (2004)*, Bolivia-Mexico*, Central European Free Trade Agreement (CEFTA), Common Market for Eastern and Southern Africa (COMESA), Commonwealth of Independent States (CIS), Costa Rica-Mexico, European Economic Area (EEA), Faroe Islands-Switzerland, Georgia-Russia, Kazakhstan-Ukraine, Melanesian Spearhead Group (MSG), Moldova-Romania (2007), North American Free Trade Agreement (NAFTA), Turkmenistan-Ukraine, Ukraine-Uzbekistan, West African Economic and Monetary Union (WAEMU).
1995	Armenia-Cyprus (2004)*, Armenia-Georgia, Armenia-Iran, Armenia-Turkmenistan, Association of Caribbean States (ACS)*, Azerbaijan-Ukraine, CARICOM-Colombia, Colombia-Mexico-Venezuela*, EC-Estonia (2004), EC-Latvia (2004), EC-Lithuania (2004), EFTA-Slovenia (2004), Estonia-Ukraine (2004), Georgia-Ukraine, Kazakhstan-Kyrgyz Republic, Kyrgyz Republic-Moldova, Kyrgyz Republic-Ukraine, South Asian Preferential Trade Agreement (SAPTA) (2006).
1996	Azerbaijan-Georgia, Canada-Chile, Canada-Israel, Croatia-Macedonia, Czech Republic-Estonia (2004), Czech Republic-Israel (2004), Czech Republic-Latvia (2004), Czech Republic-Lithuania (2004), EC-Turkey, EFTA-Estonia (2004), EFTA-Latvia (2004), EFTA-Lithuania (2004), Estonia-Slovak Republic (2004), Estonia-Slovenia (2004), Georgia-Turkmenistan, Israel-Turkey, Kyrgyz Republic-Uzbekistan, Latvia-Slovak Republic (2004), Latvia-Slovenia (2004), Lithuania-Poland (2004), Lithuania-Slovak Republic (2004), Lithuania-Slovenia (2004), Macedonia-Slovenia (2004).
1997	Armenia-Canada*, Croatia-Slovenia (2004), Czech Republic-Turkey (2004), EC-Faroe Islands, EC-PLO, EC-Russia*, EC-Slovenia (2004), Estonia-Faroe Islands (2004), Estonia-Turkey (2004), Eurasian Economic Community (EAEC), Georgia-Kazakhstan, Hungary-Israel (2004), Hungary-Turkey (2004), Israel-Poland (2004), Israel-Slovak Republic (2004), Lithuania-Turkey (2004), MERCOSUR-Bolivia, Mexico-Nicaragua, Romania-Turkey (2007), Slovak Republic-Turkey (2004).
1999	Armenia-Kazakhstan, Bulgaria-Macedonia (2007), Chile-Costa Rica, Chile-El Salvador, Chile-Guatemala*, Chile-Honduras*, EFTA-Morocco, EFTA-PLO, Macedonia-Turkey, Poland-Turkey (2004).

Table 6 (continued)

Year	EIA
2001	Albania-Macedonia, Bosnia & Herzegovina-Macedonia, Bosnia & Herzegovina-Slovenia (2004), Bulgaria-Estonia (2004), Bulgaria-Israel, Bulgaria-Lithuania (2004), Canada-Costa Rica, Central America-Mexico, EC-Macedonia, EFTA-Macedonia, EFTA-Mexico, Israel-Romania (2007), Macedonia-Ukraine, Mexico-Northern Triangle, Northern Triangle*, Tajikistan-Ukraine, Vietnam-US.
2002	Albania-Bosnia & Herzegovina*, Albania-Bulgaria (2007), Albania-Croatia, Armenia-Estonia (2004)*, Bosnia & Herzegovina-Romania (2007), Bosnia & Herzegovina-Serbia & Montenegro*, Bosnia & Herzegovina-Turkey, Bulgaria-Latvia (2004), CARICOM-Dominican Republic, Croatia-Turkey, EC-Croatia, EC-Jordan, EC-San Marino, EFTA-Croatia, EFTA-Jordan, El Salvador-Panama, Guatemala-Panama*, Japan-Singapore, Pakistan-Sri Lanka.
2003	Afghanistan-India, Albania-Moldova, Albania-Romania (2007), Albania-Serbia & Montenegro*, ASEAN-China, Australia-Singapore, Bosnia & Herzegovina-Bulgaria (2007), Bosnia & Herzegovina-Moldova, Bulgaria-Moldova (2007)*, Bulgaria-Serbia & Montenegro (2007)*, CEFTA-Croatia (2007)*, Chile-South Korea, Chile-US, China-Hong Kong, China-Macao, Croatia-Lithuania (2004), Croatia-Moldova, Croatia-Serbia & Montenegro, Dominican Republic-Panama, EC-Chile, EC-Lebanon, EFTA-Singapore, Mexico-Uruguay*, Moldova-Serbia & Montenegro, Moldova-Ukraine, Pacific Island Countries Trade Agreement (PICTA), Romania-Serbia & Montenegro (2007), Singapore-US.
2004	Australia-Thailand, Australia-US, Bosnia & Herzegovina-Croatia, CARICOM-Costa Rica, Common Economic Zone (CEZ), EC-Fiji-Papua New Guinea*, EC-Serbia & Montenegro*, EFTA-Chile, Japan-Mexico, Jordan-Singapore, Macedonia-Moldova, Macedonia-Romania (2007), Morocco-Turkey, Morocco-US, Panama-Taiwan, Syria-Turkey, Tunisia-Turkey.
2005	Bahrain-US, Bhutan-India, CARICOM-Cuba, Chile-China, EFTA-Tunisia, Egypt-Turkey, Faroe Islands-Iceland, India-Singapore, Japan-Malaysia, MERCOSUR-Colombia-Ecuador*, MERCOSUR-Peru*, MERCOSUR-SACU*, PLO-Turkey, New Zealand-Thailand, Singapore-South Korea.
2006	ASEAN-South Korea, Bangladesh-India, Central America-Dominican Republic-US, Chile-India, Chile-Peru, EC-Albania, EFTA-South Korea, Guatemala-Taiwan*, MERCOSUR-Mexico*, Panama-Singapore, South Asian Free Trade Agreement (SAFTA)*, Trans-Pacific Strategic Economic Partnership (TPSEP).
2007	Chile-Japan, China-Pakistan, EFTA-Egypt, EFTA-Lebanon, Japan-Thailand, Mauritius-Pakistan.
2008	Albania-Turkey, ASEAN-Japan, Brunei-Japan, Chile-Panama, China-New Zealand, EC-Bosnia & Herzegovina, EC-CARIFORUM States EPA, EC-Montenegro, EFTA-SACU, El Salvador-Honduras-Taiwan, Georgia-Turkey, Indonesia-Japan, Japan-Philippines, Malaysia-Pakistan, Nicaragua-Taiwan*.
2009	Australia-Chile, Canada-Peru, Chile-Colombia, China-Singapore, EC-Cameroon, EC-Côte d'Ivoire, EFTA-Canada, Japan-Switzerland, Japan-Vietnam, MERCOSUR-India, Oman-US, Peru-Singapore, Peru-US.
2010	ASEAN-Australia-New Zealand, ASEAN-India, EFTA-Albania*, EFTA-Serbia*, India-South Korea, Montenegro-Turkey*, Peru-China, Serbia-Turkey*.
2011	Canada-Colombia, Chile-Turkey*, EC-South Korea*, EFTA-Colombia, EFTA-Peru*, Hong Kong-New Zealand*, India-Japan, India-Malaysia*, Jordan-Turkey*, Peru-South Korea*.

Notes: EIAs marked * were not indexed due to missing information in the GPTAD. Years of expiration or transition to another EIA are in parentheses. *Sources:* McGill (2009), Tuck (2009), WorldTradeLaw.net (2009), World Bank (2011*b*) and WTO (2011*a*).

2.4 Results

2.4.1 Benchmarks

First, an intuition of what the coding exercise looks like is given by visualizing the anatomy of (almost all) the EIAs that were dissected by Horn et al. (2010). In doing so, the coding strategies employed by the present and previous studies can be compared to ensure consistency.

Figure 1 shows the 13 (4) WTO+ (WTOX) policy areas and 9 IQ indicators on the top. 14 of the European Community (EC)'s 14 EIAs and 11 agreements involving the United States are on the left. The information of rows marked "GPTAD" is derived from World Bank (2011b) and those marked "HMS" refer to data in Horn et al. (2010).

Individual cells are marked to indicate whether a provision listed in the column is covered by the agreement listed in the row. Undertakings that are (not) legally enforceable are indicated by a black (grey) cell, while no agreement is indicated by a blank cell. Missing information is represented by a dotted cell. For example, legally enforceable provisions on import restrictions are represented in all 25 EIAs, regardless of the source used. Both sources also show that provisions on AD & CVM are not legally enforceable in the EC-CARIFORUM agreement. Horn et al. (2010)'s cells on IQ are marked as being missing because these measures were beyond the scope of that study.

Are the coding strategies compatible? By and large, the answer is affirmative, although there are some minor differences. Some differences are likely to be due to input errors. For instance, Horn et al. (2010) indicate that services are legally enforceable in the US-Israel agreement, but the treaty literally states that these "the principles [on trade in services] (...) shall not be legally binding". On the other hand, the commitments in the EC-Mexico agreement on AD & CVM and customs administration are elaborate and do not lack or rule out their legal enforceability.

Another difference involves provisions on investment and the WTO Agreement on Trade-Related Investment Measures. Horn et al. (2010) include "TRIMS" as a WTO+ provision and "Investment" as a WTOX policy area, but do not provide further information to sufficiently differentiate between these two concepts. Signatories of the TRIMS Agreement are committed to a basic, non-discriminatory system of cross-border investment.

However, the investment measures contained in the EIAs investigated in this study usually start with the same principles, but do not necessarily refer to the TRIMS Agreement. So, although there may be a line between "TRIMS" as a WTO+ policy area and the broader WTOX"Investment" provisions, it is arguably an ambiguous one. Since scoring agreements twice for the same type of provision is redundant, I include all TRIMS/investment-related provisions as one WTO+ policy area called "Investment". Comparing this data with Horn et al. (2010)'s differentiated "TRIMS/Investment" data shows that both methodologies are very similar.

Figure 1: Benchmarks of EC and US EIAs

EIA	Source	WTO+ Coverage	WTO+ Enforceable	WTOX Coverage	WTOX Enforceable	Total Coverage	Total Enforceable	Total IQ
EC-Albania	GPTAD	10	9	3	2	13	11	3
	HMS	11	10	3	2	14	12	-
EC-CARIFORUM	GPTAD	13	11	4	4	17	15	9
	HMS	13	12	4	4	17	16	-
EC-Chile	GPTAD	13	10	4	1	17	11	9
	HMS	13	11	3	1	16	12	-
EC-Croatia	GPTAD	11	9	2	2	13	11	6
	HMS	12	10	3	2	15	12	-
EC-Egypt	GPTAD	9	6	2	1	11	7	6
	HMS	11	8	3	2	14	10	-
EC-Israel	GPTAD	13	10	4	3	17	13	7
	HMS	11	8	3	2	14	10	-
EC-Jordan	GPTAD	13	9	4	3	17	12	8
	HMS	12	9	3	2	15	11	-
EC-Macedonia	GPTAD	13	11	4	3	17	14	9
	HMS	12	10	3	2	15	12	-
EC-Mexico	GPTAD	11	9	1	1	12	10	8
	HMS	12	8	3	2	15	10	-
EC-Morocco	GPTAD	11	7	4	3	15	10	9
	HMS	10	7	3	2	13	9	-
EC-South Africa	GPTAD	12	9	3	2	15	11	9
	HMS	10	7	3	2	13	9	-
EC-Tunisia	GPTAD	10	7	4	3	14	10	6
	HMS	10	7	3	2	13	9	-
EC-Turkey	GPTAD	10	9	1	1	11	10	7
	HMS	10	9	1	1	11	10	-
EEA	GPTAD	12	12	4	4	16	16	5
	HMS	13	13	4	4	17	17	-
NAFTA	GPTAD	13	13	4	3	17	16	9
	HMS	13	13	4	3	17	16	-
US-Australia	GPTAD	13	12	4	3	17	15	8
	HMS	13	12	4	3	17	15	-
US-Bahrain	GPTAD	11	10	3	3	14	13	6
	HMS	11	10	3	3	14	13	-
US-CAFTA-DR	GPTAD	12	11	3	3	15	14	8
	HMS	12	11	3	3	15	14	-
US-Chile	GPTAD	13	12	4	3	17	15	9
	HMS	13	12	4	3	17	15	-
US-Israel	GPTAD	10	8	1	1	11	9	4
	HMS	8	8	0	0	8	8	-
US-Jordan	GPTAD	6	5	2	2	8	7	7
	HMS	6	5	2	2	8	7	-
US-Morocco	GPTAD	13	11	3	3	16	14	8
	HMS	13	11	3	3	16	14	-
US-Oman	GPTAD	12	11	3	3	15	14	7
	HMS	12	11	3	3	15	14	-
US-Peru	GPTAD	13	12	4	3	17	15	7
	HMS	13	12	4	3	17	15	-
US-Singapore	GPTAD	11	10	4	3	15	13	9
	HMS	11	10	4	3	15	13	-

WTO+ categories: Agriculture, AD & CVM, Customs Administration, Export Restrictions, Import Restrictions, IPR, Investment, Public Procurement, SPS, Services, State Aid, STE, TBT

WTOX categories: Capital Mobility, Competition, Environment, Labour

IQ categories: Consultations, Definitions, Dispute Settlement, Duration & Termination, Evolutionary Clause, Institutional Framework, Objectives, Plan & Schedule, Transparency

Total Coverage

Source	Agriculture	AD & CVM	Customs Administration	Export Restrictions	Import Restrictions	IPR	Investment	Public Procurement	SPS	Services	State Aid	STE	TBT	Capital Mobility	Competition	Environment	Labour	Consultations	Definitions	Dispute Settlement	Duration & Termination	Evolutionary Clause	Institutional Framework	Objectives	Plan & Schedule	Transparency
GPTAD	25	23	25	22	25	24	20	25	16	20	22	18	23	22	18	21	18	23	19	23	15	18	25	22	18	20
HMS	25	23	24	22	25	25	21	25	17	14	22	19	23	22	19	23	12									

Total Enforceable

Source	Agriculture	AD & CVM	Customs Administration	Export Restrictions	Import Restrictions	IPR	Investment	Public Procurement	SPS	Services	State Aid	STE	TBT	Capital Mobility	Competition	Environment	Labour	Consultations	Definitions	Dispute Settlement	Duration & Termination	Evolutionary Clause	Institutional Framework	Objectives	Plan & Schedule	Transparency
GPTAD	25	22	25	22	25	23	15	17	3	16	21	16	13	22	12	12	17	23	19	23	15	18	25	22	18	20
HMS	25	21	23	22	25	24	17	17	5	14	21	17	13	22	13	12	12	-	-	-	-	-	-	-	-	-

Notes: Undertakings that are (not) legally enforceable are indicated by black (grey) cells. Dotted cells indicate missing information and blank cells mean that there is no agreement. *Sources*: Author's calculations, Horn *et al.* (2010) and World Bank (2011b).

Despite this small number of differences, the overall impression is that the methodologies are highly compatible. The column totals indicate that both methodologies provide a very similar number of agreements containing a specific provision, regardless of its legal enforceability. This outcome is not only supported by the similarity of row totals, but also by the fact that my findings highlight the conclusions stressed by Horn et al. (2010), i.e. while both the EC and US display strong support for WTO+ and WTOX policies in their trade agreements, the EC tends to include more "legally inflated" (i.e. legally unenforceable) undertakings than the US, which focuses on a more limited range of legally enforceable commitments.

2.4.2   Coverage of WTO+, WTOX and IQ provisions

We now continue with a full-fledged application of the coding strategy on all 296 EIAs in the sample. This section provides some descriptive statistics that shed more light on the content of these trade agreements. The results are presented in Table 7 and Figure 2.

How prevalent are WTO+ provisions? Almost all EIAs in the sample contain provisions on import restrictions, with an equally high rate of legal enforceability. The same applies to other fundamental WTO+ domains such as anti-dumping and countervailing measures, customs administration and export restrictions.

Other WTO+ policy areas are present in approximately 60 percent of the sample but vary in their enforceability. On the one hand, provisions with a high rate of enforceability cover the domains of agriculture, intellectual property rights (IPR), sanitary and phytosanitary (SPS) measures, state aid, state trading enterprises (STEs) and technical barriers to trade (TBT). On the other hand, almost half of the provisions on investment, public procurement and services are not enforceable.

Turning to WTOX policy areas, provisions on capital mobility and competition laws are present in roughly 70 percent of the EIAs. However, environmental issues are regulated in less than a third of the sample and labour policies in just one out of six agreements. Despite their differences in coverage, these provisions enjoy a high rate of legal enforceability. The findings suggest that although the fundamental WTO+ policy areas are well represented and enforceable in most EIAs, there is still considerable room for binding measures on relatively newer WTO+ and WTOX topics.

With respect to the institutional provisions reflecting the EIAs' institutional quality (IQ), approximately 90 percent of the cases provide information on the objectives of the EIA and the agreed upon institutional framework. Consultation, dispute settlement and evolutionary mechanisms are in place in 80 percent of the agreements. Three out of four EIAs provide details about their duration and termination procedures. Surprisingly, only half of the agreements provide mechanisms to promote transparency, define the terminology used in the agreement, or detail the plan and schedule that have to be applied when implementing the agreed upon liberalization.

Table 7: Descriptive statistics

Type	Provision	(1) Number covered	(2) Number enforce-able	(3) Sample covered (%)	(4) Sample enforce-able (%)	(5) (2) / (1) (%)
WTO+	Agriculture	189	188	64	64	99
	AD & CVM	220	217	74	73	99
	Customs Administration	216	214	73	72	99
	Export Restrictions	256	256	86	86	100
	Import Restrictions	292	292	99	99	100
	IPR	191	180	65	61	94
	Investment	162	85	55	29	52
	Public Procurement	172	103	58	35	60
	SPS	182	163	61	55	90
	Services	168	86	57	29	51
	State Aid	190	187	64	63	98
	STE	162	149	55	50	92
	TBT	187	138	63	47	74
WTOX	Capital Mobility	212	212	72	72	100
	Competition	209	181	71	61	87
	Environment	89	66	30	22	74
	Labour	48	43	16	15	90
IQ	Consultations	238	238	80	80	100
	Definitions	152	152	51	51	100
	Dispute Settlement	242	242	82	82	100
	Duration & Termination	218	218	74	74	100
	Evolutionary Clause	235	235	79	79	100
	Institutional Framework	273	273	92	92	100
	Objectives	267	267	90	90	100
	Plan & Schedule	128	128	43	43	100
	Transparency	162	162	55	55	100

Source: Author's calculations.

Figure 2: Descriptive statistics: WTO+, WTOX and IQ
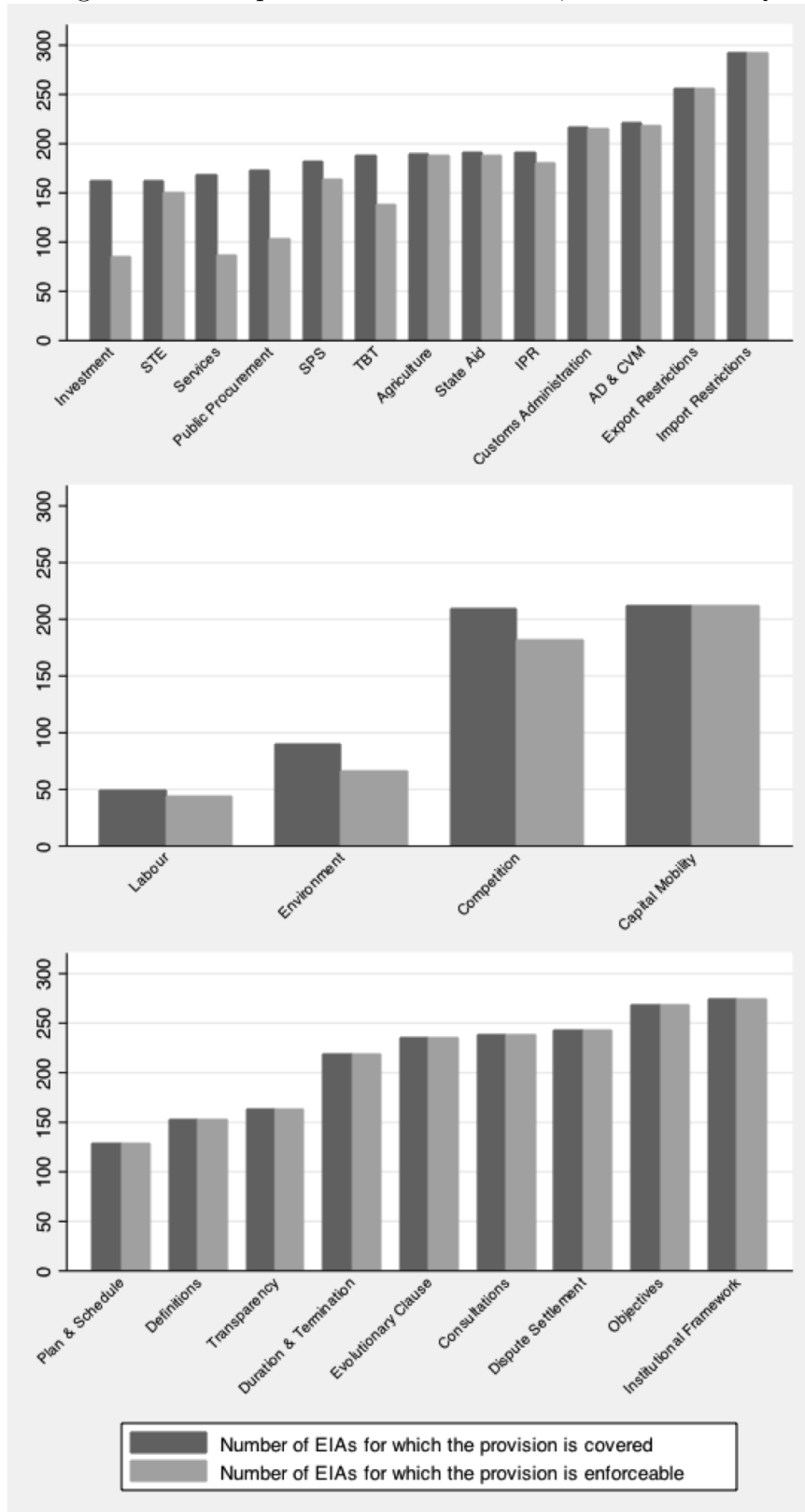
This section made an inventory of the different provisions—WTO+, WTOX and IQ—found in 296 trade agreements. In doing so, it provides insight as to *what* nations commit themselves to by means of EIAs. As argued in the beginning of this paper, the descriptive statistics confirm that trade agreements are heterogeneous by design.

3 What makes an EIA comprehensive?

3.1 Introduction

The gravity equation typically applies an "all-or-nothing"' approach when it comes to accounting for EIAs. As argued above, doing so ignores the fact—as shown in the previous section—that EIAs are heterogeneous in their construction. Can this caveat be remedied?

Section 3.2 demonstrates that the information obtained from GPTAD can be used to quantify an EIA's heterogeneous design. It develops a novel indicator for EIAs—called the EIA comprehensiveness index—which reflects the number of provisions contained in a trade agreement. In essence, it can be used to account for EIAs' heterogeneity. Armed with these indices, section 3.3 then identifies reasons *why* nations choose to enforce EIAs—especially comprehensive ones.

3.2 Enter: EIA index

This section introduces the EIA comprehensiveness index as a measure that reflects the coverage of WTO+, WTOX and IQ provisions at the level of the individual trade agreement.

As discussed, there are three types of regulation—WTO+, WTOX and IQ. We first consider how extensive trade agreements are with respect to each type of regulation in isolation. The objective is to obtain three indices that separately measure an EIA's coverage of WTO+, WTOX and IQ provisions. Their construction is as follows.

For WTO+ provisions, agreement A's total number of WTO+ provisions is divided by the maximum number of provisions that can be covered. As explained above, there are 13 WTO+ policy areas that can be obtained from GPTAD. Hence, the index for WTO+ coverage is:

$$IWTO+_A^z = \frac{\Sigma WTO+_A^z}{13}, \tag{1}$$

where superscript z is C for provisions that are covered by agreement A regardless of their legal enforceability and E for only those provisions that are legally enforceable. $IWTO+$ ranges from 0 (incomprehensive; no coverage of WTO+ provisions) to 1 (comprehensive; full coverage of WTO+ provisions).

The index for WTOX coverage is based on a maximum of 4 provisions and is calculated as:

$$IWTOX_A^z = \frac{\Sigma WTOX_A^z}{4}, \tag{2}$$

with $IWTOX$ ranging between 0 (no coverage of WTOX provisions) to 1 (full coverage of WTOX provisions).

Finally, the index that reflects an agreement's institutional quality is obtained from:

$$IIQ_A = \frac{\Sigma IQ_A}{9}, \tag{3}$$

where IIQ is between 0 (low IQ) and 1 (high IQ).

An advantage of keeping the indices separate is that it allows us to consider whether extensive coverage of one type of policy is motivated by the same characteristics as another. The results presented below confirm that this is not the case.

The individual provisions in equations 1-3 are unweighted because there is no theoretical basis to justify the relative importance of one provision over the other. For WTO+ provisions, for example, it is unknown whether measures on anti-dumping matter more to policy makers than trade in services. Investigating whether policy makers attach different values to provisions is beyond the scope of this study.

Next, the three indices can easily be combined to construct the EIA comprehensiveness index, which is an overall measure of EIA heterogeneity. Specifically:

$$I_A^z = \frac{1}{3}[IWTO+_A^z + IWTOX_A^z + IIQ_A]. \tag{4}$$

Note that the separate indices of WTO+, WTOX and IQ provisions are unweighted, again because it is unknown whether they differ in importance. For simplicity, all three components are assumed to matter equally to an EIA's comprehensiveness.

Table 8 provides descriptive statistics of the variables discussed so far. The first five variables all reflect the total number of provisions covered or legally enforceable per type of regulation. The other variables are (components of) the overall EIA comprehensiveness index. As explained above, the number of covered WTO+ and WTOX provisions drops when their legal enforceability is taken into account. This is accompanied by a small drop in variation.

Table 8: Descriptive statistics

Variable	Observations	Mean	Std. deviation	Minimum	Maximum
$WTO+^C$	296	8.74	3.388	0	13
$WTO+^E$	296	7.628	3.053	0	13
$WTOX^C$	296	1.885	1.15	0	4
$WTOX^E$	296	1.696	1.043	0	4
IQ	296	6.47	1.737	1	9
$IWTO+^C$	296	0.672	0.261	0	1
$IWTO+^E$	296	0.587	0.235	0	1
$IWTOX^C$	296	0.471	0.287	0	1
$IWTOX^E$	296	0.424	0.261	0	1
IIQ	296	0.719	0.193	0.111	1
I^C	296	0.621	0.199	0.063	1
I^E	296	0.577	0.182	0.063	0.974

The remainder of this section explores the variation in the obtained EIA indices. Does the extent to which EIAs cover a large number of policy areas relate to their enforcers' characteristics? The answer is presented in Table 9 and discussed below.

3.2.1   Income category and development status

A positive relation between participants' income or development level and the comprehensiveness of their EIAs is expected because wealthier nations tend to have economic infrastructures that are better developed and more diversified. Countries' income categories and development level were assigned based on information in World Bank (2011a). Income categories are high income (HI), upper middle income (UMI), lower middle income (LMI) and lower income (LI). Similarly, countries are identified as developed, developing, or least developed countries (LDCs).

The data show that EIAs in which the majority of countries belong to the in low(er middle) income categories (i.e. the mode income level for one of these categories equals 1) regulate significantly fewer WTO+ issues compared to their wealthier counterparts. However, these differences do not pertain to WTOX or IQ provisions. The index reflects that wealthier countries have more extensive trade agreements.

An alternative specification is by using countries' development status: developed, developing, or least developed country (LDC). Agreements among developed countries or developed and developing countries are more extensive than those of developing and/or least developed countries. These differences pertain to WTO+ and WTOX provisions, but are not visible with respect to IQ.

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Table 9: Comparison of group means

Variable	(1) I^C	(2) I^E	(3) $WTO+^C$	(4) $WTO+^E$	(5) $WTOX^C$	(6) $WTOX^E$	(7) IQ	(8) Observations
Income category								
(a) HI	0.66 ± 0.02	0.72 ± 0.02	10.19 ± 0.23	8.96 ± 0.22	2.44 ± 0.11	2.18 ± 0.1	6.78 ± 0.15	99
(b) HI & UMI	0.66 ± 0.02	0.72 ± 0.02	10.59 ± 0.29	9.24 ± 0.33	2.22 ± 0.12	1.9 ± 0.12	7.24 ± 0.19	51
(c) HI & LMI	0.6 ± 0.04	0.65 ± 0.04	8.88 ± 0.7	7.64 ± 0.57	2.08 ± 0.22	1.88 ± 0.19	6.68 ± 0.43	25
(d) HI & LI	0.64 ± 0.06	0.65 ± 0.07	8.67 ± 0.88	8.33 ± 0.67	1.67 ± 0.33	1.67 ± 0.33	7.67 ± 0.67	3
(e) UMI	0.52 ± 0.03	0.57 ± 0.03	9.29 ± 0.66	7.71 ± 0.59	1.33 ± 0.2	1.29 ± 0.2	5.83 ± 0.36	24
(f) UMI & LMI	0.49 ± 0.02	0.52 ± 0.02	7.52 ± 0.48	6.58 ± 0.42	1.29 ± 0.15	1.17 ± 0.13	5.96 ± 0.25	48
(g) UMI & LI	0.41a,b ± 0.06	0.41a,b ± 0.06	4.5a-e ± 1.85	4.25a,b,d ± 1.65	1.25 ± 0.48	1.25 ± 0.48	5.25 ± 0.25	4
(h) LMI	0.37a-d ± 0.03	0.39a-d ± 0.02	3.67a-e ± 0.35	3.2a-e ± 0.3	0.93a ± 0.23	0.87 ± 0.22	5.8 ± 0.48	23
(i) LMI & LI	0.4a,b ± 0.03	0.41a,b ± 0.03	5a,b,e ± 0.65	4.35a,b,d ± 0.56	1.09 ± 0.19	1.09 ± 0.19	5.26 ± 0.38	15
(j) LI	0.54 ± 0.13	0.56 ± 0.13	4.5a-e ± 1.71	4.5a,b,d ± 1.71	2 ± 0.71	1.75 ± 0.75	7.5 ± 0.96	4
Development status								
(a) Developed	0.67 ± 0.02	0.71 ± 0.02	10.26 ± 0.3	9.21 ± 0.27	2.23 ± 0.14	2.09 ± 0.13	6.93 ± 0.18	57
(b) Developing	0.5a ± 0.02	0.53a ± 0.02	7.64a ± 0.38	6.67a ± 0.33	1.43a ± 0.1	1.32a ± 0.09	5.87 ± 0.2	84
(c) Developed & Developing	0.64b ± 0.01	0.69b ± 0.02	9.77 ± 0.25	8.49 ± 0.23	2.3b ± 0.1	2.02 ± 0.08	6.78 ± 0.14	122
(d) Developing & LDC	0.39a,c ± 0.03	0.42a,c ± 0.03	4.71a-c ± 0.58	3.88a-c ± 0.49	0.96a,c ± 0.19	0.79a,c ± 0.18	5.96 ± 0.4	24
(e) All	0.42a,c ± 0.09	0.47a,c ± 0.09	6.11a,c ± 1.47	4.89a,c ± 1.27	0.89a,c ± 0.48	0.67a,c ± 0.47	6.33 ± 0.8	9
Regional focus								
(a) Intraregional	0.55 ± 0.01	0.59 ± 0.01	8.27 ± 0.25	7.25 ± 0.22	1.75 ± 0.08	1.67 ± 0.07	6.15 ± 0.12	198
(b) Interregional	0.62a ± 0.02	0.69a ± 0.02	9.69a ± 0.3	8.39a ± 0.29	2.15a ± 0.13	1.74 ± 0.11	7.12a ± 0.16	98
Border								
(a) Uncommon	0.59 ± 0.01	0.64 ± 0.01	9.05 ± 0.21	7.88 ± 0.19	1.98 ± 0.07	1.77 ± 0.07	6.58 ± 0.1	248
(b) Common	0.49a ± 0.03	0.52a ± 0.03	7.15a ± 0.54	6.31a ± 0.46	1.38a ± 0.16	1.29a ± 0.15	5.9a ± 0.3	48
Language								
(a) Uncommon	0.61 ± 0.01	0.65 ± 0.01	9.18 ± 0.22	8.03 ± 0.19	2.11 ± 0.07	1.91 ± 0.06	6.5 ± 0.11	232
(b) Common	0.47a ± 0.02	0.51a ± 0.03	7.16a ± 0.41	6.17a ± 0.4	1.08a ± 0.14	0.94a ± 0.13	6.34 ± 0.26	64
Type								
(a) Bilateral	0.5 ± 0.04	0.53 ± 0.04	6.39 ± 0.6	5.79 ± 0.59	1.5 ± 0.23	1.39 ± 0.22	6.45 ± 0.31	38
(b) Plurilateral	0.59a ± 0.01	0.63a ± 0.01	9.09a ± 0.2	7.9a ± 0.18	1.94a ± 0.07	1.74 ± 0.06	6.47 ± 0.11	258
Members in WTO								
(a) None	0.43 ± 0.02	0.44 ± 0.02	4.89 ± 0.43	4.47 ± 0.41	1.5 ± 0.14	1.5 ± 0.14	5.08 ± 0.23	36
(b) Mix	0.55a ± 0.02	0.58a ± 0.02	8.48a ± 0.36	7.25a ± 0.31	1.7 ± 0.11	1.61 ± 0.11	6.1a ± 0.18	105
(c) All	0.63a,b ± 0.01	0.69a,b ± 0.01	9.81a,b ± 0.21	8.62a,b ± 0.2	2.1a ± 0.1	1.8 ± 0.08	7.04a,b ± 0.12	135
Notified to WTO								

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Table 9 (continued)

Variable	(1) I^C	(2) I^E	(3) $WTO+^C$	(4) $WTO+^E$	(5) $WTOX^C$	(6) $WTOX^E$	(7) IQ	(8) Observations
(a) No	0.61 ± 0.02	0.65 ± 0.02	9.76 ± 0.29	8.43 ± 0.26	1.94 ± 0.09	1.88 ± 0.09	6.29 ± 0.18	103
(b) Yes	0.56 ± 0.01	0.61a ± 0.02	8.2a ± 0.25	7.2a ± 0.23	1.85 ± 0.09	1.6a ± 0.08	6.56 ± 0.12	193
WTO Provision								
(a) Enabling	0.4 ± 0.03	0.43 ± 0.03	4.5 ± 0.58	3.92 ± 0.49	0.88 ± 0.22	0.71 ± 0.19	6.46 ± 0.35	24
(b) Enabling & GATS	0.46 ± 0.11	0.49 ± 0.09	7.33 ± 1.33	6.33 ± 2.03	0.67 ± 0.33	0.67 ± 0.33	6.67 ± 0.88	3
(c) GATT	0.53 ± 0.02	0.58 ± 0.02	7.84 ± 0.39	6.49 ± 0.31	1.86 ± 0.12	1.67 ± 0.11	5.97 ± 0.17	86
(d) GATT & GATS	0.65a ± 0.02	0.7a ± 0.02	9.73a ± 0.28	8.99a ± 0.28	2.19b ± 0.15	1.81 ± 0.13	7.24 ± 0.17	80

Notes: Group means ± standard errors of the mean. The mean marked a/b/c/d/e is significantly different from the mean in the row marked a/b/c/d/e. Group means were compared using ANOVA, *t* and Tukey HSD tests. Statistical output is available upon request. *Source:* Author's calculations.

3.2.2 Regional focus, congruity and language

EIAs are expected to be more comprehensive if they are used to facilitate economic integration in one geographic area and/or in the presence of cultural similarity, which is measured in terms of sharing a common major language.

Seven regions are identified using the World Bank (2011a) regional classification system, which are East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), North America (NAM), South Asia (SA) and Sub-Saharan Africa (SSA). Interregional agreements are signed between countries from different regions and (intra)regional agreements involve signatories from one and the same region. Data on common borders and languages are from CEPII (2008).

According to the data, interregional agreements are more extensive with respect to WTO+, WTOX and IQ measures. These differences do not hold with respect to WTOX provisions after accounting for their legal enforceability. The index, however, does not indicate significant differences.

The differences are more pronounced when the presence of common borders is taken into account. When most participants in an agreement share a common border (i.e. the mode equals 1), they are found to have less extensive WTO+, WTOX and IQ provisions compared to the situation when the majority of participants are not contiguous. Similarly, agreements in which the majority of participants have a language in common (i.e. the mode equals 1) tend to be less extensive with respect to WTO+ and WTOX provisions compared to agreements in which the majority of participants do not share a common language.

3.2.3 Type

Strictly speaking, a bilateral (plurilateral) agreement involves two (at least three) signatories. Examples of plurilateral agreements are ASEAN, CAFTA-DR-US and MERCOSUR, while bilateral agreements include Armenia-Moldova, EC-South Korea and MERCOSUR-SACU.

The results indicate that bilateral agreements provide less coverage of WTO+ areas, even when correcting for their legal enforceability. There are no apparent differences with respect to WTOX or IQ provisions. Overall, the index suggests that plurilateral agreements are slightly more extensive than those that are bilateral.

3.2.4 WTO

Do WTO members regulate more than non-members? This question is answered by controlling for signatories' participation in the WTO at the time that the EIA is enforced. Data on countries' WTO membership status, whether EIAs have been notified to the WTO and if so, under which provision it has been enforced were obtained from WTO (2011a) and Kohl (2012).

Three groups of EIAs are identified. The first group only contains non-members, the second group involves at least one WTO participant and one non-member, and the third group consists of WTO members only.

The results indicate that the second (mixed) and third (members only) groups include more WTO+, WTOX and IQ provisions than agreements without any WTO participants. There are no clear differences when accounting for WTOX provision' enforceability; however, the overall indices indicate that the extensiveness of EIAs increases with the number participants in the WTO.

The number of enforceable WTO+ and WTOX provisions contained in EIAs that have been notified to the WTO Secretariat is actually lower compared to the EIAs that have not been notified. However, the differences are small and do not apply to IQ provisions. EIAs that have been notified to the WTO and enforced under the Enabling Clause (Goods only) contain fewer WTO+ and WTOX provisions than those that have been enforced under the GATT and GATS (Goods and Services). Although EIAs enforced under the GATT contain on average more provisions than those launched under the Enabling Clause, the differences are not significant. There are no differences when accounting for the enforceability of WTOX provisions or with regard to IQ provisions.

3.2.5   Summary

The group comparisons from this section suggest that the extensiveness of EIAs—in terms of WTO+ provisions, WTOX provisions and the index of regulation—is positively associated with (1) the mode income category of the participants/their mode development status, (2) their lack of geographic focus, (3) the number of participants, and (4) the participants' affiliation with the WTO. The results also suggest that EIAs display a higher degree of IQ with (1) a larger geographic focus and (2) a larger number of WTO members.

3.3   Determinants

Why do countries sign EIAs and what contributes to their comprehensiveness? These questions are considered next.

Using the EIA comprehensiveness index from equation 4 and other variables of interest identified in the previous section, the following model is estimated,

$$I_A^z = \alpha + \beta_1 Income_A + \beta_2 WTO_A + \beta_3 Herfindahl_A + \beta_4 ln(Distance_A)$$
$$+ \beta_5 ln(Size_A) + \beta_6 ln(Network_A) + \zeta F_t + \epsilon_A \tag{5}$$

where α is a constant and $Income$ is a dummy variable for the mode income category, according to the World Bank's income classification system (see World Bank, $2011a$) of the countries participating in A in the year of enforcement. These dummies represent (combinations of) high income (HI), upper middle income (UMI), lower middle income (LMI) and lower income (LI) countries.[2]

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[2]Following Baier and Bergstrand (2004), capital per worker as a determinant of EIA comprehensiveness is also explored. Results are not included due to a high correlation with income levels and a poorer model fit when substituting income for capital per worker. Data on capital per worker for the period 1960-2000 were obtained from Baier et al. (2006).

WTO is a dummy variable that is 0 of none of the EIA participants were WTO members in the year of enforcement, 1 if at least one but not all were WTO members and 2 if all participated in the multilateral trade system.

Distance is the mean bilateral distance between all combinations of country-pair ij of A's members, based on data from CEPII (2008). *Size* is the agreement's size, measured by the number of participants, all in the year of enforcement. *Network* is the mean number of additional agreements in which A's members participated in the year of enforcement. F_t represents year dummies that account for unobserved time-variant phenomena and ϵ is the error term.

A measure of countries' export structures is included as a proxy for their interest in gaining foreign market access. Countries with a limited export package are expected to have a lower interest in negotiating full-fledged trade agreements compared to countries that have more balanced export structures. Total exports were disaggregated into the 10 top-level categories c following SITC Rev. 3, e.g., Food and live animals, beverages and tobacco, crude materials, mineral fuels, etc.

Each category's share in the country's total exports is denoted as M. An annual Herfindahl index AH for country j and year t is calculated following

$$AH_{jt} = \sum_{c=1}^{10} M_{ct}^2 \tag{6}$$

These indices could not be constructed for all years due to gaps in the data. The Herfindahl index used in the remainder of this paper therefore is the average of available indices for the period 1995-2010, so that $H_j = \overline{AH_{jt}}$. Export share data used in the construction of these Herfindahl indices were obtained from UNCTAD (2011). In equation 5, *Herfindahl* is a continuous variable ranging from 0 to 1 and is the mean Herfindahl index of the countries in A during the year of enforcement.[3]

Table 10 provides descriptive statistics. Income is based on ten categories that represent the participating countries' mode level of income. The distribution of the WTO dummy indicates that half of the EIAs in the sample have all their members participating in the WTO. A third of the agreements have some of their participants in the WTO and others not. Also notice that the variation is relatively small in the Herfindahl and distance measures, but large with respect to size and network.

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[3]Annual data were not used due to gaps in the time series.

Table 10: Descriptive statistics

Variable	Observations	Mean	Std. deviation	Minimum	Maximum
Income	296	3.685	2.793	1	10
- HI	99			0	1
- HI & UMI	51			0	1
- HI & LMI	25			0	1
- HI & LI	3			0	1
- UMI	24			0	1
- UMI & LMI	48			0	1
- UMI & LI	4			0	1
- LMI	23			0	1
- LMI & LI	15			0	1
- LI	4			0	1
WTO	296	2.402	0.697	1	3
- None in WTO	36			0	1
- Mixed	105			0	1
- All in WTO	155			0	1
Herfindahl	296	0.288	0.086	0.162	0.645
ln Distance	296	1.999	0.129	1.561	2.288
ln Size	296	1.242	0.771	0.693	3.738
ln Network	296	1.891	0.810	0	3.532

3.4   Results

Regression estimates of equation 5 are provided in Table 11. Columns 1 and 2 show the determinants of the overall EIA index. The first column accounts for the coverage of the underlying provisions, while the second also correcting for their legal enforceability. The remaining columns display the determinants per type of policy. Columns 3 and 4 display the index with respect to WTO+ provisions, while column 5 and 6 cover WTOX provisions. Finally, column 7 shows the determinants of the index on institutional quality.

Why do countries sign EIAs? In particular, how can their commitment to comprehensive EIAs be explained?

With respect to income, the results suggest that EIAs are less comprehensive when most of their participants involve lower-income countries. An interesting exception is the case of low income countries that are involved with regional integration initiatives under the auspices of the African Union. This holds for WTO+ and WTOX provisions, but differences in institutional quality are not explained by income.

Note that the comprehensiveness index increases with the number of EIA participants that are also WTO members. In particular, this is true for WTO+ and IQ provisions, but not for provisions that are beyond the WTO's mandate. In light of the debate on regionalism as a building or stumbling block to the multilateral trade system, the results indicate that countries use EIAs to build on the trade-promoting, non-discriminatory policies that are embedded in the WTO—even if not all of them are WTO members.

As expected, a more balanced export structure (reflected by low values of the Herfindahl index) gives rise to more comprehensive agreements. This holds for WTO+ and WTOX provisions, but not for IQ. The opposite is true for geographic proximity: IQ increases with distance, but the number of WTO+ and WTOX provisions is not affected.

Finally, the number of participants has a slightly negative effect on the number of WTO+ and WTOX provisions. In contrast, embeddedness in a network of trade agreements increases the number of WTO+ and WTOX provisions.

In sum, these findings suggest that WTO members use EIAs to build on the trade-promoting, non-discriminatory policies already embedded in the multilateral system and in other trade agreements in which they participate.

Table 11: Determinants of EIA comprehensiveness indices

Variable	(1) I^C	(2) I^E	(3) $IWTO+^C$	(4) $IWTO+^E$	(5) $IWTOX^C$	(6) $IWTOX^E$	(7) IIQ
Income category (HI is baseline)							
HI & UMI	0.006	-0.009	-0.008	-0.031	-0.024	-0.045	0.051
	(0.028)	(0.028)	(0.030)	(0.032)	(0.044)	(0.045)	(0.035)
HI & LMI	-0.083*	-0.075	-0.129*	-0.153**	-0.082	-0.031	-0.040
	(0.042)	(0.040)	(0.050)	(0.046)	(0.066)	(0.062)	(0.054)
HI & LI	-0.091	-0.024	-0.119	-0.065	-0.186*	-0.038	0.031
	(0.067)	(0.074)	(0.087)	(0.094)	(0.092)	(0.109)	(0.086)
UMI	-0.135**	-0.135**	-0.094	-0.132*	-0.275***	-0.237***	-0.035
	(0.047)	(0.044)	(0.049)	(0.052)	(0.074)	(0.067)	(0.054)
UMI & LMI	-0.180***	-0.166***	-0.194***	-0.191***	-0.284***	-0.247***	-0.061
	(0.035)	(0.033)	(0.038)	(0.039)	(0.058)	(0.054)	(0.040)
UMI & LI	-0.158	-0.136	-0.240	-0.206	-0.165	-0.133	-0.068
	(0.082)	(0.079)	(0.138)	(0.137)	(0.144)	(0.137)	(0.077)
LMI	-0.222***	-0.197***	-0.374***	-0.354***	-0.287***	-0.230**	-0.005
	(0.046)	(0.043)	(0.056)	(0.051)	(0.080)	(0.070)	(0.066)
LMI & LI	-0.177***	-0.163***	-0.262***	-0.260***	-0.242**	-0.202**	-0.027
	(0.049)	(0.048)	(0.059)	(0.053)	(0.074)	(0.073)	(0.058)
LI	0.011	0.029	-0.271	-0.177	0.202	0.164	0.100
	(0.145)	(0.144)	(0.161)	(0.160)	(0.200)	(0.197)	(0.113)
Countries in WTO (none is baseline)							
- mixed	0.051	0.060	0.189***	0.151**	-0.102	-0.038	0.067
	(0.037)	(0.036)	(0.053)	(0.049)	(0.063)	(0.059)	(0.042)
- all	0.109**	0.103**	0.227***	0.191***	-0.051	-0.034	0.152***
	(0.037)	(0.035)	(0.051)	(0.047)	(0.062)	(0.059)	(0.041)
Herfindahl	-0.351**	-0.319*	-0.425**	-0.397**	-0.543**	-0.475*	-0.085
	(0.129)	(0.124)	(0.155)	(0.147)	(0.198)	(0.187)	(0.144)
ln Distance	0.041	0.043	-0.220*	-0.060	0.076	-0.077	0.266*
	(0.085)	(0.082)	(0.086)	(0.089)	(0.147)	(0.136)	(0.109)
ln Size	-0.022	-0.037*	-0.055*	-0.072***	-0.036	-0.066*	0.025
	(0.018)	(0.018)	(0.022)	(0.020)	(0.025)	(0.026)	(0.022)
ln Network	0.062**	0.054*	0.059*	0.048	0.121***	0.108***	0.005
	(0.022)	(0.021)	(0.027)	(0.027)	(0.033)	(0.032)	(0.026)
Constant	0.350	0.371	0.850**	0.574*	0.306	0.647	-0.106
	(0.231)	(0.227)	(0.258)	(0.275)	(0.362)	(0.331)	(0.276)
R^2	0.576	0.534	0.656	0.613	0.447	0.408	0.367
Observations	296	296	296	296	296	296	296

Notes: Indices marked [C] only account for the coverage of policy areas, not their enforceability. Enforceability is accounted for by indices marked [E]. HI is High Income, UMI is Upper Middle Income, LMI is Lower Middle Income and LI is Low Income. Coefficients of year fixed effects were omitted to save space. Estimates marked ***/**/* are significant at the 1/5/10 percent level. Robust standard errors in parentheses.

4 Are comprehensive EIAs good for trade?

4.1 Introduction

The gravity equation has an impressive track record in explaining the major causes of international trade (**?**, BvB)nd showing that regionalism has trade-promoting effects (for an overview, see Kohl, 2012).

Nevertheless, the argument in the present study is that the gravity equation is limited by not explicitly dealing with EIA's heterogeneous coverage of trade policy. This is because it accounts for EIAs with a dummy variable that equals 1 when a country-pair has an EIA and 0 otherwise. This variable only accounts for the presence of an agreement, but not for the variation in their coverage of various policy areas nor their legal enforceability.

Why does it matter? Consider the debate on regionalism vs. multilateralism. In the extreme case, proponents of regionalism argue that EIAs have trade-promoting effects and that multilateralism does not. However, what if the majority of EIAs on which their evidence is based has a relatively weak coverage of trade policies that actually matter to bring about said trade creation? The gravity equation's EIA dummy would not differentiate between these "weak" EIAs and those that actually do drive the results because all EIAs are treated equally. Ultimately, doing so may bias regionalism's true effect on trade.

This section examines whether the gravity equation performs differently once regionalism's heterogeneity treated explicitly. As such, the question that is central to this section is: "Is the index 'smarter' than the dummy?" Finally, section 4.2 discusses the econometric approach and results.

4.2 Approach and results

Potential differences in the gravity equation's findings, once the EIA dummy is replaced by this paper's index, are examined by using a basic formulation of the empirical model:

$$
\begin{aligned}
ln(M)_{ijt} = \alpha + \beta_1 ln(GDP_{it}) + \beta_2 ln(GDP_{jt}) + \beta_3 ln(Distance_{ij}) \\
+ \beta_4 EIA_{ijt} + \gamma_i F_i + \delta_i F_j + \zeta_t F_t + \epsilon_{ijt}
\end{aligned}
\tag{7}
$$

where M is real bilateral imports by importer i from exporter j in year t, GDP is real GDP and $Distance$ is bilateral distance. F_i and F_j are country dummies to account for multilateral resistance terms (see Anderson and Wincoop, 2003), while F_t represents year fixed effects to control for unobserved time-varying phenomena. The dataset, which is fully described in Kohl (2012), covers 1948-2007 and 181 countries.

The first step is to obtain a benchmark estimate of the gravity equation, where EIA is a dummy variable that is 1 if the dyad has an EIA and 0 otherwise. Here, the heterogeneity of EIAs is ignored when estimating regionalism's effect on cross-border trade flows. OLS estimates of equation 7 are presented in Table 12, column 1.

The second step is to replace EIA by the EIA comprehensiveness index that is constructed in section 3.3.[4] Doing so allows for heterogeneity among EIAs to be included when determining how they affect international trade. Column 2 shows the results for all provisions covered and column 3 for the covered undertakings, provided that they are legally enforceable.

The third step is to split the EIA comprehensiveness index into its three components, namely, the WTO+ index, the WTOX index and the IQ index. Doing so makes it possible to examine each type of regulation's unique bearing on trade. Column 4 shows results for provisions that are covered, while column 5 considers only the provisions that are legally enforceable.

Columns 6-8 need additional motivation. Recall that the WTO+, WTOX and IQ indicators are based on a total of 26 individual provisions. Although these provisions are sufficiently distinct to distinguish separate domains of trade policy, there is risk that some of them are correlated and thereby bias the parameter estimates obtained in columns 1-5.

For example, restrictions on imports, restrictions on exports and rules on intellectual property rights are all WTO+ policy areas. However, the conceptual differences between import and export restrictions are smaller than between these restrictions and IPRs. It is therefore perhaps easier for policy makers to reach agreement on the legal domains that can be included in an EIA if they are relatively similar.

How is this problem addressed? Using the principle component technique, factor analysis is used to extract uncorrelated factors from the underlying provisions. The factors are used as regressors in columns 6-8. More information is provided in the appendix (p. 44).

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[4]In the event that a dyad has an overlapping EIA, information of the most comprehensive agreement is used, as economic agents are expected to maximize their gains from the most extensive EIA.

Table 12: Basic gravity equation estimates

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln GDP								
- importer	0.791***	0.791***	0.791***	0.785***	0.786***	0.787***	0.786***	0.780***
	(0.008)	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)
- exporter	0.936***	0.936***	0.935***	0.932***	0.933***	0.934***	0.932***	0.927***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
ln Distance	-1.163***	-1.194***	-1.196***	-1.161***	-1.164***	-1.187***	-1.216***	-1.224***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
EIA	0.595***							
	(0.014)							
I^C		0.674***						
		(0.021)						
I^E			0.692***					
			(0.023)					
$IWTO+^C$				0.493***				
				(0.076)				
$IWTOX^C$				-1.434***				
				(0.051)				
$IWTO+^E$					0.433***			
					(0.093)			
$IWTOX^E$					-1.526***			
					(0.062)			
IIQ				1.364***	1.389***			
				(0.053)	(0.050)			
Factor 1						-0.214***	-0.415***	-0.187***
						(0.015)	(0.021)	(0.022)
Factor 2						-0.140***	-0.087***	0.115***
						(0.011)	(0.013)	(0.019)
Factor 3						-0.134***	-0.271***	-0.282***
						(0.015)	(0.016)	(0.016)
Factor 4						-0.021	-0.048**	0.036*
						(0.017)	(0.016)	(0.016)
Factor 5						0.317***	0.275***	-0.164***
						(0.018)	(0.017)	(0.017)
Factor 6						0.059***	0.410***	-0.360***
						(0.016)	(0.016)	(0.019)
Factor 7						0.313***	-0.036*	0.297***
						(0.013)	(0.016)	(0.017)
Factor 8								0.501***
								(0.017)
Factor 9								-0.024
								(0.016)
Constant	-3.877***	-3.627***	-3.599***	-3.760***	-3.770***	-3.588***	-3.321***	-3.095***
	(0.246)	(0.247)	(0.247)	(0.247)	(0.247)	(0.246)	(0.246)	(0.246)
R^2	0.636	0.635	0.635	0.636	0.637	0.636	0.636	0.636
Observations	442,141	442,141	442,141	442,141	442,141	442,141	442,141	442,141

Notes: Dependent variable: ln(imports). Model estimated with OLS, country and time fixed effects (coefficients omitted to save space). Robust standard errors are in parentheses. Coefficients marked ***/**/* are statistically significant at the 1/5/10% level.

The basic model yields the usual results. Income and distance have the expected signs. Trade increases with incomes and decreases over greater distances between trade partners. How do the indicators of regionalism perform in explaining trade?

Column 1 shows that dyads with an EIA trade $e^{0.595} - 1 \approx 80$ percent more than those without one, all else constant. This is a fairly standard result in the gravity equation literature (see also Van Bergeijk and Brakman, 2010).

Remarkably, more comprehensive trade agreements are better for international trade. Accounting for the EIAs' comprehensiveness in terms of provisions covered, the results in column 2 suggest a positive relation between the comprehensiveness of an agreement and its effect on trade. This result is reinforced after correcting for the provisions' legal enforceability in column 3.

Surprisingly, heterogeneity matters even more. A breakdown of the overall comprehensiveness index into indices that account for the coverage of WTO+, WTOX and IQ provisions separately in column 4 shows that WTO+ and IQ provisions are trade-promoting, but that WTO-X provisions are not. This result is confirmed after correcting for legal enforceability in column 5.

Clearly, not all types of provisions contained in EIAs are trade-promoting by definition. This is further evidence that the standard "all or nothing" approach in the literature is misleading. For example, the results suggest that EIAs with mostly WTOX provisions will not have as positive an outcome on trade as EIAs with predominantly WTO+ provisions.

Can the heterogeneous effects of the underlying WTO+, WTOX and IQ provisions be further identified? Inclusion of the different groups of factors in columns 6-8 confirms that not all (types of) provisions have trade-promoting effects. This is not surprising. Liberalization of import restrictions may indeed be expected to contribute to trade, but does this apply to all other (types of) provisions? It can easily be argued that provisions on capital mobility and investment, for example, are designed to and will be found to facilitate FDI instead of trade. Details are discussed on p. 40.

As a robustness check, an extended version of the gravity equation is also estimated, which is specified as:

$$
\begin{aligned}
ln(M)_{ijt} = {} & \alpha + \beta_1 ln(GDP_{it}) + \beta_2 ln(GDP_{jt}) + \beta_3 ln(Distance_{ij}) \\
& + \beta_4 EIA_{ijt} + \delta X_{ijt} + \gamma_i F_i + \delta_i F_j + \zeta_t F_t + \epsilon_{ijt}
\end{aligned}
\tag{8}
$$

where X is a vector of control variables that account for population, land area, common language, colonial history and WTO and Generalized System of Preferences (GSP) participation. Regression estimates are presented in Table 13.

Parameters estimates of the variables included in the basic form of the gravity equation, which is based on equation 7, are robust to the addition of new controls. The signs of income and distance are as expected and the coefficients are of comparable size. The model fit only slightly increases from 0.636 to 0.652, indicating that most of the variation is explained by the determinants included in the basic model.

As expected, the presence of a common border, a common language, a shared colonial heritage or shared history as a former nation and participation in the WTO

and/or GSP schemes are positively associated with countries' level of trade. Trade is negatively related to the extent to which countries are landlocked and (unexpectedly) the size of trading partners' population.

The variables of interest on regionalism are robust to the addition of control variable, i.e., the parameter estimates have the same signs and are of comparable sizes in both Table 12 and 13.

Table 13: Extended gravity equation estimates

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln GDP								
- importer								
	0.799***	0.797***	0.797***	0.795***	0.796***	0.795***	0.794***	0.789***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
- exporter								
	1.054***	1.052***	1.052***	1.050***	1.052***	1.051***	1.050***	1.046***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
ln Distance	-	-	-	-	-	-	-	-
	1.045***	1.065***	1.066***	1.042***	1.045***	1.067***	1.084***	1.088***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
ln Population								
- importer	-	-	-	-	-	-	-	-
	0.378***	0.339***	0.340***	0.386***	0.392***	0.419***	0.455***	0.449***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)
- exporter	-	-	-	-	-	-	-	-
	0.563***	0.524***	0.525***	0.570***	0.576***	0.603***	0.639***	0.633***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)
ln Land area								
- importer								
	0.495***	0.474***	0.475***	0.503***	0.505***	0.531***	0.559***	0.560***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)
- exporter								
	0.538***	0.517***	0.517***	0.547***	0.548***	0.574***	0.601***	0.603***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)
Number landlocked								
- one	-	-	-	-	-	-	-	-
	2.250***	2.112***	2.112***	2.320***	2.340***	2.469***	2.617***	2.627***
	(0.088)	(0.089)	(0.089)	(0.089)	(0.089)	(0.090)	(0.090)	(0.090)
- both	-	-	-	-	-	-	-	-
	4.216***	3.947***	3.951***	4.344***	4.380***	4.661***	4.957***	4.970***
	(0.177)	(0.179)	(0.179)	(0.180)	(0.180)	(0.181)	(0.181)	(0.181)
Number of islands								
- one								
	0.332***	0.392***	0.395***	0.319***	0.314***	0.323***	0.348***	0.345***
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)
- both								
	0.996***	1.120***	1.127***	0.946***	0.937***	0.940***	0.999***	0.981***
	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)
Common land border	0.219***	0.233***	0.232***	0.237***	0.234***	0.258***	0.257***	0.270***
	(0.020)	(0.021)	(0.021)	(0.020)	(0.020)	(0.021)	(0.021)	(0.021)
Common language	0.370***	0.399***	0.399***	0.377***	0.379***	0.378***	0.394***	0.390***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)
Ever colony	1.228***	1.213***	1.214***	1.218***	1.215***	1.205***	1.189***	1.191***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Common colonizer	0.549***	0.540***	0.541***	0.531***	0.534***	0.537***	0.538***	0.533***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Currently colonized	-	-	-	-	-	-	-	-
	1.506***	1.477***	1.486***	1.437***	1.421***	1.574***	1.543***	1.455***
	(0.312)	(0.318)	(0.317)	(0.316)	(0.318)	(0.311)	(0.316)	(0.322)
Common country	0.812***	0.830***	0.833***	0.778***	0.762***	0.771***	0.775***	0.770***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.031)	(0.030)
WTO members								
- one	0.008	0.025	0.026	-0.004	-0.005	0.007	0.016	0.009
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
- both								
	0.273***	0.295***	0.296***	0.259***	0.257***	0.279***	0.289***	0.282***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
GSP								
	0.312***	0.318***	0.320***	0.289***	0.283***	0.259***	0.236***	0.224***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)

Table 13 (continued)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EIA	0.587*** (0.014)							
I^C		0.726*** (0.021)						
I^E			0.766*** (0.023)					
$IWTO+^C$				0.458*** (0.075)				
$IWTOX^C$				-1.058*** (0.050)				
$IWTO+^E$					0.526*** (0.090)			
$IWTOX^E$					-1.154*** (0.060)			
IIQ				1.116*** (0.052)	1.080*** (0.049)			
Factor 1						-0.176*** (0.015)	-0.421*** (0.020)	-0.241*** (0.022)
Factor 2						-0.094*** (0.011)	-0.011 (0.013)	0.081*** (0.019)
Factor 3						-0.096*** (0.015)	-0.223*** (0.015)	-0.221*** (0.015)
Factor 4						-0.026 (0.017)	0.013 (0.015)	0.089*** (0.015)
Factor 5						0.308*** (0.018)	0.175*** (0.016)	-0.068*** (0.017)
Factor 6						0.055*** (0.016)	0.377*** (0.016)	-0.279*** (0.018)
Factor 7						0.254*** (0.013)	-0.034* (0.017)	0.182*** (0.017)
Factor 8								0.438*** (0.016)
Factor 9								-0.022 (0.017)
Constant	-18.909*** (0.277)	-18.419*** (0.278)	-18.435*** (0.278)	-19.028*** (0.279)	-19.036*** (0.280)	-19.389*** (0.282)	-19.778*** (0.281)	-19.730*** (0.282)
R^2	0.652	0.652	0.652	0.653	0.653	0.652	0.652	0.652
Observations	436,775	436,775	436,775	436,775	436,775	436,775	436,775	436,775

Notes: Dependent variable: ln(imports). Model estimated with OLS, country and time fixed effects (coefficients omitted to save space). Robust standard errors are in parentheses. Coefficients marked ***/**/* are statistically significant at the 1/5/10% level.

As argued above, the provisions represented by the three groups of factors do not always have the same effect on trade. Table 14 presents an overview of the findings, which are obtained from combining the signs of the parameter estimates in columns 6-8 in Table 13 with the provisions underlying the factors, which are shown in the appendix.

What do the signs mean? Take, for example, the WTOX provision labelled "Environment". As shown in the appendix, it belongs to factor 7 in group 1. The parameter estimate in Table 13, column 6, shows that factor 7 is positively and significantly related to trade. "Environment", being a provision that is positively related to trade by means of factor 7 in group 1, is therefore assigned a "+" in Table 14 under "Group 1".

However, "Environment" does not explain much of any factor's variation in group 2. Its effect on trade therefore remains undetermined, which is represented by "·".

Then again, "Environment" explains much of the variation in factor 5 in group 3. The gravity-equation estimates in Table 13, column 8, indicate that factor 5 is negatively and significantly related to trade. The provision is consequently assigned a "-" in Table 14 under "Group 3".

Out of curiosity, what happens when the factors are ignored altogether? The alternative is to include all 26 provisions as as individual regressors. As discussed, doing so ignores the risk of collinearity, so the regression estimates are likely to be biased.[5] The "+" under the "Individual" column indicates that "Environment" is positively and significantly related to trade.

What about the other provisions? "Customs administration", "Duration & Termination" and "Objectives" systematically seem to have trade-promoting effects, while the reverse is true for "SPS", "STE", "TBT", "Competition" and "Labour". However, the results are remarkably mixed for the majority of provisions, which makes it difficult to rely on the gravity equation to make generalizing statements about an individual provision's effect on international trade.

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[5]The parameter estimates are not reported, but are available upon request.

Table 14: WTO+, WTOX and IQ provisions' effect on trade

Type	Provision	Group 1	Group 2	Group 3	Individual
WTO+	Agriculture	·	·	·	−
	AD & CVM	·	·	·	+
	Customs Administration	·	·	+	·
	Export Restrictions	·	·	+	·
	Import Restrictions	·	·	+	−
	IPR	−	·	·	·
	Investment	−	·	+	−
	Public Procurement	·	·	·	+
	SPS	−	−	−	−
	Services	−	·	+	·
	State Aid	·	−	−	+
	STE	−	−	−	−
	TBT	−	−	−	−
WTOX	Capital Mobility	−	·	−	·
	Competition	−	·	−	·
	Environment	+	·	−	+
	Labour	−	·	−	−
IQ	Consultations	·	+	+	+
	Definitions	·	+	+	+
	Dispute Settlement	+	·	·	+
	Duration & Termination	+	+	+	−
	Evolutionary Clause	·	+	+	·
	Institutional Framework	+	·	·	−
	Objectives	+	+	+	+
	Plan & Schedule	+	·	·	+
	Transparency	+	+	+	−

Notes A statistically positive (negative) effect at the 95% level (based on estimates in Table 13) is indicated by a + (−). Insignificant effects are marked ·. Statistical output for individual estimates is not reported, but available upon request.

What can be concluded from the empirical results presented in this section?

Overall, the findings suggest that exchanging the standard "all or nothing" EIA dummy for a "smarter" EIA index that accounts for regionalism's heterogeneous nature matters for two reasons.

First, both approaches confirm that regionalism fosters trade. However, trade is shown to especially benefit from trade agreements that are comprehensive. The dummy approach fails to distinguish between incomprehensive and comprehensive EIAs, so that it falsely ascribes trade-promoting effects to any kind of trade agreement.

Second, the dummy approach considers all EIAs to be equal and, therefore, the same is assumed to hold for all the provisions contained therein. So, regardless of an agreement's content, it will argued to have trade-promoting effects with the gravity equation. Although the results in this paper confirm that regionalism is by and large trade promoting, not all provisions are found to have a positive effect on trade. In fact, WTO+ and IQ provisions are found to be trade-promoting, but this is not the case for WTOX provisions.

Finally, at a deeper level of analysis, not *all* WTO+ and IQ provisions are found to have consistently positive effects, nor do *all* WTOX provisions have consistently negative effects on international trade. The dummy approach of stating that all EIAs and, by implication, all provisions are equal and have equal effects on trade, is shown to be too simplistic.

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5   Discussion and conclusion

The first aim of this paper was to uncover *what* countries actually sign when nego-tiating economic integration agreements (EIAs). This was determined by dissecting 296 trade agreements. In doing so, the extent to which EIAs contain provisions on various policy areas could be unravelled.

A distinction was made between 13 policy areas that are within the present scope of the WTO's mandate (i.e. WTO+ provisions) and 4 policy areas that are not (i.e. WTOX provisions). An additional 9 indicators of the agreements' institutional quality (IQ) were also obtained. In doing so, the possibility that these undertakings may or may not be legally enforceable was accounted for.

"Traditional" policy areas, i.e. provisions that have long been part of the mul-tilateral system such as anti-dumping, import restrictions, SPS, state aid and TBT are present in a large number of EIAs and generally legally enforceable. On the other hand, more modern provisions on investment and trade in services are much less popular or enforceable. WTOX policies on capital mobility and competition are present in the majority of cases, although environmental and labour regulations are not. In sum, fundamental WTO+ provisions are found to be present and binding in the majority of EIAs, but binding commitments on relatively newer WTO+ and WTOX issues are not.

The second aim was to quantify the fact that trade agreements differ in the extent to which they cover various trade policies. Doing so is motivated by the fact that the standard approach in applied work with the gravity equation is that regionalism is captured by an "all or nothing" binary variable, which fails to acknowledge EIAs' heterogeneous design. A measure that does accounts for this variation, called the EIA comprehensiveness index, was therefore constructed.

In answering the question *why* nations sign EIAs, it was found that the degree to which governments negotiate comprehensive trade agreements is positively related to their level of economic development. Moreover, the number of WTO members in an EIA and its comprehensiveness are positively associated. This is because many provisions contained in trade agreements generally build on existing WTO policies. This evidence suggests that WTO members use EIAs not to undermine or circumvent the WTO, but rather to build on the trade-promoting, non-discriminatory policies embedded in the multilateral system—even when not all EIA participants are WTO members.

The final aim was to determine whether comprehensive trade agreements have larger trade-creating effects than those that are incomprehensive. This was done by replacing the "dummy" EIA variable with the EIA index. The main findings can be summarized as follows.

First, regionalism is also found to be trade-promoting once the EIA index is used. The overall trade-creating effect is similar to that obtained with the standard dummy. However, more comprehensive trade agreements are better for trade, which verifies that EIA heterogeneity matters.

Second, the "all provisions are equal"' approach implied by the literature is un-sound. Distinguishing between WTO+, WTOX and IQ provisions confirms that not

all types of provisions have similar effects on international trade. "Traditional" trade provisions that are part of the WTO's mandate (WTO+ policies) and those that enhance an agreements' institutional quality are found to be trade-promoting, whereas more modern provisions that are beyond the scope of the WTO have the opposite effect.

The latter conclusion is reinforced by closer inspection of the underlying WTO+, WTOX and IQ provisions and their effect on trade, within the context of the gravity equation. Regardless of the econometric setting used, there is no case under which all provisions all have trade-promoting effects. Clearly, heterogeneity matters, but so does understanding what the desired economic effects are of the diverse regulations embodied in any trade agreement. For instance, foreign direct investment (FDI) may become a more attractive mode of entry to foreign markets in lieu of export, once restrictions on capital mobility and investment are lifted. It should then not be surprising to see trade decreasing as a result of such policy changes.

As discussed, one limitation of this study is the difficulty in determining the degree to which undertakings are legally enforceable. Despite efforts to promote the transparency of the coding method used, observer bias is not easily eliminated. Moreover, what looks good on paper may not be politically or practically (e.g. in terms of required human resources) feasible.

Finally, although the present study shows that the heterogeneity between trade agreements' contents can be successfully quantified, each provision in turn may again be sliced into even smaller components to fully account for potential differences. However, the extent to which such an exercise would be useful depends on the envisioned research question.

Appendix

The first group of factors is calculated by performing factor analysis on all 26 provisions, without giving any consideration to their status as WTO+, WTOX or IQ provision.[6] This yields 7 factors, which are included as regressors in Table 12, column 6.

The second group of factors was obtained from the 17 WTO+ and WTOX provisions on the one hand and the 9 IQ provisions on the other. This distinction is made because trade policies are specified in WTO+ and WTOX provisions, while the institutional context that specifies their enforcement is expressed by IQ. Again, a total of 7 factors is obtained and included in column 7.

The third group of factors is based on this paper's dominant logic of distinguishing between WTO+, WTOX and IQ provisions. Factor analysis is used to obtain factors from each type of provisions separately. This gives 4 factors for WTO+ provisions, 2 factors for WTOX provisions and 3 factors for IQ provisions. The factors are used as regressors and their parameter estimates are displayed in column 8.

The contribution of each provision in explaining the total variance of a given factor is displayed in Table 15.

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[6]Note that only provisions that are legally enforceable are used.

Table 15: Overview of factors

Type	Provision	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Group 1										
WTO+	Agriculture	0.15	0.029	-0.007	-0.047	-0.014	-0.063	0.16	.	.
	AD & CVM	0.045	-0.083	0.13	-0.055	0.093	0.11	0.138	.	.
	Customs Administration	0.084	0.002	-0.061	0.08	-0.23	0.193	0.043	.	.
	Export Restrictions	0.167	-0.064	0.053	**0.219**	-0.17	-0.022	-0.29	.	.
	Import Restrictions	0.004	-0.062	0.046	**0.314**	0.155	0.075	-0.199	.	.
	IPR	**0.189**	0.062	0.047	-0.095	-0.065	0.012	-0.045	.	.
	Investment	0.003	**0.302**	-0.027	-0.056	0.098	0.002	-0.118	.	.
	Public Procurement	0.131	0.085	0.037	-0.074	-0.039	-0.049	-0.006	.	.
	SPS	0.036	-0.055	**0.376**	-0.024	-0.058	-0.015	-0.097	.	.
	Services	0.002	**0.298**	-0.024	-0.062	0.055	-0.006	-0.085	.	.
	State Aid	0.15	-0.032	-0.035	-0.004	0.076	-0.011	0.109	.	.
	STE	**0.197**	0.045	-0.117	-0.105	0.101	0.053	-0.029	.	.
	TBT	-0.055	0.017	**0.441**	-0.031	-0.12	0.008	-0.1	.	.
WTOX	Capital Mobility	**0.185**	0.009	-0.118	0.115	-0.033	-0.109	-0.128	.	.
	Competition	**0.196**	-0.056	-0.05	0	-0.07	0.024	-0.07	.	.
	Environment	0.038	0.165	0.008	0.08	-0.086	-0.262	**0.207**	.	.
	Labour	0.088	**0.327**	-0.192	-0.142	0.001	-0.043	-0.039	.	.
IQ	Consultations	-0.056	-0.054	-0.072	**0.564**	0.122	-0.11	0.085	.	.
	Definitions	-0.125	0.143	0.114	0.083	0.047	0.083	0.076	.	.
	Dispute Settlement	-0.006	0.017	-0.088	0.044	0.088	**0.514**	-0.187	.	.
	Duration & Termination	0.008	-0.008	-0.146	0.148	**0.51**	0.121	-0.157	.	.
	Evolutionary Clause	-0.076	-0.082	0.288	0.049	0.159	-0.05	0.173	.	.
	Institutional Framework	-0.022	-0.05	0.049	-0.192	-0.082	**0.547**	**0.19**	.	.
	Objectives	-0.03	0.104	0.014	-0.04	**0.434**	-0.16	0.094	.	.
	Plan & Schedule	-0.011	-0.074	-0.09	0.101	-0.011	0.03	**0.545**	.	.
	Transparency	-0.08	0.039	0.186	**0.283**	-0.178	-0.039	**0.163**	.	.

Continued on next page

Table 15 (continued)

Type	Provision	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Group 2										
WTO+	Agriculture	0.201	0.036	-0.061	-0.028	.	.	.	.	.
	AD & CVM	0.153	-0.068	0.147	-0.124	.	.	.	.	.
	Customs Administration	-0.073	0.094	-0.144	**0.476**	.	.	.	.	.
	Export Restrictions	-0.055	-0.078	0.057	**0.506**	.	.	.	.	.
	Import Restrictions	-0.151	-0.053	0.2	**0.472**	.	.	.	.	.
	IPR	0.202	0.054	0.054	-0.081	.	.	.	.	.
	Investment	-0.054	**0.318**	0.096	-0.003	.	.	.	.	.
	Public Procurement	0.162	0.08	0.036	-0.123	.	.	.	.	.
	SPS	0.034	-0.071	**0.45**	-0.053	.	.	.	.	.
	Services	-0.035	**0.321**	0.075	-0.051	.	.	.	.	.
	State Aid	**0.225**	-0.039	-0.043	-0.065	.	.	.	.	.
	STE	**0.246**	0.004	-0.082	-0.119	.	.	.	.	.
	TBT	-0.114	0.04	**0.542**	0.028	.	.	.	.	.
WTOX	Capital Mobility	0.115	-0.013	-0.197	0.201	.	.	.	.	.
	Competition	0.159	-0.09	-0.082	0.112	.	.	.	.	.
	Environment	0.055	0.231	-0.104	0.028	.	.	.	.	.
	Labour	0.053	**0.331**	-0.166	-0.06	.	.	.	.	.
IQ	Consultations	.	.	.	.	**0.465**	0.039	-0.185	.	.
	Definitions	.	.	.	.	**0.321**	-0.014	0.092	.	.
	Dispute Settlement	.	.	.	.	-0.024	-0.093	**0.544**	.	.
	Duration & Termination	.	.	.	.	-0.113	**0.382**	0.163	.	.
	Evolutionary Clause	.	.	.	.	0.014	**0.452**	0.001	.	.
	Institutional Framework	.	.	.	.	-0.148	-0.002	**0.648**	.	.
	Objectives	.	.	.	.	0.036	**0.516**	-0.135	.	.
	Plan & Schedule	.	.	.	.	0.227	0.2	-0.012	.	.
	Transparency	.	.	.	.	**0.463**	-0.043	-0.046	.	.

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Table 15 (continued)

Type	Provision	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Group 3										
WTO+	Agriculture	0.23	-0.009	-0.076	0.034	.	.	.	.	.
	AD & CVM	0.132	-0.153	0.176	-0.018	.	.	.	.	.
	Customs Administration	0.015	0.169	-0.298	**0.482**	.	.	.	.	.
	Export Restrictions	-0.004	-0.077	0.018	**0.466**	.	.	.	.	.
	Import Restrictions	-0.166	-0.101	0.17	**0.601**	.	.	.	.	.
	IPR	0.246	0.077	0.012	-0.075	.	.	.	.	.
	Investment	-0.016	**0.481**	0.01	-0.02	.	.	.	.	.
	Public Procurement	0.217	0.131	-0.042	-0.127	.	.	.	.	.
	SPS	0.019	-0.06	**0.48**	-0.074	.	.	.	.	.
	Services	0.005	**0.495**	-0.019	-0.073	.	.	.	.	.
	State Aid	**0.258**	-0.076	-0.077	-0.01	.	.	.	.	.
	STE	**0.298**	0.015	-0.138	-0.109	.	.	.	.	.
	TBT	-0.15	0.068	**0.59**	0.026	.	.	.	.	.
WTOX	Capital Mobility	.	.	.	.	0.084	**0.578**	.	.	.
	Competition	.	.	.	.	-0.13	**0.635**	.	.	.
	Environment	.	.	.	.	**0.58**	0.036	.	.	.
	Labour	.	.	.	.	**0.621**	-0.094	.	.	.
IQ	Consultations	.	.	.	.	.	.	**0.465**	0.039	-0.185
	Definitions	.	.	.	.	.	.	**0.321**	-0.014	0.092
	Dispute Settlement	.	.	.	.	.	.	-0.024	-0.093	**0.544**
	Duration & Termination	.	.	.	.	.	.	-0.113	**0.382**	0.163
	Evolutionary Clause	.	.	.	.	.	.	0.014	**0.452**	0.001
	Institutional Framework	.	.	.	.	.	.	-0.148	-0.002	**0.648**
	Objectives	.	.	.	.	.	.	0.036	**0.516**	-0.135
	Plan & Schedule	.	.	.	.	.	.	0.227	0.2	-0.012
	Transparency	.	.	.	.	.	.	**0.463**	-0.043	-0.046

Notes: Factors according to principle components analysis. The first group of factors does not differentiate between WTO+, WTOX or IQ provisions. The second group of factors is based on either a combination of WTO+ and WTOX provisions or IQ provisions. The third group of factors is exclusively based on either WTO+, WTOX or IQ provisions. The provisions that are major contributors to specific factors are in bold.

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