

# The Role of Institutions and Immigrant Networks in Firms' Offshoring Decisions

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# Motivation

- **The offshoring** of production has expanded dramatically in the recent decades increasing the potential for economic growth and technological transfer (Feenstra and Hanson, 2003; Hummels *et al.* 2001).
- **Offshoring** is often motivated by the firm's desire to reduce costs, to move production closer to foreign consumers, or to utilize a foreign workforce (Bernard *et al.* 2006).
- Do firms choose destinations also because of **local institutions** and their specific **network** there?

## Previous literature

- The literature on heterogeneous firms show that firms actually enter foreign markets (export or production activities) only if their productivity levels are high enough to cover **the entry costs** (see e.g. Bernard and Jensen, 1999; Melitz, 2003).
- However, there is no study on which **factors** determine the entry costs of externalizing production abroad (See Olney, 2013; Antras et al. 2009 for exceptions).

# Main hypothesis

**Institutions** at destination and **network** shape firms' entry costs:

- Destinations **over-regulated** in some areas, e.g. workers' protection, registration of new companies (Djankov *et al.*, 2002); **weakly regulated** in other areas, e.g. investors' protection (Acemoglu *et al.* 2005); control of corruption.

▶ To press

- **Networks** with the country of destination help to gather information, overcome language barriers etc. (Gould, 1994; Head and Ries, 1998; Rauch and Trindade, 2002; Peri and Requena-Silvente, 2010).
- **Complementarities** can exist e.g. among institutions (Bassanini and Duval, 2009), and with networks.

# Aims

In this paper we use **Danish** employer-employee matched dataset combined with the Doing Business Database (WB) for the period 2006-2012 in order:

1. to estimate **the effects** of institutions on firm's **extensive margin of offshoring** and to distinguish those that increase entry costs from those that create an 'offshoring-friendly' business environment.
2. to check whether the **network** of firms' stakeholders (e.g. immigrant workers) affects their decisions to offshore.
3. to explore whether there are **complementarities** among regulations, and/or a significant interplay between **networks and regulations**.

# Talk outline

- Theoretical framework
- Data and descriptive evidence
- Empirical models and identification strategy
- Main Results
- Refinements
- Conclusions

# Theoretical framework

# Theoretical Setup

- **Multi-country** economy, populated by a unit measure of consumers with **identical preferences** over a homogeneous and a differentiated good (Dixit and Stiglitz, 1977).
- **Two sectors:** (i) homogeneous good (numeraire) is produced under perfect competition; (ii) the differentiated good is produced under monopolistic competition.
- In each country, a continuum of firms  $z$ , **heterogeneous** in productivities  $\theta_z \in [0, 1]$ , produce the differentiated good.
- **Cobb-Douglas technology** combines **head-quarter tasks**,  $h$  (performed locally), and **manufacturing tasks**,  $m$  (performed everywhere).
- **Offshoring to destination  $j$** , gives access to local high productivity inputs in manufacturing  $\lambda_j > 1$ ; it also entails a **fixed institutional costs**  $r_j$ . **Network of firm**  $\phi_{zj}$  alleviates these costs.



## Offshoring and supply

The **profit** function of an offshoring firm is

$$\pi_{ij}(z) = px_{ij}(z) - (h + m) - (f + r_j - \phi_{zj}) \quad (1)$$

If we **substitute** the demand and production function into (1),

we obtain:

$$\pi_{ij}(z) = A \left( \theta_z(h)^{1/2} (\lambda_j m)^{1/2} \right)^{\frac{-1+\sigma}{\sigma}} - (h + m) - (f + r_j - \phi_{zj}) \quad (2)$$

The firm chooses  $h$  and  $m$  to maximize (2).

# Offshoring Equilibrium

- Firms offshore production to country  $j$  only if:

$$\theta > \hat{\theta}_{zj}, \quad \text{where} \quad \hat{\theta}_{zj} = \frac{2\sigma}{(\sigma - 1)A^{-\frac{\sigma}{1+\sigma}} \lambda_j^{1/2}} (\sigma (f + r_j - \phi_{zj}))^{-\frac{1}{1+\sigma}}.$$

The number of offshoring firms depends, among other factors, on fixed costs,  $r_j$ , and the network to the destination country,  $\phi_{zj}$ .

- The no. of offshoring firms increases relative to non-offshoring ones with the following ratio:

$$\Theta^{off} = \frac{\bar{\theta}_{zi}}{\hat{\theta}_{zj}} = \left( \frac{f - 1}{f + r_j - \phi_{zj}} \right)^{1/(\sigma-1)} \lambda_j^{1/2}.$$

where  $\bar{\theta}_{zi}$  is the threshold domestic firms in country  $i$  have to meet in order to produce locally. We have the following:

**Proposition 1:** *The number of offshoring firms decreases when the institutional fixed costs increase, i.e.,  $d\Theta^{off}/dr_j < 0$ .*

**Proposition 2:** *The number of offshoring firms increases with the size of the network in the destination i.e.,  $d\Theta^{off}/d\phi_{zj} > 0$ .*

## Data and descriptive evidence

# Administrative data sources

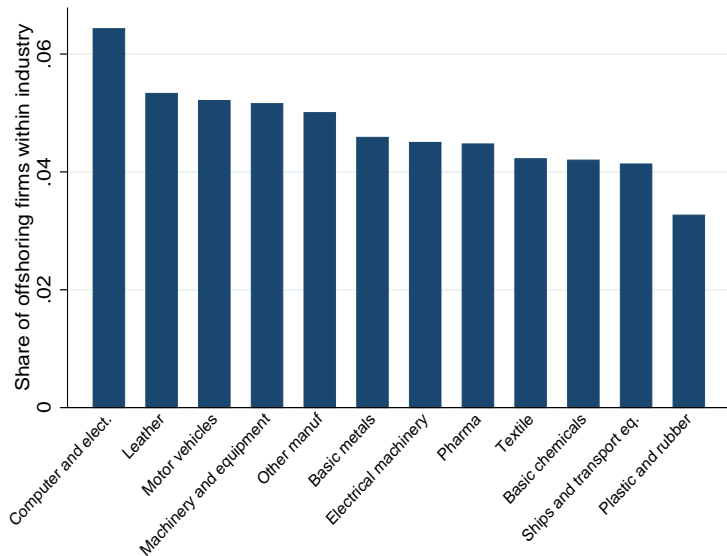
1. Integrated Database for Labor Market Research **IDA**.
2. Firms' business accounts **FIRM**. Large and representative sample of private sector Danish firms (E.g. value added, sales, capital stock).
3. Foreign Trade Statistics Register **Intrastat and Extrastat**. Custom Data covering the universe of firms trading. Firm's imports (in DKK) disaggregated by Product (8 digit level) and Destination.

We drop firms  $< 10$  employees and non manufacturing firms  
⇒ 2,000 firms over the period 2006-2012.

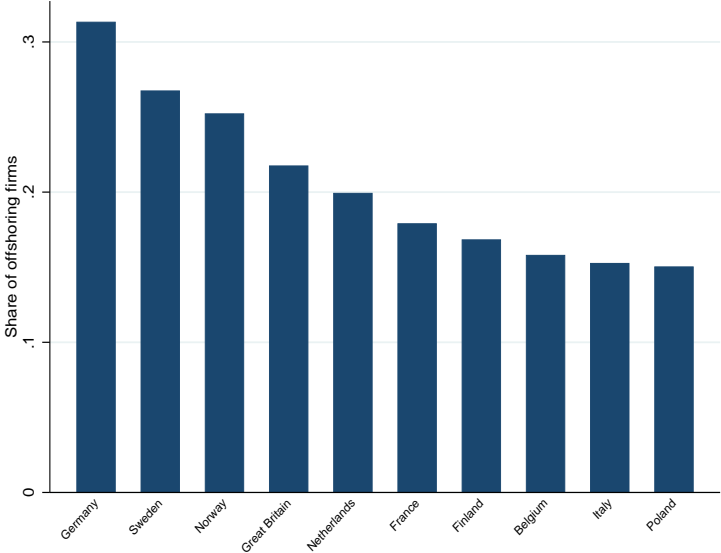
## Offshoring measures

- We follow the well-established method of measuring offshoring as imports which was first constructed by Feenstra (1999) at the industry level and then applied to the firm-level Danish data by Hummels (2014).
- We construct a **narrow offshoring** measure that is defined as the summation of imports in the same HS4 category as those sold by the firm. Two margins: extensive and intensive.
- **Alternative measures** of offshoring in the robustness checks (broad offshoring and FDI-based measures from Esperian).

## Sectors with the largest share of offshoring firms (2006-2012)



# Most popular offshoring destinations (2006-2012)



## Institutional Fixed Costs, 2006-2012

4 groups of institutional fixed costs in the country of destination (Doing Business Database, World Governance Indicators):

- 1. Labor market rigidity:** i) fixed term contracts prohibited; ii) maximum number of working days per week; iii) employer must notify or consult a third party before a collective dismissal of employees; iv) minimum wage.
- 2. Business regulations:** i) Time required to start a business (days); ii) Time required to register property (days); iii) Time to prepare and pay taxes (hours); iv) Time to export (days).
- 3. Credit risks:** i) Lack of private credit bureau coverage; ii) Lack of investors' protection index; iii) Enforcing contracts, cost (percent of claim) and iv) Rate of insolvency.
- 4. Corruption costs:** lack of measures to control corruption in the public sector (Kray 2010).



Empirical model and identification strategy

## Empirical model

We estimate the following **bilateral** regression model:

$$Off_{ijmct} = \alpha + r'_{jt-1}\beta + \gamma\phi_{jct-1} + X'_{it-1}\zeta + \theta_i + \theta_j + \theta_m + \theta_c + \theta_t + \epsilon_{ijt}$$

- The dependent variable,  $Off_{ijmct}$  is firm  $i$ 's offshoring (extensive and intensive margins) to destination  $j$  at time  $t$ .
- The vector  $X_{it-1}$  comprises a set of firm characteristics (such as productivity, capital intensity, number of destinations, foreign ownership plus detailed workforce characteristics).
- We also include firm fixed effects,  $\theta_i$ , destination fixed effects,  $\theta_j$ , industry fixed effects,  $\theta_m$ , municipality fixed effects,  $\theta_c$  and time fixed effects,  $\theta_t$ .

## Identification strategy: Institutions

- To estimate the coefficients  $\beta$  of institutional costs ( $r_{jt-1}$ ): we exploit **changes in the national regulations**, which vary across destinations, and are **exogenous to Denmark**.
- Fairly **comparable to changes in tariffs**: Danish firms have very limited influence on the outcome of reform processes carried outside Denmark.
- The vector  $r_{jt-1}$  is **lagged one period**: companies cannot immediately adjust offshoring activities in response to changes in regulations.

## Identification strategy: Network

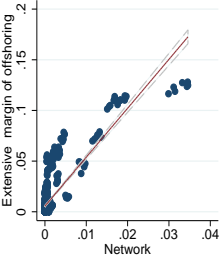
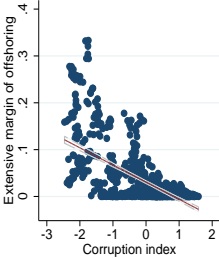
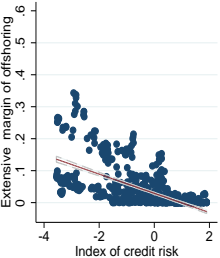
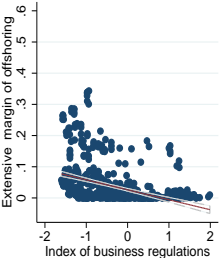
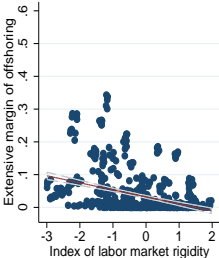
- $\phi_{jct-1}$  proxies for **the strength** of the firm  $i$ 's networks to the country of destination  $j$ .
- This variable is computed as the share of foreign workers from country  $j$  in the municipality  $c$  in which the firm is localized at time  $t - 1$ .
- **Unobserved** municipality-specific shocks could influence both immigration and offshoring.
- We instrument  $\phi_{jct-1}$  with its **shift-share** prediction (Card, 2005):

$$\phi_{jct-1}^{IV} = \frac{F_{jt-1} * (F_{jc96} / F_{j96})}{E_{c96}}$$

# Main hypothesis

- **Hypothesis 1:**  $\beta < 0$  for the extensive margin of offshoring. The coefficient  $\beta$  measures the bilateral impact of an increase in the fixed costs associated with institutions  $r$  on the decision of firm  $i$  to offshore in country  $j$ .
- **Hypothesis 2:**  $\gamma > 0$ , for the extensive margin of offshoring. The coefficient  $\gamma$  measures the impact of a network of relation between firm  $i$  and destination  $j$  at the base year, that can help firm  $i$  to decrease the total fixed costs of offshoring to the same destination.
- **Hypothesis 3:**  $\beta = 0$  and  $\gamma = 0$  for the intensive margin of offshoring, conditional on offshoring.

# Extensive margin: offshoring, institutions and network

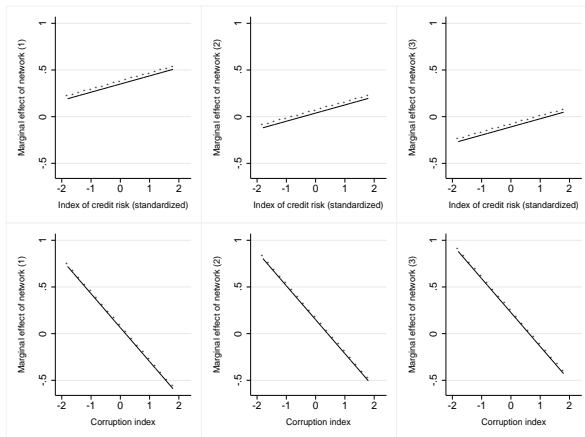


# Institutions, network and offshoring

	Extensive			Intensive		
Index of labor market rigidity, $LMR_{t-1}$	-0.006879** (0.003366)	-0.006864** (0.003348)	-0.006878** (0.003365)	-0.002333 (0.028773)	-0.001438 (0.033421)	0.004303 (0.030408)
Index of business regulations, $BR_{t-1}$	-0.001837 (0.003540)	-0.001911 (0.003580)	-0.001833 (0.003538)	0.021747 (0.038746)	0.027755 (0.042515)	0.018506 (0.040410)
Index of credit risk, $CR_{t-1}$	-0.037939*** (0.007514)	-0.038081*** (0.007433)	-0.037926*** (0.007513)	0.060807 (0.038084)	0.056316 (0.033891)	0.064886 (0.038564)
Index of Corruption, $IC_{t-1}$	-0.028093*** (0.000656)	-0.028193*** (0.000671)	-0.033809*** (0.001185)	0.051795 (0.045554)	0.051838 (0.045386)	0.056158 (0.044785)
Network	0.012646*** (0.000557)	0.012644*** (0.000557)	0.012571*** (0.000656)	0.073572 (0.068565)	0.073631 (0.064981)	0.066968 (0.072315)
$LMR_{t-1} * BR_{t-1}$		-0.002166 (0.001490)			-0.006998 (0.096458)	
$LMR_{t-1} * CR_{t-1}$		0.001422 (0.002366)			0.060976 (0.084148)	
$BR_{t-1} * CR_{t-1}$		0.000764 (0.001112)			-0.081142 (0.133644)	
$IC_{t-1} * LMR_{t-1}$		0.011265 (0.008075)			0.102501 (0.211706)	
$IC_{t-1} * BR_{t-1}$		0.003169 (0.008680)			-0.030854 (0.201738)	
$IC_{t-1} * CR_{t-1}$		0.006169 (0.009380)			-0.040833 (0.111764)	
Interactions between Institutions and Network	No	No	Yes	No	No	Yes
Mean Y	0.033	0.033	0.033	10.182	10.182	10.181806
R-sq	0.121	0.126	0.122	0.287	0.287	0.287195
N	1,403,850	1,403,850	1,403,850	46,282	46,283	46,284

**Notes:** All specification include firm level controls and fixed effects by firm, sector, destination country, firm residence (municipality), and year. Standard errors clustered by destination in parentheses. Significance levels: \* : 10% \*\* : 5% \*\*\* : 1%.

# Interactions between credit risk and network



*Source:* In top (bottom) panels, marginal effect of network (1) is calculated by interacting our network variable with the index of credit risk (corruption) and setting the index of labor market rigidity, business regulations and corruption (credit risk) at the 25th percentile of their distributions. In top (bottom) panels, marginal effect of network (2) is calculated by interacting our network variable with the index of credit risk (corruption) and setting the index of labor market rigidity, business regulations and corruption (credit risk) at the median of their distributions. In top (bottom) panels, marginal effect of network (3) is calculated by interacting our network variable with the index of credit risk (corruption) and setting the index of labor market rigidity, business regulations and corruption (credit risk) at the 75th percentile of their distributions. “\*\*” indicates significance at the 95% level.



## Refinements of Main Results

# Extensions and Robustness checks

- **Extensions:**

- individual indicators of institutional fixed costs [▶ here](#)
- Impact on firms' export decision instead of offshoring [▶ here](#)

- **Subsamples:**

- Only exporting firms. [▶ here](#)
- Developing versus developed destination countries. [▶ here](#)
- By industry (Labor vs. capital intensive, and services) [▶ here](#)

- **Refinements on the offshoring variable:**

- Broad offshoring.
- FDI-based measure from Esperian.
- Intensive margin calculated as the share of bilateral imports out of total imports.

- **Alternative interaction specifications and non-linearities.**

## Preliminary conclusions

- This paper explores how **institutions and network** affects the firm's offshoring outcomes by using a representative sample of Danish manufacturing firms (2006-2012).
- First, we find that regulations that **reduces credit risks and corruption** tend to increase firms' propensity to offshore to the this destination.
- Second, we show that regulations increasing **labor market rigidity** have a negative impact on firms' offshoring decision.
- Third, our results also suggest that firms' networks with the destination country has an independent **fixed-cost reducing effect** on the extensive margin.
- The positive impact of networks is **magnified (attenuated)** in those destination markets with high levels of credit risks (corruption).

More

**The New York Times**

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## Is Overregulation Driving U.S. Companies Offshore?

By **Catherine Rampell** November 7, 2011 12:52 pm

As my colleague Richard A. Opiel Jr. reported on Thursday, Gov. Rick Perry of Texas is arguing that companies are sending work abroad primarily because of overregulation in the United States, and not because labor is cheaper abroad.

## BROOKINGS

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**REPORT**

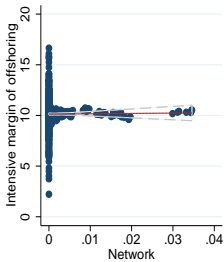
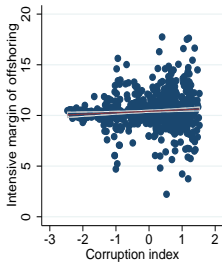
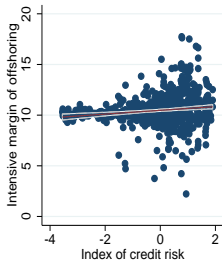
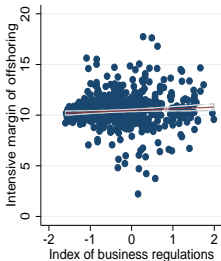
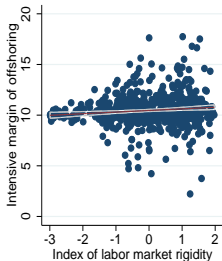
### **Inside Outsourcing: More Bad News from Business Regulation?**

**Pietro S. Nivola** · Friday, November 1, 1996

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## Intensive margin of offshoring, institutions and network



# Regulations, network and offshoring (1)

	Extensive Margin			Intensive Margin		
<b>Labor regulations</b>						
Limits on fixed term contracts $_{t-1}$	-0.002127 (0.003426)	-0.002127 (0.003426)	-0.003064 (0.003337)	-0.055414 (0.030350)	-0.055453 (0.030328)	-0.044745 (0.038385)
Limits working days per week $_{t-1}$	-0.009556 (0.007439)	-0.009556 (0.007439)	-0.009272 (0.007240)	-0.009226 (0.016416)	-0.009247 (0.016513)	-0.002006 (0.014861)
Employment protection measures $_{t-1}$	-0.001251** (0.000630)	-0.001251** (0.000630)	-0.001729** (0.000749)	-0.021539 (0.017439)	-0.021822 (0.017525)	-0.009261 (0.016510)
Minimum wage $_{t-1}$	-0.003466 (0.002554)	-0.003466 (0.002554)	-0.000636 (0.002498)	-0.050644 (0.030809)	-0.051019 (0.030900)	-0.021568 (0.033838)
<b>Business regulations</b>						
Time to open a business $_{t-1}$	-0.001120 (0.002481)	-0.001120 (0.002481)	-0.002054 (0.002869)	0.010278 (0.034327)	0.009520 (0.034427)	0.009615 (0.033263)
Time to register property $_{t-1}$	0.001921 (0.002906)	0.001921 (0.002906)	0.002187 (0.003043)	-0.001091 (0.016313)	-0.001001 (0.016322)	-0.005184 (0.014958)
Time to pay taxes $_{t-1}$	0.001374 (0.002495)	0.001374 (0.002495)	0.001438 (0.002272)	-0.004893 (0.030269)	-0.005210 (0.030219)	-0.016312 (0.029319)
Time to export $_{t-1}$	-0.003911 (0.002497)	-0.003912 (0.002497)	-0.000715 (0.002310)	0.054526 (0.032978)	0.054986 (0.033364)	0.039235 (0.032466)
<b>Credit regulations</b>						
100-credit coverage $_{t-1}$	-0.011855** (0.005645)	-0.011855** (0.005645)	-0.009288** (0.004695)	-0.037160 (0.024303)	-0.037376 (0.024353)	-0.024916 (0.016469)
10-investors' protection $_{t-1}$	-0.004542 (0.004021)	-0.004542 (0.004021)	-0.003847 (0.003801)	0.000747 (0.017353)	0.001080 (0.017295)	0.008513 (0.016924)
Enforcing contracts $_{t-1}$	-0.004329 (0.003154)	-0.004329 (0.003154)	0.000057 (0.003399)	-0.013431 (0.021755)	-0.012302 (0.021811)	-0.026847 (0.020700)
100-resolving insolvency $_{t-1}$	-0.024888*** (0.005293)	-0.024888*** (0.005293)	-0.021486*** (0.004940)	-0.036900 (0.026703)	-0.035647 (0.026769)	-0.013296 (0.028256)
<b>Network</b>						
	0.020444*** (0.002265)	0.020443*** (0.002265)	0.020347*** (0.002299)	0.000425 (0.004410)	0.000434 (0.004406)	0.000477 (0.004457)
R-sq	0.122	0.122	0.125	0.287	0.287	0.287
N	1,403,850	1,403,850	1,403,850	46,282	46,282	46,282



# Institutions, network and exporting

	Extensive			Intensive		
	[1]	[2]	[3]	[4]	[5]	[6]
Index of labor market rigidity <sub>t-1</sub>	-0.011589 (0.008833)	-0.011098 (0.008715)	-0.011585 (0.008832)	-0.013869 (0.122734)	-0.008838 (0.125938)	-0.014724 (0.122628)
Index of business regulations <sub>t-1</sub>	-0.009744 (0.009978)	-0.009741 (0.010009)	-0.009734 (0.009980)	0.070687 (0.152021)	0.074695 (0.155339)	0.071581 (0.152145)
Index of credit risk <sub>t-1</sub>	-0.097620*** (0.015581)	-0.097272*** (0.015424)	-0.097592*** (0.015580)	-0.668429** (0.174569)	-0.671539** (0.176449)	-0.667848** (0.175119)
Corruption index <sub>t-1</sub>	-0.001889** (0.000949)	-0.001893** (0.000948)	-0.002900** (0.001377)	-0.111391** (0.051614)	-0.110603** (0.051762)	-0.111779** (0.052367)
Network <sub>t-1</sub>	0.010768*** (0.001066)	0.010769*** (0.001118)	0.010587*** (0.001297)	-0.000785 (0.020308)	-0.000727 (0.020971)	-0.007581 (0.023483)
Index of labor market rigidity <sub>t-1</sub> *index of business regulations <sub>t-1</sub>		-0.004967 (0.003901)			-0.049488 (0.086969)	
Index of labor market rigidity <sub>t-1</sub> *index of credit risk <sub>t-1</sub>		-0.003527 (0.006855)			0.033184 (0.092702)	
Index of business regulations <sub>t-1</sub> * index of credit risk <sub>t-1</sub>		-0.000052 (0.002704)			-0.040061 (0.088095)	
Corruption index <sub>t-1</sub> *Index of labor market rigidity <sub>t-1</sub>		-0.003772 (0.005004)			-0.058361 (0.032966)	
Corruption index <sub>t-1</sub> *Index of business regulations <sub>t-1</sub>		0.000214 (0.001679)			-0.071542 (0.064598)	
Corruption index <sub>t-1</sub> *Index of credit risk <sub>t-1</sub>			-0.000505 (0.001151)			0.004880 (0.017550)
Index of business regulations <sub>t-1</sub> *network <sub>t-1</sub>			-0.001316 (0.001358)			-0.004457 (0.018224)
Index of credit risk <sub>t-1</sub> *network <sub>t-1</sub>			0.001160*** (0.000280)			-0.003890 (0.016745)
Corruption index <sub>t-1</sub> *network <sub>t-1</sub>			-0.032586 (0.026835)			0.067510 (0.246579)
Labor productivity <sub>t-1</sub>	0.002160** (0.000618)	0.002153** (0.000603)	0.002164** (0.000621)	-0.006524 (0.019243)	-0.006567 (0.018444)	-0.006557 (0.018912)
Mean Y	0.033	0.033	0.033	10.136	10.136	10.136
R-sq	0.290	0.301	0.290	0.272	0.272	0.272
N	1,403,850	1,403,851	1,403,852	144,701	144,701	144,701

# Results by industry

	Labor intensive industries		Capital intensive industries		Service industries	
	[1]	[2]	[3]	[4]	[5]	[6]
	Extensive	Intensive	Extensive	Intensive	Extensive	Intensive
Index of labor market rigidity <sub>t-1</sub>	-0.008398** (0.004231)	0.026791 (0.031553)	-0.004576** (0.002279)	-0.106072 (0.075230)	0.002142** (0.001077)	-0.028971 (0.032823)
Index of business regulations <sub>t-1</sub>	-0.002517 (0.004241)	0.001354 (0.049844)	-0.000476 (0.002114)	0.125388 (0.100741)	-0.000453 (0.000890)	0.010822 (0.038427)
Index of credit risk <sub>t-1</sub>	-0.045050*** (0.008589)	0.072416 (0.036580)	-0.022675*** (0.005466)	0.026215 (0.087594)	-0.009216*** (0.002479)	0.041265 (0.050694)
Corruption index <sub>t-1</sub>	-0.000696** (0.000324)	-0.101243 (0.122672)	-0.002080** (0.000795)	0.100771 (0.309016)	-0.015219*** (0.001714)	0.107818 (0.140082)
Network <sub>t-1</sub>	0.010389*** (0.000693)	0.048220 (0.076505)	0.019551*** (0.000458)	0.022831 (0.229545)	0.014264*** (0.001953)	0.000707 (0.001545)
Index of labor market rigidity <sub>t-1</sub> *network <sub>t-1</sub>	0.000231 (0.000516)	-0.046032 (0.035922)	-0.000207 (0.000439)	0.016681 (0.084249)	0.075323 (0.348784)	0.023502 (0.018541)
Index of business regulations <sub>t-1</sub> *network <sub>t-1</sub>	-0.000216 (0.000564)	0.010498 (0.037225)	0.000036 (0.000331)	0.035334 (0.077284)	-0.215042 (0.334078)	-0.011834 (0.013491)
Index of credit risk <sub>t-1</sub> *network <sub>t-1</sub>	0.001524*** (0.000677)	-0.026658 (0.033948)	0.002165*** (0.000933)	0.023493 (0.088491)	0.001141*** (0.000386)	0.003332 (0.009731)
Corruption index <sub>t-1</sub> *network <sub>t-1</sub>	-0.006870* (0.003638)	-0.028172 (0.019122)	-0.288151** (0.128940)	-2.054268 (1.453048)	-0.096377*** (0.014587)	-0.133855 (0.292137)
Labor productivity <sub>t-1</sub>	0.001299*** (0.000469)	0.075577 (0.094876)	0.001132 (0.001416)	0.088935 (0.155770)	0.001373** (0.000583)	0.010264 (0.006139)
Mean Y	0.019	10.378	0.041	10.126	0.012	10.626
R-sq	0.103	0.334	0.128	0.274	0.097	0.431
N	529,444	10,116	874,406	36163	2,383,597	28,937

# Subsamples: exporting firms; developed vs. developing countries

	Exporting firms		Developed destination countries		Developing destination countries	
	[1]	[2]	[3]	[4]	[5]	[6]
	Extensive	Intensive	Extensive	Intensive	Extensive	Intensive
Index of labor market rigidity <sub>t-1</sub>	-0.007397** (0.003012)	0.004410 (0.032397)	-0.008312*** (0.001119)	0.038553 (0.050805)	-0.002363** (0.001084)	-0.047477 (0.049890)
Index of business regulations <sub>t-1</sub>	-0.002219 (0.003972)	0.020645 (0.044132)	0.023397 (0.039948)	0.095498 (0.116027)	0.000326 (0.003195)	-0.011329 (0.063130)
Index of credit risk <sub>t-1</sub>	-0.042569*** (0.008344)	0.063741 (0.033522)	-0.061834*** (0.022855)	0.023801 (0.048183)	-0.001577*** (0.000395)	0.057905 (0.069130)
Corruption index <sub>t-1</sub>	-0.002459*** (0.000604)	-0.102906 (0.116472)	-0.024114** (0.009200)	-0.001802 (0.213979)	-0.001409** (0.000577)	-0.244195 (0.172327)
Network <sub>t-1</sub>	0.012569*** (0.000836)	0.079367 (0.077888)	0.011757*** (0.000611)	0.098661 (0.117141)	0.012641*** (0.000508)	0.032796 (0.105756)
Index of labor market rigidity <sub>t-1</sub> *network <sub>t-1</sub>	0.000023 (0.000552)	-0.035424 (0.028219)	-0.000066 (0.002037)	-0.076792* (0.036592)	0.000343 (0.000327)	0.018877 (0.041755)
Index of business regulations <sub>t-1</sub> *network <sub>t-1</sub>	-0.000262 (0.000621)	0.007838 (0.033236)	0.000499 (0.004044)	-0.019833 (0.064740)	0.000248 (0.000496)	0.022984 (0.045102)
Index of credit risk <sub>t-1</sub> *network <sub>t-1</sub>	0.001609*** (0.000272)	-0.017148 (0.025409)	0.001146*** (0.000299)	-0.000689 (0.024057)	0.001479*** (0.000214)	-0.025726 (0.045217)
Corruption index <sub>t-1</sub> *network <sub>t-1</sub>	-0.043501*** (0.014526)	-0.567579 (0.456883)	-0.163247*** (0.054475)	-0.231474 (1.156541)	-0.036512** (0.014826)	0.204870 (0.977684)
Labor productivity <sub>t-1</sub>	0.001473*** (0.000443)	0.068011 (0.095293)	0.007251** (0.002838)	0.058228 (0.093264)	0.001511** (0.000622)	0.103242 (0.155642)
Mean Y	0.037	10.176	0.152	10.145	0.014	10.244
R-sq	0.124	0.285	0.237	0.311	0.069	0.263
N	1,261,507	46,070	193,433	29,287	1,210,417	16,752