Regulatory Races Revisited

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Motivation

- Theory of regulatory arbitrage
  - ➢ extensively discussed
  - ➢ regulatory policies ⇒ converge over time
- Empirical evidence ⇒ inconclusive
  - ➢ race to the bottom?
  - ➢ race to the top?
  - ➢ neither? ⇒ not imitating policies of neighboring government
    - ▪ retaining "distinctive attractiveness" (Carruthers and Lamoreaux, 2016)
- In the context of U.S.
  - ➢ "*The existing literature tends to investigate regulatory races in a balkanized fashion, one issue area at a time, but a more synthetic perspective could well uncover influences and connections that such narrowly focused research overlooks*." - (Carruthers and Lamoreaux, 2016)
  - ➢ Empirical studies ⇒ regulatory burden in a specific context
    1. Labor
    2. Environmental
    3. Corporate Governance
    4. Banking and Finance
  - ➢ These studies ⇒ valuable but limits the scope of an analysis

The Research Question

- Revisit the question of regulatory races for **all** industries
  - ➢ novel data set
  - ➢ RegData (Al-Ubaydli and McLaughlin, 2015)
    - ▪ first panel data set on federal regulation of all industries in the U.S.
  - ➢ State RegData (McLaughlin et al. , 2019)
    - ▪ regulatory burden of all industries in each state
    - ▪ cross-sectional data at present

Federal Law and Strategic Interaction

- Lemos (2011):
  - ➢ role of states in enforcing federal law ⇒ vital
  - ➢ can be conflicting with the federal enforcement strategy ⇒ hard to be prevented
  - ➢ can influence policy ⇒ both state and national level
    - ▪ adjusting enforcement level, novel interpretations
  - ➢ divergence widens ⇒ federal laws are vague, broadly defined

Methodology

- Baseline model:

$$R_{st} = \alpha_s + \gamma_t + \delta \sum_s \omega_{sjt} R_{jt} + X_{st}\beta + \epsilon_{st}$$

  - ➢ δ ⇒ parameter of interest
  - ➢ ω_{sjt} ⇒ weight attached by state *s* to state *j*
    - i. equal weight for all contiguous states; zero otherwise
    - ii. equal weight for all states in the same group according to BEA regional classification; zero otherwise
    - iii. equal weight for all states in the same group according to Crone regional classification; zero otherwise
- R_{jt} ⇒ potentially endogenous
  - ➢ reverse causality
  - ➢ omitted variables ⇒ business environment, discretionary power of bureaucrats, quality of politicians
  - ➢ measurement error ⇒ *de-jure* versus *de-facto* regulation
    - ▪ official regulatory laws → observed
    - ▪ actual implementation → unobserved
  - ➢ $\sum_s \omega_{sjt} X_{jt}$⇒ valid instruments (Fredriksson and Millimet, 2002)

Data

- RegData ⇒ industry-specific federal regulations
  - ➢ disaggregated at four-digit level ⇒ 2007 North American Industrial Classification System (NAICS)
  - ➢ rigorous text analysis approach
  - ➢ sample period: 1990 -2013
  - ➢ generate state-level measure (Autor et al. 2013)
    - ▪ $R_{st} = \sum_i \left(\frac{Emp_{is,1990}}{Emp_{s,1990}}\right) * R_{it}$
- State RegData ⇒ total regulatory restrictions in each state
  - ➢ similar text analysis approach
  - ➢ data reported ⇒ 2017/2018/2019

Preliminary Results

Elasticity between Neighboring and Own Regulatory Burden of Overall Federal Regulations

	Weighting Scheme					
	Contiguous		BEA Region		Crone Region	
	OLS	IV	OLS	IV	OLS	IV
ln(Neighboring Burden)	0.893*	1.188*	0.762*	1.263*	-0.233	-0.153
	(0.148)	(0.300)	(0.136)	(0.284)	(0.241)	(0.672)
Underid Test		0.004		0.002		0.057
F-stat		7.143		16.307		3.341
Overid Test		0.656		0.719		0.841
Endogeneity		0.235		0.031		0.509
N	1200	1200	1200	1200	1200	1200

* p<0.01. Robust standard errors in parentheses. Neighboring regulatory burden is instrumented for using log (neighboring per capita income), log (neighboring population), neighboring urbanization, and neighboring unemployment rate. Underid Test reports the p-value of the Kleibergen-Paap (2006) rk statistic with rejection implying identification. F-stat reports the Kleibergen-Paap F statistic for weak identification. Overid Test displays the p-value of Hansen J statistic with rejection implying invalid instruments. Endogeneity reports the p-value of endogeneity test of the endogenous regressors. Other covariates include: log (per capita income), log (population), urbanization, and unemployment rate , and state- and year-specific dummies.

Effect of Neighboring State-Level Regulation on Own Regulation

	Regulation			
	Restrictions		Words	
	OLS	IV	OLS	IV
ln(Neighboring Regulations)	-0.033	-0.072	0.132	0.013
	(0.247)	(0.297)	(0.275)	(0.427)
Underid Test		0.009		0.037
F-stat		9.440		5.848
Overid Test		0.918		0.444
Endogeneity		0.779		0.418
N	45	45	45	45

* p<0.01. Robust standard errors in parentheses. Neighboring regulation is instrumented for using log (neighboring per capita income), log (neighboring population), neighboring urbanization, and neighboring unemployment rate. Underid Test reports the p-value of the Kleibergen-Paap (2006) rk statistic with rejection implying identification. F-stat reports the Kleibergen-Paap F statistic for weak identification. Overid Test displays the p-value of Hansen J statistic with rejection implying invalid instruments. Endogeneity reports the p-value of endogeneity test of the endogenous regressors. Other covariates include: log (per capita income), log (population), urbanization, and unemployment rate.

Discussion

- For federal regulations:
  - ➢ instruments perform reasonably well for BEA region
  - ➢ elasticity between the regulatory burden of a state and its neighbors is positive
    - ▪ caveat ⇒ strategic interaction between states or response to federal laws? → work in progress…
- For state regulations (current analysis ⇒ only contiguous neighbors ⇒ ω_{sjt} of (i)
  - ➢ instruments are weak → work in progress…

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