

Labor Outsourcing Across Countries

Gorkem Bostanci & Sudipta Ghosh

University of British Columbia

- Employment protection regulations:
 - Labor misallocation
 - Lower aggregate productivity
- Aggregate firm dynamics depend on firms' ability to counter such regulations.
- Firms reduce labor adjustment costs via outsourcing.

Research Questions

- How does the extent of outsourcing differ across countries?
- What factors explain cross-country heterogeneity in labor outsourcing?
- How does cost of employment protection regulations affect labor outsourcing ?

This paper

- Provides cross-country estimates and patterns of labor outsourcing shares.
- Relates outsourcing to the strength of employment protection.
- Develops a quantitative model
 - Decompose cross-country heterogeneity in labor outsourcing to contributing factors.
 - Estimate cost of employment protection for varying outsourcing share.

Classification of Outsourcing Sectors

Definition: Share of sectors providing business services, that are labor intensive and can be done in-house

- Broad Classification: Sections M and Section N of the ISIC
- Includes
 - Professional, scientific, and technical activities
 - Administrative and support service activities
- Measures of outsourcing: Employment and Value-added in the above industries

► Other Classifications

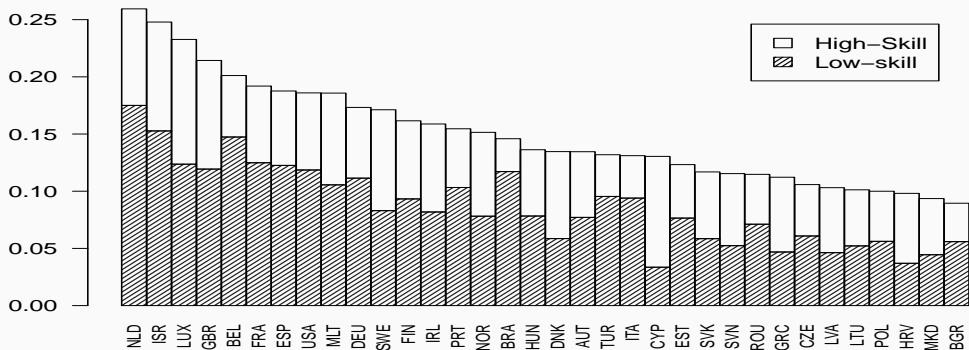
OECD

- OECD Structural and Demographic Business Statistics (SBDS)
- Provides standardized industrial classification across countries
- Information on employment and value-added at 2-digit industry classification
- Main source of outsourcing data

WBES

- Small establishment level survey for many countries
- Provides information on establishment-level variables for calibration

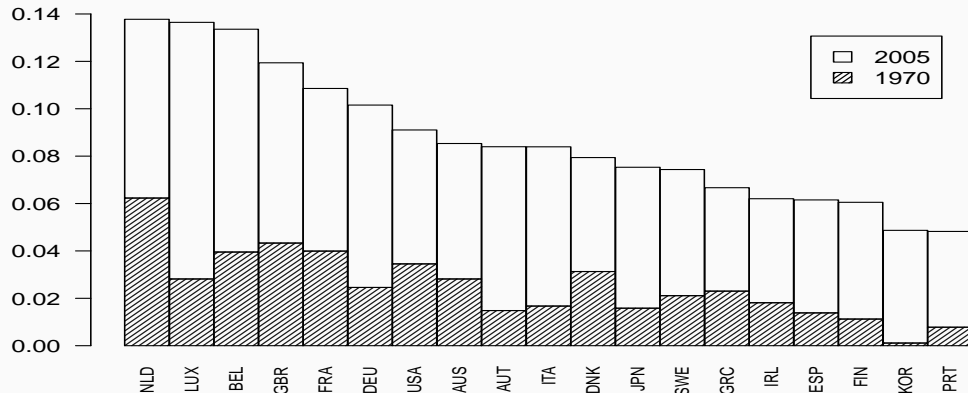
Employment in the Labor Outsourcing Sector



The Employment Share of the Labor Outsourcing Sector in 2014

- High degree of heterogeneity in outsourcing labor shares

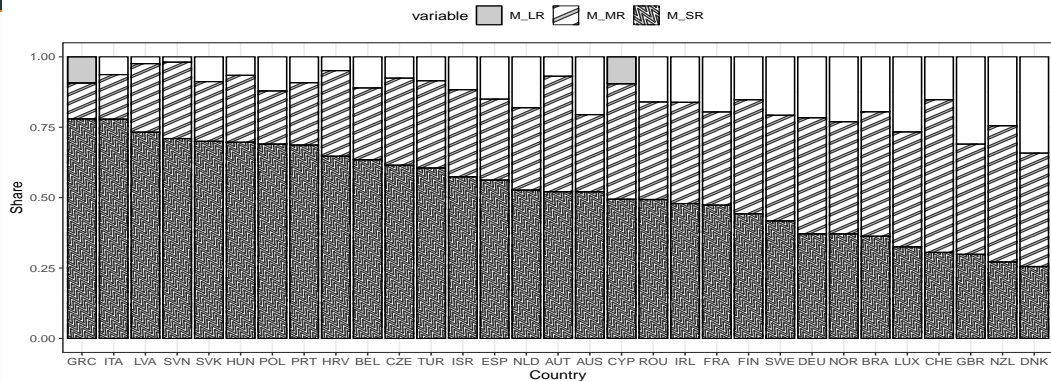
Growth in Labor Outsourcing Shares



The Employment Share of the Labor Outsourcing Sector in 1970 and 2005

- Labor outsourcing shares more than doubled in three decades

High-skilled Outsourcing Share in Employment

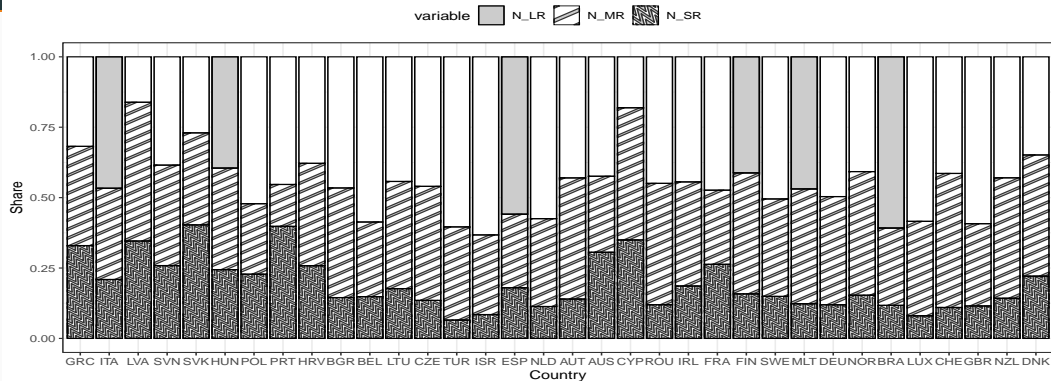


The Employment Distribution of the Labor Outsourcing Sector in 2014 across size class

- Concentration of small outsourcing providers in high-skilled jobs

► Value-added

Low-skilled Outsourcing Share in Employment



The Employment Distribution of the Labor Outsourcing Sector in 2014 across size class

- Outsourcing sector growth in low-skilled jobs

► value-added

Potential Determinants

$$\log(\log_{it}) = \beta_1 EPRC_{it} + \beta_2 EPT_{it} + \beta_3 Union_{it} + \beta_4 TS_{it} + \beta_5 \log(gdppc_{it}) + \alpha_i + \gamma_t + \epsilon_{it}$$

	<i>OLS</i>		<i>panel linear</i>		<i>OLS</i>		<i>panel linear</i>	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EPRC	-0.02 (0.02)	-0.27** (0.14)	-0.04 (0.11)	-0.19 (0.13)	0.19*** (0.04)	-0.12 (0.11)	0.20*** (0.06)	-0.08 (0.10)
EPT	-0.03** (0.01)	-0.09*** (0.02)	-0.00 (0.06)	-0.03* (0.02)	-0.10*** (0.03)	-0.13*** (0.03)	-0.10*** (0.03)	-0.08*** (0.03)
TSINDEX					0.36*** (0.11)	0.15** (0.06)	0.33*** (0.11)	0.13 (0.08)
Union. Rate					-0.14 (0.19)	-1.16* (0.69)	-0.24 (0.28)	-0.33 (0.55)
log(gdppc)	0.48*** (0.03)	0.54*** (0.08)	0.43*** (0.13)	0.30 (0.24)	0.35*** (0.08)	0.25*** (0.06)	0.50** (0.23)	-0.01 (0.10)
FE	OLS	Ind	Time	Two-way	OLS	Ind	Time	Two-way
Observations	378	378	378	378	48	48	48	48

*p<0.1; **p<0.05; ***p<0.01

- High cross-country differences in shares of outsourcing sector
- Rapid growth in outsourcing activities
- Concentration of high-skilled outsourcing providers among smaller firms
- Employment protection for temporary workers may restrict labor outsourcing growth

Purpose: Quantify the role of labor outsourcing in reducing labor adjustment costs.

Features: Based on Hopenhayn (1992)

- Firms face idiosyncratic shocks
- CES production function combining in-house and outsourced labor
- Single industry framework

Estimation: Why do some countries outsource more than others?

- Differential labor protection regulations.

Production technology with DRS combining in-house and outsourced labor

$$F(n, r) = s(\alpha n^\gamma + (1 - \alpha)r^\gamma)^{\frac{\theta}{\gamma}} \quad (1)$$

Timing of events:

1. Entry decisions are made.
2. Firms learn their productivity shocks and decide whether to stay or exit.
3. Firms make hiring/firing and outsourcing decisions.
4. Production happens, and wages are paid.

Firm's problem:

$$V(s, n_-) = \max \left\{ \max_{n, r} sPF(n, r) - n - r - \tau \max\{0, n_- - n\} - \right. \\ \left. Pc + \beta EV(s', n), -\tau n_- \right\} \quad (2)$$

Equilibrium: A steady state equilibrium consists of the value and policy functions of the final good firms V, n, r , the measure of entrants μ , and the steady state distribution of firms ψ that solve

1. $V(s, n_-)$ solves (2) (Firm's Problem)
2. $EV(s, 0) = Pc^E$ (Free Entry)
3. $\sum \int [n(s, n_-) + r(s, n_-)] d\psi(s, n_-) = 1$ (Labor Market Clearing)
4. $\psi(s, n_-) = T(\psi(s, n_-), \mu)$ (Stationary Dist)

- Calibrate model to countries Greece and Belgium
 - Labor outsourcing shares for Belgium >> Greece
 - Similar fixed term contracts
- Estimated firing cost for Belgium is 53% higher than that of Greece
- Estimated Average labor productivity in Belgium is about 15% higher than that of Greece

Raising firing cost by 50%

- Belgium: Net output: +4.3% ,APL: +2.8% ,Outsourcing share: +6.1%
- Greece: Net output: +7.4% ,APL: +4.1% ,Outsourcing share: +12.8%

Raising outsourcing labor wages by 50%

- Belgium: Net output: +0.24% ,APL: +0.21% ,Outsourcing share: -0.95%
- Greece: Net output: +0.08% ,APL: +0.09% ,Outsourcing share: -1.06%

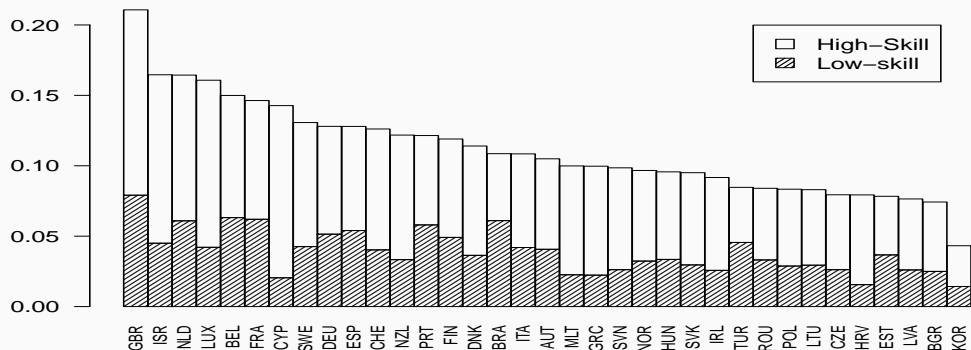
- Countries may use outsourcing to reduce labor adjustment costs
- Higher outsourcing has considerable effect on average labor productivity
- Possibility of significant gains from increasing outsourcing

Other Classifications

- Other classifications: excluding industries primarily serve households or are capital-intensive
 - 74 (Other Professional, Scientific And Technical Activities)
 - 75 (Veterinary Activities)
 - 77 (Rental And Leasing Activities)
 - 79 (Travel Agency, Tour Operator, Reservation Service, and Related Activities)
- Consumption = Production-Exports+Imports
- High skilled outsourcing industries: $LBEE > \text{country average}(LBEE)$

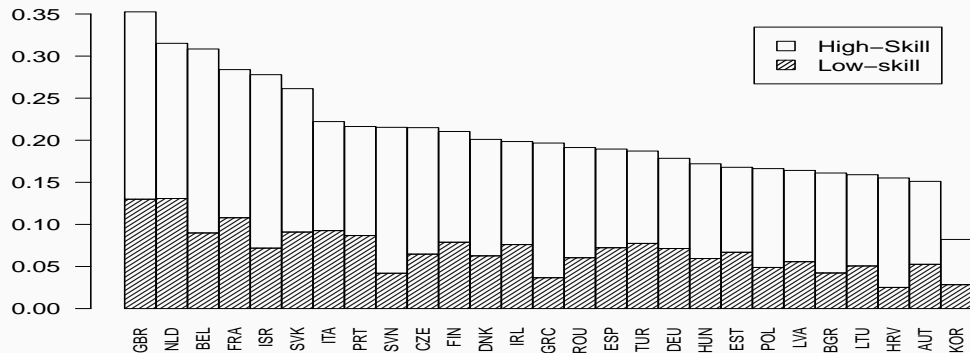
► Main Classification

Value-added by the Labor Outsourcing Sector



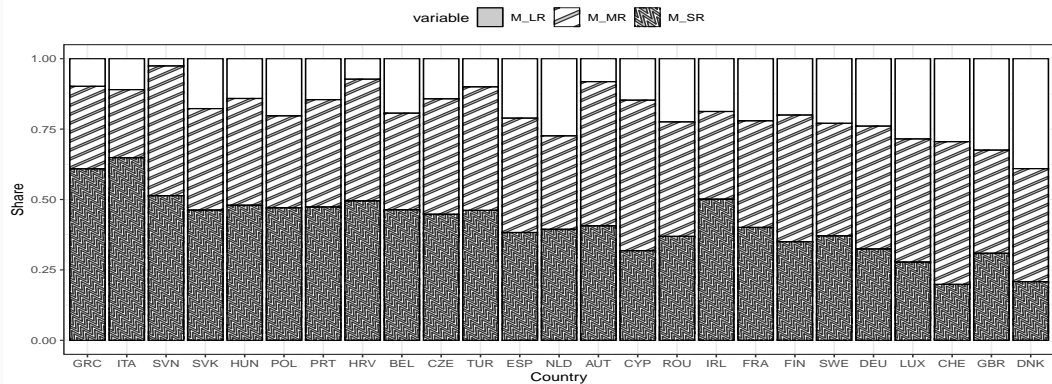
The Value-added Share of the Labor Outsourcing Sector in 2014

Consumption by the Labor Outsourcing Sector



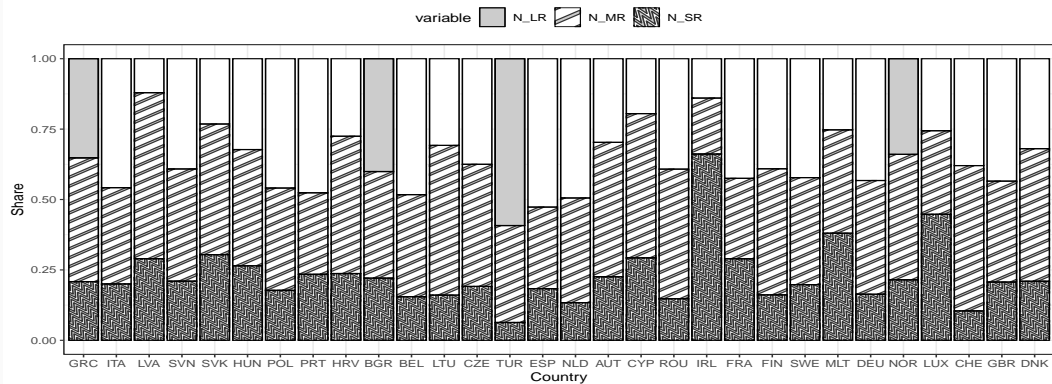
The consumption Share of the Labor Outsourcing Sector in 2014

High-skilled Outsourcing Share in Value-added



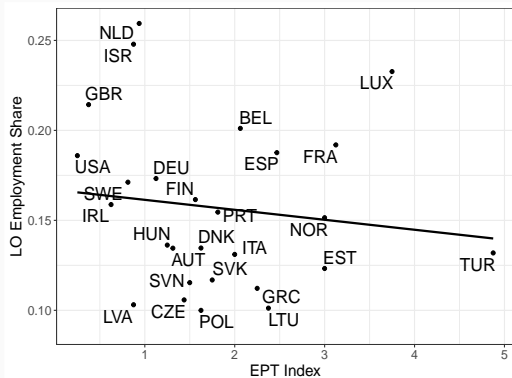
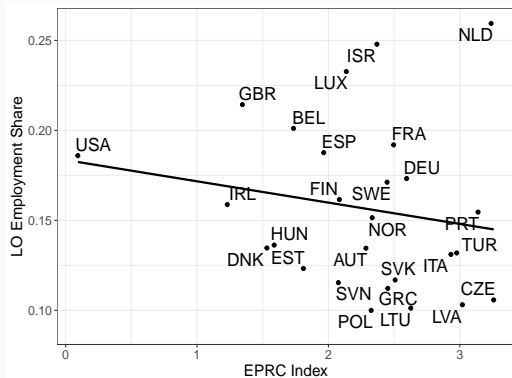
The Value-added of the Labor Outsourcing Sector in 2014 across size class

Low-skilled Outsourcing Share in Value-added



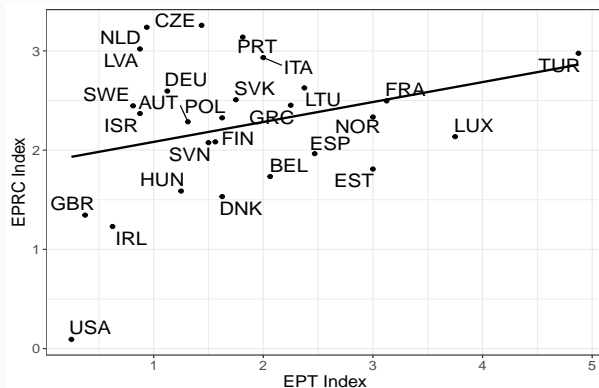
The Value-added of the Labor Outsourcing Sector in 2014 across size class

Employment Protection Regulations

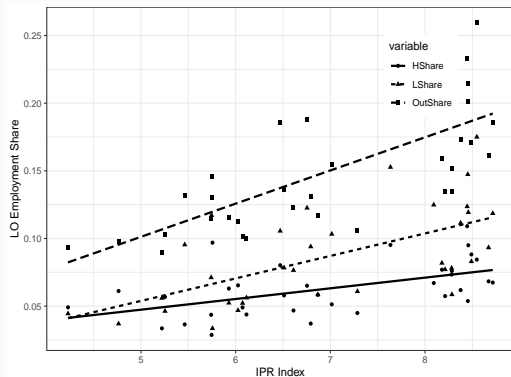
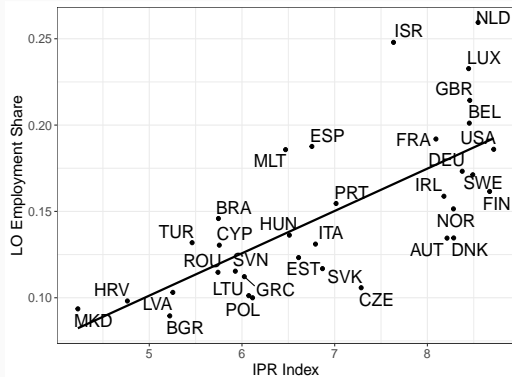


The Share of the Labor Outsourcing Sector and the Strength of Employment Protection Laws, 2014

Employment Protection Regulation Correlations

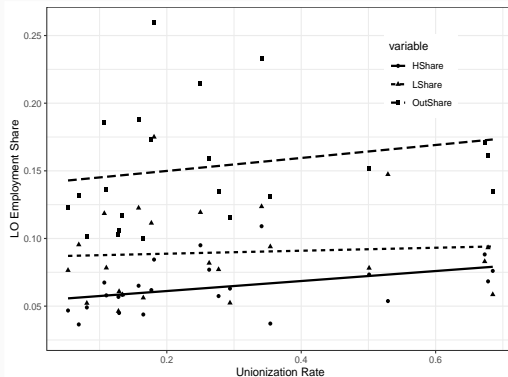
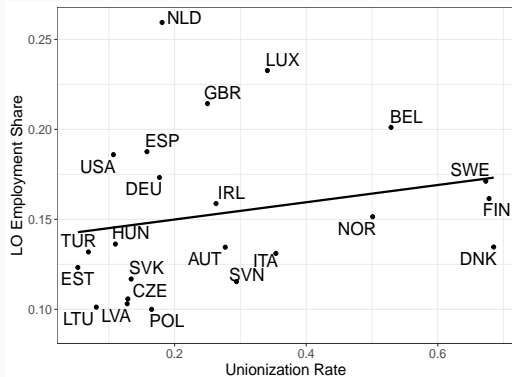


Correlations between EPRC and EPT



The Share of the Labor Outsourcing Sector (2014) and the Strength of IP protection (2017)

Unions



The Share of the Labor Outsourcing Sector and the Unionization Rate (2014)