Bad Neighbors:
Bordering Institutions as Comparative (Dis)Advantage *

Rodrigo Miranda † and Rodrigo Wagner ‡

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Abstract

Rule of law is known to impact a country's *own* comparative advantage. These institutions ease growth in industries intensive in customized inputs, which need better contract enforcement to avoid holdups. But most countries in the world are smaller than the natural size of the market for "nearby" suppliers and customers. We argue that *neighboring nations'* institutions could *independently* matter for specialization in these contract-intensive goods. In fact, we show that neighbors´ institutions are economically and statistically important for this comparative advantage, over and above a country's own institutions and many other confounding factors. When neighbors are culturally similar, then their rule of law is even more binding for contract intensive industries. Our findings are robust to a long battery of checks, including neighboring country´s controls, using imports, US imports and production data. Our results suggest that neighboring institutions could be a binding constraint for integration into regional or global value chains. It also provide a rationale for arbitration and dispute resolution across borders to enhance exports of more complex products.

Keywords: nearshoring, outsourcing, arbitration, regional value chains, supply chain disruptions.
JEL Classification: D23; D51; F11; L14; O11

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Corresponding email: Rodrigo_Wagner [at] post. harvard. edu
†National Productivity Commission, Chile. M. A. from University of Chile's School of Economics and Business
‡University of Chile and Center for International Development.

1 Introduction

A country's *own* institutions significantly matter for comparative advantage. For instance Nunn (2007), Levchenko (2007) and Cowan and Neut (2007) find that a country´s rule of law is disrpoportionally important for producing goods that need specialized inputs, arguably because these industries need better contract enforcement. Nunn (2007) finds that the effect of a country's contract enforcement institutions explains *more of the pattern of international trade than physical capital and skilled labor combined.* This quantitatively backed a large theoretical literature on incomplete contracts and international trade (e.g. Acemoglu, Antràs, and Helpman, 2007).

Our point is that most countries in the world are smaller than the natural size of the market for "nearby" suppliers and customers, especially in a world in which tariffs and many other types of protectionism have massively decreased. In that context, the ability to enforce credible contracts with business partners across national border could determine comparative advantage in contract-intensive goods. More than a business-to-government (B2G) problem like tariffs, this is a government problem in a neighboring country that prevents better business-to-business (B2B) relationships. Poor rule of law around prevents the so called near-shore outsourcing (a.k.a. nearshoring) [1]

For instance, Mexico and Italy have large neighbors with better contract enforcement then their own. This helps them get a more reliable procurement of critical inputs from neighboring countries. In contrast, countries like Israel, Chile or Finland have direct neighbors with significantly worse rule of law than their own. We argue that, everything else constant, neighbors' rule of law can explain why these types of countries may have a comparative lag in some contract intensive goods. Putting it differently, when one takes into account only own country institutions, the above mentioned countries with "bad neighbors" should be producing more specialized manufacturing than they actually do. We argue that part of that apparent puzzle is due to neighbors institutions as an omitted variable. If one makes a circle of two thousand miles around a firm's location, and define that as a near show outsourcing area, then firms in countries with "bad neighbors" have fewer effective firms and people to trade within that circle. This could impact comparative advantage.

In this paper we show show that *neighbors´ institutions are important for efficiency in contract-intensive goods*. The effect is robust and large, relative to some well known channels. In fact it has a similar order of magnitude than human capital or physical capital, at least for manufacturing supply chains. Moreover, when neighbors are culturally similar to the domestic economy, the estimated effect of their rule of law seems even more relevant for sensitive industries. This is maybe because other constraints to

[1] The role of neighbors is particularly important in industries with economies of scale so not all specific inputs are produced in each country. Moreover, with open trade many countries in the former Yugoslavia or Africa splitted in two or more offsprings in order to benefit from political homogeneity, without losing the opportunities to trade between them (Alesina, Spolaore, and Wacziarg, 1997). These extreme cases of neighbors were in fact the same country in the past. More generally, institutional quality tend to be spatially autocorrelated across countries, so neighbors tend to have similar institutions, although with relevant variation. Therefore these differences could also matter for a country´s comparative advantage in these contract-intensive goods. In fact, in this paper we find that they matter a lot.

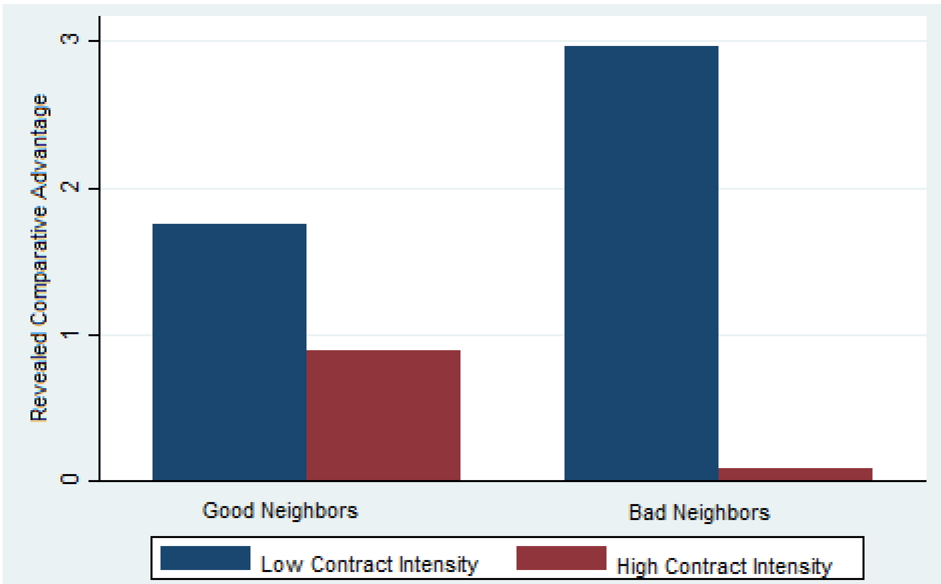
do specialized business are not as tight. Regarding policies, neither tariffs nor free trade agreements with neighbors seem significantly related to more sensitivity to neighbors. However, neighbors having *deep* trade agreements (Osnago, Rocha, and Ruta, 2015) moderate the effect of domestic institutions while enhancing the sensitivity to neighbors'.

Our central results survive a large battery of robustness checks, including neighboring country´s controls, changing the definition of neighbors, using other various measures of contract-intensity of goods and of legal quality. We also test our prediction with exports to non-neighbors, with US imports and with industrial production data. We also adapt matching and instrumental variable estimates previously used in the literature, finding that the essential results survive. Our results are not only evident in the cross section, but also in the time series. A given industry-country pair gains comparative advantage when neighbors improved their rule of law indices, even controlling for nonlinear global industry trends and country trends.

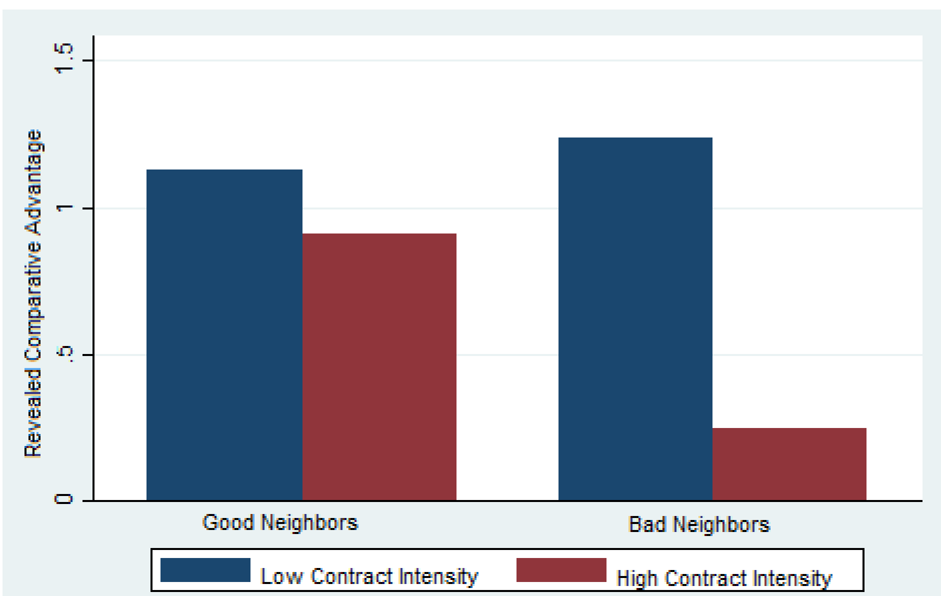
As a preliminary illustration of our results, Figure 1 shows the revealed comparative advantage across types of goods for countries with "good" and "bad" neighbors, both controlling and not controlling for their own country institutions. For goods with top levels of contract intensity we see that those countries with "good neighbors" have a clear comparative advantage, even controlling for own country institutions. In contrast, for goods in the bottom levels of contract intensity it is the opposite, so those with bad neighbors tend to have a *relative* advantage.[2] Panel (b) find the same pattern using a measure of neighbors' rule of law that is orthogonal to own country institutions. The rest of the paper essentially shows robustness and possible channels of this central finding that neighbors' institutions matter for specialization.

[2]Note that Balassa's (1965) is a relative measure, so if a country has less relative advantage in goods of some type, then it would have higher relative advantage in producing goods of the other type. Revealed Comparative advantage is defined as the share of a given product in a country's export basket, divided by the share of that product in the world's export basket.

Figure 1. Revealed Comparative Advantage in goods of top and bottom contract intensity, by institutional quality of a country's neighbor(s).



(a) RCA by good and Neighbors' institutional quality without further controls



(b) RCA by good and Neighbors' institutional quality after controlling for own institutions

The figure displays revealed comparative advantage (Balassa, 1965) for countries with high and low institutional quality of neighbors. High quality institutions is defined as above .75 in a sale where all countries were normalized between zero and one. Low quality is defined as below 0.25 in that same index. See Data section. Balassa's Revealed Comparative advantage is defined as the share of a given product in a country's export basket, divided by the share of that product in the world's export basket. Contract intensity of the goods come from Nunn (2007) and are normalized as in the data section. For Panel (b) instead of looking at countries based on their quality of institutions, the countries are classified according to the residual after controlling for domestic institutions. meaning that we run $Neighbors\ Institutions = \alpha_0 + \alpha_1 \cdot Own\ Institutions + \epsilon_i^{Neighbors}$ and then classify countries only based on $\epsilon_i^{Neighbors}$.

We interpret our result as a remark that policies improving contract enforcement have relevant cross-border externalities regarding the pattern of specialization. Thus, this evidence rationalizes the need for mutual cooperation in the regional enforcement of contracts. This is a challenging area because, as summarized by Rodrik (2011), the national state seems to be still the central space to solve political disputes: improving institutions is intensive in domestic politics. Having said that, our results provide another rationale for supporting cross-border arbitration mechanisms with neighboring nations (Casella, 1996).

Our work essentially combines two families lines of the literature: one about institutions in trade and the other about the role of neighbors. [3] On the real side, Acemoglu, Antràs, and Helpman (2007) model incomplete contracts in procurement where poor enforcement leads firms to invest less in technological improvement. Their model predicts large dispersion in productivity across countries due to rule of law differences. It largely predicts the export patterns confirmed by Nunn (2007), in which rule of law matters more for goods with inputs subject to more holdup. But to clarify, the raw forces described in Acemoglu, Antràs, and Helpman (2007)'s model do not necessarily imply that the sources of inputs need to be located in the same country as the producing firm.

Berkowitz, Moenius, and Pistor (2006) also shows how domestic institutions enhance exports of what they call *complex* goods, but refer to contract sensitivity too. Anderson and Marcouiller (2002) find that poor institutions in the importer country could constraint trade as much as tariffs do, for example because they could enable "stealing and extorting rents at the importer's border". Our focus in the current paper is complementary to these previous findings, because we focus on neighbors, not the destination of the goods. Our behavior is identified in more settings, beyond exports.

In recent years there has been a growing literature on Global Sourcing, summarized in Antràs (2014). Interestingly, his book remarks how better law enforcement of Chile vis-à-vis Argentina is associated with comparative advantage for Chilean firms in contract-intensive sectors, measuring it with US imports. Borrowing this canonical case by Pol Antràs, our work extends this literature showing that poor law enforcement in Argentina could also negatively impact the comparative advantage of Chile, arguably because it has a hard time enforcing contracts with neighboring countries. The *effective* size of the "nearby" international market for sourcing Chile is smaller than that of comparable countries. [4]

The previous literature has already spoken about neighbors impacting growth and the pattern of specialization. In that context, our paper contributes by remarking the role of neighboring institutions in

[3] As a way of contrast, Caballero, Farhi, and Gourinchas (2008) offers a model of "global imbalances" to explain intertemporal trade against the gradient of capital abundance, remarking that poor institutions within a country, like China, prevents saving at home, while countries like the US have comparative advantage in borrowing. In this case, financial resources do not have a supply chain lack transportation costs for moving to another country far away, so neighbors may not matter a lot, unlike in our paper.

[4] Yet another literature has considered the role of institutions of the destination country for downstream sales rather than for upstream procurement. Antras and Foley (2011) show theoretically and empirically how trade (of chicken!) is financed in different terms depending on the nature of the contracting institutions.

the supply chain.[5]

The recent outsourcing literature shows that nearby firms and customers tend to be particularly important for strategic inputs. Cirrera, Petropoulou, and Willenbockel (2012) showed that proximity matters more for contract-intensive and differentiated inputs. In fact both in biotechnology and in venture capital the proximity to specialized providers is crucial (e.g. Cooke, 2002). While economies of scale could mitigate sourcing from firms nearby, to exploit the cost advantage of a single producer (Cachon and Harker 2002), still the coordination complexity of some processes generates a natural preference for "near-sourcing" (Berlingieri, 2015). Using Swedish firm-level data, Laursone and Domeij (2012) show that more standardized inputs are outsourced to countries like China, while for strategic inputs they prefer near-shoring to Eastern Europe. Also for Sweden, Heyman and Gustavsson Tingvall (2012) show the importance of contract institutions to offshore production of relationship-specific inputs. Maybe, these relationship-specific inputs require a face-to-face relationship with suppliers, as Startz (2017), making nearby neighbors more important. Alternatively, there is more sensitivity to institutions when there are "*indirect time costs*", as in Baniya (2017)

According to Blyde (2012), taking advantage of offshoring opportunities in capital and contract-intensive industries requires fostering the quality of contractual institutions, but many developing countries like those in Latin America are biased towards arm's-length transactions in industries that tend to be labor-intensive and that do not typically require relation-specific investments. We argue this problem could be amplified by weak regional institutions. Sturgeon, Van Biesebroeck, and Gereffi (2008) argues that national political institutions create pressure for local content, which drives production close to end markets. But in an increasingly globalized world, many countries like Chile do not have many *national* policy distortions artificially pushing for local content. Our argument is different: that bad *neighboring* institutions could be an important barrier to develop regional value chains, even for countries that are fully open.

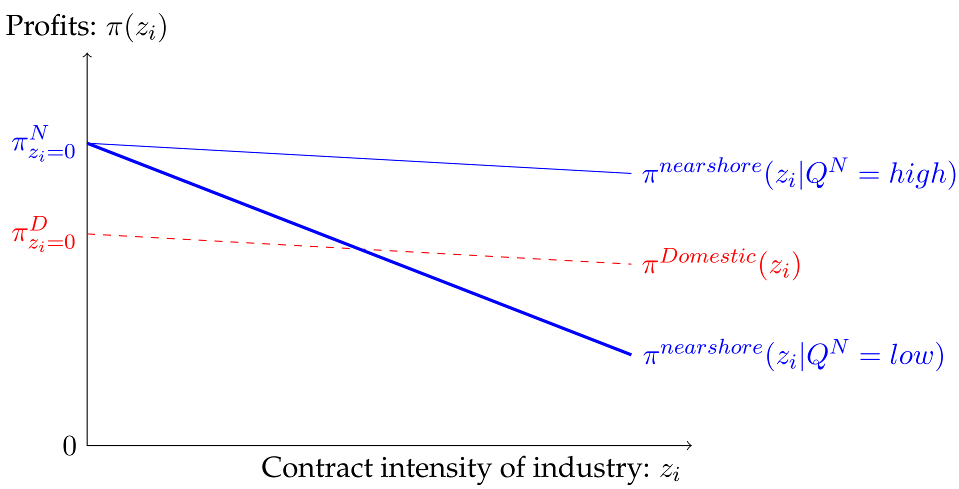
Before the empirics, which is the center of this paper, the next section offers a brief conceptual framework.

[5] Ades and Chua (1997) show how a country's neighbors facing a conflict can reduce aggregate GDP growth. Ramírez and Loboguerrero (2002) found strong spatial dependence when levels of income instead of growth rates are considered. Ertur and Koch (2007) uses a spatially augmented Solow model to show that convergence increases with proximity. Egger and Pfaffermayr (2006) argues that regional spillovers within Europe may substantially affect the speed of convergence. Moreno and Trehan (1997) find evidence that proximity matters for more reasons than just trade, suggesting the possibility for additional spillovers. Bahar, Hausmann, and Hidalgo (2014) shows that spatial correlation causes similar patterns of comparative advantage with neighbors, because knowledge spillovers, and bad neighbors could weaken this diffusion and act as a barrier to develop comparative advantages.

2 Conceptual Framework

Here we outline a simple conceptual framework to clarify our thinking about nearshoring and neighboring institutions. [6] Let's assume entrepreneurs in each domestic country could export non-negative quantities in industries with different contract intensity $z_i \in (0, 1)$. Industries with higher z_i are more vulnerable to holdup problems. Entrepreneurs could follow two types of strategies s. The baseline alternative D is to produce all inputs domestically and this would lead to reduced form profits π^D. The other alternative, N, is to nearshore a portion of the process to a neighboring country and get profits π^N. The profits of each strategy may depend on z_i and on the quality of contract enforcement for the transaction nearby Q^N, as well as other factors θ, which may include domestic institutions. That means $\pi^s(z_i, Q^N, \theta)$ for $s = \{D, N\}$.[7] The central assumptions for these profit functions are displayed in Figure 2, which displays different levels of contract sensitivity z_i on the horizontal axis, and profits on the vertical axis.

Figure 2. Profits of the Near-Sourcing and Domestic strategies, depending on contract intensity of the industry z_i andthe quality of neighbors' institutions Q^N



Note: Lines represent profits π^s of different strategies $s = \{D, N\}$ for entrepreneurs in a country. These profits change depending on the contract intensity of the industry z_i and neighboring institutions Q^N. Solid blue lines represent profits of the near-sourcing strategy π^N. The red dashed line is for the domestic sourcing strategy. Key assumptions are that: (1) absent neighboring problems in contract enforcement, nearshoring dominates; (2) $\pi^{Domestic}$ is less sensitive to neighboring institutions than $\pi^{NearSource}$. One can additionally assume that there is a dominated strategy of sourcing from countries far away, which is worse than these two. This would not change the central prediction.

[6] One could make a more complex General Equilibrium model, for example adapting Antràs (2014) model of outsourcing to the case of nearsourcing some of the intermediate inputs to neighboring nations. Given the focus of the paper, we think the additional mathematical complexity would not add enough additional insights for our empirical work. Therefore we opted to outline our ideas in this simple conceptual framework, which distills the central moving parts of our argument.

[7] For simplicity we omit a third strategy, which is outsourcing from countries that are far away. We concentrate in cases in which this strategy is dominated and in which nearshoring is relevant. The empirical exercises would later correct for factors that make this simplification relevant.

As Nunn (2007) and Levchenko (2007), we assume all profit functions display a downward slope $\partial\pi^s/\partial z_i$ because of domestic institutions. We now concentrate in the non-trivial cases in which nearshoring would be ideal for all goods if neighboring contract enforcement were not a problem. So the intercept profit is higher for the nearshoring strategy (i.e. $\pi^N_{z_i=0} > \pi^D_{z_i=0}$). Also, Figure 2 assumes $\pi^N(z_i|Q^N = high)$ is flatter than $\pi^N(z_i|Q^N = low)$. Finally, it is sufficient to assume that π^N with bad neighbors is steeper than profits from the domestic strategy, namely

$$\frac{\partial\pi^N(z_i|Q^N = low)}{\partial z_i} < \frac{\partial\pi^D}{\partial z_i} \leq 0$$

In that setting, entrepreneurs select the strategy s that maximizes π^sgiven their circumpstances. For sectors with low sensitivity to contracts the nearshoring strategy dominates, despite poor neighboring institutions. But beyond a cutoff sensitivity $\hat{z}_i$ we have that $\pi^D > \pi^N$. These are the products in which there is loss of competitiveness because of "bad neighbors" (i.e. $Q^N = low$). To move from unobserved profits to an empirically testable propositions we need to depart from the extreme assumption that all firms in a sector have exactly the same profit functions. Assuming a random component of profit, which is different across strategies within each firm, is sufficient to generate the prediction of a smooth change in behavior, as opposed to a sudden and coordinated jump for all firms.

Proposition 1. After controlling for other determinants of comparative advantage, countries with better neighboring institutions have comparative advantage in contract-intensive industries.

3 Data and Descriptive Statistics

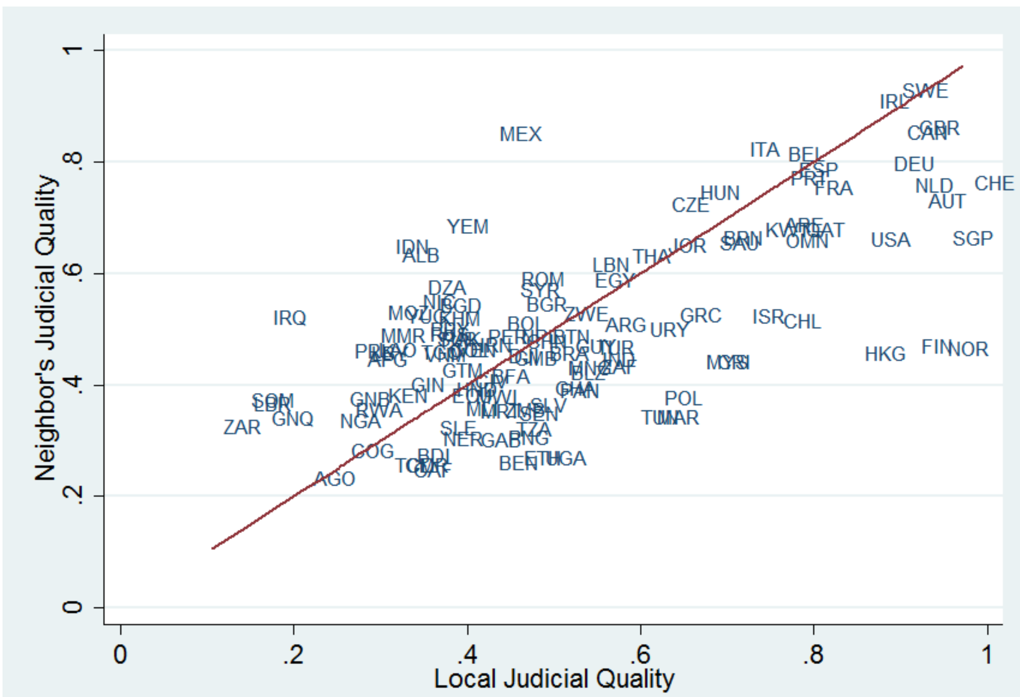
To test whether neighboring institutions matter we take various indicators used in international trade and construct neighbor level variables.

As baseline to favor benchmarking we start by using similar sources as Nunn (2007). For example, we include country c characteristics, like rule of law Q_c, and industry i level characteristics, like industry contract intensity z_i. We then combine these measures with CEPII's GeoDist dataset, which contains measures of distance and neighborhood across countries.[8] That allows us to build the same economy-wide indicators as in Nunn (2007), but for a representative neighboring country. Each neighbor's variable will be labeled with superscript N, as neighbor, and is calculated as a GDP-weighted average of the bordering countries. Namely $Q^N_c \equiv \sum_j 1(j \ \text{ Neighbors } c)\, Q_j$. Later we attempt different weighting schemes for neighbors, without altering our main results. For exports data we also start by following Nunn (2007) and use the 1997 World Trade Flows Database from Feenstra, Lipsey, Deng, Ma, and Mo (2005) (NBER-United Nations Trade Data). Later we replicate some baseline estimates for other years.

[8]With data on neighboring countries, defined as those who have a common land border.

A prerequisite to test our proportion is that countries do not have the same quality of institutions as their neighbors. Using World Bank data on Rule of Law, Figure 3 shows that there is a positive and close correlation between own and neighbor's institutions. But it also shows relevant differences off the 45 degree line. For example countries like Norway, Chile and Israel are well below the 45 degree line, indicating that their neighbors have lower rule of law than they do. In contrast countries like Mexico, Yemen, Albania or Indonesia have neighbors with much better rule of law than themselves. Our source of identification comes precisely from these differences between neighbors' and own institutions. For measuring contract intensity of an industry we use Nunn (2007)´s share of inputs in the input-output matrix that are not traded in open markets, a la Rauch (1999). Alternatively, we also use Levchenko (2007)'s measure of contract intensity. Additional data sources for specific tests are detailed in the text or in the Appendix

Figure 3. Neighbor's and Domestic Judicial Quality´across countries



The figure displays each country c in our sample, plotted in the space of its own judicial quality Q_c in the horizontal axis and its neighbor's judicial quality Q_c^N on the vertical axis. The line is a 45 degree line representing equality between the country and its neighbors. Only neighbors with a common land border are included and when there is more than one neighbor Q_c^N is calculated as a GDP weighted average of the judicial quality of its neighbors. As robustness check a non weighted average and other variations are used to calculate Q_c^N . Data source: 1998 World Governance Indicators and CEPII GeoDist data. Judicial quality measure is the rule of law index, normalized between 0 to 1.

Table 1 displays the descriptive statistics for our baseline variables. As expected, the average country and the average neighbor are similar in terms of mean and median judicial quality, because we are

talking roughly of a similar sample of countries. Also, unsurprisingly, neighbors tend to have a higher GDP than the domestic country, since countries tend to have many neighbors and their GDPs are added up. Because we consider neighbors with only common land border (not sea border), the number of countries with neighbors drops to 122, and only 120 of these countries have neighbors with data on GDP (to calculate weighted average by GDP of neighbor's variables). As well known, neighbors are important for trade. For an average country the sum of neighbors' GDP represents 2.5% of World GDP. But exports to those neighbors represent 19% of exports. Neighbors are important trading partners, as known from gravity equations. In a robustness checks we attempt similar definitions of neighbors, without compromising the main finding.

Table 1. Descriptive statistics of baseline variables

Variable	Size	Mean	SD	Min	Max
Local country level variables and interactions:					
Judicial Quality (Q_c)	22,598	0.563	0.211	0.106	0.972
$z^{rs1} \times Q_c$	22,598	0.279	0.170	0.00256	0.953
skill intensity x skill endowment	10,976	-0.617	0.497	-3.859	0.789
capital intensity x capital endowment	10,976	-3.767	2.444	-30.61	-0.626
capital intensity x ln private credit by banks/GDP ratio	16,061	-0.968	1.048	-12.15	1.816
value added x ln per capita GDP	18,171	4.208	1.280	0.673	8.342
Grubel-Lloyd index x ln per capita GDP	21,771	5.715	2.318	0	10.29
TFP growth x ln per capita GDP	18,171	0.0382	0.153	-0.290	1.494
1-herfindahl index x ln per capita GDP	21,771	7.683	1.258	2.105	9.968
Neighboring country variables and interactions:					
Judicial Quality (Q_c^N)	18,504	0.542	0.164	0.232	0.928
$z^{rs1} \times Q_c^N$	18,504	0.268	0.150	0.00560	0.910
skill intensity x skill endowment	12,468	-0.859	0.660	-5.518	0.789
capital intensity x capital endowment	12,468	-4.215	2.877	-33.31	-0.661
capital intensity x ln private credit by banks/GDP ratio	15,314	-1.033	1.073	-12.74	0.543
value added x ln per capita GDP	15,424	4.243	1.248	0.678	8.342
Grubel-Lloyd index x ln per capita GDP	18,504	5.769	2.301	0	10.29
TFP growth x ln per capita GDP	15,424	0.0388	0.155	-0.290	1.494
1-herfindahl index x ln per capita GDP	18,504	7.756	1.133	2.258	9.968
Number of Industries:			222		
Number of Countries:			160		
Number of Countries with common land border Neighbors:			121		

Source: Authors' calculations based on data compiled from Nunn (2007) and CEPII's GeoDist database. We consider a neighbor as a country with common land border, according CEPII GeoDist database. Neighboring variables are calculated as weighted average by GDP of country variables, and interacted with industry variables. We include all variables considered in main specification, including local and neighboring judicial quality (rule of law). The number of countries represents the max of countries in the sample (160), not neccesarily the number of countries used in regressions; the same logic is valid for the number of countries with common land border neighbors (121).

4 Baseline Regressions

Baseline Model

This section explores whether the exports of industries with high sensitivity to contracts react to neighboring institutions, over and above the rule of law in their own country. The basic estimation in Eq. (1) augments the standard formulation in the literature with a neighbors' effect.

$$\ln x_{ci} = \alpha_c + \alpha_i + \underbrace{\beta \; z_i Q_c}_{\text{own institutions}} + \underbrace{\beta_N \; z_i Q_c^N}_{\text{neighbors'institutional effect}} + \gamma X_{ci} + \gamma_N X_{ci}^N + \varepsilon_{ic} \tag{1}$$

The left hand side of Eq. (1) has the log of exports (to all countries of the world) from country c in industry i, $\ln x_{ci}$. The rights hand side starts with country and industry fixed effects. That means we are estimating comparative advantage rather than absolute advantage. It also mean we are controlling for any unobserved attribute in the country and in the industry. As previous papers, we have the interaction between contract sensitivity z_i and own rule of law Q_i. The coefficient $\beta > 0$ is the central hypothesis of interest in Nunn (2007). To benchmark with other potential determinants of comparative advantage there are various interactive controls X_{ci} like, for example, human and physical capital sensitivity interacted by their respective endowments ($h_i H_c$ and $k_i K_c$); also for value added, productivity, intra-industry trade proxies, credit and variety of inputs. We also have similar controls for neighbors X_{ci}^N [9]

Our key addition in Eq. (1) is the interaction $z_i Q_c^N$. This interaction explores how *neighbors'* institutions Q_c^N matter for contract intensive industries z_i. Note that this is *over and above* the effect of a country's own rule of law. The prediction of Proposition 1 is that $\beta^N > 0$.

Table 2 displays the estimates of Eq (1), using standardized coefficients. Columns (1) to (5) include neighboring controls X_{ci}^N, while columns (7) to (9) do it without X_{ci}^N. All specifications show that results for the neighboring effect β^N are significant, both statistically and economically, with magnitudes that are within the same order of magnitude than the effect of local institutions in β. Interacted neighbors' institutions show effects $\hat{\beta}^N$ between 0.14 and 0.25 standard deviations. In comparison, own institutions have effects $\hat{\beta}$ between 0.16 and 0.23 standard deviations. An F-test cannot discard they have the same magnitude. Specifications (2), (3) and (5) restrict the sample to manufacturing industries only. This yields similar effects, so the magnitudes we find are not just an issue of commodities vis-a-vis manufacturing.

Column (0) deliberately excludes neighbors' rule of law from the specification, as to replicate Nunn (2007)'s hypothesis with our sample. The estimated β is significantly higher than when we include neighbors' effects. Thus, from an econometric perspective Nunn (2007)'s estimate β suffers from overestimation due to omitted variable bias. Because both own and neighboring institutions matter for comparatuve advantage, and because these two variables are positively correlated between them (Fig. 3),

[9]Additional control variables X_{ic} includes the following interactions: log income × value added, log income × intra-industry trade, log income × TFP growth, log credit/GDP × capital, log income × input variety as well as the skill and physical capital interactions. Analogously, X_{ci}^N includes the same variables but interacted with neighbor´s characteristics.

then forcing $\beta^N = 0$ overstates the size of β. As we will see, this matters for the comparison of the effect of institutions vis-a-vis other channels.

Summing up, specifications (1) to (9) show that out of the original effect in Nunn (2007), between one third to one half came from neighboring countries' institutions, while two thirds come from local country institutions. The stability of estimated β^N coefficients could reflect that the neighbor's effects on the domestic economy's comparative advantage is not correlated to traditional comparative advantage sources (technology, factor endowment and economies of scale).

Using the residual of neighbors' institutions

The reader might be concerned that, as showed on Figure 3, there is a high correlation (ρ =0.65) between neighbors' institutions. Multicollinearity could make it harder to tell apart these effects. For example, it could be the case that one does not find either of the institutional interactions individually significant, despite being jointly highly significant. But that plausible scenario did not matter in practice, since our "horse race" showed both Q_c and Q_c^N were statistically significant.

In any case, we also estimate the same regressions of (1) replacing Q^N with residuals after correcting for Q, namely $e_c^N \equiv Q_c^N - \mathbb{E}[Q_c^N|Q_c]$[10]. This is a tough test since it leaves all the correlated information between Q and Q^N to the own country institutions. Consequently we see this exercise as a very conservative lower bound on the effect of neighbors' institutions on comparative advantage. Table 3 shows that even this tough test concedes a positive and statistically significant role for neighboring institutions, although the magnitude is of course smaller (Panel a). As a benchmark, Panel (b) carries out the homologous tough exercise to own country institutions, replacing $Q_c$with the residual after a projection for Q_c^N, namely $e_c = Q_c - \mathbb{E}[Q_c|Q_c^N]$, leaving all correlated information to the neighbor's institutions. Panel (a) finds β^N between 0.06 y 0.11 standard deviations. This is between half and a third of the effect we had in the baseline regressions.. Note that the coefficient β in specification (1) coincides with the one on Table 2 Column (0), which excludes neighboring effects. This is consistent with e^N being orthogonal to Q. Panel (b) giving all joint correlation to neighboring institutions, naturally finds larger β^N, between 0.26 and 0.41. Importantly, the residual effect of local institutions is till significant, with β between 0.08 and 0.10 standard deviations.

Summing up, while there is correlation between neighboring countries in their institutions, both effects could be independently measured.

Magnitudes relative to other channels

To get a sense of the economic magnitude of neighboring institutions vis-a-vis other channels Table 4 benchmarks and ranks their effects using also standardized coefficients. First panel (a) omits neighboring institutions. In that case the effect of (bundled) institutions is larger than the sum of the effects of

[10]The residuals are estimated by OLS, as $e_c^N \equiv Q_c^N - \hat{\alpha}_0 - \hat{\alpha}_1 \cdot Q_c$, where $\hat{\alpha}_j$ (for $j \in \{0, 1\}$) are OLS estimators.

Table 2. Baseline regressions of exports including neighbors' judicial quality Q^N interacted with industry sensitivity z_i

	log exports from country c in industry i								
	(0) Nunn: with only local Institutional effects	(1) Only Institutional effects	(2) Only Instit. effects - Manufacturing Industries	(3) Controlling by Skill and Capital	(4) Controlling by Another Comp. Adv. dets.	(5) All Controls, both Local and Neighbors'	(7) Controlling by Local Skill and Capital inter.	(8) Controlling by Another Local Comp. Adv. dets.	(9) All Local Controls
Neighbor's Judicial quality interaction: $z_iQ_c^N$	-	0.159***	0.206***	0.252***	0.140***	0.244***	0.213***	0.141***	0.203***
	-	(0.494)	(0.621)	(0.675)	(0.559)	(0.708)	(0.584)	(0.520)	(0.583)
Local Judicial quality interaction: z_iQ_c	0.288***	0.200***	0.212***	0.220***	0.161***	0.196***	0.233***	0.158***	0.210***
	(0.289)	(0.395)	(0.558)	(0.605)	(0.469)	(0.612)	(0.556)	(0.460)	(0.568)
Neighbor's Other Determinants of Comparative Adv.	NO	NO	NO	NO	YES	YES	NO	NO	NO
Country's Other Determinants of Comparative Adv.	NO	NO	NO	NO	YES	YES	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	NO	YES	NO	YES	NO	NO	NO
Country's Skill and Capital Interaction	NO	NO	NO	YES	NO	YES	YES	NO	YES
Constant	YES	YES	YES	YES	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	18,383	18,383	8,148	8,148	12,934	7,988	8,863	13,044	8,703
R^2	0.735	0.736	0.770	0.772	0.776	0.774	0.770	0.777	0.772

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of eq. 1, taking Nunn (2007) as reference, in methodology. For (1) to (5) we include in some cases local and neighboring controls. In (2) we consider only manufacturing industries, but only for countries with common land border neighbors, but in (6) we consider only manufacturing for all countries as possible. From (7) to (9) we consider only local controls. In (2) and (6) we limit or sample to manufacturing industries, where skill and capital interactions are non missing values, but in (6) we consider that also neighbors' skill and capital must be available. The measure of contract intensity used is z_i^{rs1}(same as Nunn). In (0) we make the same estimation as (1) but omitting neighbors' judicial quality interaction, in order to show that Nunn (2007)'s results remain under out limited sample of countries (121). Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 3. Estimates using only the residual of judicial quality

	log exports from country c in industry i				
a. All (Q, Q^N) correlation goes to local institutions:					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality residual interacted: $z_i e_c^N$	0.0725***	0.0934***	0.114***	0.0643***	0.110***
	(0.494)	(0.621)	(0.675)	(0.559)	(0.708)
Judicial quality interaction: $z_i Q_c$	0.288***	0.326***	0.358***	0.239***	0.330***
	(0.289)	(0.415)	(0.461)	(0.359)	(0.484)
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.774
b. All (Q, Q^N) correlation goes to neighbors' institutions:					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.307***	0.365***	0.416***	0.260***	0.390***
	(0.359)	(0.457)	(0.514)	(0.428)	(0.564)
Judicial quality residual interaction: $z_i e_c$	0.105***	0.104***	0.108***	0.0813***	0.0960***
	(0.395)	(0.558)	(0.605)	(0.469)	(0.612)
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.774
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1, incorporating output effects. Specifications (1) to (5) are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively. The measure of inputs contract intensity used is z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. We define $e_c^N = Q_c^N - \hat{\alpha}_0 - \hat{\alpha}_1 Q_c$ and $e_c = Q_c - \hat{\delta}_0 - \hat{\delta}_1 Q_c^N$, where parameters with $\hat{}$ represents OLS estimates. All speficications controls by fixed effects (country and industry).

physical and human capital, as stated by Nunn (2007). When in Panel (b) we include both institutional interactions - domestic and neighboring - then neighboring judicial quality ranks slightly above the effect of local institutions. But the overall sum of both institutional effects is now *more than twice* the sum of the two Hecksher-Ohlin channels. Omitting neighboring institutions underweights the overall score of Rule of Law explaining the pattern of trade. Panel (c) takes the more conservative estimate and ranks the residual of neighbors' institutions, following what we did on Table 3. That residual effect of neighboring institutions alone is statistically equal to the *separate* effects of human capital or physical capital. In sum, the estimates suggest the quantitative relevance of neighbors' institutions is large by any measure we use. This, despite receiving little attention in the literature, at least up to now.

5 Robustness tests

So far we have established our main claim, that neighboring country´s institutions correlate with comparative advantage in contract intensive sectors. In this section we will push this central claim out of its comfort zone to see whether it is robust to alternative empirical tests and sub-samples. The Appendix additional tests.

5.1 Robustness I: Alternative measures for judicial quality, contract intensity and effects across economic development

Our baseline regressions used the Rule of Law index of 1998 from the World Bank's "World Governance Indicators" (WGI), which come from a survey to economic players (e.g. investors). One potential criticism is that, by its nature, this measure is a subjective perception of property rights protection and contract enforcement. We test whether our central result holds with alternative measures. A first alternative is Gwartney and Lawson (2006). Second, we also consider other measurements of institutional quality from the 2004 Doing Business Survey: average number of procedures (NP_c) needed to enforce a contract in country c; Official Costs (OC_c), that represents the cost in court fees and attorney fees, where the use of attorneys is mandatory or common, expressed as a percentage of the value of debt to be collected; and the time to resolve a dispute ($Time_c$), counted from the moment the plaintiff files the lawsuit in court until payment (this includes both the days when actions take place and the waiting periods between). The first three rows of Table 5 shows that all these measures of institutions display positive and significant effects when using all control variables for factor endowments. [11]

The baseline measure of contract intensity uses Rauch (1999) conservative classification of products and is labeled z_i^{rs1}. Here we also use the liberal measure of contract intensity to get an alternative, labeled z_i^{rs2}. Both measures considers that contract intensive inputs are non traded in open markets or with

[11]Only without factor endowment controls and using Legal quality from Gwartney and Lawson (2003) neighboring results are not significant

Table 4. Ranking of Economic Significance of Variables (Size of Standardized Coefficients)

a. Nunn (2007) main specification *without* neighbors		
Ranking	Variable	Std. Coef.
1st	Intra-Industry Trade: $iit_i \times \ln(y_c)$	0.546***
2nd	Input Concentrations: $(1 - herf_c) \times \ln(y_c)$	0.522***
3rd	Judicial Quality Int.: $z_i \times Q_c$	0.296***
4th	Value add Int: $va_i \times \ln(y_c)$	-0.137**
5th	Capital Int.: $k_i \times K_c$	0.0737*
6th	Skill Int.: $h_i \times H_c$	0.0631***

b. Our specification *including* neighboring variables:		
Ranking	Variable	Std. Coef.
1st	Intra-Industry Trade: $iit_i \times \ln(y_c)$	0.631***
2nd	Inputs Concentration: $(1 - herf_c) \times \ln(y_c)$	0.603***
3rd	**Neighs. Judicial Quality Int**.: $z_i \times Q_c^N$	0.244***
4th	Judicial Quality Int.: $z_i \times Q_c$	0.196***
5th	Skill Int.: $h_i \times H_c$	0.115***
6th	Capital Int.: $k_i \times K_c$	0.104*

c. Like (b) but controlling for correlation between local and neigh. judicial quality:		
Ranking	Variable	Std. Coef.
1st	Intra-Industry Trade: $iit_i \times \ln(y_c)$	0.631***
2nd	Inputs Concentration: $(1 - herf_c) \times \ln(y_c)$	0.603***
3rd	Judicial Quality Int.: $z_i \times Q_c$	0.390***
4th	Skill Int.: $h_i \times H_c$	0.115***
5th	Capital Int.: $k_i \times K_c$	0.104*
6th	**Neighs Judicial Quality Int**.: $z_i \times e_c^N$	0.0960***

Note: the table displays the standardized beta coefficients from the estimation of eq. 1, not including neighbors' judicial quality interaction, as Nunn (2007) main results in table IV, for part (a). And we displays the standardized beta coefficients from the estimation of eq.1 for part (b). All coeffs. for (a), (b) and (c) are from the most complete specification, controlling by skill and capital interactions, and another sources of comparative advantage. *, ** and *** indicates statistical significance at 10%, 5% and 1%. Only significant variables, at least at 10% are considered in the ranking. To part (c), we use e_c^N, previously defined, not Q_c^N.

market reference prices, but the classification of each input is different. The various columns of Table 5 shows that both measures of contract intensity remain positive and statistically significant. [12]

We also test whether the coefficient of interest, β_N , is heterogeneous across levels of development. The last two pairs of rows in 5 estimate the baseline specification separately for OECD and non-OECD countries. [13] The specifications that do control for factor endowments show that β_N is positive and significant in both groups of countries. The effect of neighbors is stronger in non-OECD economies than in OECD economies. The magnitude of the difference depends on the specification, however. We should take this difference with a grain of salt, however, simply because OECD countries tend to have on average better neighbors in terms of Judicial Quality, and therefore have less variance in Q^N

5.2 Robustness II: using US imports, UNIDO production and different weighting of neighbors

This second subsection of robustness tests explores whether our main results are resilient to using different dataset for comparative advantage (i.e. US imports and production data), as well as different weighting schems for neighbors. As a preview, results are all supportive.

Augmenting Levchenko (2007)'s methodology , which uses US imports.

One potential concern with our baseline is that it may come from exporting behaviour to different countries. One way to isolate our effect from other determinants of destinations is to work with a single destination. The US. Moreover, to follow the literature, we use the methodology of another highly cited empirical paper in trade and institutions (Levchenko, 2007). This the advantage of also using an alternative measure of constract intensity, thus providing an additional "stress test" for our finding. In particular, Levchenko builds a Herfindahl Index of intermediate inputs (h_i), reflecting the relevance of suppliers that a firms deals with. The main institutional interaction is still Q_i, but now interacted with the Herfindahl index of intermediate inputs. Since our baseline index z_i works in the opposite direction than the Herfindahl, we added a negative sign to this interaction, as to keep the qualitative interpretation that we have in the rest of the paper. The left hand side on the regression is a measure of revealed comparative advantage, meaning the ratio between share of country c in US imports of industry i , and the average share of country c in US imports. This ratio is called $relshare_{ic}$. As before, we also interact

[12]The only exception was for the subgroup of OECD economies when we omit factor endowments. This is likely to be a scenario with little variance in neighbors' institutions, which complicated finding an effect. Moreover, without the precision gained from additional controls it is not surprising that the t-statsictis in that particular case were low. More complete specifications did have the expected effect.

[13]We use the relevant country definition before 1997. We must remark that in the 1990s, OECD members were mainly European countries, USA, Canada, Japan, Australia and New Zealand. Various current members like Chile were not on the list. Geographically, these member countries were geographically concentrated, so their neighbors were mainly other OECD countries with goods institutions.

Table 5. Robustness I. Estimates of local and neighboring institutional effects using alternative measures of judicial quality, contract intensity and looking at different levels of development (OECD)

	LHS: log of exports by i and c							
	Without factor endowment controls				With factor endowment controls			
	z_i^{rs1}		z_i^{rs2}		z_i^{rs1}		z_i^{rs2}	
	Local	Neighs	Local	Neighs	Local	Neighs	Local	Neighs
Using Alternative Measures of Q_c:								
Gwartney-Lawson (2003)	0.368***	0.00393	0.448***	0.0341	0.318***	0.220***	0.239***	0.345***
	(0.0402)	(0.0331)	(0.0548)	(0.0453)	(0.0631)	(0.0669)	(0.0899)	(0.0932)
	N=16,090		N=16,090		N=9,072		N=9,072	
Number of Procedures	0.160***	0.0539***	0.205***	0.0614**	0.213***	0.237***	0.196***	0.289***
	(0.00634)	(0.00665)	(0.00869)	(0.00891)	(0.0110)	(0.0135)	(0.0160)	(0.0193)
	N=16,927		N=16,927		N=8,976		N=8,976	
Official Costs	0.213***	0.149***	0.315***	0.273***	0.211***	0.148***	0.239***	0.286***
	(0.115)	(0.143)	(0.157)	(0.184)	(0.161)	(0.235)	(0.235)	(0.319)
	N=16,219		N=16,219		N=8,459		N=8,459	
Time	0.213***	0.149***	0.315***	0.273***	0.211***	0.148***	0.239***	0.286***
	(0.115)	(0.143)	(0.157)	(0.184)	(0.161)	(0.235)	(0.235)	(0.319)
	N=16,219		N=16,219		N=8,459		N=8,459	
Using Q as "WGI's rule of law"								
OECD countries	0.595***	0.110*	0.520***	0.0575	0.612***	0.235***	0.364***	0.188*
	(0.981)	(0.773)	(1.348)	(1.056)	(1.064)	(0.906)	(1.538)	(1.227)
	N=3,952		N=3,952		N=3,080		N=3,080	
Non-OECD countries	0.145***	0.171***	0.236***	0.304***	0.156***	0.346***	0.169***	0.540***
	(0.513)	(0.644)	(0.661)	(0.860)	(0.866)	(1.109)	(1.193)	(1.447)
	N=14,431		N=14,431		N=5,783		N=5,783	

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of eq. 1. Standardized beta coefficients are reported, with robust standard errors in brackets, and below we reported also the sample size. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. Only are reported specifications without any control and full sample, and with capital and skill interaction (neighboring and local) as controls. We change contract intensity measurements, using conservative (z_i^{rs1}, our main measure) and liberal (z_i^{rs2}) classifications according Rauch (1999). All speficications controls by fixed effects (country and industry). Local represents the coefficient of z_iQ_c and Neighs represent the coefficient of $z_iQ_c^N$ (other coefficients are not reported).

it with neighboring variables,[14] estimating the following equation:

$$relshare_{ic} = \alpha + \alpha_c + \alpha_i + \breve{\beta} Herfindahl_i \cdot Q_c + \breve{\beta}^N Herfindahl_i \cdot Q_c^N + \gamma X_{ci} + \gamma_N X_{ci}^N + \varepsilon_{ic} \quad (2)$$

Table 6 (Panel a) shows three different specifications. As benchmark, in the first column we simply copied the specification estimated by Levchenko (2007) in his sample. The only difference is that we multiply by minus one the Herfindahl index, so we keep the same sign for as in the rest of our paper. In the second column we replicate Levchenko (2007)'s estimation, but using our sample. Our sample has a few differences with Levchenko's because we have to have countries with neighbors, according to our baseline definition. As sanity check, our sample qualitatively replicates the positive coefficient for own country institutions ($\breve{\beta}$). The third column shows the estimates of both $\breve{\beta}^N$ and $\breve{\beta}$. As before, the coefficient on neighbors' institutions is positive and significant. Its magnitude was around two thirds of the size of domestic institutions. Thus, Levchenko (2007)'s methodology adapted to analyze neighbors institutions displays results aligned with our Proposition.

The above analysis a la Levchenko (2007) changed both the LHS variable and the measure of contract sensitivity. As additional robustness we also combine our baseline LHS variable ($\ln$ exports to all countries) with Levchenko (2007)'s measure for sensitivity. In practice, we replace z_i for $(1 - h_i)$ in Eq. 1. Panel (b) confirms that neighboring and local institutional effects are robust to this alternative approach. In fact, neighboring institutions are significant in all specifications, with values between 0.31 and 0.63.

UNIDO data for industrial production rather than international trade.

Our central interpretation is that the effect of neighbors on comparative advantage it is not a matter of trading less, but also about impacting production in the country. Panel (c) of Table 6 re-estimates our baseline Eq. 1 but using log of production as dependent variable. For that purpose we use UNIDO's manufacturing production database for the same year of our previous analysis (1997), at a granularity ISIC-3 digit code. Table 6 (panel c) displays the results, confirming the fact that neighboring institutions matter for production. The estimated β^N was close to half of the coefficient for own country institutions. As benchmark, in the second column of Panel (c) we also include the corresponding regression with exports, computed with the same methodology. [15]

Alternative weighting of neighbors.

[14] Usual controls are capital intensity multiplied by capital endowment and skill intensity multiplied by skill endowment. We have all of this data in the original set used by Nunn (2007), and we use exports from each country to the U.S. from World Trade Flows from Feenstra, Lipsey, Deng, Ma, and Mo (2005)

[15] These specifications had only industry and country fixed effects, but no other controls; because production data is in ISIC nomenclature, with a hard concordance with NAICS. Moreover, we had a relative small sample of production data (1001 industry country combinations for production, versus 18383 observations for exports).

Our baseline used the size of a neighbors' economy to build Q_c^N. But there are reasons to believe that a country may not only care about the average. For example Poland has neighbors with very different institutional quality and maybe the average is less informative than other combinations. Also, maybe our GDP-weighted estimates essentially deal with the largest neighbor. Panel (d) of 6 displays the results of alternative weighting schemes. We use many alternative functions: simple mean, weights by inverse of log of distance to deal with gravity, best neighbor ($Q^N = \max_{j \in Neighbor} Q_j$) and worst neighbor ($Q^N = \min_{j \in Neighbor} Q_j$). Results are positive and significant for all schemes, with estimated β^N between 0.09 (when using worst neighbor) and 0.31 (best neighbor). Getting the precise weighting that matters for each country in the world is certainly beyond the possibilities of our approach, but the results of Panel (d) are overall supportive of the hypothesis that neighbors' institutions have meaningful effects for comparative advantage.

5.3 Spatial Robustness Checks

This subsection deals with various concerns about geographic proximity of our effect. Is there evidence that neighbors matter more than other nearby countries? Could our results be driven just by spatial auto-correlation of exports? What if we jointly test the effect for export to the neighboring country and to the rest of the world? Below we explore these alternatives.

Neighbors vis-a-vis second order neighbors.

We make the point that our finding is about direct neighbors, which have a more prominent role. Here we explore whether the institutions of slightly more distant countries also have a systematic effect on comparative advantage. In the test we include the same interactions we used in our baseline specifications, but including second order neighbors. These are the neighbors of a country's neighbors, excluding the first order neighbors and the country itself. So Q_c^{N2} represents the rule of law of these second order neighbors. Panel (a) of Table 7 finds that the interaction $Q_c^{N2} z_i$ is not statistically significant in all of our preferred specifications (2) to (5). Only specification (1) shows up a statistically significant effect, when we do not include enough control variables. But even in that case, the magnitude of the coefficient is still an order or magnitude smaller than for true neighbors. Estimates of $\beta^N$are significant in all specifications, with values between 0.114 and 0.227. These are similar the our baseline. In contrast, second order neighbors' effect were much smaller (between 0.007 and 0.030), and mostly insignificant. Overall this test confirms the effect of interest comes from *direct* neighbors.

Spatial auto-correlation: controlling for neighbors's comparative advantage. One potential confounder to our story of cross-border effects of institutions would be that neighbors have similar export structures, as in Bahar, Hausmann, and Hidalgo (2014). In that scenario Q_c^N could be just capturing some of this omitted correlation. The first line of defense to this concern is that we are already correcting for many

Table 6. Robustness II: Estimates of local and neighboring institutional effects using Levchenko (2007)'s contract intensity with US imports, UNIDO production or different weighting of neighbors

a. Following Levchenko (2007) methodology:	**LHS: RCA of exports to USA**		
	Original Levchenko estimates	Our Data (only Local variables)	Our Data (Local and Neighbor's)
-Herfindahl × Own institutions	2.33***	8.163***	6.116**
	(0.60)	(2.029)	(2.383)
-Herfindahl ×Neighbors' institutions			4.204*
			(2.499)
Skill and Capital Int.	YES	YES	YES
Observations	31,568	10,985	8,750

b. Using [1-Herfindahl Index of Intermediate inputs] as measure of contract intensity (LHS: log of exports)					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality int.: $(1-h)_i Q_c^N$	0.313***	0.411***	0.433***	0.340***	0.639***
	(1.299)	(1.896)	(1.932)	(2.452)	(3.236)
Local Judicial quality int.: $(1-h)_i Q_c$	0.378***	0.430***	0.387***	0.299**	0.129
	(1.011)	(1.674)	(1.702)	(2.194)	(2.821)
Other Dets. of Comp. Adv.	NO	NO	NO	YES	YES
Skill and Capital Int.	NO	NO	YES	NO	YES
Observations	18,383	8,148	8,148	12,934	7,988

c. Production vs Exports as LHS variable:	log of Production (UNIDO)	log of Exports (COMTRADE)
Neighbors Judicial quality int.: $z_i^{rs1} Q_c^N$	0.125*	0.159***
	(1.228)	(0.494)
Judicial quality int: $z_i^{rs1} Q_c$	0.223***	0.200***
	(1.122)	(0.395)
Observations	1,001	18,383

d. Weighting of neighboring variables by:	**GDP**	**Mean**	**1/ln(dist)**	**Best**	**Worst**
Neighbor's Judicial quality int.: $z_i Q_c^N$	0.210***	0.268***	0.190***	0.310***	0.0920***
Judicial quality int.: $z_i Q_c$	0.221***	0.135***	0.187***	0.153***	0.269***

Note: For panel (a), dependent variable is $relshare_{ic}$ (relative share of imports to U.S. in industry i from country c, respect to average c's share), in order to replicate Levchenko (2007) main results with our data, incorporating neighboring institutional interaction and controls. For panels (b) and (d), dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). For panel (b) we use Levchenko (2007) contract intensity measurement, with log of exports as LHS variable . For panel (c), dependent variable is natural log of exports or production of country c and industry i, without any controls, and the same LHS variable but for production, without any controls. For panels (b) and (c), standardized beta coefficients are reported, with robust standard errors in brackets. For panel (d) we report only the specifications controlling by fixed effects, adjusting weighting of common land neighbors' GDP, simple mean, by 1/ln(dist), only the best neighbor and only the worst neighbor. Specifications (1) to (5) in Panel b are analogous (in terms of controls and subsample considered) to specifications on Table 2, columns (1) to (5) respectively. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. RCA, for part a, is the ratio of the share of exports of industry i respect to total exports of a country c, and the average share across all countries, all related to exports to USA. All specifications controls by fixed effects (country and industry).

other neighbors' interactions in our baseline. But that may not suffice, because there could be other unobserved determinants of exports of two neighboring countries that are causing a spurious $\hat{\beta}^N$. To check the resilience of our baseline estimates we augment Eq. 1 with neighbors' exports in the same industry on the right hand side:$\log(\sum_{j\in Neighbor} x_{ji})$. This approach is a way to deal with spatial auto-correlation of export structures. To be conservative, we only used the residual rule of law e^N, as in section 4.2.

The results in all specifications of Table 7 Panel (b) are in fact consistent with the prior knowledge that export structures might be correlated across neighbors, with standardized coefficients between 0.25- 0.28. Having said that, our Proposition about neighbors' institutions ($\beta^N > 0$) remains robust, with positive and statistically significant coefficients, ranging between 0.05 and 0.06 depending on the specification. As benchmark note that the analogous estimations on Table 3 that omit spatial auto-correlation find β^N between 0.06 and 0.11.

Excluding neighbors as destination and testing differences.

We have already tested for a positive β^N using US imports. Therefore the effect cannot be just about exports to a neighboring country. Nonetheless, to analyze cases outside the US here we estimate two regressions. One for exports to the neighboring country and the other to the rest of the world. We use Feenstra, Lipsey, Deng, Ma, and Mo (2005)'s World Trade Flows for 1997 to keep up with our baseline. In particular, we jointly estimate the two versions of Eq 1 in log exports. To do so we use Seemly Unrelated Regression (SUR), so we can test whether β^Ndiffers depending on the destination (neighbors vs ROW). Results on Table 7 (Panel c) show that in our preferred specifications the β^N when exporting to ROW is positive and significant, between 0.13 and 0.21; not that different from our baseline estimates. This result discards that the effect comes from neighbors as destination and remarks the role in the supply chain. Given the availability of controls[16], specification (2) includes both manufacturing and non-manufacturing. In contrast, columns (1) and (3) have only manufacturing. It is in our manufacturing sub-sample that we are able to find a more significant effect in exports to the rest of the world. Naturally, this might be an area in which the supply chain tends to have more variation in contract sensitivity.

6 Instrumental variables and matching.

To test concerns about causality and non-linearity this section presents additional tests that go beyond the framework of a panel OLS. We attempt both instrumental variables and matching estimators.

Since one might be worried that rule of law is endogenous, Table 8 (Panel a) follows the literature and estimates neighbors' rule of law instrumented by the legal origin (e.g. British, French, German, Scandinavian and Socialist). Of course we need to simultaneously instrument by domestic and neighboring

[16]In particular, human and physical capital intensities are available only for manufacturing industries. Specification (2) has the same sample size than specifications (3), specifications (2) are the same than specifications (1) but for only manufacturing industries. For more details see Nunn (2007).

Table 7. Spatial Robustness Checks

a. Second Order Neighbors:	**LHS: natural log of exports i, c**				
	(1)	(2)	(3)	(4)	(5)
Neighs. Judicial quality int: $z_i Q_c^N$	0.138***	0.227***	0.224***	0.114***	0.212***
	(0.573)	(0.886)	(0.900)	(0.659)	(0.912)
2nd grd. Neighs. Judic. qua. int.: $z_i Q_c^{N2}$	0.0330*	0.00771	0.0212	0.0171	0.0318
	(0.503)	(0.696)	(0.708)	(0.609)	(0.742)
Local Judicial quality int.: $z_i Q_c$	0.198***	0.190***	0.205***	0.158***	0.194***
	(0.398)	(0.645)	(0.657)	(0.467)	(0.685)
Observations	17,946	7,592	7,592	12,502	7,432
b. Spatial Autocorrelation of Exports:	**LHS: natural log of exports i, c**				
	(1)	(2)	(3)	(4)	(5)
Neighs. Judicial quality int.: $z_i e_c^N$	0.0529***	0.0529***	0.0650***	0.0542***	0.0605***
	(0.673)	(0.772)	(0.847)	(0.744)	(0.863)
Local Judicial quality int.: $z_i Q_c$	0.229***	0.242***	0.268***	0.192***	0.226***
	(0.383)	(0.520)	(0.577)	(0.490)	(0.597)
Log of exports of neighs. (sum): $\ln x_{ci}^N$	0.287***	0.276***	0.272***	0.264***	0.255***
	(0.0128)	(0.0181)	(0.0183)	(0.0155)	(0.0179)
Observations	9,099	4,517	4,517	6,345	4,517
Other Dets. of Comp. Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Int.	**NO**	**NO**	**YES**	**NO**	**YES**

c. Exports to Neighbors vs Rest of World (SUR system):	(1)		(2)		(3)	
	(Neighs.)	(ROW)	(Neighs.)	(ROW)	(Neighs.)	(ROW)
Neighs. Judicial quality int: $z_i Q_c^N$	0.132***	0.211***	0.115***	0.0592	0.139***	0.134**
	(0.666)	(0.768)	(0.625)	(0.709)	(0.709)	(0.811)
Judicial quality int.: $z_i Q_c$	0.189***	0.277***	0.131***	0.258***	0.164***	0.259***
	(0.585)	(0.675)	(0.535)	(0.607)	(0.615)	(0.704)
Other Det. of Comp. Adv.	NO		YES		YES	
Skill and Capital Int. (only for Manuf)	YES		NO		YES	
Observations	4,291	4,291	5,712	5,712	4,291	4,291

Note: dependent variable is the natural log of exports from country c and industry i. In part c, dependent variable is according destination (neighbors and Rest of World). The regressions are estimates of 1. The measure of contract intensity used is z_i^{rs1}(same that Table 1). In part c, we estimate a SUR system of two equations, both with the same regressors, but in the first the dependent variable is the natural log of exports to neighboring countries (with common land border) in Neighs. column, and in ROW column the natural log of exports to thw rest of world (excluding neighbors). Specifications (1) to (5) in panels a and b are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively. For panel c, pecification (1) is analogous (in terms of controls and subsample considered) that Table 2's specification (3), and Specifications (2) to (3) are analogous (in terms of controls and subsample considered) that Table 2's specifications (4) and (5), respectively. .Standardized beta coefficients are reported, with robust standard errors in brackets. All speficications controls by fixed effects (country and industry). Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

legal origin. Results show supportive IV coefficients, with β^N estimated between 0.29 and 0.46. The F-test rejects the null of weak instruments.

As an alternative approach we also perform matching estimators using as treatment dummy the difference in neighbors' institutions *that are orthogonal to own institutions*. We do this still comparing countries similar rule of law. The treatment dummy is one if $\{e_c^N \geq 0.1\}$ and zero if $\{e_c^N \leq -0.1\}$, excluding the cases in between. This means comparing countries above and below 0.1 units from the 45 degree line of Figure 2. We use both exports and RCA and use various matching variables[17] Results on Table 8 (Panel b) show consistently positive treatment effects for both dependent variables and under all matchings strategies. So a country with better neighbors exports relatively more contract intensive goods. Using any of the rows one can see how moving from the lowest quartile of z_i (Column 1) to the highest quartile (Column 4), makes the treatment effect of high e^N to increase. This is the matching equivalent of a positive β^N. The point estimates of the 1st quartile are all insignificant, while the 4th quartile of contract sensitivity are positive, significant and an order of magnitude larger than the first. Intermediate results in columns (2) and (3) seem more or less monotonic, suggesting that the linear approach in our panel estimates is a defensible assumption.

Summing up, our main results are also robust to the use of both IV and matching estimation.

[17] The propensity score is built using local rule of law (Q_c) and log of GDP and other variables used by Nunn (2007) (log of GDP per capita, log of credit to GDP, human and physical capital and openness). Then, we calculate the treatment effect, with common support, under the following intervals of contract intensity, z_i: 0 to 0.25, 0.25 to 0.5, 0.5 to 0.75, and 0.75 to 1. We consider two possible dependent variables to test: log of exports $\ln x_{ci}$ and log of revealed comparative advantage $\ln RCA_{ci}$ (by industry and country).

Table 8. Mitigating Endogeneity and Non-Linearity Concerns: 2SLS and Propensity Score Matching

a. Legal origin as instrument (2SLS):				
	(1)	(2)	(3)	(4)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.291***	0.397***	0.464***	0.458***
	(0.617)	(0.776)	(0.900)	(0.930)
Judicial quality interaction: $z_i Q_c$	0.129***	0.115***	0.169***	0.163***
	(0.857)	(0.866)	(0.955)	(1.024)
Skill and Capital int.	NO	NO	YES	YES
Another Dets. of Comp. Adv.	NO	NO	NO	YES
F first stage (local)	4242.00	1797.79	674.98	654.78
F first stage (neighbors)	6327.95	12759.41	1323.41	850.85
Observations	18,383	8,148	8,148	7,988
R^2	0.736	0.768	0.770	0.771
b. PSMatch (treatment effects for neighboring institutions)				
	by log of exports ($\ln x_{ci}$)			
	(1)	(2)	(3)	(4)
Match variable: local rule of law	1.122***	1.175***	1.480***	2.062***
	(0.172)	(0.111)	(0.127)	(0.183)
	1,849	4,158	3,672	1,931
Match variable: local rule of law and log of GDP	1.443***	1.458***	1.848***	2.546***
	(0.172)	(0.112)	(0.127)	(0.184)
	1,747	3,930	3,447	1,796
Match variable: all Nunn's variables	1.345***	1.535***	1.887***	2.468***
	(0.199)	(0.127)	(0.144)	(0.221)
	1,196	2,740	2,402	1,186
	by log of RCA ($\ln RCA_{ci}$)			
	(1)	(2)	(3)	(4)
ATE matching on domestic rule of law	0.0567	0.266***	0.647***	1.168***
	(0.114)	(0.0748)	(0.0761)	(0.107)
	1,849	4,158	3,672	1,931
ATE matching on domestic rule of law and log GDP	0.106	0.272***	0.716***	1.299***
	(0.116)	(0.0758)	(0.0770)	(0.109)
	1,747	3,930	3,447	1,796
ATE matching on all covariates in Nunn (2007)	0.0998	0.374***	0.830***	1.465***
	(0.135)	(0.0853)	(0.0835)	(0.126)
	1,196	2,740	2,402	1,186
Contract intensity interval	**[0;0.25]**	**(0.25;0.5]**	**(0.5;0.75]**	**(0.75;1]**

Note: for 2sls, in panel (a), dependent variable is log of exports in industry i by country c, and estimated equation is 1, instrumenting local and neighboring institutional insteractions (results are robuts to consider identification resrictions between local and neighboring instruments). For PSMatch, in panel (b), we report estimates of the treatment effect of having $e_c^N \geq 0.1$ (better neighbors' institutions than local) vis-a-vis having $e_c^N \leq -0.1$ (better local institutions than neighboring); where as described in the main text e_c^N is the portion of neighboring institutions that is orthogonal to domestic institutional quality. Also in panel (b) we report robust standard errors in brackets and sample size below it. Countries with intermediate levels of residual institutional quality $e_c^N \in (-0.1, +0.1)$ are excluded from the estimation to get clearer treatment effects. Estimates are made in the common support. For panel (a), robust standard errors are reported in brackets. Specifications (1) to (3) in panel a are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (3), respectively, and specifications (4) in panel a is analogous (in terms of controls and subsample considered) that Table 2's specification (5). Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. Panel (a)

7 Exploring channels through heterogeneous effects

Having established the main effect $\beta^N > 0$, in this section we attempt to disentangle some of the channels that mediate it. We do so mostly looking at further interactions and see whether β^N changes across subsamples of the data.

7.1 Digging into the cross-border value chain and its policies

Imported inputs

So far we have been talking about procurement in the value chain being constrained by poor neighboring institutions. Nonetheless, so far we have not documented that the effect is through *imports of intermediate goods* in contract sensitive sectors. Here we explore this particular channel.

We start by using import data (1997 COMTRADE) and identify the imports of inputs from neighboring countries. Then we use the 1997 US I-O matrix to find the supplier of each industry. With this measure of imported inputs we estimate a model similar to Eq (1), but with imports on the left hand side. Table 9 Panel (a) displays the results for all types of imports. The majority of specifications show a positive and significant effect for the interaction of neighbors' institutions, although two of the specifications are positive but insignificant. This is suggestive evidence that the effect goes though imports. Domestic institutional effect were also positive and significant.

The previous analysis assumes all imports were inputs of domestic export industries. This is clearly not true, because imports could also be for local consumption. To deal with this concern we use another measure of intermediate imported inputs based on CEPII's BACI database, which identifies goods as *intermediates*. Using this measure, Panel (b) reports positive and significant $\beta^N_{imports}$; but a negative and significant effect of *local* judicial quality interaction. This could reflect a substitution of differentiated inputs from domestic to near-sourcing. (i.e. the better your local institutions, the less you need to import or vice versa). These results are robust to the manufacturing subsample in columns (2), (3) and (5). When we include all industries (including food and mining/oil) the results of neighboring judicial quality interactions are too small to be significant. This may suggest this may matter more for manufactures.

Looking at proxies of Value Added

Here we dig deeper into the channel of intermediates looking at value added. This could clean some of the effect of variables that co-determine exports and imports, as in Koopman, Wang, and Wei (2014). Ideally we would like to have the value added of exports of each industry in each country. But the main data source of trade in value added, OECD's TiVA dataset, considers only few countries that tend to be OECD members, with relatively little variance in contracting institutions and few "bad" neighbors. Moreover, that database uses exports at SITC-1 digit. This is not enough to get enough variation in

contract intensity by industry. Given the limitations, we use a proxy of value added exported using two methods.

The first one is simply net exports of the same industry in a country. Table 9 (Panel d) displays positive and significant neighbor effects in all specifications, with values between (0.18 and 0.22), in the same ballpark of the domestic institutional effects.

As a more sophisticated proxy we use exports minus intermediate inputs imports from rest of world for each industry of a country, as a proxy of value added. Panel (e) displays the estimates, with a similar qualitative flavor as before. Neighboring institutions have coefficients between 0.13 and 0.24. Domestic institutions were also significant. Summing up, the effect of neighboring institutions are not only important for exports and imports, but also for this measure of domestic value added.

Deep trade agreements and "bad neighbors"

From a practical point of view one would like to know which type of policies amplify or mitigate the effect of neighboring institutions. The first obvious variable to explore were trariffs and free trade agreements (FTA). Nonetheless, the empirical analysis (not shown) of these policies do not seem to mitigate or amplify the effect. But these are not the only two measures. In fact, there are reasons to believe that when countries engage in deeper type of trade agreements, then they start discussion other types of cross-border relations, like the ones we explore here. To measure the intensity of a FTA we use the World Bank database of FTA Depth for each pair of countries. We use again CEPIIs adjacency matrix to find which neighbors have deeper agreements, and aggregate based on the relative size of neighbors. Thus, for each country we will have d_c^N representing the depth of integration with neighbors as a dummy equal to one if integration is above average. Results in Table 9 (Panel c), shows that deeper trade agreements increase the coefficient of neighbors judicial quality and lowers the one of domestic institutions. That means deepening the relationship with a neighboring country could be a way to diminish the effect of own institutions on specialization, arguably because of substitution. But, as mentioned, that deeper integration enhancesβ^N. The coefficient on $z_i Q_c^N d_c^N$ between 0.19 and 0.34 means that countries with deep agreements could double or triple the sensitivity to a neighbors' institutions. This is additional evidence of the relevance of our channel for for regional value chains.

7.2 Additional differences in the neighbor's effect.

This section discusses further differences in the effect of neighbors institutions, which can give additional hints in favor or against alternative channels.

Upstream vs Downstream contract intensity

Table 9. Heterogeneity Channels: Imports of Inputs from neighbors, Depth of FTAs and Trade in Value Added (VA)

a. All goods as inputs (as LHS, in log)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.0866*	0.166**	0.147**	0.0811	0.124
	(1.120)	(1.384)	(1.546)	(1.296)	(1.640)
Judicial quality interaction: $z_i Q_c$	-0.0848**	-0.237***	-0.207***	-0.128**	-0.192***
	(0.780)	(1.132)	(1.269)	(1.003)	(1.338)
Observations	7,770	4,165	4,165	5,937	4,162
b. Intermediate inputs (as LHS, in log)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	-0.0273	0.153*	0.194**	-0.0227	0.213**
	(1.494)	(1.748)	(1.948)	(1.765)	(2.104)
Judicial quality interaction: $z_i Q_c$	-0.0211	-0.230***	-0.214***	-0.0284	-0.224**
	(0.989)	(1.408)	(1.537)	(1.283)	(1.678)
Observations	4,852	2,327	2,327	3,811	2,327
c. Depth of FTA with neighbors (interacting)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.0917***	0.104	0.155**	0.0809**	0.164**
	(0.771)	(1.562)	(1.616)	(0.886)	(1.652)
Judicial quality interaction: $z_i Q_c$	0.231***	0.287***	0.306***	0.194***	0.281***
	(0.492)	(0.744)	(0.776)	(0.597)	(0.778)
Depth Neighbor's triple int.:$z_i Q_c^N d_c^N$	0.189***	0.270**	0.276**	0.170***	0.253**
	(1.081)	(1.776)	(1.791)	(1.174)	(1.815)
Depth Local triple int.:$z_i Q_c d_c^N$	-0.119***	-0.202***	-0.241***	-0.122**	-0.246***
	(0.860)	(1.113)	(1.112)	(0.916)	(1.116)
Depth double int.: $z_i d_c^N$	-0.0678*	-0.0747	-0.0473	-0.0419	-0.0237
	(0.513)	(0.938)	(0.950)	(0.594)	(0.967)
Observations	18,383	8,148	8,148	12,934	7,988
d. VA: Net Exports by industry (as LHS, in log)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.183***	0.207***	0.200**	0.195***	0.216**
	(0.845)	(0.958)	(1.093)	(0.962)	(1.145)
Judicial quality interaction: $z_i Q_c$	0.216***	0.250***	0.257***	0.258***	0.238***
	(0.719)	(0.888)	(1.036)	(0.873)	(1.073)
Observations	4,014	2,276	2,276	3,172	2,257
e. VA: Exports - Intermediate imports (as LHS, in log)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.129***	0.162***	0.241***	0.146***	0.239***
	(0.804)	(0.895)	(1.003)	(0.870)	(1.071)
Judicial quality interaction: $z_i Q_c$	0.211***	0.202***	0.176***	0.158***	0.172***
	(0.718)	(0.847)	(0.956)	(0.764)	(0.963)
Observations	4,741	2,601	2,601	3,800	2,589
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of input's imports from neighbors in industry i by country c to all other countries) in part c. The definition of imports of inputs are all imports of goods that are suppliers in 1997 BEA I-O matrix, from neighbors with common land border (according CEPII GeoDist), using COMTRADE data. For a and b we use imports from neighboring countries, and for d and e we use imports from world. The regressions are estimates of 1, incorporating output effects. d_c^N represents a dummy that takes the value 1 if the depth of FTA with neighbors (weighted by GDP) is equal or over world average, and 0 in another case, with data of depth of FTAs from The World Bank. The measure of inputs contract intensity used is z_i^{rs1}. Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE.

One potential confounder could be that this is not about holdup by input suppliers, but holdup from customers. To test for this we interact Q^N by both upstream contract and downstream contract intensity. The latter comes directly from Rauch (1999)'s classification. We compute the average share in each industry that sells in differentiated markets: $Diff_i$, needing some relationship beyond arms' length interaction. For more details see appendix. Table 10 (Panel a) shows that our main results are robust to this concern, finding a positive effect of neighboring institutions when looking upstream, as in the rest of the paper. Having said that, in some specifications we can see a significant effect of $Diff_i \times Q^N$, meaning that a poor contractual environment is also a problem for selling. that those who sell differentiated products could have some positive impact from neighboring institutions, unlike for own institutions. But in all cases, neighboring institutions seem to matter more for suppliers.

Are neighboring institutions complements or substitutes?

To explore the potential interactions between own and neighboring institutions we augment Eq (1) by including a triple interaction $z_i Q_c Q_c^N$. Table 10 (panel b) shows that while the main interactions β and β^N remain positive and significant, as before, the coefficient on the triple interaction is negative and statistically significant in specifications (2) (3) and (5). It ranges between -0.28 and -0.35. This is again consistent with findings of section 7.1.; in the sense that good local institutions could partially mitigate the main effect of having neighbors with poor rule of law. This could be, for example, through finding a local supplier in a context of better contract enforcement.

The easier to communicate, the more binding is the inability to commit. Finally we explore how the coefficient β^N varies depending on the ease of communicating with your neighbor. In particular, we interact the usual $z_i Q^N$ with a dummy $Lang^N$,which takes the value of one if neighbors have a common language spoken *de facto* by more than 9% of the population. For symmetry we also interact this measure of cultural similarity with the domestic institutional pair $z_i Q_c$.

Results on Table 10 Panel (c) show that in most specification (columns 2 to 6) having closer communication ties between countries makes trade more sensitive to institutional problems across the border. In columns (2) to (5) having a common language almost duplicates the effect. In contrast, specifications (2), (3) and (5) are consistent again with some type of substitution effect. Having a culturally close neighbor mitigates the sensitivity to domestic institutions.

Summing up, having a common culture or language could make easier the managerial coordination across borders with suppliers in neighboring countries, in particular in contract intensive or "strategy" inputs. But without good institutions these potentially useful relationships might be less likely to happen.

Table 10. Heterogeneity Channels: Others

a. Substitution: local vs neighboring	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.125**	0.416***	0.517***	0.0725	0.501***
	(1.355)	(2.018)	(2.069)	(1.563)	(2.087)
Judicial quality interaction: $z_i Q_c$	0.166***	0.413***	0.471***	0.0956	0.439***
	(1.185)	(1.720)	(1.744)	(1.316)	(1.728)
Judicial quality (local and neighs.) int.: $z_i Q_c Q_c^N$	0.0474	-0.284**	-0.353***	0.0918	-0.341***
	(1.965)	(2.769)	(2.785)	(2.164)	(2.770)
Observations	18,383	8,148	8,148	12,934	7,988
b. Upstream and Downstream Contract int.	(1)	(2)	(3)	(4)	(5)
Local Upstream interaction: $z_i Q_c$	0.112***	0.222***	0.232***	0.177***	0.256***
	(0.495)	(0.656)	(0.714)	(0.563)	(0.709)
Local Downstream interaction: $Diff_i \times Q_c$	0.123***	0.00353	-0.00278	-0.0176	-0.0873**
	(0.320)	(0.442)	(0.459)	(0.393)	(0.471)
Neighbor's Upstream interaction: $z_i Q_c^N$	0.0940***	0.130***	0.151***	0.0964***	0.151***
	(0.636)	(0.736)	(0.832)	(0.676)	(0.830)
Neighbor's Downstream interaction: $Diff_i \times Q_c^N$	0.103***	0.105***	0.158***	0.0731**	0.159***
	(0.412)	(0.501)	(0.540)	(0.470)	(0.551)
Observations	18,041	8,766	8,058	12,799	7,899
c. Common "de facto" language	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.144***	0.129***	0.174***	0.0943***	0.156***
	(0.735)	(0.913)	(0.951)	(0.793)	(0.973)
Judicial quality interaction: $z_i Q_c$	0.189***	0.298***	0.313***	0.151***	0.304***
	(0.579)	(0.904)	(0.922)	(0.688)	(0.926)
Language double int.: $z_i Lang_c^N$	-0.120***	-0.0147	-0.00873	-0.160***	0.00370
	(0.508)	(0.799)	(0.800)	(0.562)	(0.807)
Language Neighs. triple int.: $z_i Q_c^N Lang_c^N$	0.0335	0.154**	0.156**	0.101*	0.168**
	(1.075)	(1.318)	(1.315)	(1.114)	(1.298)
Language Local triple int.: $z_i Q_c Lang_c^N$	0.0481	-0.162**	-0.173***	0.0289	-0.196***
	(0.866)	(1.225)	(1.212)	(0.962)	(1.214)
Observations	18,383	8,148	8,148	12,934	7,988
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of eq. 1, with the addition of double and triple interactions in part c: the case of common language (spoken by at least 9% of pop., measured as the share of Neighbor's GDP with common language), with both judicial quality and incorporating downstream contract intensity in part b. The measure of downstream contract intensity used is z_i^{rs1}, and for upstream contract intensity is $Diff_i$, using concordance between industries and commodities, identifying goods manufactured by each industry and classifying it according Rauch (1999). Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE.

7.3 Other types of heterogeneity

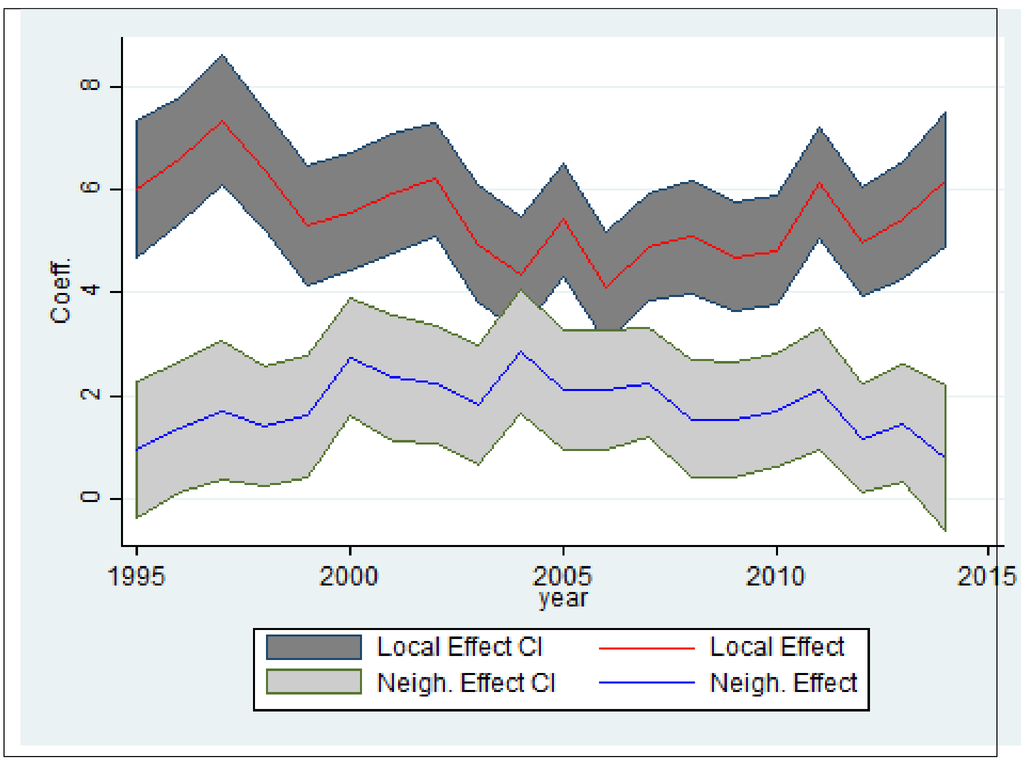
We explore various additional types of heterogeneity and robustness tests. A few examples are as follows (i) Intermediate versus primary goods and other measures of upstreamness. (ii) Whether the effect of neighbors' institutions is through macroeconomic crises or exchange rate problems in the neighborhood. (iii) Whether the effect of neighboring institutions is through the imposition of higher tariffs and constraints. (iv) Whether the effect was through political instability rather than rule of law. (v) Whether the effect is an artifact of vertical integration integration across border (i.e FDI stocks of the neighboring country). In general all these tests do not suggest a clear pattern and do not challenge our main results. We list them here but leave it in the Appendix for the interested reader.

8 Evidence from changes in institutions over time.

As in the literature, so far our identification came from differential sensitivity of industries at one moment in time. Here we follow two complementary strategies that explore changes over time.

First we separately compute the same specification of Eq. 1 for every single year between 1995 and 2014. Figure 4 displays the coefficients for both domestic and neighboring effects of institutions. Results for all years were significant at the 90% level, while all but the two extreme years were significant at the 95%, as shown in the plotted confidence intervals.[18] The main conclusion of this exercise is that the relationship in the baseline are qualitatively stable over time in the last two decades.

Figure 4. Local and neighboring institutional coefficients between 1995-2014



This graph displays the non-standardized coefficients for the domestic and neighboring effects in Eq (1), separately estimated for each year between 1995 and 2014. The magnitudes are very different from the benchmark tables, because these tables use standardized coefficients. Plotted confidence intervals at 95% level.

A second approach is to jointly estimate a panel of country-industries over time. As a first pass Column (1) of Table 11. shows the results of Eq. 1 but adding also a year fixed effect. That means we have three single sets of fixed effects: by country, by industry and by year. The neighbors' effect remains statistically

[18] We use trade data from 1995 to 2014 coming from UN Comtrade and (normalized) rule of law index from World Governance IndicatorsFor rule of law, we have new data every two years for the period between 1995 and 2001. We use the index of one year after. Because theWorld Governance Indicators are available only before 2013, we use 2013 rule of law for 2014.

significant.

The rest of the Table takes a much more stringent identification, by including three sets of *double* fixed effects (μ_{ic}, μ_{ct},μ_{it}). That means the identifying variation for β^N comes from country-industry pairs that *changed* their neighbors institutions, over and above global industry trends and country trends. Given that institutions are slow moving, we used changes over longer periods (e.g. every eight years), to get three points in time. Specifications (2) to (5) use various combinations of benchmark years and show statistically significant results. The standardized β^N are r for the panel. The coefficients for neighbors are significant at usual levels, and have a magnitude that is roughly two thirds of the coefficient of domestic institutions, in the ballpark of 0.1. As a bottom line from this exercise, the estimatedβ^N coming from time-series variation are relatively similar to the baseline estimates we obtained in the cross sectional panel.

Table 11. Panel Time Estimation

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q^N_{ct}$	0.0501***	0.112***	0.0697*	0.128***	0.144**
	(0.115)	(0.961)	(0.982)	(1.022)	(1.830)
Local Judicial quality interaction: $z_i Q_{ct}$	0.196***	0.176***	0.101*	0.173***	0.131***
	(0.107)	(1.315)	(1.459)	(1.442)	(1.227)
Constant	YES	YES	YES	YES	YES
Fixed effects (Country, Year and Industry)	YES	YES	YES	YES	YES
Double Fixed effects (μ_{ct}, μ_{ci}, μ_{it})	NO	YES	YES	YES	YES
Observations	354,068	52,185	52,231	49,544	33,124
Years	95 to 14	95-03-11	97-05-13	98-06-14	95-11
R^2	0.650	0.926	0.927	0.935	0.950

Note: Dependent variable is $\ln x_{ict}$ (natural log of exports in industry i by country c in year t).Coefficients are standardized. Estimated eq. in columns (1) is $\ln x_{cit} = \mu_i + \mu_c + \mu_t + \beta z_i Q_{ct} + \beta^N z_i Q^N_{ct} + \varepsilon_{cit}$. Estimated eq. in columns (2) to (5) is $\ln x_{cit} = \mu_{ct} + \mu_{it} + \mu_{ci} + \beta z_i Q_{ct} + \beta^N z_i Q^N_{ct} + \varepsilon_{cit}$; for country c, indusyry i and year t. As usual, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

9 Concluding Remarks

This paper documents that contract enforcement in *neighboring* countries matter for the domestic pattern of specialization. The better the neighbors of a country, the more likely that the country exports contract intensive goods.

This effect happens over and above the effect of the country's own institutions. While some of the effect might be localized to exports around the neighborhood, we find that neighboring institutions impact also production and exports to the US. The evidence is identified not only in the cross section of industries, but also in the time series. When neighbors change their institutional quality, so does the domestic specialization. We find that the effect is more important for manufacturing, which is consistent with having a more complex supply chain. When neighbors are closer or culturally similar, the estimated effect of their rule of law seems even more important for contract intensive industries.

Specializing in more complex products is tougher when neighbors cannot be trusted. Our results suggest that policies improving contract enforcement *in neighboring nations or across borders* could change countries' productive specialization. these policies could foster integration into regional or even global value chains. For example Casella (1996) shows that private international commercial arbitration could in fact complement standard trade treaties between national states. Future work could embed our stylized fact in a formal model of Global Value Chains, along the lines of Antras and De Gortari (2017), to get more predictions about the interaction between institutions, downstream-ness and proximity to final customers. For expositional brevity in this paper we used the words "good" and "bad" neighbors to describe their rule of law indices. Readers should never interpret these statements outside of that context.

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10 Appendix

10.1 Variables Construction

10.1.1 Industry Downstream Contract Intensity

To build this variable we use Rauch (1999) classification of goods according contract intensity, in 3 categories: sold in open markets, with reference prices and none of the above. First, we consider a contract intensive good if its category is "none of the above", and we generate a dummy variable that takes the value 1 in this case. Second, we use NAICS to SITC concordance and I-O to NAICS concordance to match goods with industries. Third, we calculate the simple average of contract intensity dummies by each I-O industry. Therefore, we build a dataset with the "proportion of contract intensive goods" by each industry, as measure of industry contract intensity.

10.1.2 Neighbor's Variables

To build neighbor's variables, we use the same database for local countries from Nunn (2007) and CEPII Geodist database to identify the neighbor's (defined as countries with common land border). Then we import data from Nunn's dataset to build the same variables but from neighbor's. Then, for each local country, we calculate each variable referred to neighbors as a weighted average by GDP.

10.2 Non Standardized Results

This subsection shows the results of the main estimations, but with standard OLS, without non standardizing coefficients. Table 12 Panel (a) shows Eq 2. These coefficients should be interpreted as the effect when judicial quality rises from 0 to 1 (i.e. 1 st deviation) and multiplied by z_i. For $z_i = 1$ we find increases between 300 and 500% percent on exports for neighboring institutions. If the increse of judicial quality is a more plausible 0.1 of standard deviation, the effect could be a 30 to 50 percentage points improvement in comparative advantage for these contract intensive goods. We can find, in panel b, that giving all correlation to local institutions we find increases between, the effects of a neighboring institutional improvement are the same, but for local improvement is higher, with values between 484 and 667 percent of more exports. In panel c, we find that a common "de facto" language add between 74 and 322 percent to the effect of improvement of neighboring institutions, and reduces between 295 and 349 percent the effects of local institutional improvement (in the specifications where this interaction is significant).

10.3 Additional robustness estimations

Table 12. Non Standardized Results

a. Main Specification					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	3.820***	4.253***	5.202***	3.174***	4.939***
	(0.494)	(0.621)	(0.675)	(0.559)	(0.708)
Local Judicial quality interaction: $z_i Q_c$	4.294***	3.932***	4.070***	3.278***	3.570***
	(0.395)	(0.558)	(0.605)	(0.469)	(0.612)
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.774
b. All correlation to Local Institutions					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i e_c^N$	3.820***	4.253***	5.202***	3.174***	4.939***
	(0.494)	(0.621)	(0.675)	(0.559)	(0.708)
Judicial quality interaction: $z_i Q_c$	6.179***	6.030***	6.637***	4.844***	6.007***
	(0.289)	(0.415)	(0.461)	(0.359)	(0.484)
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.774
c. Interacting with common "de facto" language					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	3.460***	2.661***	3.580***	2.139***	3.152***
	(0.735)	(0.913)	(0.951)	(0.793)	(0.973)
Judicial quality interaction: $z_i Q_c$	4.062***	5.522***	5.790***	3.065***	5.524***
	(0.579)	(0.904)	(0.922)	(0.688)	(0.926)
Language double int.: $z_i Lang_c^N$	-1.646***	-0.189	-0.112	-2.137***	0.0466
	(0.508)	(0.799)	(0.800)	(0.562)	(0.807)
Language Neighbor's triple int.:$z_i Q_c^N Lang_c^N$	0.738	2.994**	3.028**	2.140*	3.215**
	(1.075)	(1.318)	(1.315)	(1.114)	(1.298)
Language Local triple int.:$z_i Q_c Lang_c^N$	0.970	-2.947**	-3.141***	0.555	-3.490***
	(0.866)	(1.225)	(1.212)	(0.962)	(1.214)
Observations	18,383	8,148	8,148	12,934	7,988
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1. The measure of contract intensity used is z_i^{rs1}(same that Table 1). Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. In panel (a) we display main specification results, considering neighboring controls. In panel (b) we control by collinearity between institutions, adding all correlation to local institutional quality. In panel (c) we interact with common language "de facto" (spoken by at least 9% of population). Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively.

10.3.1 Controlling for Vertical Integration

In the next specifications we will consider the potential challenge of vertical integration generating our results. If a company faces procurement or sales problems with neighboring countries due to poor contract enforcement, then maybe a multinational structure could help through its vertical integration. Multinationals might be like a camel in a desert of little contract enforcement.

To take this into account we explore the same test used by Nunn (2007) for vertical integration, but adding also our neighbors judicial quality interaction . Interestingly, Table 13 shows that, after controlling for Nunn's vertical integration variables, neighbors judicial quality interaction is still statistically and economically significant, unlike the effect of own country institutions, which sometimes disappears in its statistical significance due to the interaction terms of contract sensitivity with other own country endowments. Once again, as in our baseline, our coefficient of interest β_N might be biased due to a correlation with other neighboring country endowments that we were omitting from Table 13. Therefore in Table 13 we add all the set of "vertical integration" controls for neighbors. These were also built combining CEPII´s neighborhood matrix with the original Nunn's dataset. Across all specifications we find that our coefficient of interest β_N is at least as strong as the the effect of own country institutions β, and also more robust in its statistical significance. In fact, despite the use of measures of vertical integration, neighboring and local institutional effects remain positive and significant. The values of β_N are between 0.10 and 0.32, and the values of local institutional effects are between 0.13 ans 0.26.

10.3.2 Replicating Nunn's baseline specification

Both as a sanity check and to have a comparison, we first replicate exactly Nunn (2007)´s results estimating Eq. (3), which on top of the interaction between contract sensitivity and rule of law, $z_i Q_c$, also includes various interactive controls X_{ci} like, for example, human and physical capital sensitivity interacted by their respective endowments ($h_i H_c$ and $k_i K_c$). Table 14 displays the results controlling also for value added, productivity, intra-industry trade proxies, credit and variety of inputs. The parameter $\widetilde{\beta}$ is positive, statistically significant and larger in economic magnitude than the effect of human and physical capital. Under this original specification, local institutional effects are positive and significant, with values between 0.235 ans 0.326. For more details see Nunn (2007).

$$\ln x_{ci} = \widetilde{\alpha}_c + \widetilde{\alpha}_i + \widetilde{\beta}\, z_i Q_c + \widetilde{\gamma} X_{ci} + \varepsilon_{ic} \tag{3}$$

Table 13. Considering Vertical Integration Neighbors's controls.

	(1)	(2)	(3)	(4)	(5)
Neighs. Judicial quality interaction: $z_i Q_c^N$	0.102***	0.236***	0.315***	0.225***	0.110***
	(0.576)	(0.802)	(0.805)	(0.747)	(0.673)
Local Judicial quality interaction: $z_i Q_c$	0.132***	0.255***	0.164***	0.158***	0.202***
	(0.462)	(0.674)	(0.751)	(0.574)	(0.550)
Industries with many inputs: $z_i Q_c I_i^{n_i > \bar{n}}$ and $z_i Q_c^N I_i^{n_i > \bar{n}}$	YES	NO	NO	NO	NO
Skill endowment×contract intensity: $z_i H_c$ and $z_i H_c^N$	NO	YES	NO	NO	NO
Capital endowment×contract intensity: $z_i K_c$ and $z_i K_c^N$	NO	NO	YES	NO	NO
Log income×contract intensity: $z_i \ln(y_c)$ and $z_i \ln(y_c)^N$	NO	NO	NO	YES	NO
Log credit/GDP×contract intensity: $z_i CR_c$ and $z_i CR_c^N$	NO	NO	NO	NO	YES
Observations	18,383	9,837	9,837	18,041	15,677
R^2	0.738	0.730	0.731	0.736	0.733

Note: Dependent variable is $\ln(x_{ic})$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of eq. 1 without another determinants of comp. adv. The measure of contract intensity used is z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. Specifications (1) to (5) are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively.

Table 14. Replication of Nunn (2007) Table IV with our sample

	(1)	(2)	(3)	(4)	(5)
Judicial quality interaction: $z_i Q_c$	0.289***	0.318***	0.326***	0.235***	0.296***
	(0.269)	(0.377)	(0.425)	(0.333)	(0.441)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	NO	NO
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	NO	NO	NO
Skill and Capital Interaction	NO	NO	YES	NO	YES
Observations	22,598	10,976	10,976	15,737	10,816
R^2	0.723	0.759	0.760	0.766	0.762

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 3. The measure of contract intensity used is z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. Specifications (1) to (5) are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively.

10.4 2SLS with the portion of neighbors' institutions that are orthogonal to local rule of law

In the 2SLS one can be concerned that due to collinearity between Q_c and Q_c^N , we could to be estimating the same as Nunn (2007). To answer this question, we follow the same procedure of replacing Q^N by $e_c^N \equiv Q_c^N - \mathbb{E}[Q_c^N|Q_c]$. Results on Table 15 confirm that neighbor's effects are still statistically and economically significant. the IV estimates of $\beta^N$are between 0.05 and 0.08, while the OLS are between 0.07 and 0.11. Local institutional effects follow the same pattern as in Nunn (2007), with IV estimates in the same range as the IV. The bottom line is that the instrumentation strategy is robust to use only the "surprising" portion of neighbors' institutions.

10.5 Other types of heterogeneity

eThis appendix complements the heterogeneity tests of section 7, but using other interactions: upstream-ness in the value chain, intermediate vs primary goods and transport infrastructure index.

First we analyze how β^N changes with upstream-ness. That means we would like to know whether this sensitivity to neighboring institutions depends on how close is the product to the final customer. To answer this we use Antràs, Chor, Fally, and Hillberry (2012) measure of *upstream-ness*U_i, defined as the distance in the supply chain between the product and the final demand. In international business jargon it is a measure of how much is a B2B transaction rather than a B2C transaction. The results on Table 16 (panel a) do not show particularly different results in our coefficient β_N depending on upstream-ness. Only one specification suggests that the sensitivity β^N is mitigated for more upstream products (interaction coefficient -0.112).

Second we use a discrete alternative measure, instead of the continuous upstream-ness of Antràs, Chor, Fally, and Hillberry (2012). We use the BACI database from CEPII and get information on whether the goods are classified as primary, intermediate, consumption and capital final goods. We created a dummy Int_i that represents the proportion of intermediate goods produced by the industry i. The results are showed in Table 16 (panel b). Effects do not look statistically different depending on the type of good. Neighboring institutional effects remains positive and significant in all specifications, with values between 0.373 and 0.541.

Third we explore whether the effect depends on the infrastructure of the countries. We interact our results with infrastructure index (that reflects the connectivity of local country with neighbors) from the 2007 Logistics Performance Index (LPI) that goes from 1 to 5. We transformed it into a dummy $tr = 1\{LPI \geq 3\}$, and an analogous dummy for the neighboring countries tr_c^N. Table 16 (panel c) shows that a better transport infrastructure enhances contract sensitivity β^N. This is consistent with the view that the bigger the possibilities to do business, the more distortive are contract enforcement problems.

Table 15. Instrumental Variables regression controlling by potential collinearity between local and neighboring institutions (Second Stage) estimates

	OLS	IV	OLS	IV	OLS	IV	OLS	IV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Neighbor's Judicial quality interaction: $z_i e_c^N$	0.0693***	0.0882***	0.0934***	0.0521***	0.114***	0.0766***	0.110***	0.0734***
	(0.00895)	(0.0208)	(0.621)	(0.814)	(0.675)	(0.902)	(0.708)	(0.971)
Judicial quality interaction: $z_i Q_c$	0.288***	0.362***	0.326***	0.461***	0.358***	0.557***	0.330***	0.547***
	(0.289)	(0.496)	(0.415)	(0.677)	(0.461)	(0.798)	(0.484)	(0.835)
Local and Neighs. Skill and Capital ints	NO	NO	NO	NO	YES	YES	YES	YES
Full set of control variables (Local and Neighs.)	NO	NO	NO	NO	NO	NO	YES	YES
F test first stage (local)		3209.50		1295.36		1295.36		1273.92
F test first stage (neighbors)		717.72		865.19		865.19		933.04
Observations	18,383	18,383	8,148	8,148	8,148	8,148	7,988	7,988

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1. The measure of contract intensity used is Nunn (2007)'s z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. We define $e_c^N = Q_c^N - \hat{\alpha_0} - \hat{\alpha_1} Q_c$ and $e_c = Q_c - \hat{\delta_0} - \hat{\delta_1} Q_c^N$, where parameters with ˆ represents OLS estimates. Specifications (1) and (2) are analogous (in terms of controls and subsample considered) that Table 2's specification (1), spec. (3) and (4) corresponds to Table 2's specification (2), spec. (5) and (6) corresponds to Table 2's specification (3), and finally spec. (7) and (8) corresponds to Table 2's specification (5)

The opposite signs for foreign infrastructure on domestic institutional effects is, again, consistent with some sort of substitution.

10.6 Interacting with alternative variables related to rule of law

Here we examine interactions with other correlates of institutions that could confound the role of judicial quality. In particular we use the black market premium in exchange rates, an indicator for coups and revolutions and an index of public safety for freight (proxied by car theft).

For some countries, like Argentina and Venezuela in 2014, the poor quality of the rule of law Q may be the underlying institutional cause of some other problems like macroeconomic imbalances and restrictions on exchange rate movements and payments. This macroeconomic problems tend to complicate international businesses and this might be what we are picking with our coefficients in β_N. On the sales side, many companies can't collect sales not only for failing to enforcing contracts, but also by currency restrictions that difficult to repatriate earnings to home country, as for example with international airlines operating flights to Venezuela . And on the input side, this is a barrier to import foreign inputs. To check this we use the black market premium of exchange rate, to build a dummy that takes the value one if black market premium non zero (called $Black_c$, with an N for neighbors) from the Global Development Network Growth Database of The World Bank[19], using data from 1997 for local country and neighbors (weighted average by GDP) to measure this exchange market imbalance. After correcting for a few outliers, results are displayed on Table 17 (panel a). Our results show that the main effect β^N is not driven by macroeconomic problems, because the effect goes over and above the interacted controls of black market premium. β^N goes between 0.18 and 0.38.

Some authors, like Ades and Chua (1997) and Alesina, Spolaore, and Wacziarg (1997) argue that neighbors could negatively impact exports and/or imports due to their political instability, not their rule of law. While political instability is indeed considered within bad institutions, therefore consistent with our main story, we still wished to check whether our results are due to these extreme cases of poor judiciary correlated with coups and revolutions, rather than softer problems of contract enforcement.. Instability, viewed as violent regime changes, could introduce uncertainty about who is the authority and the rule of law. To control for this possibility we use the "Coups and Revolutions" index from Banks (2011)[20]. This index is an annual average of successful coups and revolutions (not considering failed coups and revolutions). We use the average between 1980 and 1989. Results on Table 17 (panel b) confirm that our central results are robust to this concern. Neighboring and local institutional effects are positive and significant, with values between 0.144 and 0.235 for neighbors, and between 0.178 and 0.243 for local. Political instability interaction with institutional effects are small and not significant.Our effect seems to be about rule of law.

[19] Database available in this link.
[20] Available in this link.

Table 16. Other Heterogeneity Channels

a. Interacting with Upstreamness (dummy up to mean) of production:					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_iQ_c^N$	0.249***	0.213***	0.242***	0.166***	0.236***
	(0.933)	(1.241)	(1.288)	(1.034)	(1.278)
Judicial quality interaction: z_iQ_c	0.235***	0.304***	0.267***	0.233***	0.248***
	(0.720)	(1.070)	(1.098)	(0.854)	(1.095)
Upstreamnes Neigh. triple int.:$z_iQ_c^Nu_i$	-0.112**	-0.00896	0.00545	-0.0292	0.00482
	(1.144)	(1.506)	(1.541)	(1.262)	(1.552)
Upstreamnes Local triple int.:$z_iQ_cu_i$	-0.0272	-0.0944	-0.0355	-0.0963*	-0.0581
	(0.902)	(1.323)	(1.345)	(1.060)	(1.358)
Observations	18,383	8,148	8,148	12,934	7,988
b. Interacting with intermediate goods share by industry					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_iQ_c^N$	0.373***	0.541***	0.507***	0.457***	0.475**
	(2.943)	(3.734)	(3.796)	(3.408)	(4.206)
Judicial quality interaction: z_iQ_c	0.0616	-0.0238	0.100	0.124*	0.192*
	(1.235)	(1.683)	(1.782)	(1.543)	(1.977)
Intermediate goods Neigh. triple int.:$z_iQ_c^NInt_i$	-0.122	-0.117	0.0330	-0.136	0.00464
	(3.267)	(4.080)	(4.302)	(4.210)	(5.107)
Primary goods Neigh. double int.: $Pr_iQ_c^N$	0.423	1.803	-0.0375	4.863	-0.465
	(5.509)	(84.31)	(84.89)	(84.52)	(91.57)
Observations	2,401	1,029	1,029	1,691	1,006
c. Interacting with transport infratructure index (local and neighboring) in dummy up to mean					
	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_iQ_c^N$	0.00531	0.0917	0.163	-0.0765	0.0936
	(1.285)	(2.941)	(3.017)	(1.536)	(3.206)
Judicial quality interaction: z_iQ_c	0.0167	-0.118	-0.0995	-0.0839	-0.117
	(0.946)	(1.778)	(1.786)	(1.057)	(1.790)
Neighs. Infrastructute double int.: $z_itr_c^N$	-0.0681	-0.0729	-0.0753	-0.156**	-0.0950
	(0.759)	(1.729)	(1.739)	(0.928)	(1.790)
Local Infrastructute double int.: z_itr_c	-0.0441	-0.0400	-0.0173	-0.0519	-0.0396
	(0.690)	(1.498)	(1.497)	(0.886)	(1.520)
Neighs. Infrastructure-Neighs. triple int.:$z_iQ_c^Ntr_c^N$	0.303***	0.378*	0.351	0.422***	0.426*
	(1.589)	(3.387)	(3.430)	(1.832)	(3.574)
Local Infrastructure-Neighs. triple int.:$z_iQ_c^Ntr_c$	-0.186***	-0.344***	-0.371***	-0.229***	-0.364***
	(1.242)	(1.834)	(1.849)	(1.376)	(1.847)
Neighs. Infrastructure-Local triple int.:$z_iQ_ctr_c^N$	-0.141***	-0.195**	-0.178**	-0.122**	-0.211**
	(0.845)	(1.338)	(1.324)	(0.982)	(1.343)
Local Infrastructure-Local triple int.:$z_iQ_ctr_c$	0.390***	0.604***	0.594***	0.463***	0.623***
	(1.042)	(1.985)	(1.991)	(1.250)	(2.016)
Observations	18,383	8,148	8,148	12,934	7,988
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1, incorporating output effects. The measure of inputs contract intensity used is z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. Upstreamnness measurement is from Antràs, Chor, Fally, and Hillberry (2012). Intermediate goods dummy is from BACI from CEPII. Infrastructure index if from 2007 Logistics Performance Index. Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered)

An alternative explanation is that the problems do not come from a holdup by neighboring suppliers, but from theft of intermediate inputs when transported. Here we interact $z_i Q_c^N$ with a dummy ; where $gta_c = 1\{theft > world\,average\}$, using the theft rate of motor vehicles by 100,000 people in 2007 from UNODC. Results on Table 17 (Panel c), show that theft mitigates the effect of neighboring institutions. Again, this is consistent with the view that contract incompleteness matters less when there are other more binding constraints.

10.7 Trade Barriers and Transport Costs

10.7.1 Controlling for tariff barriers imposed by neighbors

One can argue that neighbor's effect could be due to poor institutions correlated to higher tariffs in these neighbors, complicating bilateral trade with neighbors and disproportionately impacting these goods.

We can perform the same analysis but at industry level. To do this this, we collect data of neighbor's tariffs and match them to exports products (SITC Rev. 2 - 4 digit), and convert to data to the I-O level using I-O to SITC concordance. We calculate a simple average, by available goods and countries, and we convert SITC good data to I-O industry data (to multiple SITC to I-O matches, we calculate a simple average as tariff), and therefore we obtain the variable $Tariffs_{ic}^N$, because we have tariffs applied by neighbors to local country at good (or industry, for our estimation) and country level. This implies that we need to incorporate to the estimation the random effects (incorporating $Tariffs_{ic}^N$) and all possible double interactions with country and industry level variables, using and umbalanced panel estimation. The results are available in 18 (panel a) and shows that tariffs of neighbors to local country's goods don't intensify neighbor's judicial quality interactions.

When the industry is intensive in offshoring this may reflect a strong dependence on foreign suppliers. We analyze heterogeneity by offshoring intensity index using U.S. data of value of shipments, exports and imports at industry level. The index is called OI_i,and the formula is giving by (4):

$$OI_i = \frac{Imports_i}{Shipments_i + Imports_i - Exports_i} \tag{4}$$

Results on Table 18 (panel b), show that offshoring intensity does not statistically impact neighbor's effects. It still drops the magnitude of local effects, maybe because a high offshoring intensity industry relies more of foreign suppliers.

We also consider freight costs from Bernard, Jensen, and Schott (2006), expressed as a markup (F_i). Note data is available mainly for manufacturing industries. Results in Table 18 (panel c) show that β^N does not significantly vary with freight costs.

Table 17. Other institutional variable's interactions (not directly related with contract enforcement)

a. Black Market Premium (dummy if is >0)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.180*	0.381***	0.363***	0.186*	0.345***
	(2.414)	(2.609)	(2.584)	(2.400)	(2.584)
Judicial quality interaction: $z_i Q_c$	0.179**	-0.0585	-0.0612	0.170**	-0.0392
	(1.859)	(1.734)	(1.743)	(1.706)	(1.746)
Neighs. Black Neigh. Mkt. Pr. double int.: $z_i Black_c^N$	-0.0630	-0.230**	-0.226**	-0.120*	-0.244**
	(0.702)	(1.327)	(1.380)	(0.899)	(1.352)
Neighs. Black Local Mkt. Pr. double int.: $z_i Black_c$	0.0714	0.0891	-0.0392	0.218	0.0304
	(2.310)	(2.174)	(2.212)	(2.277)	(2.169)
Neighs. Black Neigh. Mkt. Pr. triple int.:$z_i Q_c^N Black_c^N$	-0.155	-0.269**	-0.214*	-0.102	-0.210
	(2.323)	(2.640)	(2.630)	(2.298)	(2.633)
Neighs. Black Local Mkt. Pr. triple int.:$z_i Q_c^N Black_c$	0.162**	0.191**	0.218***	0.0801	0.225***
	(1.577)	(1.649)	(1.643)	(1.518)	(1.616)
Neighs. Black Neigh. Mkt. Pr. triple int.:$z_i Q_c Black_c^N$	0.213**	0.514***	0.455***	0.216*	0.465***
	(2.150)	(2.286)	(2.293)	(2.308)	(2.281)
Neighs. Black Neigh. Mkt. Pr. triple int.:$z_i Q_c Black_c$	-0.212**	-0.226**	-0.162	-0.240**	-0.215*
	(2.292)	(2.240)	(2.264)	(2.316)	(2.247)
Observations	18,383	8,148	8,148	12,934	7,988

b. Coups and Revolutions (dummy up to mean)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.137***	0.193***	0.240***	0.144***	0.235***
	(0.600)	(0.746)	(0.790)	(0.640)	(0.810)
Judicial quality interaction: $z_i Q_c$	0.216***	0.239***	0.243***	0.178***	0.217***
	(0.465)	(0.636)	(0.677)	(0.547)	(0.689)
Neighs. Political Instab. double int.: $z_i Revcoup_c^N$	0.0359	0.107	0.108	0.122**	0.117
	(1.517)	(2.292)	(2.292)	(1.689)	(2.291)
Neighs. Political Instab. Neigh. triple int.:$z_i Q_c^N Revcoup_c^N$	-0.0412	-0.0414	-0.0680	-0.0984*	-0.0793
	(3.823)	(5.848)	(5.867)	(4.416)	(5.860)
Neighs. Political Instab. Local triple int.:$z_i Q_c Revcoup_c^N$	-0.0529	-0.101	-0.0779	-0.0653	-0.0750
	(2.605)	(4.260)	(4.258)	(3.141)	(4.272)
Observations	18,383	8,148	8,148	12,934	7,988

c. Private car theft (dummy up to mean)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.128*	0.180	0.187	0.159*	0.203
	(1.702)	(3.774)	(3.808)	(1.977)	(3.870)
Judicial quality interaction: $z_i Q_c$	0.331***	0.375***	0.412***	0.324***	0.381***
	(0.854)	(1.903)	(1.933)	(1.043)	(1.944)
Car theft double int.: $z_i gta_c^N$	0.335***	0.622***	0.682***	0.367***	0.673***
	(1.329)	(1.462)	(1.448)	(1.433)	(1.428)
Car theft Neighbor's triple int.:$z_i Q_c^N gta_c^N$	-0.188***	-0.246**	-0.250***	-0.138**	-0.246**
	(1.356)	(1.605)	(1.594)	(1.366)	(1.596)
Car theft Local triple int.:$z_i Q_c gta_c^N$	-0.119**	-0.375***	-0.423***	-0.206***	-0.418***
	(1.055)	(1.438)	(1.434)	(1.250)	(1.448)
Car theft double int.: $z_i gta_c$	0.211***	0.273***	0.273***	0.325***	0.294***
	(0.776)	(1.173)	(1.177)	(0.825)	(1.192)
Car theft Neighbor's triple int.:$z_i Q_c^N gta_c$	-0.208***	-0.186	-0.210	-0.220***	-0.204
	(0.994)	(2.209)	(2.223)	(1.230)	(2.229)
Car theft Local triple int.:$z_i Q_c gta_c$	0.0491	-0.00365	0.0166	-0.0506	-0.0154
	(1.815)	(3.971)	(3.997)	(2.122)	(4.036)
Observations	18,383	8,148	8,148	12,934	7,988
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**

Table 18. Interactions with trade policy and trade costs

a. Tariffs by industry and country	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.234***	0.287***	0.348***	0.265***	0.349***
	(0.955)	(1.161)	(1.231)	(1.045)	(1.273)
Judicial quality interaction: $z_i Q_c$	0.246***	0.213***	0.233***	0.168***	0.196***
	(0.623)	(0.922)	(1.012)	(0.796)	(0.993)
Neighs. Tariffs Local triple int.:$z_i Q_c Tariffs_{ic}^N$	-0.0240	-0.0512	-0.0178	0.0817	0.0533
	(0.0288)	(0.0745)	(0.0742)	(0.0457)	(0.0724)
Neighs. Tariffs triple int.:$z_i Q_c^N Tariffs_{ic}^N$	-0.00591	0.0511	-0.00428	-0.0895	-0.0247
	(0.0629)	(0.106)	(0.105)	(0.0798)	(0.105)
Observations	7,217	4,181	4,181	5,752	4,142
b. Offshoring intensity by industry	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.168***	0.238***	0.286***	0.181***	0.308***
	(0.688)	(0.864)	(0.952)	(0.786)	(1.011)
Judicial quality interaction: $z_i Q_c$	0.192***	0.245***	0.242***	0.141***	0.175***
	(0.555)	(0.787)	(0.867)	(0.676)	(0.897)
Off. int. Neighbor's triple int.:$z_i Q_c^N OI_i$	0.110	0.141	0.143	0.162**	0.125
	(0.133)	(0.158)	(0.158)	(0.137)	(0.159)
Off. int. Local triple int.:$z_i Q_c OI_i$	-0.0408	-0.192**	-0.209**	-0.0906	-0.197**
	(0.111)	(0.147)	(0.148)	(0.124)	(0.148)
Observations	7,923	3,901	3,901	6,204	3,830
c. Freight costs by industry	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.162***	0.283***	0.358***	0.206***	0.381***
	(1.178)	(1.513)	(1.647)	(1.270)	(1.638)
Judicial quality interaction: $z_i Q_c$	0.163***	0.249***	0.197**	0.141**	0.188**
	(0.947)	(1.366)	(1.458)	(1.083)	(1.451)
Neigh. Freight costs markup triple int.:$z_i Q_c^N F_i$	-0.0368	-0.0622	-0.0823	-0.0513	-0.1000
	(13.47)	(17.93)	(19.43)	(15.53)	(19.21)
Local Freight costs markup triple int.:$z_i Q_c F_i$	-0.0427	-0.0924	-0.0389	-0.0712	-0.0947
	(11.01)	(16.01)	(16.99)	(13.32)	(16.85)
Observations	8,973	4,376	4,376	6,896	4,295
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1, incorporating output effects. The measure of inputs contract intensity used is z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. Tariffs data is from The World Bank WITS, offshoring intensity is from US data of value of shipments (adjusted by local data of exports and imports and freight costs is from Bernard, Jensen, and Schott (2006). Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively.

10.8 FDI positions in neighbors

A country with bad contract enforcement could be forced to have a better contract environment for trade partners that have significant investment positions in a local country, because contract problems could trigger a capital reversal, damaging the local economy. Also, a low judicial quality is related with less direct ownership because expropriation risk as in Lafontaine, Perrigot, and Wilson (2016). To address this concern, we controlled for net FDI stocks of foreign partners in local countries (inward minus outward). Table 19 (panel a for inward minus outward, panel b for inward) shows that our neighbor-effect of interest β_N is still statistically and economically significant.

10.9 Contract enforcement and interpersonal trust

Across countries rule of law is correlated with more interpersonal trust. Therefore, one can think on the alternative that our results come from lack of trust rather than lack of contract enforcement. Of course low trust could also be endogenous to poor contract compliance, so it is not truly an alternative channel. In any case, to explore this we use data on trust from the World Values Survey (third wave), and calculate the share of "trusters" by country, called t_c and t_c^N for neighbors. We also interact our main specification with this variable and we replace judicial quality by these measures of trust. Table 20 (panel a) shows that in a horse race of competing specifications, our effect of $z_i Q^N$ is robust, positive and significant. Panel (c) repeats the exercise but rather than using interpersonal trust it uses trusts in politicians.

Table 19. Interacting with Neighbors' FDI Stocks as percentage of GDP

a. Interacting with Net FDI Stocks (Inward minus outward)	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.131***	0.254***	0.318***	0.157***	0.311***
	(0.934)	(1.343)	(1.385)	(1.101)	(1.447)
Judicial quality interaction: $z_i Q_c$	0.212***	0.0804	0.0700	0.112**	0.0357
	(0.780)	(1.327)	(1.367)	(0.943)	(1.393)
Neighbor's net FDI Stocks triple int.:$z_i Q_c^N FDI_c^N$	0.0500	-0.154	-0.186	-0.0473	-0.194
	(0.278)	(0.416)	(0.414)	(0.322)	(0.421)
Neighbor's net FDI Stocks Local triple int.:$z_i Q_c FDI_c^N$	-0.0246	0.316**	0.349**	0.103	0.377**
	(0.245)	(0.469)	(0.468)	(0.313)	(0.472)
Observations	18,383	8,148	8,148	12,934	7,988
b. Interacting with only inward FDI Stocks	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.140***	0.216***	0.264***	0.155***	0.245***
	(0.848)	(1.180)	(1.215)	(0.943)	(1.268)
Judicial quality interaction: $z_i Q_c$	0.214***	0.236***	0.243***	0.160***	0.224***
	(0.639)	(0.919)	(0.946)	(0.732)	(0.962)
Neighbor's inward FDI Stocks.triple int.:$z_i Q_c^N (FDI_{Inw})_c^N$	0.0258	-0.0310	-0.0391	-0.0399	-0.0168
	(0.0321)	(0.0429)	(0.0431)	(0.0339)	(0.0436)
Neighbor's inward FDI Stocks Local triple int.:$z_i Q_c (FDI_{Inw})_c^N$	-0.0319	-0.0500	-0.0529	0.00443	-0.0614
	(0.0242)	(0.0294)	(0.0292)	(0.0260)	(0.0294)
Observations	18,383	8,148	8,148	12,934	7,988
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1, incorporating output effects. The measure of inputs contract intensity used is z_i^{rs1}. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. All spec. have industry and country FE. Data of FDI stocks is from UNCTAD. Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively.

Table 20. Horse race with interpersonal trust

a. Horse race: With Share of trusters	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_iQ_c^N$	0.159***	0.128***	0.181***	0.142***	0.179
	(0.601)	(0.751)	(0.840)	(0.670)	(0.860)
Judicial quality interaction: z_iQ_c	0.203***	0.212***	0.217***	0.151***	0.186
	(0.543)	(0.758)	(0.809)	(0.610)	(0.815)
Neighbor's trust interaction: $z_it_c^N$	0.0372*	0.152***	0.137***	0.0563**	0.138
	(0.0916)	(0.139)	(0.144)	(0.111)	(0.146)
Local trust interaction: z_it_c	0.0172	-0.0149	-0.00396	0.0190	0.00268
	(0.0783)	(0.106)	(0.108)	(0.0838)	(0.108)
Observations	15,780	7,918	7,918	11,531	7,758
b. Trust replacing judicial quality	(1)	(2)	(3)	(4)	(5)
Placebo Neighbor's Judicial quality interaction: $z_it_c^N$	0.0716***	0.137***	0.134***	0.0685***	0.128***
	(0.175)	(0.230)	(0.235)	(0.203)	(0.243)
Placebo Local Judicial quality interaction: z_it_c	0.0678***	0.101***	0.0944***	0.0777***	0.0891***
	(0.123)	(0.212)	(0.211)	(0.172)	(0.211)
Observations	23,425	8,148	8,148	12,934	7,988
c. Horse race: With Share of trusters	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_iQ_c^N$	0.159***	0.128***	0.181***	0.142***	0.179
	(0.601)	(0.751)	(0.840)	(0.670)	(0.860)
Judicial quality interaction: z_iQ_c	0.203***	0.212***	0.217***	0.151***	0.186
	(0.543)	(0.758)	(0.809)	(0.610)	(0.815)
Placebo Neighbor's Judicial quality interaction: $z_it_c^N$	0.0372*	0.152***	0.137***	0.0563**	0.138
	(0.0916)	(0.139)	(0.144)	(0.111)	(0.146)
Placebo Local Judicial quality interaction: z_it_c	0.0172	-0.0149	-0.00396	0.0190	0.00268
	(0.0783)	(0.106)	(0.108)	(0.0838)	(0.108)
Observations	15,780	7,918	7,918	11,531	7,758
d. Trust replacing judicial quality	(1)	(2)	(3)	(4)	(5)
Placebo Neighbor's Judicial quality interaction: $z_it_c^N$	0.0595***	0.276***	0.278***	0.139***	0.258
	(0.0698)	(0.117)	(0.118)	(0.0995)	(0.123)
Placebo Local Judicial quality interaction: z_it_c	0.157***	0.113***	0.111***	0.0960***	0.101
	(0.0612)	(0.0800)	(0.0822)	(0.0708)	(0.0830)
Observations	16,300	7,918	7,918	11,531	7,758
Another Determinants of Comparative Adv.	**NO**	**NO**	**NO**	**YES**	**YES**
Skill and Capital Interaction	**NO**	**NO**	**YES**	**NO**	**YES**

Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of 1. The measure of contract intensity used is z_i^{rs1}(same that Table 1). Standardized beta coefficients are reported, with robust standard errors in brackets. All specifications includes country and industry fixed effects. Data of trust of panels (a) and (b) is from World Values Survey and for (c) and (d) from Quality of Government survey, and are dummies that takes the value 1 if the share of "trusters" is equal or over world average, and 0 in another case. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. Specifications (1) to (5) in all panels are analogous (in terms of controls and subsample considered) that Table 2's specifications (1) to (5), respectively.