Labor Market Institutions, Firm-specific Skills, and Trade Patterns

Heiwai Tang
Tufts University

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Research Questions

- Research in international trade: a country's contracting and legal institutions can shape its comparative advantage (Levchenko, 2007; Nunn, 2007; Costinot, 2009).
- Labor market institutions vary a lot across countries (e.g., Germany versus US; Malaysia versus Mexico)
- Many papers have studied the relation between labor market institutions and labor market outcomes; few have studied their impact on
  - workers' skill acquisition;
  - thus, countries' comparative advantage.
- How a country's labor market institutions, by affecting its workers' on-the-job skill acquisition, shape its comparative advantage?

How do labor regulations affect workers' skill acquisition?

- Workers acquire firm-specific skills on the job.
- In countries where labor laws are more protective (i.e., rigid labor markets)
  - $\rightarrow$ Relatively more stable firm-worker relationship
  - $\rightarrow$ Able to obtain a larger share of ex-post gains from human capital investments
  - $\rightarrow$ higher return to firm-specific investments (relative to general skills)
  - $\rightarrow$ acquire more firm-specific skills

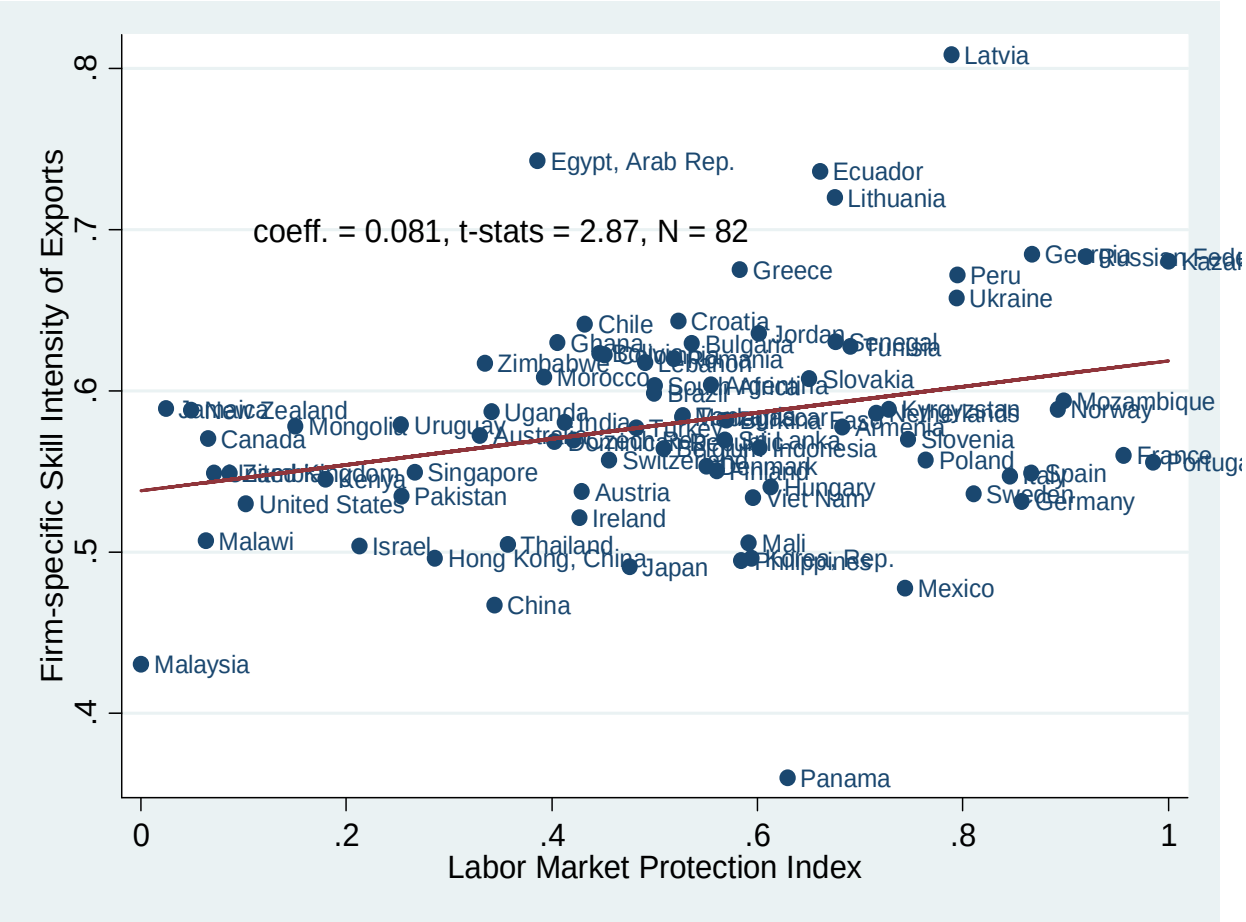
Challenge: How to measure firm-specific skills?

- Follow the (traditional) studies on seniority effects on wages (Becker, 1964; Altonji and Shakotko, 1987; Topel, 1991; Altonji and Williams, 2005) and interpret higher returns to firm tenure as outcomes of higher firm-specific skill intensity in production.
- Alternative theories:
  - incentive contracts (e.g., Lazear, 1981);
  - asymmetric information about workers' abilities (e.g., Gibbons and Katz, 1991);
  - wage compression due to labor market frictions (e.g., Acemoglu and Pischke, 1999).
- Using data from the U.S. Panel Study of Income Dynamics (PSID) over 1974-1993 to estimate firm tenure premium for each 3-digit industry.

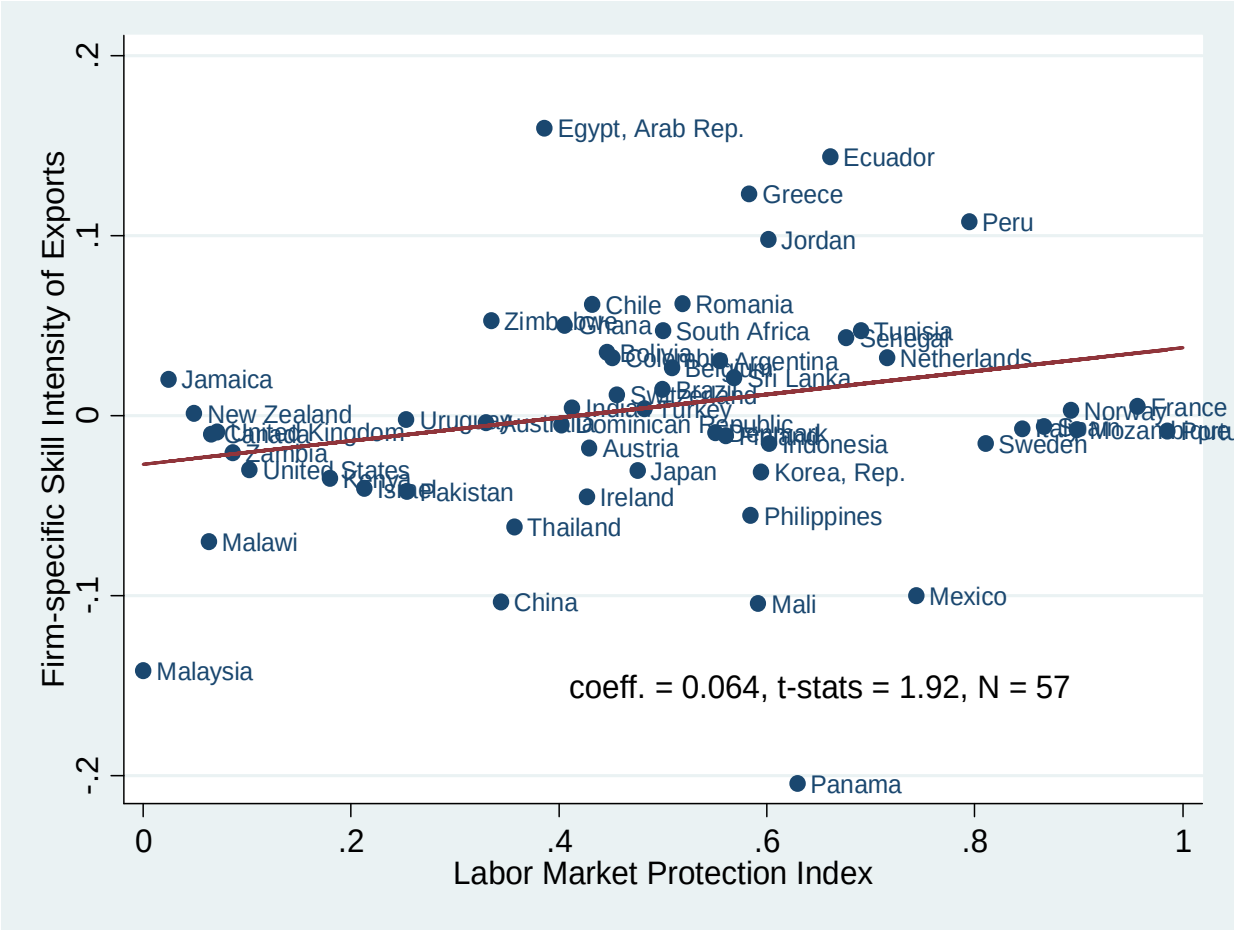
Main findings

- By estimating sector-level gravity equations using the Helpman-Melitz-Rubinstein (2008) framework:
  - countries with protective labor markets specialize in both firm-specific and industry-specific skill-intensive sectors on the intensive margin;
  - industry-specific skills playing a more significant role in shaping the pattern of export participation.
- The results are independent of other sources of comparative advantage (factor endowments, income, and contracting institutions).
- Remark: This paper provides no normative implications about whether labor market protection can enhance welfare.

Countries with more protective labor laws tend to export specific skill-intensive goods (Whole Sample)



Countries with more protective labor laws tend to export specific skill-intensive goods (partialling out the H-O Effects)



Roadmap

- Literature Review
- Theoretical Model
- Construction of sector proxies for firm-specific skill intensity
- Estimating the gravity equation at the sector level (i.e. bilateral trade flows)
- Conclusion

Literature Review

- Labor economics: high firm tenure premium; importance of firm-specific skills:
  - Kletzer (1989); Topel (91); Jacobson et al. (1993); Dustmann and Meghir (2005) for Germany; Buchinsky et al. (2010) for US;
- Labor market institutions and the pattern of skills ("varieties of capitalism"):
  - Houseman (1990); Estevez-Abe et al. (1998); Suedekum and Ruehmann (2003); Belot et al. (2007); Wasmer (2006)
- Labor market institutions and trade:
  - Brecher (1974); Matusz (96); Davidson et al. (1999); Davidson and Matusz (06); Helpman and Itskhoki (2009, 2010) and Helpman, Itskhoki, and Redding (2008, 2010)
  - comparative advantage: Saint-Paul (1997); Brügemann (2003); Cuñat and Melitz (2010)
- Institutional Comparative Advantage:
  - Costinot (2006); Acemoglu et al. (2007); Levchenko (2007); Nunn (2007)

Set-up

- Structure based on Helpman, Melitz, and Yeaple (04)
- $S+1$ sectors: 1 homogeneous-good numèraire sector, S differentiated-goods sectors
- Labor is the only factor of production
- A measure L of ex-ante identical and risk-neutral consumers/ workers, supply labor inelastically
- Each worker endowed with $\bar{h}$ units of general skills

Preferences

- Preferences composed of (1) consumption and (2) disutility of skill acquisition
- CES Utility over $S+1$ sectors $C = C_0^{1-\alpha} \prod_{s=1}^{S} C_s^{b_s}$ where $\sum_{s=1}^{S} b_s = \alpha$

$$C_s = \left[\int_{\omega \in \Omega_s} c_s(\omega)^{\frac{\sigma-1}{\sigma}} d\omega \right]^{\frac{\sigma}{\sigma-1}}$$

- Worker k exerts effort e_k (in terms of the consumption basket) to acquire firm-specific skills. Indirect Utility:

$$U_k = \frac{w_k - e_k}{P}$$

Technology and Market Structure

- Homogeneous-good sector is perfectly competitive. Linear production technology: 1 unit of general skills produces 1 unit of good $\Rightarrow$ Wage rate of general skills $= 1$
- Differentiated-good sectors are monopolistically competitive.
- Production function of a firm in sector s equals

$$y_s = f_s(a)\, l \text{ , where } f_s(a) = \epsilon a^{\lambda(s)} \bar{h}^{1-\lambda(s)}$$

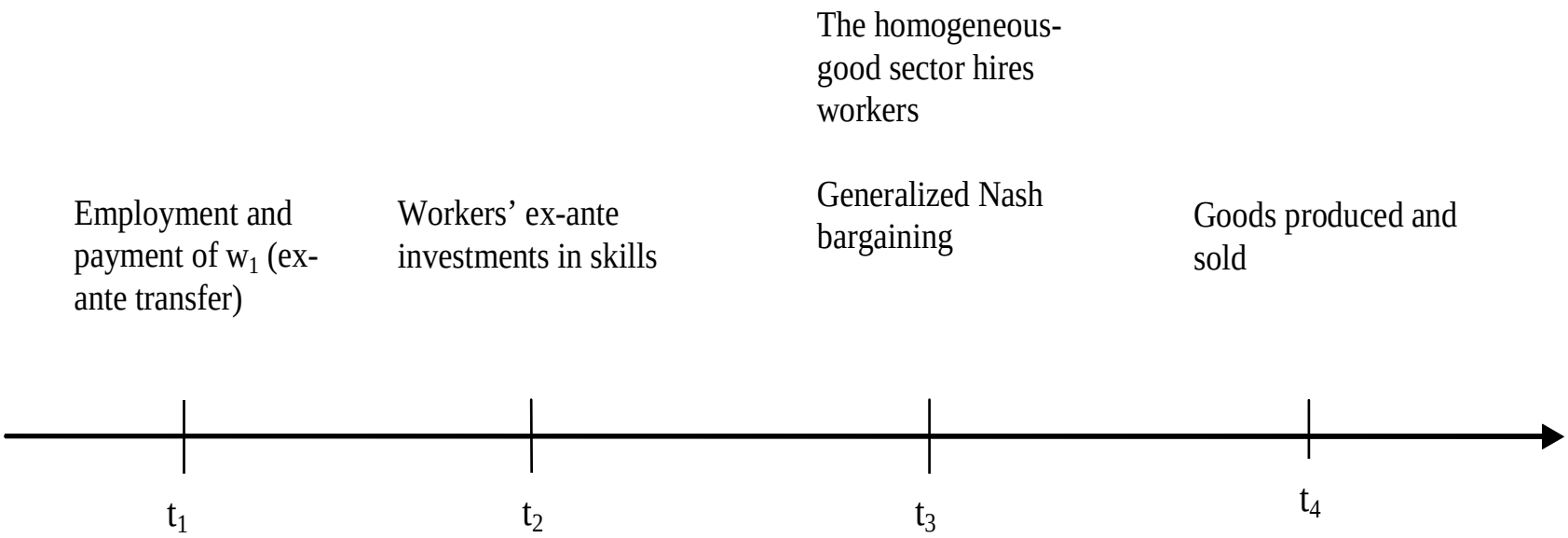
  - $a =$ (average level) specific skills chosen by workers. Firms do not invest.
  - $h =$general skills;
  - l is employment; ϵ is exogenous firm-specific productivity.

- Sectors differ in firm-specific skill intensity: $\lambda(s) \in (0,1)$; $\lambda(s) > \lambda(s') \ \forall s > s'$, $s, s' \in \{1, .., S\}$

Nash bargaining and the degree of labor protection

- Workers' investment activities are observable, but non-contractible.
- Incomplete contracts $\Rightarrow$ the employer and employees bargain over the division of surplus due to human capital investment
- Assume generalized (bilateral) Nash bargaining + "right-to-manage" framework, between the representative worker and the employer
- ϕ = bargaining power of the workers (assumed to be the same across sectors)
- Higher ϕ represents more regulated labor market (Blanchard and Giavazzi (03); Spector (04))

Timing of Events



Skill Acquisition and Endogenous Labor Productivity (t_2)

- At the bargaining stage: outside options of the employer $= 0$ (normalization); workers $\bar{h}l \rightarrow$ Surplus of joint production: $S = R - \bar{h}l$
- The representative worker (union leader)

$$\max_{a} \ \phi A^{1-\eta} \left(\epsilon a^{\lambda} \bar{h}^{1-\lambda} l\right)^{\eta} / l - a + (1-\phi)\,\bar{h}$$

$$A = \text{demand factor}\ , \eta = 1 - \frac{1}{\sigma} < 1.$$

- Two countries, i and k, are identical except $\phi_i > \phi_k$

$$\frac{f^*(\lambda, \phi_i)}{f^*(\lambda, \phi_k)} = \left(\frac{\phi_i}{\phi_k}\right)^{\frac{\lambda}{1-\lambda\eta}}$$

Workers' participation and firms' employment decisions (t_1)

- Workers can stay out in the external labor market, get $\bar{h}$ in the homogeneous-good sector or join a firm in a differentiated-good sector.
- Inelastic supply of ex-ante identical labor $\rightarrow$ ex-ante transfer $w_1(\epsilon)$ adjust so that all workers are indifferent to joining any sectors (workers' participation constraint)
- The employer choose employment to maximize expected operating profits

$$\widetilde{\pi}(a^*, \epsilon) \equiv \max_{l} (1-\phi)\left[R(a^*, \epsilon) - \bar{h}l\right] - w_1(\epsilon) l$$

subject to workers' participation constraint.

- Firm-level equilibrium: $l^*(\lambda, \phi, \epsilon)$, $y^*(\lambda, \phi, \epsilon)$ $R^*(\lambda, \phi, \epsilon)$ and $\widetilde{\pi}^*(\phi, \lambda, \epsilon)$.

Environment of the Multi-country Open-economy Model

- Homogeneous goods are freely traded
- Assume all countries produce some homogeneous goods. Denote $w_i = \bar{h}_i$
- To export a differentiated good to country j, firms in country i face
  - variable "iceberg" cost, produce $\tau_{ij} > 1$.
  - fixed trade cost, f_{ij} (in homogeneous goods)
- Before employment, a firm draws an exogenous ϵ from a Pareto distribution over $[1, \epsilon_H]$ (Helpman, Melitz and Yeaple)
- Taking the number of firms in each sector as given.

Export Threshold for a Foreign Market (Extensive Margin)

- Marginal exporting firm satisfies the break-even rule

$$\widetilde{\pi}_{ijs}\left(\phi_i, \lambda\left(s\right), \epsilon\right) - f_{ij} = 0$$

- Productivity cutoff of exporting (from i to j in sector s):

$$\epsilon^*_{ijs} = \frac{\tau_{ij}}{P_{js}}\left(\frac{f_{ij}}{b_s Y_j}\right)^{\frac{1}{\sigma-1}} \Psi\left(\phi_i, \lambda\left(s\right)\right)$$

Hypothesis

Among a country's trading partners, those with more protective labor laws are more likely to export in firm-specific skill-intensive sectors.

Export Volumes for a Foreign Market (Intensive Margin)

- With Pareto distribution of ϵ, aggregating over all exporters' revenues ($R_{ijs}(\epsilon)$) (to country j) $\rightarrow$ the volume of sectoral exports:

$$X_{ijs} = b_s N_{is} Y_j \left(\frac{\tau_{ij} \Theta(\phi_i, \lambda(s))}{P_{js} \eta} \right)^{(1-\sigma)} W_{ijs}$$

$$W_{ijs} = \max \left\{ \left(\frac{\epsilon_H}{\epsilon^*_{ijs}} \right)^{\xi-(\sigma-1)} - 1, 0 \right\}$$

Hypothesis

Among a country's trading partners, those with more protective labor laws export relatively more in firm-specific skill intensive sectors.

Empirical Framework: Two-Stage Est. (2nd Stage)

- Implement Helpman, Melitz and Rubinstein (HMR 2008) two-stage estimation procedure
- Two potential biases
  - (Downward bias) Heckman selection: lots of zeros in bilateral trade data
  - (Upward bias) Omitted Variable: extensive margin of trade
- Econometric specification of the sector-level gravity equation

$$\begin{aligned}\ln X_{ijs} &= \alpha + \beta Labor_i \times Spec_s + \theta \ln D_{ij} + \delta_n \ln N_{is} + \delta_p \ln P_{js} \\ &\quad + (F_s + F_i + F_j) + \omega_{ijs} + u_{ijs}\end{aligned}$$

where $\omega_{ijs} = \ln\left(\left(\epsilon_H/\epsilon^*_{ijs}\right)^{\delta} - 1\right)$ if $\epsilon^*_{ijs} < \epsilon_H$

Empirical Framework: Two-Stage Est. (1st Stage)

- Denote $Z_{ijs} = \left(\epsilon_H / \epsilon^*_{ijs}\right)^{\delta}$, which is > 1 if there are exports.
- $I_{ijs} = 1$ if positive trade flows are observed from country i to j in sector s, 0 otherwise. Use the solution of ϵ^*_{ijs}, derive the first-stage specification as

$$\begin{aligned}\rho^*_{ijs} &= \Phi(\alpha^* + \beta^* Labor_i \times Spec_s + \delta^*_p \ln D_{ij} + \delta^*_p \ln P_{js} \\ &\quad + \varphi^* \psi_{ij} + (F_s + F_i + F_j))\end{aligned}$$

- ψ_{ij} captures fixed trade costs; excluded from the 2nd stage.
- Excluded variable: numbers of (1) procedures to start business; (2) days to start business. (Source: Djankov et al. (2002) (use average of the importer-exporter pair).

Sector proxies for firm-specific skill intensity

- Follow the literature on seniority effects on wages (Altonji and Shakotko, 89; Kambourov and Manovskii, 09) and estimate returns to firm and industry tenure
- Returns to firm tenure reflect workers' firm-specific skills (Becker, 64; Topel, 91; Buchinsky et al., 10)
- Sample: PSID data (1974-1993), male household heads, manufacturing workers (involves 5669 job switches and starters)

$$\begin{aligned} \ln w_{kmst} = & \sum_s Sec_s[\beta_{1s} Firm\_Ten_{kmt} + \beta_{2s} Firm\_Ten_{kmt})^2] \\ & + \sum_s Sec_s[\gamma_{1s} Work\_Exp_{kt} + \gamma_{2s} (Work\_Exp_{kt})^2] \\ & + Cont_{kmt} + \Gamma_{kmst} + \varepsilon_{kmst}. \end{aligned}$$

- Γ_{kmst}: education; year, occupation, sector fixed effects; a dummy for union; dummy for 1st year of employment.

Ranking of Firm-Specific Skill Intensity

Top 5 Firm-specific Skill Intensive Industries ($\text{Spec}_s^5 = \widehat{\beta}_{1s} \times 5 + \widehat{\beta}_{2s} \times 5^2$)

Rank	SIC 3-digit Industry	Return to 5-yr Tenure
1	Petroleum refining	0.329
2	Cement, concrete, gypsum, and plaster	0.299
3	Misc. paper and pulp products	0.219
4	Office and accounting machines	0.214
5	Drugs and medicines	0.205

Bottom 5 Firm-specific Skill Intensive Industries

28	Newspaper publishing and printing	0.012
29	Ship and boat building and repairing	-0.005
30	Misc. plastic products	-0.006
31	Glass and glass products	-0.026
32	Radio, T.V., and communication eqt.	-0.169

- Estimates are rescaled to range between (0,1)
- Assume the same ranking across countries (Rajan and Zingales, 98; Romalis, 03)

Indices of Labor Market Regulations

- From Botero et al. (2004) "The Regulation of Labor"
- Weighted Average (based on principal component analysis) of 2 Indices:
  - Employment Laws Index
    1. Alternative employment contracts
    2. Cost of increasing hours worked
    3. Cost of firing workers
    4. Dismissal procedures
  - Collective Relations Index
    1. Labor Union Power
    2. Collective Disputes
- Sample: 84 countries, 62 SIC-3digit sectors (out of 116), $>$ 60 of world trade of manufactured goods in 1995

Ranking of Labor Market Protection

Rank	Country	Labor Protection
Most Protective Labor Markets		
1	Kazakhstan	1
2	Portugal	0.985
3	France	0.957
4	Russia	0.919
5	Mozambique	0.898
Least Protective Labor Markets		
80	Malawi	0.063
81	New Zealand	0.049
82	Jamaica	0.024
83	Nigeria	0.023
84	Malaysia	0

Factor Endowment Data

- Capital Endowment: Natural log of the average value of capital stock per worker (Caselli (05))
- Human Capital Endowment: Natural log of the ratio of workers who completed high school to those who did not (Caselli (05))
- Natural Resources Endowment: Natural log of the estimated dollar value of natural resources stock
  - pastureland, cropland, timber resources, nontimber forest resources, protected areas, subsoil assets) per worker (World Bank)

Factor Intensity Data (Based on U.S. data)

- Based on a 4 factor production (l,k,h,m); Data source: NBER US Manufacturing Database (SIC87 4-digit) (Bartelsman, Becker, Gray (00))
- Material Intensity s_m: Cost of Materials/(Value Added + Cost of Materials)
- Labor Intensity s_l: Payroll/Value Added
- Capital Intensity s_k: (1-s_m) $\times$ (1-s_l)
- Human Capital Intensity s_h: (1-s_m) $\times$ s_l $\times$ (# Non-prod. Wkers/# Wkers)

Bilateral Trade Data

- Trade Data in 1995: Feenstra (00) World Trade Data Set, 116 SIC 3-digit sectors
- Bilateral Trade Costs: Glick and Rose (02); CEPII
  1. distance;
  2. common border;
  3. one of them is landlocked;
  4. one of them is an island;
  5. common language;
  6. the same colonial power ever in the past,
  7. ever been in a colonial relationship after 1945
  8. in a regional trade agreement;
  9. in a currency union;
  10. the same legal origin.

$\ln X_{is} = F_i + F_s + \beta Labor_i \times Spec_s + \mathbf{Z_i h_s} \gamma + e_{is}$

Sample:	All				No oil countries	No oil sector
Labor x Firm Spec.	0.086**	0.057+	0.058+	0.107**	0.112**	0.084*
	(2.70)	(1.68)	(1.68)	(2.76)	(2.89)	(2.01)
ln(K/L) x Capital Intensity		-0.043	-0.013	0.161	0.190	0.241
		(-0.30)	(-0.09)	(1.10)	(1.28)	(1.63)
ln(H/L) x Skill Intensity		0.392**	0.314**	0.320**	0.324**	0.361**
		(7.77)	(5.52)	(5.66)	(5.64)	(6.21)
ln(Resource/L) x Mat. Intensity		0.575**	0.630**	0.541**	0.443**	0.650**
		(4.24)	(4.42)	(3.84)	(3.16)	(4.27)
Ln(RGDP) x Value added			(0.05)	(0.11)	(0.17)	(0.24)
			(-0.32)	(-0.75)	(-1.07)	(-1.56)
Judicial x Contract Dep.			0.415**	0.339**	0.365**	0.353**
			(3.82)	(3.10)	(3.25)	(3.23)
ln(K/L) x Firm-Spec.				-1.136**	-1.255**	-0.987*
				(-2.74)	(-2.97)	(-2.32)
ln(H/L) x Firm-Spec.				-0.012	-0.010	-0.011
				(-0.14)	(-0.11)	(-0.11)
ln(Resource/L) x Firm-Spec.				0.336**	0.327**	0.345**
				(2.99)	(2.72)	(3.12)
Ln(RGDP) x Firm-Spec.				0.66	0.796+	0.52
				(1.47)	(1.70)	(1.15)
Judicial x Firm-Spec.				-0.092	-0.080	-0.045
				(-1.03)	(-0.83)	(-0.49)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Nb. of Observations	4153	3009	2966	2966	2895	2917
Nb. of Countries	84	60	56	56	54	56
Nb. of SIC Sectors	62	62	62	62	62	61
R2	0.76	0.77	0.78	0.78	0.78	0.78

Baseline Gravity Equation (OLS)

Dependent Variable: (ln) bilateral exports from i to j by sector: ln X_{ijs}					
	Baseline	+ Factor Endowment	+ Labor xIndustry-Spec	Beta Coeff. for (5)	+ Importer-Sector FE's (Beta Coeff.)
Labor x Firm-Spec.	0.694**	0.850**	0.435*	0.039*	0.035*
	(6.17)	(7.23)	(2.26)	(2.26)	(2.21)
Labor x Industry-Spec.			0.504**	0.040**	0.038**
			(2.67)	(2.67)	(2.81)
ln(K/L) x Capital Intensity		-0.056**	-0.013	-0.054	0.03
		(-4.98)	(-1.08)	(-1.08)	-0.6
ln(H/L) x Skill Intensity		2.267**	1.851**	0.415**	0.449**
		(25.42)	(20.27)	(20.27)	(22.55)
ln(M/L) x Mat. Intensity		0.138**	0.127**	0.413**	0.375**
		(9.18)	(8.53)	(8.53)	(7.89)
R2	0.475	0.479	0.485	0.485	0.573
Nb. of exporters	84	57	53	53	53
Nb. of clusters	4363	3701	3496	3496	3858
Nb. of observations	95107	82734	78731	78731	84823

All regressions include exporter, importer, and sector fixed effects (importer-sector and exporter FEs are included in the last column)
t-statistics based on standard errors clustered by importer-exporter pair are in parentheses.
** and * denote 1% and 5% significance levels respectively.
All regressions include all 9 trade-cost variables

Economic Significance of the Proposed Channel

- Consider Germany (90th percentile; $Labor_i = 0.858$) and the U.S. (10th percentile; $Labor_i = 0.102$)
- Two sectors: Drugs and medicine ($Labor_i = 0.678$) and fabricated structural metal products ($Labor_i = 0.407$)
- $\widehat{\beta} \simeq 0.850$
- If U.S. adopts the German labor law protection
- $\exp\left[E\left[\triangle \ln X_{ijs}^{i'} - \triangle \ln X_{ijs'}^{i'}\right]\right] =$
  $\exp\left[\widehat{\beta} \triangle Labor_i^{i'} \times \triangle Spec_s\right] \simeq 1.202$

Two-Stage Est.: 1st-Stage Probit – Ext. Margin of Trade

Dep. Var.: Indicator for positive exports from i to j by sector			
	Baseline	+ Factor Endow.	+ Labor Industry-Spec.
Labor x Firm-Spec.	0.691**	0.637**	-0.004
	(9.20)	(7.87)	(-0.03)
Labor x Industry-Spec.			0.758**
			-5.49
Procedures to Start Businesses	-0.638**	-0.660**	-0.651**
	(-4.88)	(-4.80)	(-4.62)
Days to Start Businesses	-0.0783**	-0.119**	-0.126**
	(-3.38)	(-4.67)	(-4.87)
ln(K/L) x Capital Intensity		0.00757	0.0318**
		(1.16)	(4.61)
ln(H/L) x Skill Intensity		1.857**	1.633**
		(35.91)	(31.82)
ln(Resource/L) x Mat. Intensity		0.112**	0.109**
		(14.03)	(13.25)
Log-likelihood	-98377	-84804	-79942
Nb. of exporters	71	57	53
Nb. of clusters	7526	6042	5618
Nb. of observations	466612	374604	338038

All regressions include exporter, importer, and sector fixed effects.
z-statistics based on standard errors clustered by importer-exporter pair are in parentheses.
** and * denote 1% and5% significance levels respectively.

Two-Stage Est.: 2nd-Stage Int. Margin of Trade

Dependent Variable: (ln) bilateral exports from i to j by sector: ln X_{ijs}				
	Baseline	+ Factor Endow.	+ Labor X Ind-Spec.	OLS for (5)
Panel A: Maximum Likelihood Estimation				
Labor x Firm-Spec.	0.980**	0.805**	0.555**	0.435*
	(5.70)	(4.82)	(2.89)	(2.26)
Labor x Industry-Spec.			0.297	0.504**
			(1.34)	(2.67)
e_{ijs}	1.510**	1.386**	1.407**	
	(7.87)	(7.15)	(7.54)	
Inverse Mills Ratio	0.697**	0.751**	0.765**	0.738**
	(2.82)	(3.15)	(3.12)	
Panel B: Flexible specification: OLS using 50 bins for predicted probability				
Labor x Firm-Spec.	1.160**	0.992**	0.559**	0.435*
	(9.96)	(8.37)	(2.90)	(2.26)
Labor x Industry-Spec.			0.487*	0.504**
			(2.51)	(2.67)
R2	0.51	0.533	0.54	0.485
Num. of exporters	71	57	53	53
Num. of clusters	3,047	2852	2777	2777
Num. of observations	83448	75969	72208	72208

All regressions include exporter, importer, and sector fixed effects, as well as the 9 trade frictions variables. Standard errors are clustered by importer-exporter pair. z-statistics are reported in parentheses in Panel A; ** and * denote 1%, 5% and 10% significance levels respectively.

Alternative Hypotheses

Dependent Variable: (ln) bilateral exports from i to j by sector: $\ln X_{ijs}$					
	Labor Law x Vol	Labor Law x Vol	Legal Inst. x Contract	Contract & Vol	Beta coeff. for (5)
Measure of Volatility	Sales Vol	Gross Job Flows	-	Gross Job Flows	Gross Job Flows
Labor x Firm-Spec.	0.613**	0.366+	0.669**	0.379**	0.034**
	(3.18)	(1.87)	(3.44)	(1.94)	(1.94)
Labor x Industry-Spec.	0.203	0.298	0.135	0.256	0.02
	(0.87)	(1.21)	(0.59)	(1.05)	(1.05)
Labor x Volatility	-0.754+	-0.029**		-0.030**	-0.083**
	(-1.79)	(-4.02)		(-3.90)	(-3.90)
Judicial x Contract Dep.			2.456**	2.437**	0.227**
			(4.14)	(4.15)	(4.15)
Nb. exporters	57	57	56	56	56
Nb. clusters	2852	2852	2840	2840	2840
Nb. observations	75969	75969	75851	75851	75851

Controls include exporter, importer, and sector fixed effects, 9 trade frictions variables, and comparative advantage from factor endowment differences is controlled for.
z-statistics, based on standard errors are clustered by importer-exporter pair, are reported in parentheses.
** and * denote 1% and 5% significance levels respectively.

▸ Robustness Check: Other Country Characteristics ▸ Robustness Check: Other Sector Characteristics

Conclusion

- New source of comparative advantage – the interaction between labor market institutions and workers' skill acquisition.
- Countries with more protective labor laws specialize in firm-specific skill-intensive sectors, reflected on both the intensive and extensive margins.
- Empirical results from gravity estimation support these theoretical predictions.

Robustness Check: Country Characteristics

Dependent Variable: (ln) bilateral exports from i to j by sector: ln(Xijs)						
	Income	Human Capital	Capital	Judicial Quality	All (w/ sales vol.)	All (w/ job flows)
Labor x Firm-Spec.	0.677**	0.345?	0.799**	0.556**	0.689**	0.445*
	(3.46)	(1.78)	(4.00)	(2.86)	(3.22)	(2.10)
Labor x Industry-Spec.	0.161	0.152	0.157	0.171	0.231	0.342
	(0.70)	(0.66)	(0.68)	(0.75)	(1.00)	(1.40)
Labor x Volatility					-0.249	-0.025**
					(-0.60)	(-3.49)
ln(rgdp per cap.) x Spec.	-0.293**				1.186**	1.195**
	(-4.00)				(4.34)	(4.40)
ln(H/L) x Spec		-1.674**			-1.688**	-1.704**
		(-5.16)			(-4.68)	(-4.72)
ln(K/L) x Spec			-0.323**		-1.118**	-1.120**
			(-4.71)		(-4.86)	(-4.90)
Judicial x Spec				-1.292**	0.64	0.639
				(-3.69)	(1.37)	(1.38)
# exporters	57	57	57	56	56	56
# clusters	2852	2852	2852	2840	2777	2777
# observations	75969	75969	75969	75851	72205	72205

Robustness Check: Sector Characteristics

Dependent Variable: (ln) bilateral exports from i to j by sector: ln(Xijs)						
	VA	Skill Intensity	Capital Intensity	Contract Depend.	Ext. Fin. Dep.	TFP Growth
Labor x Firm-Spec.	0.682**	0.802**	0.539**	0.997**	0.394*	0.741**
	-3.46	-4.03	-2.73	-4.96	-2.14	-3.72
Labor x Industry-Spec.	0.182	0.047	0.15193	0.076	0.29	0.047
	-0.79	-0.23	-0.67	-0.34	-1.25	-0.2
Labor x Value added	0.267					
	-1.24					
Labor x Skill Intensity		0.196**				
		-2.46				
Labor x Capital Intensity			0.144**			
			-2.91			
Labor x Contract Dep.				1.647**		
				-5.68		
Labor x Ext. Fin. Dep.					-0.246**	
					(-2.34)	
Labor x TFP Growth						-5.914**
						(-4.94)
# exporters	57	57	57	56	56	56
# clusters	2852	2852	2852	2777	2777	2852
# observations	75969	75969	75969	72208	72208	75969