BAD NEIGHBORS:
Bordering Institutions matter for Comparative (Dis)Advantage *

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PRELIMINARY as of July 08, 2015 - Comments Welcome

Abstract

Recent research shows that a country's rule of law impacts its *own* comparative advantage, easing growth in industries intensive in customized inputs, arguably because these industries 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. Therefore, we argue that *neighboring nations'* institutions could *independently* matter for specialization in these contract-intensive goods. For example, while Mexico and Italy have neighbors with better contract enforcement than their own; countries like Israel, Chile or Finland have neighbors with significantly worse rule of law. Empirically we show that, first, neighbors´ institutions are at least as important for this comparative advantage as own country institutions. When neighbors are closer or culturally similar, the estimated effect of their rule of law seems even more binding for contract intensive industries. Our results are robust to a long battery of checks, including neighboring country´s controls, using exports, US imports and production data. Our results suggest that policies improving contract enforcement *in neighboring nations or across borders* could change countries' productive specialization.

Keywords: Make or buy, relationship specific investments, incomplete contracts, supply chain disruptions.

JEL Classification: D23; D51; F11; L14; O11

*[First version October, 2014] Authors are grateful to Andrés Velasco, Daniel Hojman, Miguel Vargas and seminar participants at Strategic Management Society, U. Catolica de Chile, University of Chile. We also thank various Chilean entrepreneurs from the Metallurgy and Mechanical industries as well as their Business Association ASIMET. It was in the context of conversations with them about the many challenges of sourcing and exporting to neighboring Argentina that authors had an "aha moment" about this empirical paper. Usual disclaimers apply.
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1 Introduction

Recent research already shows that a country's *own* institutions significantly mater for comparative advantage. For instance Nunn (2007) and Levchenko (2007) find that a country´s rule of law matters more for producing goods that need specialized inputs, arguably because these industries need better contract enforcement. Nunn (2007) argues quantitatively 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,* quantitatively backing a large theoretical literature on incomplete contracts and international trade.

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 protectionisms have massively decreased. In that context the ability to sign credible contracts with business partners across the your own border could be an important determinant of comparative advantage. [1] Mexico and Italy, for instance, have economically relevant neighbors with better contract enforcement then their own (USA and Germany, for example). In contrast, countries like Israel, Chile or Finland have direct neighbors with significantly worse rule of law than their own. We argue that, everythingelse constant, neighbors's rule of law can explain why these types of countries may have a comparative lag in some contract intensive goods. Put it as a puzzle, taking into account only own country institutions in Nunn (2007)'s estimations, the above mentioned countries with "bad neighbors" should be producing more specialized manufacturing than they actually do. We argue that part of that puzzle is due to neighbors institutions as an ommitted variable. If you make a circle of one or two thousand miles around a firm's location, firms in countries with "bad neighbors" have fewer firms and people with which to sign a credible contract within that circle. And a relevant part of the circle's area is in a neighboring country.

In this paper we show show that *neighbors´ institutions are at least as important for efficiency in contract-intensive goods as domestic institutions, if not more*. When neighbors are closer or culturally similar to the domestic economy, we observe that the estimated effect of their rule of law seems even more binding for contract intensive industries, maybe because other constraints to do specialized business are not as tight so neighbors institutions. Our central results are robust to a 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, as well as testing the claims both with exports and industrial production data.

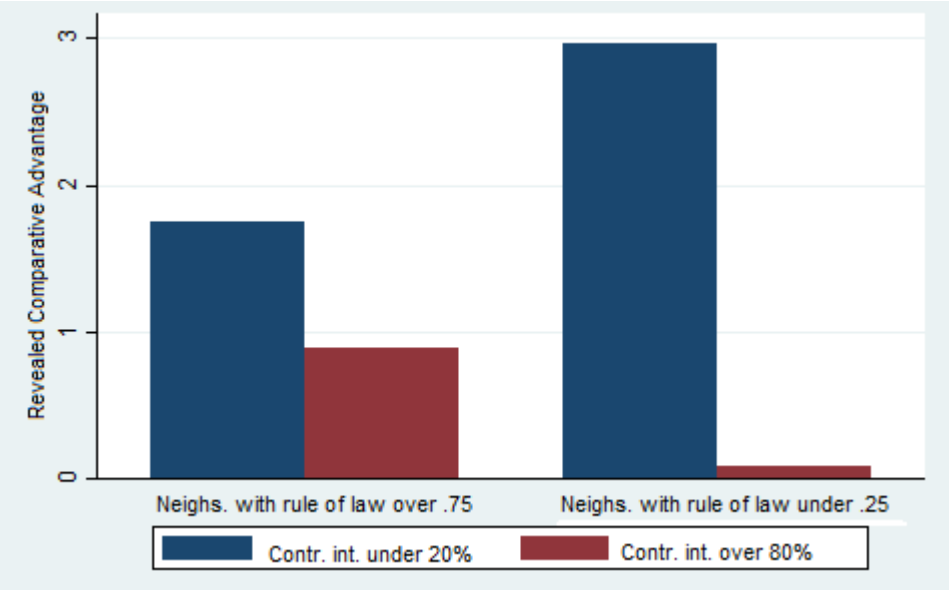
As a preliminary illustration of our results, Figure 1 shows the revealed comparative advantage across types of goods for countries with good and bad neighbors, both controlling and not controlling for their

[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.

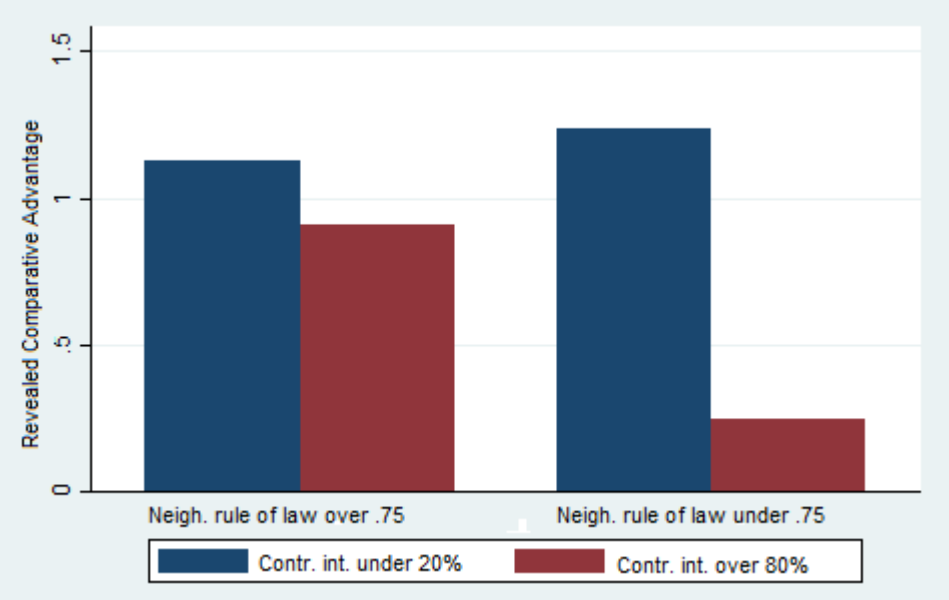
own country institutions. For goods with top levels of contract intensity we see that those countries with good neighbors have a clear comparative advantage, even controlling for own country institutions. In contrast, for goods in the bottom levels of contract intensity it is the opposite, so those with bad neighbors tend to have a *relative* advantage.[2] The results in panel (b) are robust to using as indicator of neighbors rule of law only the part 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 with top and bottom contract intensity, by institutional quality of a country's *neighbor(s)*.



(a) Neighbors' institutional quality without further controls



(b) 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 $NeighborsInstitutions = \alpha_0 + \alpha_1 OwnInstitutions + \epsilon_i^{Neighbors}$ 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, rationalizing the need for mutual cooperation not only in reducing tariffs, but also 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 some rationale for supporting cross-border arbitration mechanisms with neighboring nations.

Our empirical work essentially combines two families of related literature: one about institutions in trade and the other about the role of neighbors. As a way of contrast, Caballero, Farhi, and Gourinchas (2008) offers a model of "global imbalances" to explain inter-temporal 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. 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, and regarding the pattern of comparative advantage it predicts the findings confirmed by Nunn (2007)'s empirical work: 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 firm producing. Neighboring countries' institutions may matter and this paper is, at the best of our knowledge, the first quantitative empirical effort in this direction.

In recent years there has been a growing literature on Global Sourcing, summarized in Antràs (2014). Interestingly, that book remarks how better law enforcement of Chile vis-a-vis Argentina is associated with comparative advantage for Chilean firms in contract-intensive sector when they export to the US. But Chile and Argentina are neighbors. Borrowing Pol Antras' example, 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 Chile is smaller than that of comparable countries. [3]

As mentioned, some previous literature has already spoken about neighbors' impact on an economy's growth and pattern of specialization, but not through the effect of institutions in the supply chain. 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

[3] 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.

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.

The recent sourcing literature, supports the idea that nearby firms and customers tend to be particularly important for strategic inputs. Cirrera, Petropoulou, and Willenbockel (2012) shows that in contract-intensive and differentiated inputs proximity matters more. Both in biotechnology and venture capital 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). When outsourcing a product that needs close monitoring proximity helps. Using Swedish data Laursone and Domeij (2012) shows that more standardized inputs are outsourced to countries like China, while for strategic inputs they prefer "near sourcing" to Eastern Europe. For the same case of Sweden, Heyman and Gustavsson Tingvall (2012) shows evidence for R&D and the importance of contract institutions to offshore production of relationship-specific inputs.

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 could be reinforced or 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.

The rest of our paper is structured as follows. Section 2 shows our data and stylized facts about neighbors' institutions. Section 3 displays the baseline regression analysis showing that neighbors' institutions are at least as determinant for comparative advantage as the country's own institutions, and sometimes more. Section 4 displays a series of robustness checks. Section 5 uses legal origin to instrument the neighbor's rule of law, while section 6 explores various channels that might be mediating our main result. Section 7 explores the effect of institutional interaction in exports to the U.S.; while Section 8 some concluding remarks.

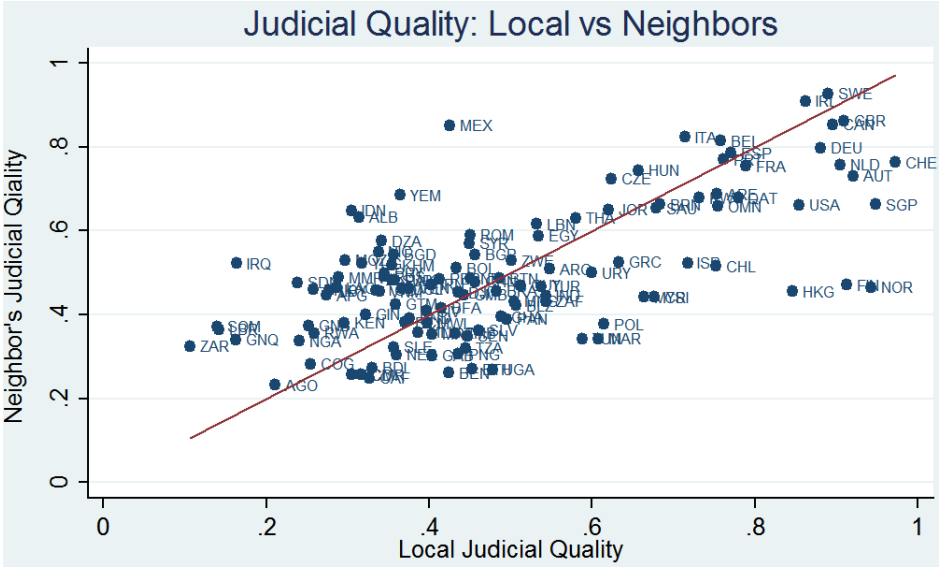
2 Data and Descriptive Statistics

As a starting point we use similar variables as Nunn (2007)[4]. For example, we include country c level characteristics, like rule of law Q_c, and industry i level characteristics, like sectoral contract intensity z_i. We then combine them with CEPII's GeoDist dataset, that contains measures of distance and neighborhood across countries,[5] in order to build the same economy-wide indicators as in Nunn (2007), but for a representative neighboring country. Each neighbor's variable will have the superindex N, as neighbor, and is calculated as a GDP-weighted average of the bordering countries. So for example judicial quality among the neighbors of c, $Q_c^N \equiv \sum 1(j \quad \text{Neighbors } c)\, Q_j$. For exports data, we use the 1997 World Trade Flows Database from Feenstra, Lipsey, Deng, Ma, and Mo (2005) (NBER-United Nations Trade Data), like Nunn (2007)

Figure 2 shows that there is a positive and close correlation between own and neighbor's rule of law, but with very relevant differences off the 45 degree line. For example Norway, Singapore, 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 what they have. Our estimations will control for own Q_c , so our identification comes from these kinds of countries, which are far away from the 45 degree line in which $Q_c = Q_c^N$.

[4] Available in Nunn's Harvard Website.

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



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 neighbors' 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 terrestrial 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 .

Figure 2. Neighbor's and Domestic Judicial Quality´across countries

Regarding contract intensity in our baseline we use Nunn (2007)´s measure of upstream contract intensity, which is the share of inputs in the input-output matrix that are not traded in open markets. For some robustness checks we use use Levchenko (2007)'s alternative measure of contract sensitivity . The descriptive statistics of our sample are in Table 1. 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. In robustness checks we change the definition of a neighbor and results remain robust.

Table 1. Descriptive statistics

	mean	st dev	median	Obs	Countries	N° Ind
Local country level variables and interactions:						
Judicial quality	.5093921	.20972	.4504541	32634	160	222
Judicial quality interaction	.2789388	.1699992	.244612	22598	160	222
GDP (in logs)	8.657213	1.085431	8.708434	21771	160	222
Skill interaction	.2624242	.1471579	.2393655	15398	160	222
Capital interaction	3.841554	1.433842	3.586648	15398	160	222
Value added interaction	4.207922	1.280424	4.197811	18171	160	222
Grubel-Lloyd index int.	5.715486	2.318204	6.060712	21771	160	222
TFP growth int	.0382012	.1529	0.0235	18171	160	222
Capital and credit int.	-.9683	1.0484	-.7156	16061	160	222
Input concentration int.	7.682957	1.257679	7.802418	21771	160	222
Neighboring country variables and interactions:						
Judicial quality (weighted by GDP)	.5417744	.1642158	.498594	18504	83	222
Judicial quality interaction (weighted by GDP)	.2679	.1503	.24306	18504	83	222
GDP (log of the sum)	8.672847	.9046271	8.81873	18504	83	222
Skill interaction	-.5087	.3952791	-.4689273	12468	83	222
Capital interaction	-2.875201	2.145532	-2.43058	12468	83	222
Value added interaction	4.20939	1.242882	4.224905	15424	83	222
Grubel-Lloyd index int.	5.723022	2.287788	6.111671	18504	83	222
TFP growth int	.0384812	.153885	.0236078	15424	83	222
Capital and credit int.	-.9106376	.9234306	-.6893894	15314	83	222
Input concentration int.	7.694541	1.140737	7.840474	18504	83	222

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.

3 Baseline regression analysis

This section shows in a multiple regression setting that neighboring institutions are robustly correlated to comparative advantage in industries that are more contract intensive.

Our basic estimation in (1) extends Nunn (2007)´s exploration of institutions on comparative advantage

$$\ln x_{ci} = \alpha_c + \alpha_i + \beta\, z_i Q_c + \underbrace{\beta_N\, z_i Q_c^N}_{\text{neighbors' term}} + \gamma X_{ci} + \varepsilon_{ic} \tag{1}$$

On the left hand side it has the log of exports of country c in industry i; $\ln x_{ci}$; explained by country and industry fixed effects and the interaction between contract sensitivity z_i and rule of law in the own economy, Q_i. The coefficientβ is the central parameter 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.

Our initial addition in Eq. (1) is one additional interaction: $z_i Q_c^N$, which explores how industry *neighbors'* institutions Q_c^N matter for contract intensive goods z_i, *over and above* the effect of a country's own rule of law.

Table 2. Nunn's Table IV Incorporating Neighbor's Judicial Quality

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.159***	0.200***	0.213***	0.141***	0.203***
	(0.494)	(0.577)	(0.584)	(0.520)	(0.583)
Local Judicial quality interaction: $z_i Q_c$	0.200***	0.219***	0.233***	0.158***	0.210***
	(0.395)	(0.536)	(0.556)	(0.460)	(0.568)
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
Constant	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES
Observations	18,383	8,863	8,863	13,044	8,703
R^2	0.736	0.769	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 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.

Table 2 displays the results of our estimation, showing that not only own institutions matter, with a positive and significant β; but also that the effect of neighboring institutions on contract intensive goods β_N is also statistically significant and twice as large in magnitude than the coefficient for own country institutions β. Roughly speaking, specifications (1) to (3) show that out of the original effect in Nunn (2007), around one third to one half came from own country institutions, while two thirds come from neighboring countries' institutions. When we incorporate the same determinants of comparative advantage as Nunn's [6], we note that value added interaction with log of GDP per capita and input concentration interaction are economically and statistically significant (at 1% level). This stability of 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).

From an econometric perspective we argue that the coefficient β is overestimated when neighboring institutions are ommitted from the regression.

Nonetheless, there is a possibility that our coefficient of interest β_N is biased because we are not con-

[6]Skill and capital interactions, value added, productivity, intraindustry trade, credit and variety of inputs.

trolling for additional aspects of the neighboring economy that could be correlated with Q_{ci}^N. To make a more leveled comparison we also include additional interactions related to neighboring countries X_{ci}^N , Eq. (2):

$$\ln x_{ci} = \alpha_c + \alpha_i + \beta\, z_i Q_c + \beta_N\, z_i Q_c^N + \gamma X_{ci} + \gamma_N X_{ci}^N + \varepsilon_{ic} \tag{2}$$

In this specification, X_{ic} includes 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. Similarly, X_{ci}^N includes the same variables but interacted with neighbor´s characteristics. Table 3 displays the results where neighbors contract intensity interaction is still economically and statistically significant, remarking again that the coefficient of neighbor´s institutions is around twice as large as the one for own country institutions ($\beta_N > \beta$). Interestingly, other non institutional controls are economically and statistically significative at local level ($\gamma \neq 0$), but not for the neighbor, so we cannot reject $\gamma_N = 0$.

Table 3. Incorporating Neighbor's Control Variables

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.159***	0.206***	0.210***	0.148***	0.210***
	(0.494)	(0.621)	(0.628)	(0.544)	(0.667)
Local Judicial quality interaction: $z_i Q_c$	0.200***	0.212***	0.254***	0.157***	0.221***
	(0.395)	(0.558)	(0.587)	(0.466)	(0.596)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.773

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 2. 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.

4 Robustness Checks

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 subsamples, including the use alternative measures of judicial quality, estimating for OECD and non-OECD countries separately, and checking for collinearity between own and neighbor's rule of law, among other. As a preview, the central claim is generally consistent across various changes we apply. We also test it with US imports data and with producton data and the central result is still robust.

4.1 Controlling for Vertical Integration

In the next specifications we will consider the potntial 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 23 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 23. Therefore in Table 4 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.

4.2 Using Alternative Measures of Judicial Quality

There can be various ways to measure the ability of a country to enforcing contracts. Here we use four alternative measures of judicial quality, three of them constructed from the Doing Business survey. Our results are robust and larger only for manufacturing industries. It is precisely in that context that we expect to be a stronger and more specific relation with a specialized supply chain.

Table 4. Considering Vertical Integration Neighbors's controls.

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.102***	0.185***	0.199***	0.226***	0.0789***
	(0.576)	(0.627)	(0.643)	(0.758)	(0.562)
Local Judicial quality interaction: $z_i Q_c$	0.132***	0.263***	0.207***	0.158***	0.176***
	(0.462)	(0.624)	(0.757)	(0.573)	(0.549)
Industries with many inputs: $z_i Q_c I_i^{n_i > \bar{n}}$	YES	NO	NO	NO	NO
Neighbors Industries with many inputs: $z_i Q_c^N I_i^{n_i > \bar{n}}$	YES	NO	NO	NO	NO
Skill endowment×contract intensity: $z_i H_c$	NO	YES	NO	NO	NO
Neighbors Skill endowment×contract intensity: $z_i H_c^N$	NO	YES	NO	NO	NO
Capital endowment×contract intensity: $z_i K_c$	NO	NO	YES	NO	NO
Neigh's Capital endowment×contract intensity: $z_i K_c^N$	NO	NO	YES	NO	NO
Log income×contract intensity: $z_i \ln(y_c)$	NO	NO	NO	YES	NO
Neighbors Log income×contract intensity: $z_i \ln(y_c)^N$	NO	NO	NO	YES	NO
Log credit/GDP×contract intensity: $z_i CR_c$	NO	NO	NO	NO	YES
Neighbors Log credit/GDP×contract intensity: $z_i CR_c^N$	NO	NO	NO	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES
Observations	18,383	9,837	9,837	18,041	15,677
R^2	0.738	0.730	0.730	0.736	0.734

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. 2 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..

4.2.1 Legal quality

A first alternative measure to legal quality is the one proposed by Gwartney and Lawson (2003). We construct it also as a GDP-average of neighboring country. Table 5 shows the results of this exercise, with columns (1) to (4) replicating Nunn's results and the columns (5) to (8) representing our estimations including neighbor's variables. Our coefficient of interest, β_N, seems slightly less robust in this alternative measure of judicial quality, except in the case in which we include factor endowments (specifications 7 and 8). This should not be considered a problem given that the nature of the sample is different. Specifications including capital and skill data are only in manufacturing, so this makes us qualify that our result might be stronger in manufactures, which is precisely the area that motivated our study. In subsequent changes of the proxy for legal quality below the results are robust in all specifications

Table 5. using Legal Quality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Legal system quality interaction (cons): $z_i^{rs1} Legal_c$	0.360***		0.369***		0.368***		0.344***	
	(0.0340)		(0.0473)		(0.0402)		(0.0616)	
Skill interaction: $h_i H_c$			0.110***	0.140***			0.0848***	0.115**
			(0.117)	(0.114)			(0.156)	(0.155)
Capital interaction: $k_i K_c$			0.113***	0.0638**			0.164***	0.105**
			(0.0434)	(0.0425)			(0.0508)	(0.0498)
Legal system quality interaction (lib) : $z_i^{rs2} Legal_c$		0.446***		0.358***		0.448***		0.262**
		(0.0472)		(0.0650)		(0.0548)		(0.0885)
Neighbor's Legal system quality interaction (cons): $z_i^{rs1} Legal_c^N$					0.00393		0.189***	
					(0.0331)		(0.0628)	
Neighbor's Legal system quality interaction (lib): $z_i^{rs2} Legal_c^N$						0.0341		0.314**
						(0.0453)		(0.0894)
Neighbor's Skill interaction: $h_i H_c^N$							0.0237	0.0396*
							(0.196)	(0.195)
Neighbor's Capital interaction: $k_i K_c^N$							0.0569**	0.0393
							(0.0431)	(0.0436)
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	19,072	19,072	10,824	10,824	16,090	16,090	8,076	8,076
R^2	0.722	0.721	0.758	0.755	0.733	0.731	0.771	0.768

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. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

4.2.2 Doing Business (2004): Number of Procedures, Official Costs and Time to resolve a dispute.

Other alternatives to the rule of law indicator can be found in the survey questions from the Doing Business Database[7] related to contract enforcement. The first indicator we use is the average number of procedures (NP_c) needed to enforce a contract in country c. Table 6 shows the results. Overall our coefficient β^N is positive and statistically significant across all specifications. A second indicator from Doing Business used, Official Costs (OC_c), 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. As seen in Table 7 the effects are qualitatively robust. The third and last measure of judicial quality used from the Doing Business survey is 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). Results in Table (8) are once again robust. Overall the different indicators of doing business as proxies of judicial quality support our main hypothesis that neighboring institutions matter for comparative advantage in holdup-intensive sectors.

4.3 Collinear rule of law with neighbors

So far our results allow us to say that, at least for manufactures, neighboring institutions are at least as important to explain the global pattern of comparative advantage as domestic rule of law. But the reader might be concerned that, as showed on Figure 2, there is a high correlation (0.65) between the two variables and it might be hard to tell them apart. Until now, we have attempted a "horse race" including both Q_c and Q_c^N and did not have any problems. Moreover if these variables were too correlated then we would not find statistical significance on either of them individually, although they could be jointly highly significant. But that plausible scenario did not matter in practice since both coefficients were usually positive and significant. In any case, we will estimate the same regressions of (2) replacing Q^N with residuals after correcting for Q, namely $e_c^N \equiv Q_c^N - \mathbb{E}[Q_c^N|Q_c]$. This is very tough since it leaves all the correlated information between Q and Q^N to the own country institutions. Therefore, we see this exercise as a very conservative lower bound on the effect of neighbors' institutions on comparative advantage. Table 9 shows that even this tough test concedes a positive and statistically significant role for neighboring institutions.

Similarly, we now carry out the homologous tough exercise to own country institutions, replacing $Q_c$with the residual after correcting 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. Table 10 shows that in this case local institutions are no longer statistically and economically significant, In short our neighbor's effects survive this tough test, but the original interaction of domestic institutions do not.

[7]This is a survey elaborated by The Wolrd Bank since 2004. We use indicators from first survey (2004), the nearest survey (in time) respect to database's source year (1998).

Table 6. Nunn's Table VI, using Number of procedures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Num. of proc. interaction (cons): $z_i^{rs1} NP_c$	0.179***		0.244***		0.160***		0.215***	
	(0.00581)		(0.00873)		(0.00634)		(0.0110)	
Skill interaction: $h_i H_c$			0.123***	0.133***			0.0870***	0.0999***
			(0.115)	(0.115)			(0.159)	(0.158)
Capital interaction: $k_i K_c$			0.0322	0.0149			0.136***	0.0921**
			(0.0413)	(0.0410)			(0.0516)	(0.0513)
Num. of proc. interaction (lib) : $z_i^{rs2} NP_c$		0.231***		0.261***		0.205***		0.197***
		(0.00798)		(0.0123)		(0.00869)		(0.0160)
Neighbor's Num. of proc. interaction (cons): $z_i^{rs1} NP_c^N$					0.0539***		0.229***	
					(0.00665)		(0.0135)	
Neighbor's Num. of proc. interaction (lib): $z_i^{rs2} NP_c^N$						0.0614**		0.282***
						(0.00891)		(0.0193)
Neighbor's Skill interaction: $h_i H_c^N$							0.0611***	0.0711***
							(0.198)	(0.198)
Neighbor's Capital interaction: $k_i K_c^N$							0.0355	0.0264
							(0.0446)	(0.0453)
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	18,873	18,873	10,288	10,288	16,927	16,927	7,900	7,900
R^2	0.724	0.724	0.759	0.757	0.731	0.730	0.773	0.771

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. (2). Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 7. Estimations using Official Costs in court as alternative indicator of judicial quality (related to Nunn's Table VI)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Official costs interaction (cons): $z_i^{rs1} OC_c$	0.294***		0.250***		0.280***		0.184***	
	(0.0913)		(0.129)		(0.0998)		(0.154)	
Skill interaction: $h_i H_c$			0.112***	0.120***			0.0699***	0.0834***
			(0.118)	(0.115)			(0.161)	(0.158)
Capital interaction: $k_i K_c$			0.0399	0.0335			0.119***	0.0938***
			(0.0420)	(0.0415)			(0.0516)	(0.0509)
Official costs interaction (lib) : $z_i^{rs2} OC_c$		0.466***		0.353***		0.439***		0.262***
		(0.129)		(0.187)		(0.139)		(0.222)
Neighbor's Official costs interaction (cons): $z_i^{rs1} OC_c^N$					0.0460**		0.217***	
					(0.0811)		(0.167)	
Neighbor's Official costs interaction (lib): $z_i^{rs2} OC_c^N$						0.0678**		0.230***
						(0.106)		(0.224)
Neighbor's Skill interaction: $h_i H_c^N$							0.0774***	0.0795***
							(0.196)	(0.197)
Neighbor's Capital interaction: $k_i K_c^N$							0.0171	0.0181
							(0.0445)	(0.0453)
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	18,873	18,873	10,288	10,288	16,927	16,927	7,900	7,900
R^2	0.725	0.727	0.757	0.758	0.732	0.733	0.770	0.770

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. (2). Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 8. Estimations using Time to solve a dispute as alternative indicator of judicial quality (related to Nunn's Table VI)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Time interaction (cons): $z_i^{rs1} Time_c$	0.294***		0.250***		0.280***		0.184***	
	(0.0913)		(0.129)		(0.0998)		(0.154)	
Skill interaction: $h_i H_c$			0.112***	0.120***			0.0699***	0.0834***
			(0.118)	(0.115)			(0.161)	(0.158)
Capital interaction: $k_i K_c$			0.0399	0.0335			0.119***	0.0938***
			(0.0420)	(0.0415)			(0.0516)	(0.0509)
Time interaction (lib) : $z_i^{rs2} Time_c$		0.466***		0.353***		0.439***		0.262***
		(0.129)		(0.187)		(0.139)		(0.222)
Neighbor's Time interaction (cons): $z_i^{rs1} Time_c^N$					0.0460**		0.217***	
					(0.0811)		(0.167)	
Neighbor's Time interaction (lib): $z_i^{rs2} Time_c^N$						0.0678**		0.230***
						(0.106)		(0.224)
Neighbor's Skill interaction: $h_i H_c^N$							0.0774***	0.0795***
							(0.196)	(0.197)
Neighbor's Capital interaction: $k_i K_c^N$							0.0171	0.0181
							(0.0445)	(0.0453)
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	18,873	18,873	10,288	10,288	16,927	16,927	7,900	7,900
R^2	0.725	0.727	0.757	0.758	0.732	0.733	0.770	0.770

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. (2). Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 9. Estimates using the residual of Neighbor's Judicial quality, e_c^N, leaving all collinear variation to domestic institutions Q_c

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i e_c^N$	0.0725***	0.0934***	0.0949***	0.0679***	0.0947***
	(0.494)	(0.621)	(0.628)	(0.544)	(0.667)
Judicial quality interaction: $z_i Q_c$	0.288***	0.326***	0.369***	0.238***	0.336***
	(0.289)	(0.415)	(0.463)	(0.360)	(0.484)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.773

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 2, 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.

Table 10. Controlling by the residual of Local Judicial Quality, e_c , leaving all collinear variation to neighboring institutions Q_c^N

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.307***	0.365***	0.399***	0.264***	0.375***
	(0.359)	(0.457)	(0.501)	(0.421)	(0.551)
Judicial quality interaction: $z_i e_c$	0.105***	0.104***	0.124***	0.0790***	0.108***
	(0.395)	(0.558)	(0.587)	(0.466)	(0.596)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.773

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 2, 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.

4.4 U.S. imports and Neighbors' Institutions

So far we have used variations on Nunn (2007)'s measure of contract enforcement intensity of goods z_i. We check whether our results are robust to use the alternative Levchenko (2007) measure, using only data from US imports. The left hand side on the regression is a measure of revealed comparative advantage, meaning the ratio between share of country c in industry i and average share of country c among all industries called $relshare_{ic}$. The main institutional interaction is still Q_i, but now interacted with the Herfindahl index of intermediate inputs. As before, we also interact it with neighboring variables,[8] estimating the following equation:

$$relshare_{ic} = \alpha + \alpha_c + \alpha_i + \breve{\beta} Herf_i \cdot Q_c + \breve{\beta}^N Herf_i \cdot Q_c^N + \gamma X_{ci} + \gamma_N X_{ci}^N + \varepsilon_{ic} \tag{3}$$

Table 11 shows the results of various estimations. While in column (2) we cannot exactly replicate the original magnitudes in Levchenko (2007); which are available on Column (1) as reference, we still get the same signs for the institutional coefficient of interest. Our main result is in column (3), indicating again that neighbor's institutional interaction $\breve{\beta}^N$ is significative and similar (in sign and magnitude) to local institutional interactions effects $\breve{\beta}$. This is reassuring because our exercise is also valid with imports to a single destination and with another measure of institutional sensitivity.

4.5 Effects on UNIDO's industrial production rather than Exports.

So far we have shown that international trade is affected by neighbors' institutions. To extend the analysis we use UNIDO's manufacturing production database for the same year of our previous analysis (1997), at a granularity ISIC-3 digit code. Results are showed in Table **??** and confirm that neighbor's institutions are important for production as dependent variable.

Table 12 shows evidence that effects of neighboring and local institutional interactions have positive effects on production. We use two types of measures for contract sensitivity, finding in both that results are consistent. This implies that institutional effects are strongly related with production and acces to inputs more than just a at sales problem with neighbroing countries.

4.6 Excluding Exports to neighbors

From gravity it is well known that neighbors play a disproportional role as a destination, especially in some goods that are harder to ship far away. But these could also be contract intensive. Here we explore how our results depend on the exclusion of exports to neighboring countries, which is an exercise more

[8] 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)

Table 11. Estimations using Levchenko (2007)'s measure of industry sensitivity and focusing only on US Imports

	Original Levchenko estimates	Our Data (only Local variables)	Our Data (Local and Neighbor's)
	(1)	(2)	(3)
Herfindahl × Own institutions	-2.33***	-8.571***	-5.616**
	(0.60)	(1.997)	(2.362)
Local Skill Interaction	11.35***	0.279	0.802***
	(2.19)	(0.223)	(0.249)
Local Capital Interaction	0.50*	0.00296	0.0545
	(0.28)	(0.0611)	(0.0649)
Herfindahl ×Neighbors' institutions			-4.902**
			(2.380)
Neighbor's Skill Interaction			-0.770***
			(0.224)
Neighbor's Capital Interaction			-0.0107
			(0.0588)
Constant	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES
Observations	31568	10,985	8,750

Note: Dependent variable is $relshare_{ic}$ (rel. share of imports to U.S. in industry i from country c, respect to average c's share). The dependent variables using our data are different from Levchenko estimation in the first column. The regressions are estimates of Eq 3. With robust standard errors in brackets. *, ** and *** indicate significance at 10%, 5% and 1% respectively.

restrictive than those performed in the literature, where this test is hardly considered. To show this effect, we use Feenstra, Lipsey, Deng, Ma, and Mo (2005)'s World Trade Flows of 1997 (same year used by Nunn) to identify exports to neighbors. Then we estimate Eq 2 using as dependent variable the log of exports to neighbors and the log of exports to world except to neighbors . More formally, we estimate a Seemgly Unrelated Regression (SUR) system to test whether the coefficients are different for exports to the world and for exports excluding neighbors. Results are available in Table (13) show that in almost all specifications that exports to other non neighbor countries matter, despite being different from the coefficient for exports to neighbor. This result goes alog the lines of the test made earlier for US imports, showing this is not only something about exports to neighbors.

4.7 Neighbors of my neighbors.

So faw we have treated neighbors as a spacial group of partners. Here we perform a robustness check to see whether the institutions of slightly more distant countries also have a systematic effect on comparative advantage. To test this concern we incorporate interactions with second grade neighbors' insti-

Table 12. Using Production data in Panel Estimations

	Production		Exports	
	(1)	(2)	(3)	(4)
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)	
Neighbors Judicial quality int.: $z_i^{rs2}Q_c^N$		0.157**		0.172***
		(1.216)		(0.467)
Judicial quality int: $z_i^{rs2}Q_c$		0.234***		0.220***
		(1.117)		(0.374)
Fixed Effects (industry and country)	YES	YES		
Observations	1,001	1,001	18,383	18,383
R^2	0.861	0.862	0.736	0.737

Note: Dependent variable is weighted average of contract intensity by exports or production of country c. The regressions are estimates of average contract intensity versus judicial quality (local and neighbors). The measure of inputs contract intensity used is z_i^{rs1} for odd colums and z_i^{rs2} for the even ones. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

tutions (also wieghted by their economies' size) and their other determinats of comparative advantage. So for example Q_c^{N2} represents the rule of law of the neighbors of the neighbors of a country. Table 14 shows that second grade neighbors are not statistically significant in our preferred specifications (2) to (5). Only soeficiation (1) shows up as statistically significant but it does not contain all the controls. Even in that case, the margitude of the coefficient is still an order or magnitude smaller than for neighbors. Our effect seem to be about direct neighbors.

5 Instrumenting and matching.

This section presents additional tests aiming to go beyond the comparison in OLS, either through instrumenting neighbors' rule of law or finding a matched pair.

5.1 Instrumenting rule of law using leg al origin.

Since one might be worried that rule of law is endogenous, Table 15 presents results of estimations when neighbors' rule of law in a country is instrumented by the legal origin of that country, following Nunn (2007)'s approach.

With both manufacturing and non manufacturing industries in the sample (specifications 1 and 2) the

(13)

Table 13. SUR system: exports to Neighbors and to the rest of world

	(1)		(2)		(3)	
	(a)	(b)	(a)	(b)	(a)	(b)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.696***	0.149*	0.757***	0.109	0.850***	0.231***
Judicial quality interaction: $z_i Q_c$	-0.248	0.308**	-0.315	0.324***	-0.280	0.265**
Neighbor's Another Determinants of Comparative Adv.	NO	NO	YES	YES	YES	YES
Another Determinants of Comparative Adv.	NO	NO	YES	YES	YES	YES
Neighbor's Skill and Capital Interaction	YES	YES	NO	NO	YES	YES
Skill and Capital Interaction	YES	YES	NO	NO	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	1,219	1,219	1,623	1,623	1,219	1,219
R^2	0.308	0.713	0.265	0.706	0.329	0.731

Note: Dependent variable is $\ln x_{ci}^{W-N}$ (natural log of exports in industry i by country c to all other countries). Rows (a) consider exports to neighbors and (b) to the rest of world ad dependent variable (in log). The regressions are estimates of 2, into a SUR system. 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.

Table 14. Incorporating Second Grade Neighbors

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.138***	0.227***	0.224***	0.114***	0.212***
	(0.573)	(0.886)	(0.900)	(0.659)	(0.912)
Second grade Neighbor's Judicial quality interaction: $z_i Q_c^{N2}$	0.0330*	0.00771	0.0212	0.0171	0.0318
	(0.503)	(0.696)	(0.708)	(0.609)	(0.742)
Local Judicial quality interaction: $z_i Q_c$	0.198***	0.190***	0.205***	0.158***	0.194***
	(0.398)	(0.645)	(0.657)	(0.467)	(0.685)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES
Observations	17,946	7,592	7,592	12,502	7,432
R^2	0.733	0.767	0.769	0.772	0.770

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 2. 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.

Wu-Hausmann test of endogeneity of neighbor's variables is not rejected. But given the results of Table **??**, namely that upstream effects are significant only for manufacturing industries, we also test the instrument focusing solely on manufacturing (specifications 3 to 8), getting support for the instrumentation strategy. Neighbor's legal origin is exogenous according Wu-Haussman test, suggesting neighbor's judicial quality interaction is economically and statistically significant. Despite these encouraging results, we do not want to put a huge weight on the instrumentation strategy, but simply indicate that our central claim has survived to the standard tests used in the literature. Neighbor´s institutions could be as important as own institutions. In the Appendix we do it also with the portion of neighbors' institutions that is orthogonal to local institutions and the effect persist.

5.2 Propensity Score Matching

As an alternative approach we also perform a Propensity Score Matching using as treatment the differences in neighbors' institutions *that are orthogonal to own institutions*, namely e_c^N (see subsection 4.3). That means comparing countries with similar institutions but with different neighbors. In particular,

Table 15. IV regression using Neighbor's Legal origin as instrument of neighbor's judicial quality (Second Stage)

	OLS (1)	IV (2)	OLS (3)	IV (4)	OLS (5)	IV (6)	OLS (7)	IV (8)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.150***	0.122***	0.167***	0.105***	0.170***	0.0969***	0.167***	0.0979***
	(0.0194)	(0.0334)	(0.0227)	(0.0313)	(0.0247)	(0.0319)	(0.0263)	(0.0317)
Judicial quality interaction: $z_i Q_c$	0.190***	0.277***	0.184***	0.356***	0.208***	0.422***	0.178***	0.400***
	(0.0175)	(0.0272)	(0.0237)	(0.0339)	(0.0260)	(0.0374)	(0.0264)	(0.0384)
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
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Haussman p-value		0.0000		0.0000		0.0000		0.0000
Sargan p-value		0.0000		0.0000		0.0000		0.0000
Observations	18,383	18,383	8,863	8,863	8,148	8,148	7,988	7,988
R^2	0.736	0.736	0.769	0.767	0.772	0.769	0.773	0.770

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 2. 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.

we consider a treatment if the orthogonal portion of neighbors' institutions $e_c^N \geq 0.1$ and a control if $e_c^N \leq -0.1$ for each country. Meaning above and below the 45 degree line in Figure 2. The propesnity 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 phisical capital and openess). 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). Results on Table 16 show consistently positive treatment effect, under both dependent variables and under all matchings. It implies that a country with better neighbors exports relatively more of contract intensive goods or, put it in another way, has a higher revealed comparative advantage; even controlling by similarities in local institutions and economic size.

Table 16. Propensity Score Match (treatment effects for neighboring institutions)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Matching variables	log of exports ($\ln x_{ci}$)				log of revealed comp. adv. ($\ln RCA_{ci}$)			
Match variable: local rule of law	1.122***	1.175***	1.480***	2.062***	0.0567	0.266***	0.647***	1.168***
	(0.172)	(0.111)	(0.127)	(0.183)	(0.114)	(0.0748)	(0.0761)	(0.107)
Observations	1,849	4,158	3,672	1,931	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***	0.106	0.272***	0.716***	1.299***
	(0.172)	(0.112)	(0.127)	(0.184)	(0.116)	(0.0758)	(0.0770)	(0.109)
Observations	1,747	3,930	3,447	1,796	1,747	3,930	3,447	1,796
Match variable: all Nunn's variables	1.345***	1.535***	1.887***	2.468***	0.0998	0.374***	0.830***	1.465***
	(0.199)	(0.127)	(0.144)	(0.221)	(0.135)	(0.0853)	(0.0835)	(0.126)
Observations	1,196	2,740	2,402	1,186	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]	[0;0.25]	(0.25;0.5]	(0.5;0.75]	(0.75;1]

Note: Reported coefficients are propensity score matching estimates of the treatment effect of having $e_c^N \geq 0.1$ vis-a-vis having $e_c^N \leq -0.1$; where as described in the main text e_c^N is the portion of neighboring institutions that is orthogonal to domestic institutional quality. 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. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

6 Heterogeneity

Having established the robustness of the main effect of neighbors' institutions on comparative advantage, in this section we attempt to disentangle some of the channels. To do so we mainly use additional interactions to see whether the parameter for neighboring institutions (β_N) changes across subsamples of the data.

6.1 Are own and neighbors' institutions substitutes?

So far we have seen that the comparative advantage on contract intensive goods depends positively on own and neighboring institutions. To explore the potential interactions between own and neighborsing institutions we also include a triple interaction $z_i Q_c Q_c^N$. Table 17 shows that while the main interactions remain positive, the triple interaction coefficient is negative and statistically significant in most specifications. This suggests that having 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.

6.2 Contract enforcement with suppliers (upstream) or with customers (downstream).

To understand whether our main effect is due to upstream or downstream business relations we can simultaneously look at the contract intensity measure for both ends of the business. On top of the upstream measure of contract intensity that we have been using so far (Nunn, 2007), we now use Rauch (1999)'s classification to back out the average share in each industry that sells in differentiated markets: $Diff_i$, arguably needing some relationship beyond arms' length interaction. For more details see appendix. Table 18 shows that our main results are robust, finding a positive effect of neighboring institutions seem robust when looking at the firms' supply chain upstream. Having said that, in some specifications we can see 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.

6.3 Common Language.

When countries are closer to each other then they should be doing more business together. In that setting one can conjecture that having poor neighboring institutions could be even more binding for business. To explore this chanel we interact the man effect by a dummy for a common ethnolinguistic background, defined as having a common language spoken de facto by more than 9% of the population.

Table 17. Specifications with triple interaction of sensitivity, own and neighbors' institutions

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.125**	0.416***	0.470***	0.0834	0.459***
	(1.355)	(2.018)	(2.055)	(1.548)	(2.116)
Judicial quality interaction: $z_i Q_c$	0.166***	0.413***	0.506***	0.0937	0.458***
	(1.185)	(1.720)	(1.776)	(1.319)	(1.782)
Non linear Judicial quality interaction: $z_i Q_c Q_c^N$	0.0474	-0.284**	-0.351***	0.0879	-0.331***
	(1.965)	(2.769)	(2.815)	(2.162)	(2.846)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Fixed Effects by country and industry	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.774

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 (2), with the addition of a double interaction with simultaneously both own and neighbors' institutions; $z_i Q_c Q_c^N$. 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.

Table 18. Effects using also downstream measures of contract intensity a la Rauch (1999)

	(1)	(2)	(3)	(4)	(5)
Own Upstream interaction: $z_i Q_c$	0.190***	0.240***	0.281***	0.170***	0.251***
	(0.396)	(0.534)	(0.586)	(0.466)	(0.594)
Own Downstream interaction: $Diff_i \times Q_c$	0.0240	-0.0783***	-0.100***	-0.0535***	-0.126***
	(0.0462)	(0.0525)	(0.0506)	(0.0479)	(0.0513)
Neighbor's Upstream interaction: $z_i Q_c^N$	0.160***	0.196***	0.197***	0.140***	0.197***
	(0.494)	(0.576)	(0.625)	(0.546)	(0.666)
Neighbor's Downstream interaction: $Diff_i \times Q_c^N$	0.0154	0.0162	0.0561**	0.0287	0.0626***
	(0.0564)	(0.0582)	(0.0591)	(0.0573)	(0.0598)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES
Observations	18,126	8,817	8,105	12,873	7,945
R^2	0.739	0.770	0.774	0.778	0.776

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) and (1). Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively. Manufacturing (M_i) is a dummy variable, equal to 1 if the industry i is a manufacturing sector and 0 in another case.

The results of the interaction with the second language variable are showed in Table 19, showing that in most specification (columns 2 to 6) having closer ties between countries reduces the magnitude of the coefficient for local institutions, while raising neighboring country effects. Having a common culture or language could make easier the managerial coordination across borders with suppliers in neighboring countries, in particulary in contract intensive or "strategy" inputs. But without good institutions these potentially useful relationships might be less likely to happen.

6.4 Other types of heterogeneity

In the Appendix we explore various additional types of heterogeneity: (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; (v) whether the effect is through yet another type of vertical integration, related to FDI stocks of the neighboring country. In general, they do not suggest a clear pattern nd do not challenge our main results

Table 19. Regressions interacting with common language (spoken by $\geq$ 9% of pop)

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.144***	0.129***	0.115**	0.104***	0.120***
	(0.735)	(0.913)	(0.928)	(0.772)	(0.936)
Judicial quality interaction: $z_i Q_c$	0.189***	0.298***	0.362***	0.145***	0.326***
	(0.579)	(0.904)	(0.931)	(0.680)	(0.924)
Language double int.: $z_i comlang\_ethno_c^N$	-0.120***	-0.0147	-0.0336	-0.165***	-0.0271
	(0.508)	(0.799)	(0.802)	(0.568)	(0.806)
Language Neighbor's triple int.:$z_i Q_c^N comlang\_ethno_c^N$	0.0335	0.154**	0.193***	0.100*	0.187***
	(1.075)	(1.318)	(1.360)	(1.121)	(1.341)
Language Local triple int.:$z_i Q_c comlang\_ethno_c^N$	0.0481	-0.162**	-0.198***	0.0333	-0.195***
	(0.866)	(1.225)	(1.231)	(0.956)	(1.223)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.737	0.770	0.773	0.777	0.774

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 2, 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.

7 Concluding Remarks

In this paper we find that contract enforcement institutions in *neighboring* countries matter for the local pattern of specialization, over and above the own institutions of a country. While some of the effect might be localized to exports around the neighborhood, we still fin that neighboring institutions impact also production and exports to the US. We find that the effect is more important for manufacturing. When neighbors are closer or culturally similar, the estimated effect of their rule of law seems even more important for contract intensive industries.

We believe this evidence is important both as an input for growth policies, which should take into account the context and neighborhood of a country, and also for international political economy. This is one of the few systematic reports of cross-border spillovers. Specializing in more complex products is tougher when your neighbors cannot be trusted. Our results suggest that policies improving contract enforcement *in neighboring nations or across borders* could change countries' productive specialization.

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8 Appendix

8.1 Variables Construction

8.1.1 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.

8.1.2 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, and we combine this data with local data to build a dataset with variables fro local countries and its neighbors.

8.2 Additional robustness estimations

8.2.1 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. (4), which on top of the interaction between contract sensitivity and rule fo 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 20 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.

$$\ln x_{ci} = \widetilde{\alpha}_c + \widetilde{\alpha}_i + \widetilde{\beta}\, z_i Q_c + \widetilde{\gamma} X_{ci} + \varepsilon_{ic} \tag{4}$$

8.2.2 OECD versus non-OECD Countries

In this section we explore whether the coefficient of interest, β_N , is heterogeneous across levels of development. Tables 21 and 22 estimate the baseline specification separately for OECD and non-OECD countries respectively. Own country rule of law β is relevant for OECD countries, but for non-OECD countries neighbor's effects are more significant than local effects. We should take this difference with a grain of salt, simply because OECD countries tend to have on average better neighbors in terms of Judicial Quality, and therefore have little variance to reliably estimate β_N. In fact, Figure 3 shows that almost all developed countries have neighbors with similar judicial quality, with the exception of Norway and Finland that have as neighbor Russia, a country with poor judicial institutions

8.3 Additional regressions of vertical integration

8.4 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. To answer this question, we follow the same procedure made in subsection 4.3, replacing Q^N by$e_c^N \equiv Q_c^N - \mathbb{E}[Q_c^N|Q_c]$. We show results of the use of e_c^N in 24 and confirms that neighbor's effects (controlling by collinearity in the worst case) are still statistically and economically significant.

8.5 Types of goods

Upstreamness, intermediate vs primary

Table 20. Replication of Nunn (2007) Table IV

	(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
Constant	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	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 4. 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.

Table 21. OECD Countries Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial quality interaction (cons): $z_i^{rs1}Q_c$	0.481***		0.518***		0.526***		0.589***	
	(0.907)		(1.009)		(1.304)		(1.439)	
Skill interaction: h_iH_c	NO	NO	YES	YES	NO	NO	YES	YES
Capital interaction: k_iK_c	NO	NO	YES	YES	NO	NO	YES	YES
Judicial quality interaction (lib): $z_i^{rs2}Q_c$		0.343***		0.223**		0.520***		0.396***
		(1.247)		(1.428)		(1.348)		(1.543)
Neighbor's Judicial quality interaction (cons): $z_i^{rs1}Q_c^N$					0.103		0.117*	
					(0.932)		(0.976)	
Neighbor's Judicial quality interaction (lib): $z_i^{rs2}Q_c^N$						0.0575		0.137
						(1.056)		(1.181)
Neighbors Skill interaction: $h_iH_c^N$	NO	NO	NO	NO	NO	NO	YES	YES
Neighbors Capital interaction: $k_iK_c^N$	NO	NO	NO	NO	NO	NO	YES	YES
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effets	YES	YES	YES	YES	YES	YES	YES	YES
Observations	4,941	4,941	3,906	3,906	3,952	3,952	3,080	3,080
R^2	0.712	0.710	0.756	0.754	0.729	0.726	0.773	0.768

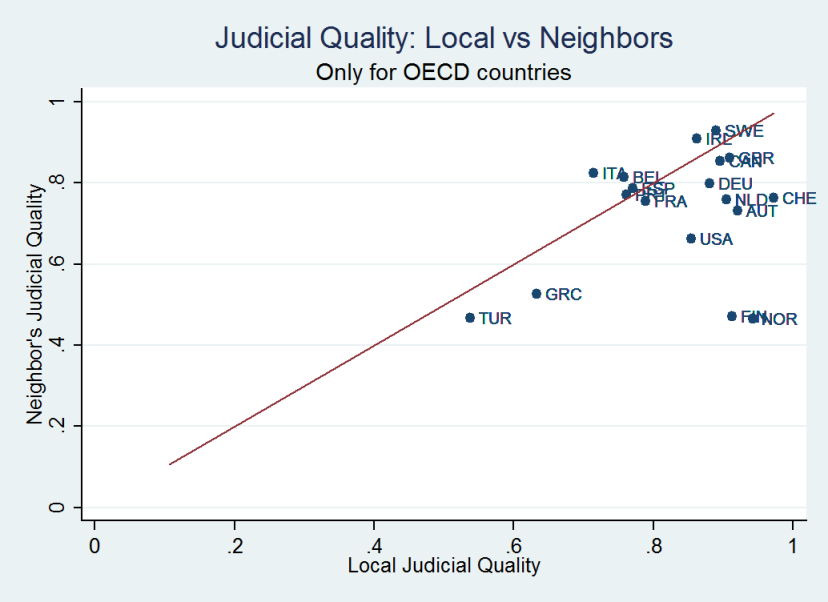
Note: Dependent variable is $\ln x_{ic}$ (natural log of exports in industry i by country c to all other countries). The regressions are estimates of eq. (1). Include countries that joined the OECD by the 1990s. Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 22. Non-OECD Countries Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Judicial quality interaction (cons): $z_i^{rs1}Q_c^N$	0.232***		0.251***		-0.0506		-0.199***	
	(0.430)		(0.714)		(0.978)		(1.648)	
Skill interaction: h_iH_c	NO	NO	YES	YES	NO	NO	YES	YES
Capital interaction: k_iK_c	NO	NO	YES	YES	NO	NO	YES	YES
Judicial quality interaction (lib): $z_i^{rs2}Q_c^N$		0.389***		0.348***		0.236***		0.200***
		(0.571)		(0.967)		(0.661)		(1.175)
Neighbor's Judicial quality interaction (cons): $z_i^{rs1}Q_c^N$					0.236***		0.416***	
					(1.268)		(2.245)	
Neighbor's Judicial quality interaction (lib): $z_i^{rs2}Q_c^N$						0.304***		0.500***
						(0.860)		(1.404)
Neighbors Skill interaction: $h_iH_c^N$	NO	NO	NO	NO	NO	NO	YES	YES
Neighbors Capital interaction: $k_iK_c^N$	NO	NO	NO	NO	NO	NO	YES	YES
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effets	YES	YES	YES	YES	YES	YES	YES	YES
Observations	17,657	17,657	7,070	7,070	14,431	14,431	5,068	5,068
R^2	0.647	0.648	0.672	0.672	0.661	0.662	0.673	0.674

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). Not include countries that joined the OECD by the 1990s.
Standardized beta coefficients are reported, with robust standard errors in brackets. Also, *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Figure 3. OECD Countries Local vs Neighbor's Judicial Quality



8.5.1 Upstreamness of the industry.

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 25 do not show particularly different results in our coefficient β_N depending on upstreamness.

8.5.2 Distinguish intermediate and primary goods.

Another way to perform the previous exercise is to use a discrete measure for intermediate and final goods rater than an upstreamness measure. So here we use BACI database from CEPII and get information on whether they are primary, intermediate, comsumption and capital final goods. We created a dummy Int_ithat represents the proportion of intermediate goods produced by the industry i. The results are showed in Table 26 and shows that neighbor's effects do not look statistically different depending on the type of good.

8.6 Is this due to poor macroeconomic and exchange rate policies?

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 restric-

Table 23. Considering Vertical Integration, incorporating Neighbor's Judicial Quality.

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.158***	0.189***	0.173***	0.150***	0.129***
	(0.494)	(0.569)	(0.609)	(0.532)	(0.526)
Local Judicial quality interaction: $z_i Q_c$	0.101***	0.277***	0.252***	0.173***	0.209***
	(0.434)	(0.603)	(0.628)	(0.569)	(0.540)
Industries with many inputs: $z_i Q_c I_i^{n_i > \bar{n}}$	YES	NO	NO	NO	NO
Skill endowment×contract intensity: $z_i H_c$	NO	YES	NO	NO	NO
Capital endowment×contract intensity: $z_i K_c$	NO	NO	YES	NO	NO
Log income×contract intensity: $z_i \ln(y_c)$	NO	NO	NO	YES	NO
Log credit/GDP×contract intensity: $z_i CR_c$	NO	NO	NO	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed effects (Country and Industry)	YES	YES	YES	YES	YES
Observations	18,383	10,686	10,686	18,041	15,806
R^2	0.738	0.729	0.729	0.736	0.735

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. 2 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.

tions 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 test this we use the black market premium of exchange rate ($Black_c$) from the Global Development Network Growth Database of The World Bank[9], 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 27. Our results show that the main effect goes over and above the black market premium.

8.7 Trade Barriers and Transport Costs

8.7.1 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 analisys 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

[9]Database available in this link.

Table 24. Instrumental Variables regression controlling by potential collinearity (Second Stage)

	OLS (1)	IV (2)	OLS (3)	IV (4)	OLS (5)	IV (6)	OLS (7)	IV (8)
Neighbor's Judicial quality interaction: $z_i e_c^N$	0.0693***	0.0882***	0.0769***	0.0636***	0.0784***	0.0688***	0.0772***	0.0633***
	(0.00895)	(0.0208)	(0.0105)	(0.0163)	(0.0114)	(0.0178)	(0.0121)	(0.0161)
Judicial quality interaction: $z_i Q_c$	0.275***	0.276***	0.278***	0.279***	0.304***	0.304***	0.273***	0.273***
	(0.0128)	(0.0127)	(0.0180)	(0.0165)	(0.0205)	(0.0187)	(0.0214)	(0.0192)
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
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Haussman p-value		0.0000		0.0000		0.0000		0.0000
Sargan p-value		0.0000		0.0000		0.0000		0.0000
Observations	18,383	18,383	8,863	8,863	8,148	8,148	7,988	7,988
R^2	0.736	0.736	0.769	0.769	0.772	0.772	0.773	0.773

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 2. 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.

Table 25. Controlling by Upstreamness (up to mean) of production

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.249***	0.213***	0.202***	0.173***	0.203***
	(0.933)	(1.241)	(1.243)	(1.033)	(1.243)
Judicial quality interaction: $z_i Q_c$	0.235***	0.304***	0.292***	0.230***	0.266***
	(0.720)	(1.070)	(1.085)	(0.855)	(1.085)
Upstreamness Neigh. double int.: $u_i Q_c^N$	0.162***	0.0109	-0.0110	0.0508	-0.0102
	(0.714)	(0.945)	(0.947)	(0.794)	(0.960)
Upstreamnes Neigh. triple int.:$z_i Q_c^N u_i$	-0.112**	-0.00896	0.0107	-0.0272	0.0111
	(1.144)	(1.506)	(1.507)	(1.262)	(1.529)
Upstreamness Local double int.: $u_i Q_c$	0.0656	0.160*	0.0773	0.128**	0.0838
	(0.555)	(0.820)	(0.828)	(0.665)	(0.838)
Upstreamnes Local triple int.:$z_i Q_c u_i$	-0.0272	-0.0944	-0.0300	-0.0981*	-0.0547
	(0.902)	(1.323)	(1.333)	(1.061)	(1.350)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.737	0.770	0.772	0.776	0.773

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 2, 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.

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 28 and shows that tariffs of neighbors to local country's goods don't intensify neighbor's judicial quality interactions.

Table 26. Controlling by intermadiate goods proportion by industry

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.373***	0.541***	0.543***	0.433***	0.436**
	(2.943)	(3.734)	(3.885)	(3.430)	(4.346)
Judicial quality interaction: $z_i Q_c$	0.0616	-0.0238	0.110	0.135**	0.209**
	(1.235)	(1.683)	(1.767)	(1.538)	(1.984)
Intermediate goods Neigh. double int.: $Int_i Q_c^N$	0.320**	0.333	0.225	0.211	-0.00857
	(2.110)	(2.651)	(2.765)	(2.641)	(3.321)
Intermediate goods Neigh. triple int.:$z_i Q_c^N Int_i$	-0.122	-0.117	-0.0297	-0.135	0.0425
	(3.267)	(4.080)	(4.315)	(4.165)	(5.172)
Primary goods Neigh. double int.: $Pr_i Q_c^N$	0.423	1.803	1.154	4.957	-0.0226
	(5.509)	(84.31)	(84.81)	(84.51)	(92.57)
Primary goods Neigh. triple int.:$z_i Q_c^N Pr_i$	-0.502	-1.849	-1.177	-4.992	-0.0423
	(12.86)	(181.6)	(182.5)	(181.5)	(198.4)
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.737	0.770	0.772	0.776	0.773

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 2, 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.

8.7.2 Heterogeneity by Offshoring intensity

When the industry is intensive in offshoring this may refflect 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:

$$OI_i = \frac{Imports_i}{Shipments_i + Imports_i - Exports_i} \tag{5}$$

Results when interacting offshoring intensity are displayed on Table 29, showing that offshoring intensity do not statistically impact neighbor's effects. It still drops the magnitude of local effects, maybe because a high offshoring intensity industry can't subsitute foreign production by local production easily.

Table 27. Black Market Premium as Measure of Judicial Quality

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.190***	0.249***	0.273***	0.201***	0.271***
	(0.651)	(0.809)	(0.822)	(0.711)	(0.871)
Judicial quality interaction: $z_i Q_c$	0.220***	0.182***	0.218***	0.159***	0.193***
	(0.518)	(0.673)	(0.689)	(0.587)	(0.715)
Neighs. Black Neigh. Mkt. Pr. double int.: $z_i Black_c^N$	-0.0684	0.0518	0.248	-0.0822	0.282
	(0.00987)	(0.0753)	(0.0764)	(0.0132)	(0.0783)
Neighs. Black Neigh. Mkt. Pr. triple int.:$z_i Q_c^N Black_c^N$	0.0792*	-0.0205	-0.210	0.0922	-0.243
	(0.0206)	(0.159)	(0.161)	(0.0304)	(0.165)
Neighs. Black Local Mkt. Pr. double int.: $z_i Black_c$	0.186***	0.417***	0.458***	0.197***	0.446***
	(0.00815)	(0.0202)	(0.0201)	(0.00836)	(0.0205)
Neighs. Black Local Mkt. Pr. triple int.:$z_i Q_c^N Black_c$	-0.180***	-0.371***	-0.416***	-0.182***	-0.399***
	(0.0257)	(0.0835)	(0.0830)	(0.0261)	(0.0848)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.737	0.770	0.772	0.776	0.773

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 (2). 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.

8.7.3 Freight Costs of industries

Is the bad contract enforcement something like a freight costs? We use fright costs from Bernard, Jensen, and Schott (2006), expressed as a markup (F_i),. Note data is available mainly for manufacturing industries. The reason is that contract enforcement could be including another transport costs, that could be high because a bad contract enforcement. Results in Table 30 show that neighbor's with bad contract enforcement do not change significantly with the freight costs of an industry.

8.8 Political Instability

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. While political instability is indeed considered within bad institutions, therfore 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 instability. 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)[10]. 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 31 confirm that our central results are robust to this concern.

8.9 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. To address this concern, we controlled for net FDI stocks of foreign partners in local countries (inward minus outward). Table (32) shows that our neighbor-effect of interest β_N is still statistically and economically significant.

One would prefer to use only inward FDI.The intuition is that a country with high levels of inward FDI in local country could incentivize contract enforcemente due to the dependence of local investment of foreign investors. Results on Table 33 do not show clear interactions

8.10

[10] Available in this link.

Table 28. Interactions with Tariffs by industry

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.234***	0.287***	0.304***	0.273***	0.305***
	(0.955)	(1.161)	(1.171)	(0.992)	(1.228)
Judicial quality interaction: $z_i Q_c$	0.246***	0.213***	0.260***	0.166***	0.222***
	(0.623)	(0.922)	(0.969)	(0.797)	(0.966)
Neighs. Tariffs double int.: $z_i Tariffs_{ic}^N$	0.00955	-0.0815	-0.0795	-0.00643	-0.144
	(0.0405)	(0.0490)	(0.0499)	(0.0414)	(0.0496)
Neighs. Tariffs local double int.: $Q_c Tariffs_{ic}^N$	0.0328	0.0268	0.0309	-0.0571	-0.00132
	(0.0119)	(0.0315)	(0.0314)	(0.0203)	(0.0306)
Neighs. Tariffs double int.: $Q_c^N Tariffs_{ic}^N$	-0.0713	-0.220	-0.162	0.0415	-0.102
	(0.0354)	(0.0516)	(0.0511)	(0.0391)	(0.0509)
Neighs. Tariffs Local triple int.:$z_i Q_c Tariffs_{ic}^N$	-0.0240	-0.0512	-0.0424	0.0811	0.0164
	(0.0288)	(0.0745)	(0.0743)	(0.0458)	(0.0729)
Neighs. Tariffs triple int.:$z_i Q_c^N Tariffs_{ic}^N$	-0.00591	0.0511	0.0381	-0.0903	0.0409
	(0.0629)	(0.106)	(0.104)	(0.0798)	(0.106)
Tariffs: $Tariffs_{ic}^N$	YES	YES	YES	YES	YES
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	7,217	4,181	4,181	5,752	4,142
R^2	0.718	0.761	0.763	0.759	0.768

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 2, 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.

Table 29. Controlling by Offshoring intensity

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.168***	0.238***	0.230***	0.176***	0.239***
	(0.688)	(0.864)	(0.868)	(0.770)	(0.949)
Judicial quality interaction: $z_i Q_c$	0.192***	0.245***	0.284***	0.143***	0.215***
	(0.555)	(0.787)	(0.841)	(0.674)	(0.881)
Off. int. Neighbor's double int.: $Q_c^N OI_i$	-0.133*	-0.172*	-0.174*	-0.179**	-0.168*
	(0.0822)	(0.0965)	(0.0983)	(0.0837)	(0.0985)
Off. int. Neighbor's triple int.:$z_i Q_c^N OI_i$	0.110	0.141	0.142	0.166**	0.137
	(0.133)	(0.158)	(0.160)	(0.137)	(0.161)
Off. int. Local double int.: $Q_c OI_i$	0.0329	0.187**	0.207**	0.0967	0.232**
	(0.0681)	(0.0883)	(0.0901)	(0.0750)	(0.0904)
Off. int. Local triple int.:$z_i Q_c OI_i$	-0.0408	-0.192**	-0.214**	-0.0934	-0.209**
	(0.111)	(0.147)	(0.149)	(0.124)	(0.151)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	7,923	3,901	3,901	6,204	3,830
R^2	0.769	0.768	0.770	0.774	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 2, 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.

Table 30. Interacting by Freight costs (markup)

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.162***	0.283***	0.275***	0.201***	0.279***
	(1.178)	(1.513)	(1.519)	(1.268)	(1.529)
Judicial quality interaction: $z_i Q_c$	0.163***	0.249***	0.250***	0.143**	0.243***
	(0.947)	(1.366)	(1.417)	(1.083)	(1.417)
Neigh. Freight costs markup double int.: $F_i Q_c^N$	0.00326	0.0870	0.0820	0.0494	0.0897
	(6.538)	(8.231)	(8.317)	(7.018)	(8.325)
Neigh. Freight costs markup triple int.:$z_i Q_c^N F_i$	-0.0368	-0.0622	-0.0503	-0.0526	-0.0540
	(13.47)	(17.93)	(18.24)	(15.50)	(18.26)
Local Freight costs markup double int.: $F_i Q_c$	-0.0618	-0.109	-0.128	-0.0437	-0.0541
	(5.374)	(7.381)	(7.467)	(5.958)	(7.497)
Local Freight costs markup triple int.:$z_i Q_c F_i$	-0.0427	-0.0924	-0.0494	-0.0706	-0.110
	(11.01)	(16.01)	(16.53)	(13.32)	(16.54)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	8,973	4,376	4,376	6,896	4,295
R^2	0.776	0.774	0.775	0.781	0.776

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 2, 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.

Table 31. Political Instability - Coups and Revolutions Barro-Lee Index

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.137***	0.193***	0.187***	0.154***	0.192***
	(0.600)	(0.746)	(0.755)	(0.622)	(0.774)
Judicial quality interaction: $z_i Q_c$	0.216***	0.239***	0.282***	0.172***	0.246***
	(0.465)	(0.636)	(0.657)	(0.541)	(0.669)
Neighs. Political Instab. double int.: $z_i Revcoup_c^N$	0.0359	0.107	0.0945	0.119**	0.101
	(1.517)	(2.292)	(2.306)	(1.698)	(2.308)
Neighs. Political Instab. Neigh. triple int.:$z_i Q_c^N Revcoup_c^N$	-0.0412	-0.0414	-0.0505	-0.103*	-0.0609
	(3.823)	(5.848)	(5.885)	(4.410)	(5.863)
Neighs. Political Instab. Local triple int.:$z_i Q_c Revcoup_c^N$	-0.0529	-0.101	-0.0925	-0.0588	-0.0869
	(2.605)	(4.260)	(4.260)	(3.125)	(4.265)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.737	0.770	0.773	0.777	0.774

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 2, 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.

Table 32. Using Neighbor's Net FDI Stocks as percentage of GDP

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.131***	0.254***	0.260***	0.168***	0.262***
	(0.934)	(1.343)	(1.342)	(1.071)	(1.383)
Judicial quality interaction: $z_i Q_c$	0.212***	0.0804	0.129*	0.106**	0.0884
	(0.780)	(1.327)	(1.332)	(0.938)	(1.351)
Neighbor's net FDI Stocks double int.: $z_i FDI_c^N$	-0.00933	-0.164**	-0.151**	-0.0457	-0.163**
	(0.1000)	(0.172)	(0.171)	(0.114)	(0.171)
Neighbor's net FDI Stocks triple int.:$z_i Q_c^N FDI_c^N$	0.0500	-0.154	-0.154	-0.0530	-0.160
	(0.278)	(0.416)	(0.414)	(0.320)	(0.418)
Neighbor's net FDI Stocks Local triple int.:$z_i Q_c FDI_c^N$	-0.0246	0.316**	0.295*	0.107	0.316**
	(0.245)	(0.469)	(0.465)	(0.313)	(0.469)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.773

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 2, 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.

Table 33. Using Neighbor's Inward FDI Stocks as percentage of GDP

	(1)	(2)	(3)	(4)	(5)
Neighbor's Judicial quality interaction: $z_i Q_c^N$	0.140***	0.216***	0.201***	0.164***	0.203***
	(0.848)	(1.180)	(1.189)	(0.920)	(1.208)
Judicial quality interaction: $z_i Q_c$	0.214***	0.236***	0.293***	0.153***	0.257***
	(0.639)	(0.919)	(0.943)	(0.726)	(0.949)
Neighbor's inward FDI Stocks double int.: $z_i (FDI_{Inw})_c^N$	0.0293	0.0904	0.0875	0.0530	0.0862
	(0.0122)	(0.0232)	(0.0235)	(0.0120)	(0.0236)
Neighbor's inward FDI Stocks.triple int.:$z_i Q_c^N (FDI_{Inw})_c^N$	0.0258	-0.0310	0.00524	-0.0444	0.00368
	(0.0321)	(0.0429)	(0.0434)	(0.0337)	(0.0431)
Neighbor's inward FDI Stocks Local triple int.:$z_i Q_c (FDI_{Inw})_c^N$	-0.0319	-0.0500	-0.0827	0.0102	-0.0756
	(0.0242)	(0.0294)	(0.0295)	(0.0260)	(0.0295)
Neighbor's Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Another Determinants of Comparative Adv.	NO	NO	NO	YES	YES
Neighbor's Skill and Capital Interaction	NO	NO	YES	NO	YES
Skill and Capital Interaction	NO	NO	YES	NO	YES
Constant	YES	YES	YES	YES	YES
Fixed Effects	YES	YES	YES	YES	YES
Observations	18,383	8,148	8,148	12,934	7,988
R^2	0.736	0.770	0.772	0.776	0.773

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 2, 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.