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Quantitative Evidence on Transparency in Regional Trade Agreements

Iza Lejárraga,

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Abstract

QUANTITATIVE EVIDENCE ON TRANSPARENCY IN REGIONAL TRADE AGREEMENTS

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and
Ben Shepherd (Developing Trade Consultants Ltd.)

What influences the adoption of transparency obligations in trade agreements, and what are its effects? This paper uses a new dataset on transparency provisions in over a hundred regional trade agreements (RTAs) to provide empirical evidence of the political economy determinants of international transparency commitments, as well as the trade impact of negotiating such transparency provisions in RTAs. The study finds that RTAs with deeper mechanisms for enhancing transparency appear to be more strongly trade-promoting than those with shallower commitments on transparency. Concretely, each additional transparency commitment negotiated in an RTA is associated with an increase in bilateral trade flows of more than one percent. Considering that comprehensive RTAs typically contain a dozen of such commitments, countries that opt for a comprehensive transparency agenda can expect to gain substantial increases in intra-regional trade. Moreover, the findings suggest that the readiness of trading partners to adhere to transparency norms is influenced by the quality of home institutions, which is consistent with a view that strengthening governance and regulatory capacities can contribute to a broader diffusion of transparency practices in international trade. Overall, the results of the analysis suggest that transparency should remain an important element of the trade agenda, both at the regional and multilateral levels.

***Keywords**:* transparency, trade, regional trade agreements, RTAs, free trade agreements, FTAs, preferential trade agreements, PTAs, World Trade Organization, WTO, governance, institutions, regulatory cooperation, anti-corruption, regulatory quality, gravity model of trade.

***JEL classification*:** F1, F10, F13, F15

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Table of contents

Executive Summary 4
I. Introduction: Rtas As Transparency Devices 7
II. Transparency and economic integration: Overview of the empirical literature 9
III. Description of data and hypotheses 11
IV. Determinants of transparency: Political economy enablers 13
V. Economic impact of regional transparency on trade flows 16
Vi. Policy conclusions and future research 20
References 21

Annex A – Data and sources 23
Annex B – Political economy regressions 25
Annex C – Gravity model regressions 27

Tables

Table B.1. Political economy regressions using as dependent variable the coverage of transparency in RTAs 25
Table B.2. Political economy regressions using as dependent variable the number of transparency procedures. 26
Table C.1. Gravity model regressions using total trade and various transparency measures 27
Table C.2. Gravity model regressions using trade in agricultural products and various transparency measures 29
Table C.3. Gravity model regressions using trade in industrial products and various transparency measures 31

Box

The Gravity Model of Trade 16

Executive Summary

What drives transparency in trade relations, and what are its effects? Recent trends show that countries embarking in trade negotiations are not only looking for increased market access, but also, reduced market opacity and uncertainty. In particular, regional trade agreements (RTAs) have enhanced undertakings in transparency in international trade, introducing new elements that do not have precedents in the World Trade Organization (WTO). The question arises as to: Why, and what for? Why are some countries taking great strides to enhance transparency, which would appear to make the negotiation of RTAs more difficult? What are the drivers behind these deep transparency commitments? Another, more fundamental, question is whether these efforts are yielding the expected returns: is regional transparency generating higher flows of bilateral trade? While a positive relationship between transparency and trade is generally recognized, it remains an open question whether RTAs are the best vehicles for increasing transparency and trade flows.

To explore these questions, this paper uses a new dataset on transparency provisions in over one hundred RTAs to provide some early empirical evidence on the political economy determinants of international transparency institutions, as well as the trade effects of incorporating transparency provisions in RTAs. The analysis is based on the legal texts of the agreements, and does not consider the extent of implementation of commitments. Arguably, as the RTAs sampled involve countries with relatively strong administrative capacities – being OECD and major emerging economies– it may be reasonable to assume that the commitments inscribed in these international trade treaties are generally being observed.

Drivers and enablers of transparency in RTAs

The findings portray that countries with good governance tend to negotiate more transparency-friendly trade treaties. Countries that have more democratic institutions and stronger governance performance negotiate a greater number of transparency commitments in their RTAs, and are also more likely to include a separate chapter on transparency as part of the architecture of the agreement. In particular, the regulatory quality of a country is found to have a much higher effect than other aspects of good governance, such as the rule of law or political stability. This may suggest an important link between domestic regulatory capacity and the ease at which countries are inclined to undertake transparency commitments in trade agreements.

North-South RTAs are more transparency-intensive than North-North or South-South RTAs. Generally, country pairs are more likely to display deeper transparency commitments in their RTAs if the per capita income difference between them is relatively large. Hence, OECD countries tend to exhibit higher transparency thresholds in their bilateral trade treaties with non-OECD countries. This may reflect that many OECD countries already have high standards of transparency at the national level, so that this agenda may be less pressing in North-North trade agreements. In effect, transparency mechanisms in RTAs could be one of the ways in which more developed countries try to secure effective market access in emerging and less developed economies, where lack of transparency and corruption may constitute a more prevalent barrier for foreign businesses. The North-South dimension may also reflect that RTAs are serving as vehicles to transmit best practices in transparency, allowing countries with less mature administrative systems to use regional negotiations to lock in reforms in their national regimes.

Cultural, and in particular linguistic, distance between countries appears to strengthen the importance trading partners attach to transparency in bilateral trade relations. Country pairs that share a common language are less likely to include comprehensive coverage of transparency aspects in their RTAs. This finding might be explained by a tendency of culturally diverse trading partners to pay more attention to transparency provisions as a way of addressing issues such as translation of official regulations into English and their accessibility by foreign firms. When administrative cultures differ, RTAs can bridge the gaps by establishing common procedures to ensure that domestic rule-making does not hinder trade.

Countries that have acceded to the WTO post-1995 also tend to endorse more ambitious transparency commitments in RTAs. If one member of a country pair acceded to the WTO post-1995, the RTA is more likely to include comprehensive transparency coverage. The WTO accession process is characterised by far-reaching transparency procedures, often entailing domestic administrative reforms, thereby enhancing countries' readiness to comply with deeper transparency requirements in RTAs. This finding may be indicative of synergies on transparency from the multilateral system to regional engagements.

Effects of transparency commitments on trade flows

The study finds that RTAs with comprehensive transparency mechanisms appear to be more strongly trade promoting than those with shallower commitments on transparency. There is a positive empirical relationship between transparency obligations and the level of trade. In particular, the marginal elasticity of a transparency provision in an RTAs is found to be over 1%. This means that each additional transparency commitment negotiated in an RTA is associated with an increase in bilateral trade exceeding 1%. Considering that comprehensive RTAs typically contain on average a dozen of such commitments, the expected increase in intra-regional trade could be of over 15%. This effect accrues solely to reduced trade costs through improvements in transparency, without considering the extent of liberalization or reforms of such measures. Hence, these results suggest that countries can reasonably expect to gain from strengthening transparency procedures in their trade relations

Horizontal measures on transparency appear to have a stronger trade impact than sector- or measure-specific transparency standards. The most significant effect accrues to transparency chapters. Hence, crafting horizontal disciplines on transparency for all measures covered by the agreement may be more effective than fashioning a separate transparency mechanism for each sector or measure. This result may further suggest that some of the new horizontal measures that are contained in RTAs, such as on anti-corruption, may be effective additions to the transparency agenda. Internal transparency measures related to effective administration and enforcement are also found to reinforce the trade impact of the RTA.

The effects of transparency on trade have a differential impact across economic sectors. In particular, the elasticity of trade with respect to transparency provisions is found to be greater in agricultural sectors than in non-agricultural goods. Indeed, the costs of non-transparency and non-predictability in agriculture may well be higher, where goods are perishable and can have adverse effects on the health of consumers, animals and plants if trading partners are not aware of, for example, SPS-related risks. In industrial goods, transparency in rules of origin emerges as strongly significant, highlighting its importance in determining the ease at which businesses can avail themselves of opportunities from RTAs.

While quantitative evidence for services sectors is not robust, trade in services is likely to be highly sensitive to transparency. When not only goods, but also factors of production and consumers, move to foreign markets, the demands for information and predictability are greater. Many sectors like professional services are prone to significant information

asymmetries. As such, it is not surprising that the greatest number of deep transparency commitments in RTAs is found in chapters related to trade in services.

Policy conclusions

The overall results of the analysis suggest that transparency should remain an important element of the trade agenda, both at the regional and multilateral levels. Regional agreements with ambitious transparency provisions are associated with higher trade flows than those with shallower levels of transparency commitments. Novel elements introduced in the architecture and contents of RTAs, such as horizontal transparency chapters, seem to have contributed to the overall effectiveness of regional transparency mechanisms. Although the analysis is based on RTAs, it is likely that transparency norms more broadly are trade-enhancing. As such, there is an interest for new generation trade agreements to include comprehensive disciplines on transparency. The readiness to embrace transparency practices is influenced by the quality of governance, which would seem to be consistent with a view that strengthening local governance and institutional capacities could contribute to the diffusion of transparency norms.

I. Introduction: RTAs as transparency devices

Regional Trade Agreements (RTAs) are frequently used policy instruments to increase market access through the liberalization of barriers to trade. At the same time, RTAs can also help increase trade opportunities by reducing market opacity and uncertainly. Available work based on the Asia-Pacific Economic Cooperation (APEC) suggests that improvements in transparency can have the same or larger effects on trade than a marginal reform of trade-related measures (APEC and World Bank, 2007; Helble et al., 2009). Beyond market opening, therefore, countries embarking in regional trade negotiations are seeking to obtain greater market awareness, so that measures affecting trade are not only better known and understood by foreign suppliers, but the decision-making process associated with the design and implementation of rules is also open and predictable to interested foreign parties.

In this context, regional trade agreement (RTAs) over the last decade have witnessed the emergence of new transparency disciplines that build on, and extend, corresponding mechanisms under the World Trade Organization (WTO).[1] Recent RTAs can be credited for introducing new elements and features to the architecture of transparency norms in trade agreements. Underlying this trend is a growing recognition that as deep integration advances on the regional front, and the issues negotiated increasingly pertain to behind-the-border measures, there is a need to have more sophisticated transparency mechanisms. Hence, RTAs have enhanced the remit of the transparency agenda, venturing to new frontiers such as anti-corruption and anti-bribery. They have also developed transparency provisions for key sector-specific areas, including business mobility, investment and competition policy.

Transparency can be a lubricant for international trade negotiations and trade policy reforms. Without information on the market, it would be difficult to accurately identify measures that obstruct trade and are costly to consumers in the first place. In this regard, transparency can be a first step towards creating awareness on measures and their net benefits or costs, so that these can come to bear in trade negotiations and unilateral trade policies. The implication is that markets with greater information asymmetries are more likely to remain closed. Even when barriers are removed, but adequate and predictable information is not available to economic operators, entrepreneurs will likely not be able to take full advantage of new market opportunities created by trade agreements. Therefore, market openness without transparency can hinder the realisation of potential benefits from negotiated agreements. Finally, transparency facilitates compliance and monitoring of commitments made in RTAs, enhancing the implementation of rules and trade-opening reforms.

For all its benefits, however, transparency is not readily forthcoming – even when technological innovations make it more feasible, and less costly, to disseminate information. On the contrary, there seem to be a host of political economy factors that can deter the readiness to embrace more transparent trade regimes. For instance, transparency can be perceived as a relinquishment of national sovereignty. Hence, countries may be wary of allowing outsiders to scrutinize domestic policies. Furthermore, administrative and political cultures vary greatly, so that there may not be a universally shared understanding of "best practices" in regulatory transparency. Finally, non-transparency of trade-related measures can be a form of disguised protectionism, and often gives rise to discretionary behaviour for rent-seeking, explaining why there can be incumbent forces of resistance to greater levels of transparency.

This report extends the discussion on trade-related transparency by examining some of the factors that may influence the adoption of comprehensive norms on transparency in RTAs,

1. For an overview of WTO-plus transparency disciplines in RTAs, see Lejárraga (2013), "Multilateralising Regionalism: Strengthening Transparency Disciplines in Trade," *OECD Trade Policy Paper* No.152.

and assessing the economic effects of these policy efforts. In order to explore these issues empirically, the analysis draws on a new OECD dataset on transparency provisions in a large sample of RTAs signed over the last decade. To our knowledge, this is the first time that empirical work on transparency has used data on the actual extent to which relevant norms and practices are incorporated in international trade agreements. The few available studies on transparency in trade focus on the level of transparency in the business environment in general, combining measures such as corruption perceptions, political favouritism, and others (e.g. Helble et al., 2009). This paper, by contrast, uses information gleaned directly from the texts of the trade agreements, and therefore does not depend on the perceptions of economic actors. While it has generally been recognized that transparency can promote trade and investment flows (e.g. Kerr, 2008; Wolfe 2003; Stephenson and Yi 2002; Francois 2001), it remains unexplored whether RTAs may be appropriate instruments for generating trade-enhancing transparency.

Two inter-related questions are examined. The first component assesses the extent to which governance and political institutions at home influence the level of transparency commitments in international trade agreements, such as RTAs. To this end, a simple political economy model is developed in which variables such as the degree of democratic institutionalisation and the strength of governance institutions are related to the prevalence of transparency obligations negotiated in RTAs. The second question then looks at whether the extent of transparency commitments in RTAs is associated with higher trade flows between the countries. A gravity model is used to investigate whether including transparency commitments in an RTA tends to make the agreement more trade-promoting. Since the estimation is limited to a sample of countries that already have an RTA, the analysis is able to identify the impact of including transparency norms relative to their non-inclusion, which is a novel approach in the literature.

The paper proceeds as follows. The next section provides a brief overview of the empirical literature on transparency and economic integration, focusing on the trade aspects of this relationship. Section III describes the data on transparency provisions in RTAs, and offers some descriptive statistics. In Section IV estimates from the political economy model of regional transparency commitments are presented, and section V uses a gravity model to assess the relationship between the level of transparency commitments in RTAs and bilateral trade flows. Finally, Section VI draws broad policy implications of these findings, and points to some areas that may merit further analysis.

II. Transparency and economic integration: Overview of empirical literature

In the trade literature, a number of studies have estimated the effects of RTAs on trade flows. Cippolina and Salvatici (2010) provide a comparative statistical synthesis of the empirical results from 85 studies analysing the trade impact of RTAs. The majority of the results surveyed corroborate that the existence of an RTA is associated with positive and significant increases bilateral trade flows among the parties, although there is considerable variation in the magnitude of these effects depending on the RTAs being analysed. Another review on the impact of RTAs is provided by Freund and Ornelas (2010), who sum up that most existing empirical studies find evidence for positive net trade creation. Acharya et al. (2011) examine 20 regional trade agreements and customs unions and find that almost all the RTAs have led to greater levels of exra-RTA imports and exports, as well as higher intra-RTA trade.

Overall, the empirical analyses provide evidence that trade creation largely outstrips the adverse effects from trade diversion. In effect, the modest levels of trade diversion found in these studies suggest that the discriminatory effects of RTAs, especially those pursuing "deep integration," are not as great as previously thought. Part of the reason stems from the kinds of issues that are being negotiated in RTAs, which increasingly pertain to behind-the-border, regulatory measures that are often not reformed on a preferential basis. In this vein, Baldwin (2011) argues that existing Vinerian frameworks for assessing the impact of RTAs are well suited to study the economic effects of liberalising tariffs and taxes, but fall short at assessing the impact of regulatory economics, which represents the largest dividends of modern RTAs.

One of the main findings from the Chauffau and Maur (2011) is that, beyond market access, a large parcel of commitments in RTAs are devoted to "positive integration" efforts, which entail the creation of intergovernmental public goods, such as the case of transparency. These kinds of measures are welfare-enhancing in their own right. When measures are more transparent and predictable, they become less trade-impeding by virtue of lowering transaction costs associated with procuring information about foreign markets. They help palliate a large range of information asymmetries that hinder trade. Moreover, improving procedures in the design and administration of these measures also reduces uncertainty and the scope for discretion in the application of measures. Hence, transparency in and of itself reduces the costs of trading and enhances economic integration. Since transparency is generally non-excludable and non-exhaustible, these types of obligations in RTAs do not tend to introduce distortions from discrimination.

Despite the significance of transparency obligations in RTAs, their impact has not been empirically assessed. The only available work at the time of writing which empirically examines the trade impact of transparency pertains to a project on intra-regional trade in APEC conducted by the World Bank (2007). According to this research, the gains to be reaped from improved transparency are substantial - approximately USD 148 billion, or 7.5% of intra-regional trade. In particular, Helble et al. (2009) show that a more transparent trade environment tends to promote bilateral trade in Asia-Pacific economies, and that the effect is particularly strong for differentiated products. The definition of transparency in this work covers two main areas: predictability and simplification. In each area, the authors assemble a range of perceptions-based and objective indicators on performance in traditional trade policy such as tariffs, and behind-the-border issues such as corruption. They do not, however, investigate the role played by transparency norms as such, and do not draw their data from national or international legal instruments.

Other work suggests that uncertainty – one of the two components of transparency in the Helble et al. (2009) definition – is an important determinant of trade flows. Buge (2011) extends the Helble et al. (2009) framework to focus on institutional uncertainty. Using a gravity model framework, the study finds that institutional uncertainty has a significant and

negative impact on trade volumes. After controlling for other factors, a country pair with above average institutional uncertainty trade about 30% less than the average country pair. However, other elements of transparency are not considered, and the level of uncertainty is not specific to trade-related institutions or instruments.

The remaining empirical literature does not focus on transparency as such, but there is a burgeoning body of work on the links between trade performance and institutional quality more generally. The seminal contribution is Anderson and Marcouiller (2002), who use a gravity model to show that weak institutions have a negative impact on trade performance. Their data on institutions covers the existence of impartial and transparent government policies, in addition to the strength of contract enforcement. However, they do not analyze the impact of transparency separately from other factors.

Two subsequent papers use a gravity framework to analyze the links between institutions and trade. De Groot et al. (2004) use the World Governance Indicators – which identify six dimensions of governance – as their data source on institutional quality. In line with Anderson and Marcouiller (2002), they find that institutional quality and the existence of similar institutions in trading partners are both correlated with increased trade flows. Similarly, Francois and Manchin (2007) find that stronger institutions are associated not just with increased trade at the intensive margin (more exports of existing products), but also more trade at the extensive margin (exports of new products or trading relationships with new destinations). Their institutional focus is on political economy factors such as the size of government, freedom of trade, protection of property rights, and the extent of business regulation.

Levchenko (2007) uses rule of law data from the World Governance Indicators as his measure of institutional quality. He extends Anderson and Marcouiller (2002) by embedding cross-country differences in contract enforceability in a general equilibrium model of trade. He shows empirically that stronger institutions are associated with a higher degree of trade specialization in "complex" products, i.e. those which are the nexus of a large number of contracts.

Similarly, Nunn (2007) finds that contract enforceability – as measured by a country's judicial quality – is a key determinant of trade flows in products that require relationship-specific investments. As in Levchenko (2007), examples of such products include those with high proportions of intermediate inputs that require external contracting and sourcing arrangements. Strikingly, he finds that contract enforcement explains more of the pattern of trade observed in the data than physical capital and skilled labour combined. Hence, institutional quality emerges as a determinant of comparative advantage.

III. Description of data and hypotheses

This section presents a new dataset used in the remainder of the paper. It consists of data on transparency provisions in RTAs signed by OECD countries and five major emerging economies (Brazil China, India, Indonesia and South Africa) over the last decade, both among themselves and with other trading partners.[2] RTAs refer to free trade areas, economic partnership agreements and similar arrangements. We focus on bilateral RTAs, implying that the sample does not incorporate customs unions such as MERCOSUR, but does cover bilateral agreements signed between a customs union and another party (e.g. MERCOSUR-Peru FTA). The sample includes 112 RTAs that have been signed since 2001 to the time of writing, including those that have not been notified to the WTO. Since the analysis is concerned with the effects of transparency, we do not include at RTAs that have been signed but not yet been ratified, since that implies that the transparency mechanisms have not yet been implemented.

There is a large representation of 125 countries from all regions of the world in this sample of RTAs; all but ten of the countries are Members of the WTO. Slightly less than half (44%) of the countries are represented individually as a party to the agreement, whereas the rest (56%) of the countries are represented as part of a regional grouping (the Andean Community, ASEAN, CAFTA, CARIFORUM, EFTA, European Union, GCC, MERCOSUR, SACU and SAARC). The regions that are best represented are Europe and Central Asia, the Western Hemisphere (North America, Latin America and the Caribbean), and Asia and the Pacific. There is also a fairly strong representation of countries from the Middle-East and North Africa. Sub-Saharan Africa is starkly under-represented, with only six countries in the sample.

In terms of level of income, the sample is heavily biased towards the most affluent economies. Overwhelmingly, industrialized and emerging economies tend to establish regional trade ties with high and upper-middle income countries. About 35% of total trading partners of OECD and the five sampled emerging economies consist of high-income economies, both OECD and non-OECD members. Most of the rest of the countries in the sample are middle income economies, with 33% enjoying upper-middle income status and 22% representing lower middle income economies. Less that 10% of the trading partners in this sample are low income economies, and in most instances, these countries are party to an RTA through a regional grouping (e.g. Myanmar or Cambodia in ASEAN, or Haiti in CARIFORUM).

Notwithstanding the low representation of the least developed economies, most of the RTAs signed by OECD countries are with non-OECD members: potentially, this suggests that administrative best practices in OECD countries are being transmitted to non-OECD members. Seventy per cent of RTAs signed by OECD countries are with non-OECD trading partners (hereafter, North-South) with high or upper middle level of income. A small set of remaining RTAs are intra-OECD ("North-North"), while the rest pertain to a small but increasing trend of RTAs between key emerging economies countries with other developing countries ("South-South" RTAs). Contrary to what might be anticipated, North-North RTAs do not necessarily display the highest prevalence of transparency clauses. This may reflect the fact that many OECD countries already have relatively high transparency standards, so that these kind of issues are less of a market access concern in North-North trade relations. On the other hand, OECD countries often set stronger transparency thresholds in RTAs with non-OECD trading partners, where transparency and other administrative procedures may be

2. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

weaker at the national level, and hence pose more significant hurdles to foreign traders and investors.

Over 60% of RTAs in the sample are free trade agreements, while the remaining third are economic cooperation arrangements. There is no discernable pattern between coverage of transparency and type of RTA, although the approach to promoting transparency may differ – for instance, more geared to cooperation in EPA-type agreements than in FTAs. Over 80% of RTAs cover both goods and services, and hence have comprehensive coverage, often extending to certain "Singapore issues", such as competition policy, investment, and government procurement. Not surprisingly, transparency is more pervasive in RTAs when the coverage of behind-the-border disciplines is greater.

It is important to note that the analysis here is based on the legal texts of the regional trade agreements, and does not evaluate the implementation of the transparency provisions canvassed. Still, given that most RTAs in this sample involve developed countries, with a very low incidence of South-South RTAs (most of which have non-OECD high and middle income emerging economies), it may be reasonable to assume that these measures are generally being implemented. It is also worth highlighting that the majority of these transparency provisions entail binding commitments that are liable to the dispute settlement mechanism provided for under the regional agreement.

The RTA transparency dataset includes information on the presence or absence of particular types of transparency provisions using dummy variables, as well as counts of the number of articles included on transparency in particular contexts. For instance, "transparency chapter" is a dummy variable equal to unity if an RTA contains a horizontal chapter on transparency. For each chapter or area of the agreement, the transparency variables contain the total number of transparency provisions for that area or sector (i.e. for the Agreement on Technical Barriers to Trade [TBT] and the Agreement on the Application of Sanitary and Phytosanitary [SPS], trade remedies, rules of origin, etc.).

Using a simple count of the number of transparency provisions does not capture their depth, breadth, or level of engagement, but represents just a first proxy of the extent to which transparency is taken into account in particular areas. Given that we do not have sufficiently good data on trade flows of services or investment, the transparency provisions related to cross-border services, movement of business persons, and investment are not included, since the effects of such transparency provisions on corresponding trade cannot be robustly assessed. Full details of the parts of the dataset used, variable definition, and sources are contained in Annex A.

In what follows, the analysis investigates two distinct hypotheses. Concerning the determinants or enablers of transparency, the analysis posits that countries with better governance tend to include more transparency provisions in their RTAs. To look at this, the analysis draws on data on the number of transparency provisions included in RTAs, combined with a summary measure of governance in both trading partners from the World Governance Indicators of the World Bank (see details and sources in Annex A). A priori, there is a positive correlation between these two variables: countries that score more highly on governance tend to include a greater number of transparency provisions in their RTAs. This may be expected from the literature (e.g. Kaufmann, 2006), which conjectures that transparency is mainly an issue of governance and political economy features, more so than of financial resources. The analysis builds on this insight in the context of a more formal model in the next section.

The second hypothesis is that a greater number of transparency provisions is associated with stronger bilateral trade links. To measure transparency, the analysis again draws on the total number of transparency provisions included in an RTA, but this time as the independent variable, with bilateral imports as the dependent variable. Once again, the correlation between

the two is positive, which indicates that country pairs that include more transparency provisions in their RTAs tend to trade more. Section V examines this hypothesis more formally using a gravity model.

IV. Determinants of transparency: Political economy enablers

This section examines the political economy and governance factors that may influence countries' propensities to negotiate more or less "transparency-friendly" RTAs. To a certain extent, transparency starts at home, so that in the case of some OECD countries that already have transparent administrative practices in their domestic jurisdictions, the RTA may be serving as a vehicle to export these practices to their trading partners. In countries with less developed institutional capacities, trading partners may deploy RTAs to anchor reforms across domestic regulatory bodies. In either case, it seems reasonable to posit that the pre-existing institutional practices and the domestic political economy environment will likely influence countries' propensities to negotiate transparency commitments in RTAs.

Specification and estimation

The analysis departs from the hypothesis that the inclusion of transparency provisions in an RTA is a function of domestic political characteristics of each country pair involved in the agreement, such as the existence of democratic institutions, the overall quality of governance, as well as per capita income as a measure of economic development. A number of governance variables are included in the specification which could influence countries' preparedness to include a greater number of transparency commitments in their RTAs: namely, the level of control of corruption, government effectiveness, political stability, regulatory quality, rule of law, and voice and accountability

The framework also considers historical and cultural ties, including whether countries share a common legal system or a common language, on the assumption that these factors could also influence the degree of transparency negotiated. Arguably, countries sharing the same legal family may already have a similar administrative culture that makes it easier to agree upon common transparency procedures in trade relations. It further considers whether one of the trading partners has acceded to the WTO, since accession entails a demanding process of transparency which may make the country more prepared to endorse transparency practices in RTAs. The size of the country is also included, namely as a proxy for the size of its government: smaller governments may find it easier to comply with transparency requirements given the less coordination effort involved with fewer government agencies. A cursory overview of notification submissions under multilateral agreements suggests that countries that have acceded to the WTO (post-1995) and those that have smaller administrations are particularly active in notifications.

Finally, the framework considers the export structure of countries, which may influence countries' interest in promoting transparency. In particular, it includes the percentage of differentiated products in total exports, following the Rauch (1999) classification, since Helble et al. (2009) find that transparency has stronger trade effects in differentiated sectors. In this regard, countries with higher share of differentiated goods in their export basket may attach greater importance to transparency in their trade policy, and negotiate a higher number of transparency provisions.

The estimation model takes the following form:

$$
\begin{aligned}
(1)\ Transparency_{ij} &= b_0 + b_1\left(Democracy_i + Democracy_j\right) + b_2\left(Governance_{ij}\right) \\
&+ b_3 \log\left(Population_i + Population_j\right) + b_4 Accession_{ij} \\
&+ b_5\left(Differentiated_i + Differentiated_j\right) + b_6 CommonLegal_{ij}^{UK} \\
&+ b_7 CommonLegal_{ij}^{FR} + b_8 CommonLegal_{ij}^{SO} + b_9 CommonLegal_{ij}^{GE} \\
&+ b_{10} Colony_{ij} + b_{11} CommonLanguage_{ij} \\
&+ b_{12} abs\left[\log(GDPPC_i) - \log\left(GDPPC_j\right)\right] + e_{ij}
\end{aligned}
$$

For the baseline model, $Transparency_{ij}$ is the dummy variable $Transp.Chapter_{ij}$, which is equal to unity if an RTA includes a chapter on transparency, and zero if it does not. The remaining variables in equation (1) are drawn from standard sources. $Democracy_i$ measures the degree of democratization of country i, and refers to country *i*'s score in the Polity IV dataset, ranging from -10 (hereditary monarchy) to 10 (institutionalized democracy). $Governance_{ij}$ is the first principal component of the six dimensions of governance from the World Governance Indicators (WGIs), covering both RTA partners. In additional regressions later in this section, we also use each WGI dimension separately. $Population_i$ is country *i*'s population, sourced from the World Development Indicators, as a proxy for the size of its government, on the assumption that larger countries require additional layers of governance. $Accession_{ij}$ is a dummy variable equal to unity if either country *i* or country *j* acceded to the WTO after 1995. $Differentiated_i$ is the percentage of country *i*'s total exports that is accounted for by differentiated products under the Rauch (1999) classification. $CommonLegal_{ij}$ are dummy variables equal to unity for country pairs that have the same legal origin, namely British common law (UK), French (FR), Soviet (SO), or German (GE).[3] $Colony_{ij}$ is a dummy variable equal to unity for country pairs that were previously in a colonial relationship. $CommonLanguage_{ij}$ is a dummy variable equal to unity for country pairs that share a common official language. $GDPPC_i$ is *per capita* GDP in country *i*, at purchasing power parity rates. The last term in equation (1) therefore represents a measure of the difference in per capita income between the two countries. Annex A provides full details of data sources.

Results and discussion

The results are displayed in Annex B. As expected, countries with more democratic institutions and those with higher levels of governance are more likely to include comprehensive coverage of transparency commitments, such as a full-fledged transparency chapter in the RTA. Both effects are statistically significant at the 1% level.[4]

A further observation comes from a comparison of the impact of the individual dimensions of governance. First, all dimensions of governance except voice and accountability have positive and 1% statistically significant coefficients, which is in line with expectations.[5] In quantitative terms, the impact of each of the dimensions of governance with

3. Although the database also includes countries with Scandinavian legal origin, there are no country pairs which both have that same origin, and so the variable has to be dropped from the model.

4. Results on the non-governance variables are very stable across specifications, and accord well with the baseline in terms of sign, significance, and magnitude.

5. It is, however, surprising that countries where political voice and accountability institutions are stronger are not systematically more likely to have higher transparency thresholds in their RTA.

a statistically significant coefficient is quite similar, with one exception: regulatory quality has a much larger coefficient than the others, being almost twice as large as the political stability or rule of law coefficient. Although it is important not to read too much into this result, it is suggestive of a link between domestic regulatory capacity and the propensity to bolster transparency at the international level through RTAs. Transparency is an important factor in designing and implementing effective and efficient domestic regulation, so it is not surprising that this link should be strong. That said, it should be noted that other variables are significant, so that transparency is influenced by a wider set of institutional conditions.

Furthermore, country pairs are more likely to include comprehensive transparency coverage if the per capita income difference between them is relatively large, an effect which is statistically significant at the 1% level. Thus, North-South RTAs are more likely to contain transparency provisions than are North-North, or South-South, agreements. Transparency mechanisms in international instruments such as RTAs could be one way in which more developed countries try to secure effective market access in less developed countries, where a lack of transparency can sometimes hold back foreign businesses. This trend also suggests that regional negotiations are providing a vehicle for disseminating best practices in transparency, particularly to countries where administrative systems may be less mature.

Cultural, and in particular linguistic distance, can also increase the importance countries attach to clear transparency procedures in their bilateral trade relations. In this regard, country pairs that share a common official language are less likely to include a comprehensive coverage of transparency specifications in their RTAs, an effect which is statistically significant at the 5% level. This finding might be explained by the tendency of culturally diverse trading partners to include basic transparency provisions as a way of dealing with issues such as translation of official documents and rulings into English, and their being made available to foreign firms.

Countries with larger populations also seem to be characterized by higher coverage of transparency norms in their RTAs. On the assumption that countries with larger populations require additional layers of governance, and tend to have more decentralized decision-making structures, transparency mechanisms in the bilateral trade relationship may be more crucial to ensure the exchange of information, and are thus more likely to have a comprehensive coverage in the agreement.

Another observation is that if one member of a country pair acceded to the WTO post-1995, the RTA is more likely to include comprehensive transparency coverage. This finding is indicative of the spread of transparency norms from the multilateral system to regional engagements. Indeed, the process of acceding to the WTO entails a far-reaching exercise of transparency, often including domestic reforms. These efforts at the multilateral level tend to have positive spillovers in subsequent bilateral trade ties concerning countries' preparedness and ease to integrate transparency in their RTAs.

V. Economic impact of regional transparency on trade flows

This section provides an initial investigation into the impact of regional transparency provisions on trade flows. Increasing the levels of transparency on RTAs may well be desirable, but it also entails costs – financial and administrative – in spite of which it may be reasonable to question whether governments should spend more negotiation capital introducing transparency arrangements in RTAs. As noted above, the empirical relationship between transparency and trade flows has not been widely explored, although the few previous results (Helble et al., 2009) suggest that increasing trade-related transparency is associated with higher intra-regional trade flows within APEC countries. Even if a positive relationship between trade and transparency were generalisable, one may still ask whether RTAs would be the appropriate instrument for generating trade-enhancing transparency. Are transparency mechanisms in RTAs effective vehicles for promoting trade flows between the countries?

Specification and estimation

In order to provide some early quantitative evidence on the impact of transparency, the analysis uses a standard gravity model augmented with RTAs data on transparency to assess the impact of including transparency provisions on trade, compared with an implied counterfactual scenario in which an RTA between two trading partners does not contain transparency provisions. The fact that the estimation is limited to the sample of countries that already have an RTA in place means that we are able to identify the impact of including transparency commitments relative to their non-inclusion. The analysis considers the overall level of transparency provisions in the RTAs, as well as different area-specific transparency clauses across the RTA pertaining to particular sectors, measures or procedures (e.g. SPS/TBT, rules of origin, etc.), in order to discern in what areas transparency may have a greater impact on trade.

Box 1. The gravity model of trade

The gravity model is the workhorse of empirical international trade. In addition to strong explanatory power, the gravity model now also has sound microeconomic credentials in the form of a number of underlying theories that give rise to gravity-like equations. The standard benchmark in the literature is currently the "gravity with gravitas" model of Anderson and Van Wincoop (2003). Their gravity equation takes the following form:

$$(2)\ \log(X_{ij}) = \log(E_j) + \log(Y_i) - \log(Y) + (1-s)\log(t_{ij}) - (1-\sigma)\log(P_j) - (1-s)\log(\Pi_i) + e_{ij}$$

where: X_{ij} is exports from country *i* to country *j*; E_j is expenditure in country *j*; Y_i is production in country *i*; t_{ij} is bilateral trade costs; *s* is the intra-sectoral elasticity of substitution (between varieties within a sector); and e_{ij} is a random error term satisfying standard assumptions. The P_j and Π_i terms represent multilateral resistance, i.e. the fact that trade patterns are determined by the level of bilateral trade costs relative to trade costs elsewhere in the world. Inward multilateral resistance $(P_j)^{(1-s)} = \sum_{i=1}^{N}\left(\Pi_i\right)^{(s-1)} w_i (t_{ij})^{(1-s)}$ captures the dependence of country *j*'s imports on trade costs across all suppliers. Outward multilateral resistance $(\Pi_i)^{(1-s)} = \sum_{i=1}^{N}(P_j)^{(s-1)} w_j (t_{ij})^{(1-s)}$ captures the dependence of country *i*'s exports on trade costs across all destination markets. The *w* terms are weights equivalent to each country's share in global output or expenditure.

To operationalise the model, a specification is needed for the trade costs function t_{ij}. It is common in the gravity literature to include a range of data on geographical and historical factors that are believed to influence trade costs. In line with the standard approach, the analysis here includes international distance as a proxy for transport costs, as well as dummy variables for countries that are geographically contiguous, those that share a common official language, those once in a colonial relationship, and those that were colonized by the same power.

Based on the evidence reviewed above, the hypothesis that is developed is that transparency provisions in RTAs have the potential to influence trade costs. In order to explore this, the analysis incorporates in the trade costs function various measures of transparency drawn from the dataset described above. For expositional clarity, *Transparency* simply refers to a generic transparency measure in the equations. Bringing together the various elements of the trade costs equation gives:

$$(3) t_{ij} = b_1 Transparency_{ij} + b_2 \log(Distance_{ij}) + b_3 Contig_{ij} + b_4 CommonLanguage_{ij} + b_5 Colony_{ij} + b_6 ComCol_{ij}$$

Since the data on transparency in RTAs vary in the country pair dimension, fixed effects are used to control for unobserved multilateral resistance, as well as expenditure and output. By including a full set of fixed effects by exporter and by importer, these effects are fully accounted for in the model without the need to directly estimate the relevant terms from the structural model. Combining (1) and (2) and replacing relevant terms with fixed effects gives the estimating equation:

$$(4) \log(X_{ij}) = c_0 + \sum_{i=1}^{N} f_i + \sum_{i=j}^{N} f_j + c_1 Transparency_{ij} + c_2 \log(Distance_{ij}) + c_3 Contig_{ij} + c_4 Comlang_{ij} + c_5 Colony_{ij} + c_6 ComCol_{ij} + e_{ij}$$

where c_0 is a constant term, the f_i terms represent exporter fixed effects, the f_j terms represent importer fixed effects, and the reduced form coefficients $c_k = (1 - s)b_k$. Data and sources for each variable in the model are described in full in Annex A. Bilateral trade data are for 2009 and cover all RTA signed and ratified by OECD and five emerging economies (Brazil, China, India, Indonesia and South Africa). Since available trade data for cross-border services, movement of persons, and investment are not sufficiently good to yield robust results, corresponding services-related transparency is not included. [6] The model is estimated using the Poisson Pseudo-Maximum Likelihood estimator following the approach in Santos Silva and Tenreyro (2006).[7]

6. Data are limited to merchandise trade only. The limited data availability and issues of data quality on cross-border services trade and investment made it impossible to obtain reliable model results for services.

7. Traditionally, models like (4) have been estimated by ordinary least squares (OLS). However, recent research has called this approach into question. Santos Silva and Tenreyro (2006) show that it suffers from two important defects. First, multiplicative heteroskedasticity in the original non-linear model can result in biased parameter estimates under log-linearized OLS. Second, taking logarithms excludes observations for which $X_{ij} = 0$. To deal with both problems, a Poisson Pseudo-Maximum Likelihood is used. It is important to note that Poisson gives consistent parameter estimates regardless of the actual distribution of the data and has been shown in simulations to perform well against feasible alternatives when the pattern of heteroskedasticity is unknown and the proportion of zeros in the bilateral trade matrix is potentially large (Santos Silva and Tenreyro, 2011).

Results and discussion

Table C1 in Annex C reports results using alternative measures of transparency applied. Column 1 is the baseline model, with the total number of transparency provisions (excluding services) in an RTA as the measure of transparency. All control variables have coefficient signs and magnitudes that accord well with the previous literature.[8] Overall, the model performs very strongly, accounting for over 97% of the observed variation in the dependent variable. Most importantly, the transparency indicator has a positive and 10% statistically significant coefficient, which indicates that a greater number of transparency provisions in an RTA is associated with stronger trade flows between countries.

Concretely, the results reveal that each additional transparency provision negotiated in the RTA is associated with a marginal increase in bilateral trade exceeding 1%. This means that negotiating an additional transparency commitment in an RTA can increase trade by a little over 1%. Considering that comprehensive RTAs contain about a dozen of such commitments, the expected increase in trade would be associated with over 15%. It is also worth highlighting that the estimated results pertain to the average RTAs, and are likely to be higher in agreements that are relatively more ambitious in their breadth and depth. In any case, this result suggests that countries can reasonably expect to gain from strengthening transparency procedures in their trade relations.

It is also of policy interest to obtain some preliminary information on the types of trade flows that might be most sensitive to improvements in transparency. Tables C2 and C3 in Annex C present results for the same regressions using agricultural and industrial and agricultural products separately, following the relevant WTO sectoral definitions. The results that emerge in this regard are that the overall impact of transparency provisions is slightly stronger in agriculture than in non-agricultural goods, with a semi-elasticity of 0.016 compared with 0.013.[9] Hence, while it may be anticipated that transparency is more important for heterogeneous and more sophisticated industrial products (Nunn, 2007; Helble et al., 2009), this analysis suggests that transparency is just as important – or more – for agricultural trade. Arguably, the costs of non-transparency may be higher in agriculture than in non-agricultural goods, where goods are perishable and can have adverse effects on human, plant and animal health, if pests and diseases are transmitted across borders.

While the discussion above relates to the overall level of transparency provisions in RTAs, several observations are also worth highlighting concerning the results of more disaggregated measures for transparency. First, the inclusion of horizontal transparency measures in a separate, transversal chapter in an RTA emerges as ostensibly effective as evidenced in the agricultural regressions. Revealingly, horizontal measures have greater trade-boosting effects than relevant area-specific transparency measures, namely transparency provisions contained in the chapter on agriculture, SPS and TBTs, which are not significant. From a policy perspective, crafting transparency mechanisms for all non-tariff measures may be more effective than regulating transparency by sector or type of measure.

With regards to area-specific measures, perhaps the most interesting result is that greater transparency in rules of origin tends to be trade increasing. This result accords well with the literature, since the ease with which businesses can access preferential tariffs has long been

8. Only the common colonizer dummy has a coefficient that is statistically insignificant, probably due to the very small number of observations for which that variable is equal to unity.

9. The quantitative significance of the different sensitivities to transparency of agriculture and industrial products is small, but still indicative that transparency may matter as much or more for agriculture than for non-agricultural goods. Indeed, only the coefficient in the agriculture regression is statistically significant at the 10% level, while the coefficient on non-agricultural goods is not significant or only marginally significant at the same level (prob.=0,15).

considered a crucial issue in the design of regional integration policies (see e.g. Cadot et al., 2006).

Finally, it is telling that several other significant coefficients relate to internal transparency, that is, mechanisms for ensuring the effective administration and application of the agreement, including dispute settlement resolution. After all, transparency is also an instrument to facilitate the full implementation of RTAs and render the commitments undertaken by the parties predictable and enforceable, which in turn helps the agreement achieve its trade-creating potential.

Limitations and biases

A number of limitations and biases are worth highlighting. A key limitation is that the analysis is based on the obligations inscribed in bilateral trade treaties, without considering the extent of implementation, which cannot be observed. The fact that the variable that we have refers to what is "on the books", rather than what is *de facto* applied, creates a bias in the results. If the mechanisms for transparency provided under RTAs are not operational, they will not yield the estimated impact on trade. To the extent that most of the RTAs reviewed are among OECD and other high- and middle-income countries, however, it may be reasonable to assume that these obligations are generally being implemented. Moreover, most of the obligations are cast in mandatory terms, rather than in best-endeavour, hortatory language. In the case of RTAs with less developed trading parties, it is likely that RTAs that provide transparency-related technical assistance might enhance the effective operationalisation of transparency procedures, thereby maximizing the trade impact.

Another consideration is that most of the transparency commitments undertaken in RTAs, where implemented, are applied on a most-favoured nation basis (MFN). Although these commitments may be *de jure* preferential by virtue of being inscribed in an RTA, they are often *de facto* being extended to all domestic and foreign parties, including in non-Members to the RTA. The gravity framework solely assessed the effects on bilateral trade, and is ill-suited to estimate broader multilateral trade effects. Notwithstanding, since other trading partners that are not parties to the RTA are also benefiting from the enhanced levels of transparency in the RTA area, it is likely that trade will increase between non-parties and parties of the RTA. Hence, in the presence of positive externalities, the above results would under-estimate the overall effects of trade resulting from transparency mechanisms in regional arrangements.

Finally, it is worth recalling that the impact of transparency provisions on services trade cannot be assessed due to lack of availability of adequate data on services trade flows. However, there are reasons to believe that many of the horizontal obligations in RTAs chapters and provisions will increase regulatory transparency, which is particularly important for services trade. Hence, if services data were available, it is likely that the overall trade effects of transparency in RTAs would be higher than the estimated results for merchandise trade.

VI. Conclusions and future research

This paper has provided some of the first quantitative analysis of transparency in trade using a newly assembled database on transparency provisions in RTAs. It has examined the data from two perspectives: the drivers of transparency, and its trade impacts. In terms of economic impacts, it has provided early evidence that RTAs which include transparency provisions are associated with higher trade flows than those with shallower transparency commitments. The findings suggest that countries can reasonably expect to gain from their transparency provisions in RTAs. In addition, such provisions are more likely to be extended more widely among trading partners that have sufficient institutional and governance capacity.

Policy conclusions

Two key policy conclusions flow from these findings. First, the results suggest that transparency should remain an important agenda item at both the regional and multilateral level. Although the analysis is based on RTAs, it is likely that transparency norms more broadly are trade promoting. As such, there is a clear interest for new generation trade agreements to include comprehensive disciplines on transparency. The most important question for countries to address in incorporating transparency provisions in RTAs is the nature, breadth and depth of the obligations undertaken. The presence or absence of a chapter devoted solely to transparency is a secondary issue, but many trading partners have found it a convenient architecture for governing transparency in RTAs, and such an approach seems to have contributed to the overall effectiveness of regional transparency mechanisms.

Second, the political economy analysis suggests that there is an important North-South aspect to the inclusion of transparency provisions in RTAs: country pairs with very different levels of per capita income are more likely to include transparency provisions in their RTAs than those with similar levels of income. A number of dynamics might explain this observation. One possibility is that the prevalence of non-tariff, behind-the-border barriers in developing countries tends to raise the information costs faced by exporters in developed countries, and the inclusion of transparency provisions may be a way of reducing those costs and thus improving market access. Another possibility is that the inclusion of transparency norms in RTAs is a way of achieving a minimal level of convergence not in the substance of regulations, but equally important, in regulatory practices. Finally, the North-South dimension may also reflect that RTAs are being used as vehicles to transmit best practices in transparency, and that less developed trading partners may be deploying RTAs as devices for locking in reforms in their national regulatory systems. The results suggest that countries that have relatively stronger institutional and governance capacity are more likely to embrace this agenda, which would seem consistent with a view that strengthening local governance and institutional capacities may facilitate a wider diffusion of transparency norms.

Future work

The results also point to avenues for further research. Given the focus on RTAs signed by OECD and large emerging economies, it is not possible to generalise these findings to South-South RTAs, even though a small number of such agreements were included in the sample. Hence, it may be useful for future work to examine a wider selection of RTAs among developing countries. Second, the results have shown that the effects of transparency provisions on trade flows vary across two broadly split sectors, agricultural and non-agricultural goods. Further work may benefit from a wider disaggregation of sectors, in order to investigate if trade in particular types of products are more sensitive to transparency than others. Indeed, trade in particular kinds of goods or services may require greater level of transparency. Finally, poor data availability and quality for bilateral services trade have not permitted us to generate robust quantitative results. In spite of the importance that regulatory transparency would be expected to have on trade in services, it would be important for future work to address this gap.

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Annex A.

Data and sources

Variable	Description	Source
Accession	Dummy variable equal to unity if either country in a pair acceded to the WTO after 1995.	WTO.
Colony	Dummy variable equal to unity for countries that were once in a colonial relationship.	CEPII.
ComCol	Dummy variable equal to unity for countries that were colonized by the same power.	CEPII.
CommonLanguage	Dummy variable equal to unity for countries that share a common official language.	CEPII.
CommonLegal	Dummy variables equal to unity for countries sharing a common legal origin, namely UK, French, Socialist, or German.	CEPII.
Contig	Dummy variable equal to unity for countries that share a common land border.	CEPII.
Control of Corruption	A country's score on the control of corruption component of the World Governance Indicators (2009).	World Governance Indicators.
Democracy	A country's score on the democratization index from the Polity database (latest year).	
Differentiated	The percentage of a country's total exports accounted for by differentiated products, using the Rauch (1999) classification (2009).	WITS-Comtrade and own calculations.
Distance	Great circle distance between the main cities of two countries.	CEPII.
Abs. DLog(GDPPC)	Absolute value of the difference in two countries' logarithm of per capita GDP at purchasing power parity rates (2009).	World Development Indicators.
Governance	First principal component of both countries' scores on the six dimensions of the World Governance Indicators: control of corruption; government effectiveness; political stability; regulatory quality; rule of law; and voice and accountability (2009).	World Governance Indicators and own calculations.
Government Effectiveness	A country's score on the government effectiveness component of the World Governance Indicators (2009).	World Governance Indicators.
Imports	Bilateral imports, total or by sector (agriculture versus industrial products). 2009.	WITS-Comtrade.
Political Stability	A country's score on the political stability component of the World Governance Indicators (2009).	World Governance Indicators.
Population	A country's total population (2009).	World Development Indicators
Regulatory Quality	A country's score on the regulatory quality component of the World Governance Indicators (2009).	World Governance Indicators.
Rule of Law	A country's score on the rule of law component of the World Governance Indicators (2009).	World Governance Indicators.
Transp. Admin.	Total number of transparency provisions on administration of the agreement in an RTA.	OECD.
Transp. Chapter	Dummy variable equal to unity if an RTA contains a chapter on transparency.	OECD.

Variable	Description	Source
Transp. Coop.	Total number of transparency provisions on cooperation and strategic partnerships in an RTA.	OECD.
Transp. Customs and TF	Total number of transparency provisions on customs and trade facilitation in an RTA.	OECD.
Transp. Disputes	Total number of transparency provisions on dispute settlement in an RTA.	OECD.
Transp. General Provisions	Total number of general transparency provisions in an RTA.	OECD.
Transp. Goods	Total number of transparency provisions on goods in an RTA.	OECD.
Transp. Goods All	Total number of transparency provisions affecting goods markets in an RTA. Sum of Transp. General Provisions, Transp. Goods, Transp. ROO, Transp. TBT/SPS, Transp. Customs and TF, Transp. Remedies, Transp. Disputes, Transp. Final Provisions, Transp. Coop., and Transp. Admin.	OECD.
Transp. Remedies	Total number of transparency provisions on trade remedies in an RTA.	OECD.
Transp. ROO	Total number of transparency provisions on rules of origin in an RTA.	OECD.
Transp. TBT/SPS	Total number of transparency provisions on SPS and TBT measures in an RTA.	OECD.
Voice and Accountability	A country's score on the voice and accountability component of the World Governance Indicators (2009).	World Governance Indicators.

Annex B.

Political Economy regressions

Table B.1. Political economy regressions using as dependent variable the coverage of transparency in RTAs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Democracy	0.043***	0.046***	0.046***	0.044***	0.039***	0.046***	0.039***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.010)
Governance	0.056***						
	(0.014)						
Control of Corruption		0.113***					
		(0.024)					
Government Effectiveness			0.105***				
			(0.029)				
Political Stability				0.141***			
				(0.036)			
Regulatory Quality					0.240***		
					(0.036)		
Rule of Law						0.129***	
						(0.028)	
Voice and Accountability							0.064
							(0.048)
Log(Population)	0.065***	0.059***	0.056**	0.078***	0.077***	0.055**	0.046**
	(0.022)	(0.022)	(0.022)	(0.023)	(0.022)	(0.022)	(0.023)
Accession	0.103**	0.117**	0.095*	0.075	0.124**	0.126**	0.047
	(0.051)	(0.052)	(0.051)	(0.050)	(0.050)	(0.051)	(0.051)
Differentiated	0.002	0.002*	0.002*	0.001	0.001	0.002*	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
CommonLegal UK	-0.110	-0.130	-0.132	-0.062	-0.146	-0.130	-0.101
	(0.107)	(0.104)	(0.105)	(0.114)	(0.107)	(0.107)	(0.112)
CommonLegal FR	0.249***	0.246***	0.249***	0.235***	0.285***	0.255***	0.203***
	(0.055)	(0.054)	(0.054)	(0.056)	(0.053)	(0.054)	(0.058)
CommonLegal GE	-0.171	-0.179	-0.157	-0.149	-0.159	-0.199	-0.096
	(0.256)	(0.261)	(0.257)	(0.268)	(0.257)	(0.247)	(0.260)
Colony	-0.095	-0.087	-0.099	-0.050	-0.116	-0.130	-0.087
	(0.133)	(0.134)	(0.131)	(0.141)	(0.128)	(0.130)	(0.132)
CommonLanguage	-0.221**	-0.245***	-0.214**	-0.221**	-0.242***	-0.202**	-0.206**
	(0.089)	(0.087)	(0.089)	(0.091)	(0.084)	(0.093)	(0.093)
Abs. DLog(GDPPC)	0.093***	0.092***	0.112***	0.103***	0.136***	0.109***	0.093***
	(0.035)	(0.035)	(0.036)	(0.035)	(0.038)	(0.036)	(0.034)
Observations	522	522	522	522	522	522	522
Pseudo R2	0.169	0.175	0.162	0.171	0.210	0.175	0.144

Note: The dependent variable in all cases is a dummy variable with the coverage of transparency in RTAs. Estimation is by probit. Robust standard errors appear in parentheses. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%). Coefficients are reported as marginal effects evaluated at the median.

Table B.2. Political economy regressions using as dependent variable the number of transparency measures.

	(1) Transp. Goods All	(4) Transp. ROO	(5) Transp. TBT/SPS	(6) Transp. Customs & TF	Transp. Disputes	Transp. Coop.
Democracy	0.062***	0.030	0.051***	0.049***	0.056***	0.112***
	(0.014)	(0.030)	(0.020)	(0.017)	(0.013)	(0.027)
Governance	0.135***	0.502***	0.071**	0.178***	0.137***	0.090**
	(0.030)	(0.085)	(0.032)	(0.029)	(0.023)	(0.038)
Log(Population)	-0.099**	0.968***	-0.133***	0.084**	0.024	-0.205**
	(0.046)	(0.142)	(0.046)	(0.042)	(0.038)	(0.095)
Accession	0.218***	0.609	0.194*	-0.005	0.137*	0.152
	(0.082)	(0.489)	(0.100)	(0.111)	(0.083)	(0.137)
Differentiated	0.005***	-0.017*	0.002	0.008***	-0.004**	0.001
	(0.002)	(0.010)	(0.002)	(0.003)	(0.002)	(0.003)
CommonLegal UK	-0.032	0.628	0.547**	0.532**	0.040	-0.963***
	(0.209)	(0.668)	(0.230)	(0.210)	(0.146)	(0.317)
CommonLegal FR	0.035	-0.289	-0.408***	-0.308***	-0.393***	0.521***
	(0.094)	(0.528)	(0.121)	(0.113)	(0.100)	(0.123)
CommonLegal SO	-1.319***	-12.507***	-15.983***	-15.678***	-15.835***	-0.876***
	(0.226)	(0.571)	(0.292)	(0.293)	(0.283)	(0.172)
CommonLegal GE	-0.608**	-15.702***	-0.121	0.292	-0.223*	-15.596***
	(0.269)	(0.776)	(0.335)	(0.395)	(0.119)	(0.543)
Colony	0.417	-14.928***	0.275	-0.319	0.341	0.974**
	(0.316)	(0.799)	(0.316)	(0.301)	(0.247)	(0.475)
CommonLanguage	-0.385	0.331	-0.098	0.070	-0.292	-1.118***
	(0.285)	(0.888)	(0.315)	(0.282)	(0.199)	(0.415)
Abs. DLog(GDPPC)	0.380***	0.550**	0.357***	0.196***	0.220***	0.339***
	(0.067)	(0.264)	(0.064)	(0.072)	(0.053)	(0.103)
Constant	2.228***	-20.480***	1.638*	-3.322***	-1.294*	2.679*
	(0.796)	(2.547)	(0.849)	(0.796)	(0.668)	(1.557)
Observations	538	538	538	538	538	538
R2	0.280	0.076	0.189	0.166	0.196	0.296

Note: The dependent variable is indicated at the top of each column. Estimation is by negative binomial. Robust standard errors appear in parentheses. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%). R2 is calculated as the square of the correlation coefficient between the actual and fitted values of the regression.

Annex C.

Gravity model regressions

Table C.1. Gravity model regressions using total trade and various transparency measures.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Transp. Goods All	0.013*											
	(0.007)											
Transp. Chapter		0.075										
		(0.165)										
Transp. General Provisions			-0.019									
			(0.027)									
Transp. Goods				0.077								
				(0.051)								
Transp. ROO					0.200**							
					(0.094)							
Transp. TBT/SPS						0.006						
						(0.014)						
Transp. Customs & TF							0.028					
							(0.026)					
Transp. Remedies								-0.013				
								(0.043)				
Transp. Disputes									0.067			
									(0.042)			
Transp. Final Provisions										0.199**		
										(0.093)		
Transp. Coop.											0.014	
											(0.010)	
Transp. Admin												-0.208

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
												(0.133)
Log(Distance)	-0.715***	-0.684***	-0.658***	-0.634***	-0.726***	-0.671***	-0.672***	-0.665***	-0.672***	-0.681***	-0.693***	-0.609***
	(0.149)	(0.169)	(0.159)	(0.159)	(0.139)	(0.155)	(0.154)	(0.155)	(0.154)	(0.138)	(0.152)	(0.173)
Contig	0.358**	0.326**	0.338**	0.359**	0.247	0.338**	0.329**	0.321**	0.353**	0.327**	0.333**	0.349**
	(0.150)	(0.154)	(0.152)	(0.157)	(0.157)	(0.152)	(0.152)	(0.154)	(0.153)	(0.141)	(0.152)	(0.157)
Colony	0.427***	0.469***	0.467***	0.488***	0.489***	0.470***	0.489***	0.471***	0.432***	0.479***	0.422**	0.516***
	(0.165)	(0.162)	(0.163)	(0.163)	(0.153)	(0.163)	(0.160)	(0.163)	(0.165)	(0.156)	(0.173)	(0.170)
ComCol	0.180	0.193	0.211	0.185	0.176	0.196	0.203	0.208	0.234	0.280	0.203	0.215
	(0.246)	(0.258)	(0.248)	(0.236)	(0.224)	(0.247)	(0.247)	(0.247)	(0.253)	(0.242)	(0.249)	(0.242)
CommonLanguage	0.255*	0.245*	0.245*	0.255*	0.201	0.239*	0.234*	0.234	0.273**	0.251*	0.248*	0.241*
	(0.139)	(0.146)	(0.144)	(0.141)	(0.129)	(0.144)	(0.141)	(0.146)	(0.139)	(0.131)	(0.146)	(0.143)
N	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160
R2	0.975	0.974	0.974	0.975	0.975	0.974	0.974	0.974	0.974	0.976	0.974	0.974

Note: The dependent variable is imports in all cases. Estimation is by Poisson Pseudo-Maximum Likelihood with importer and exporter fixed effects. Robust standard errors corrected for clustering by country pair appear in parentheses. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%). R2 is calculated as the square of the correlation coefficient between the actual and fitted values of the regression.

Table C.2. Gravity model regressions using trade in agricultural products and various transparency measures.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Transp. Goods All	0.016*												
	(0.009)												
Transp. Chapter		0.328**											
		(0.145)											
Transp. General Provisions			-0.035										
			(0.030)										
Transp. Goods				-0.065									
				(0.068)									
Transp. Agriculture					-0.344								
					(0.253)								
Transp. ROO						0.073							
						(0.062)							
Transp. TBT/SPS							0.030						
							(0.020)						
Transp. Customs & TF								-0.011					
								(0.028)					
Transp. Remedies									0.083**				
									(0.036)				
Transp. Disputes										0.158**			
										(0.064)			
Transp. Final Provisions											-0.002		
											(0.082)		
Transp. Coop.												0.017	
												(0.013)	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Transp. Admin													0.307***
													(0.110)
Log(Distance)	-1.258***	-1.320***	-1.199***	-1.252***	-1.138***	-1.222***	-1.237***	-1.213***	-1.270***	-1.192***	-1.217***	-1.225***	-1.322***
	(0.086)	(0.105)	(0.087)	(0.102)	(0.115)	(0.086)	(0.087)	(0.087)	(0.086)	(0.081)	(0.089)	(0.086)	(0.101)
Contig	0.248	0.195	0.224	0.183	0.268	0.208	0.244	0.220	0.238	0.283	0.219	0.227	0.173
	(0.209)	(0.206)	(0.213)	(0.213)	(0.220)	(0.211)	(0.211)	(0.215)	(0.210)	(0.211)	(0.214)	(0.215)	(0.213)
Colony	0.807***	0.843***	0.834***	0.855***	0.834***	0.849***	0.818***	0.845***	0.826***	0.776***	0.846***	0.833***	0.813***
	(0.171)	(0.166)	(0.169)	(0.170)	(0.167)	(0.167)	(0.169)	(0.168)	(0.169)	(0.169)	(0.171)	(0.168)	(0.169)
ComCol	-0.075	-0.105	-0.051	-0.056	-0.038	-0.066	-0.068	-0.062	-0.077	-0.011	-0.062	-0.065	-0.079
	(0.592)	(0.583)	(0.581)	(0.577)	(0.587)	(0.586)	(0.589)	(0.584)	(0.587)	(0.592)	(0.588)	(0.585)	(0.588)
CommonLanguage	0.292*	0.268*	0.267*	0.214	0.303*	0.241	0.279*	0.244	0.281*	0.339**	0.246	0.256*	0.227
	(0.162)	(0.150)	(0.155)	(0.164)	(0.161)	(0.151)	(0.158)	(0.153)	(0.155)	(0.159)	(0.159)	(0.154)	(0.154)
N	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160
R2	0.837	0.833	0.835	0.834	0.840	0.836	0.838	0.835	0.836	0.843	0.835	0.834	0.839

Note: The dependent variable is imports in all cases. Estimation is by Poisson Pseudo-Maximum Likelihood with importer and exporter fixed effects. Robust standard errors corrected for clustering by country pair appear in parentheses. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%). R2 is calculated as the square of the correlation coefficient between the actual and fitted values of the regression.

Table C.3. Gravity model regressions using trade in industrial products and various transparency measures.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Transp. Goods All	0.013											
	(0.008)											
Transp. Chapter		0.070										
		(0.177)										
Transp. General Provisions			-0.016									
			(0.028)									
Transp. Goods				0.099*								
				(0.055)								
Transp. ROO					0.202**							
					(0.100)							
Transp. TBT/SPS						0.007						
						(0.014)						
Transp. Customs & TF							0.036					
							(0.028)					
Transp. Remedies								-0.016				
								(0.049)				
Transp. Disputes									0.060			
									(0.044)			
Transp. Final Provisions										0.221**		
										(0.100)		
Transp. Coop.											0.010	
											(0.011)	
Transp. Admin												-0.306*
												(0.161)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log(Distance)	-0.652***	-0.622***	-0.599***	-0.567***	-0.671***	-0.610***	-0.613***	-0.604***	-0.611***	-0.628***	-0.627***	-0.526***
	(0.165)	(0.185)	(0.176)	(0.175)	(0.155)	(0.172)	(0.169)	(0.171)	(0.171)	(0.152)	(0.171)	(0.190)
Contig	0.350**	0.317**	0.329**	0.356**	0.234	0.330**	0.320**	0.310**	0.341**	0.320**	0.325**	0.346**
	(0.154)	(0.157)	(0.155)	(0.162)	(0.163)	(0.155)	(0.155)	(0.157)	(0.157)	(0.144)	(0.156)	(0.161)
Colony	0.361**	0.404**	0.403**	0.430**	0.422**	0.406**	0.430**	0.406**	0.370**	0.419**	0.365*	0.474**
	(0.180)	(0.176)	(0.177)	(0.176)	(0.165)	(0.177)	(0.172)	(0.177)	(0.179)	(0.169)	(0.188)	(0.186)
ComCol	0.284	0.297	0.314	0.284	0.279	0.298	0.307	0.312	0.336	0.402*	0.308	0.324
	(0.255)	(0.267)	(0.257)	(0.236)	(0.229)	(0.255)	(0.257)	(0.255)	(0.262)	(0.241)	(0.257)	(0.248)
CommonLanguage	0.286*	0.276*	0.276*	0.289*	0.233	0.270*	0.264*	0.266*	0.301*	0.281*	0.279*	0.273*
	(0.154)	(0.161)	(0.159)	(0.156)	(0.144)	(0.159)	(0.155)	(0.161)	(0.155)	(0.146)	(0.161)	(0.158)
N	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160	2 160
R2	0.973	0.972	0.972	0.973	0.973	0.972	0.972	0.972	0.972	0.974	0.972	0.972

Note: The dependent variable is imports in all cases. Estimation is by Poisson Pseudo-Maximum Likelihood with importer and exporter fixed effects. Robust standard errors corrected for clustering by country pair appear in parentheses. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%). R2 is calculated as the square of the correlation coefficient between the actual and fitted values of the regression.