Discussion of Ljungqvist and Smolyansky (2016) 'To Cut or Not to Cut? On the Impact of Corporate Taxes on Employment and Income' by

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Overview

Interesting paper!

1. **Important Question:** How do state corporate tax rate changes affect employment and income?

2. **Clever Idea:** Compare impacts on state-border counties

3. **Interesting Results:**
   - A 1 pp increase in $\tau_s^c \Rightarrow \sim 0.4$ pp decline in employment and income
   - A 1 pp decrease in $\tau_s^c \Rightarrow$ little impact, except in recessions

Three main comments

1. **Local labor markets are integrated.** Good not bad news!
2. **Use diff-in-diff setup to identify GE effects in your setting**
3. **Show more results to make estimates more convincing**

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1. **Local labor markets are integrated.** Good not bad news!
2. **Use diff-in-diff setup to identify GE effects in your setting**
3. **Show more results to make estimates more convincing**
   - Pre-trends!
   - Levels
   - Separate treatment and control impacts
   - Industry results: tradables vs non-tradables
   - Robustness to policy changes (other taxes and base rules)

I. Local labor markets are integrated

Figure: Commuting Across Counties

	p10	p25	p50	p75	p90	Max	Mean
Commuters from Residence	0.06	0.14	0.27	0.42	0.53	0.82	0.29
Commuters to Workplace	0.07	0.14	0.20	0.28	0.37	0.81	0.22

Source: Monte, Redding, Rossi-Hansberg (2016) " Commuting, Migration, and Local Employment Elasticities"[1]

[1]The first row shows fraction of residents that work outside county. The second row shows fraction of workers who live outside county.

I. Local labor markets are integrated

1. **Q: So what do these results mean?**

   - Very nice set up. Same local labor market, but heterogeneous shocks
   - Several interesting effects:
     - Treatment firms: **direct** + **indirect** (factor prices) effects
     - Control firms: **indirect** effects
   - Implications
     - Treatment gives total effects
     - Control gives GE effects
     - Difference gives direct effects

Table 3 shows 40% ↑ in effect size w/o FX ⇒ GE impacts!

	Dep. var.: Change in log employment						
	scaled by total county population			unscaled	scaled by population aged 20-70	excluding govt. employ-ment	self employ-ment only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Δ tax rate	-0.241***	-0.336***					
	0.065	*0.060*					
magnitude of tax increase			-0.282***	-0.289***	-0.288***	-0.289***	-0.183
			0.075	*0.070*	*0.075*	*0.086*	*0.140*
magnitude of tax cut			0.065	0.105	0.100	0.008	0.299
			0.128	*0.129*	*0.126*	*0.146*	*0.349*
Demographic controls	x	x	x	x	x	x	x
Group–year fixed effects	x		x	x	x	x	x
Year fixed effects		x					
χ^2 test: (2) > (1)?		2.43*					
F test: |inc.| > |cut|?			2.03*				
Adjusted R^2	9.1%	9.6%	9.1%	15.5%	8.8%	10.0%	16.1%
Number of county-years	10,366	7,040	10,366	10,366	10,334	10,366	10,366

II. Implementing Diff-in-Diff directly would be useful

	Pre	Post
Treatment	Y_1^{pre}	Y_1^{post}
Control	Y_0^{pre}	Y_0^{post}

- Implications
  - Column 2: $[Y_1^{post} - Y_1^{pre}] = -.336$
  - Column 1: $[Y_1^{post} - Y_1^{pre}] - [Y_0^{post} - Y_0^{pre}] = -.241$
  - Therefore, GE impacts are $\underbrace{[Y_0^{post} - Y_0^{pre}]}_{=-.095}$
  - χ^2-test + significance in both Col (1) & (2) suggests can reject zero GE effect already

Table 4 shows 40% ↑ in effect size w/o FX ⇒ GE impacts!

	Dep. var.: Change in log income						
	(1)	(2)	(3)	excluding govt. (4)	including transfers (5)	by place of residence (6)	self employ-ment only (7)
Δ tax rate	-0.367***	-0.523***					
	0.072	*0.092*					
magnitude of tax increase			-0.420***	-0.422***	-0.307***	-0.247***	-0.165
			0.087	*0.098*	*0.091*	*0.070*	*0.189*
magnitude of tax cut			0.132	-0.014	0.088	0.146	0.518
			0.175	*0.216*	*0.135*	*0.141*	*0.444*
Demographic controls	x	x	x	x	x	x	x
Group–year fixed effects	x		x	x	x	x	x
Year fixed effects		x					
χ^2 test: (2) > (1)?		2.78**					
F test: |inc.| > |cut|?			1.88*				
Adjusted R^2	20.9%	17.5%	20.9%	18.2%	19.1%	41.1%	37.3%
Number of county-years	10,366	7,040	10,366	10,366	10,366	10,366	10,366

III. Show more to make results more convincing

Six suggestions:

1. Use levels (versus first differences with trends)
2. Graphical evidence on parallel trends in pre-period
3. Show both treatment and control event studies
4. Concomitant policy changes (other taxes and tax base rules)
5. Exploit industry-level analysis: tradables vs non-tradables
6. Report longer-term effects like 5 or 10 year long-differences

#2 & #3 pretends,T & C: Event Study of τ_s^c change

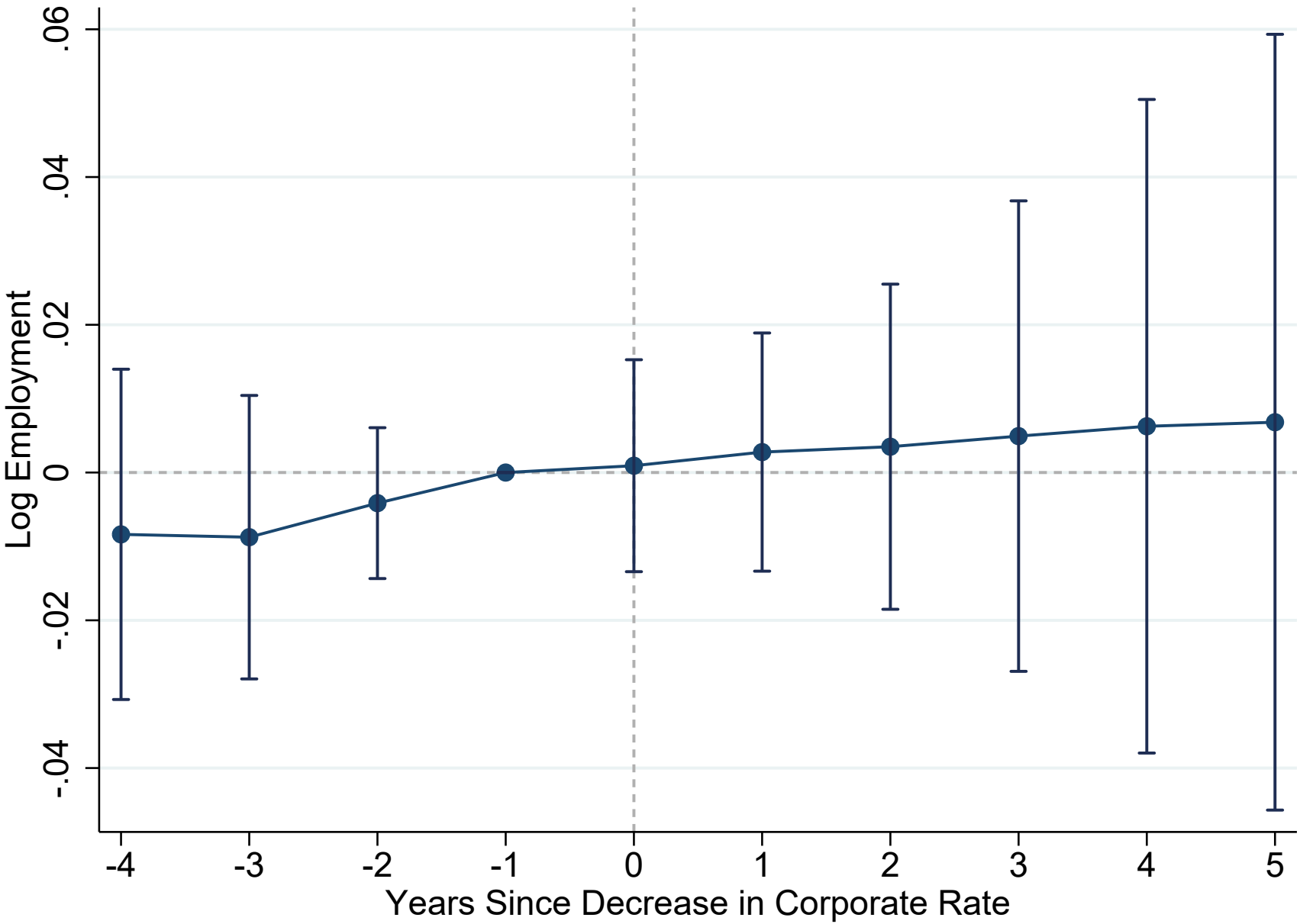
Estimate

$$Y_{st} = \alpha_s + \gamma_t + \sum_{k \in \{-4,-3,-2,0,1,2,3,4,5\}} \beta_k D_{st}^k + \underline{\beta} \sum_{k<-4} D_{st}^k + \overline{\beta} \sum_{k>5} D_{st}^k + \varepsilon_{st} \quad (1)$$

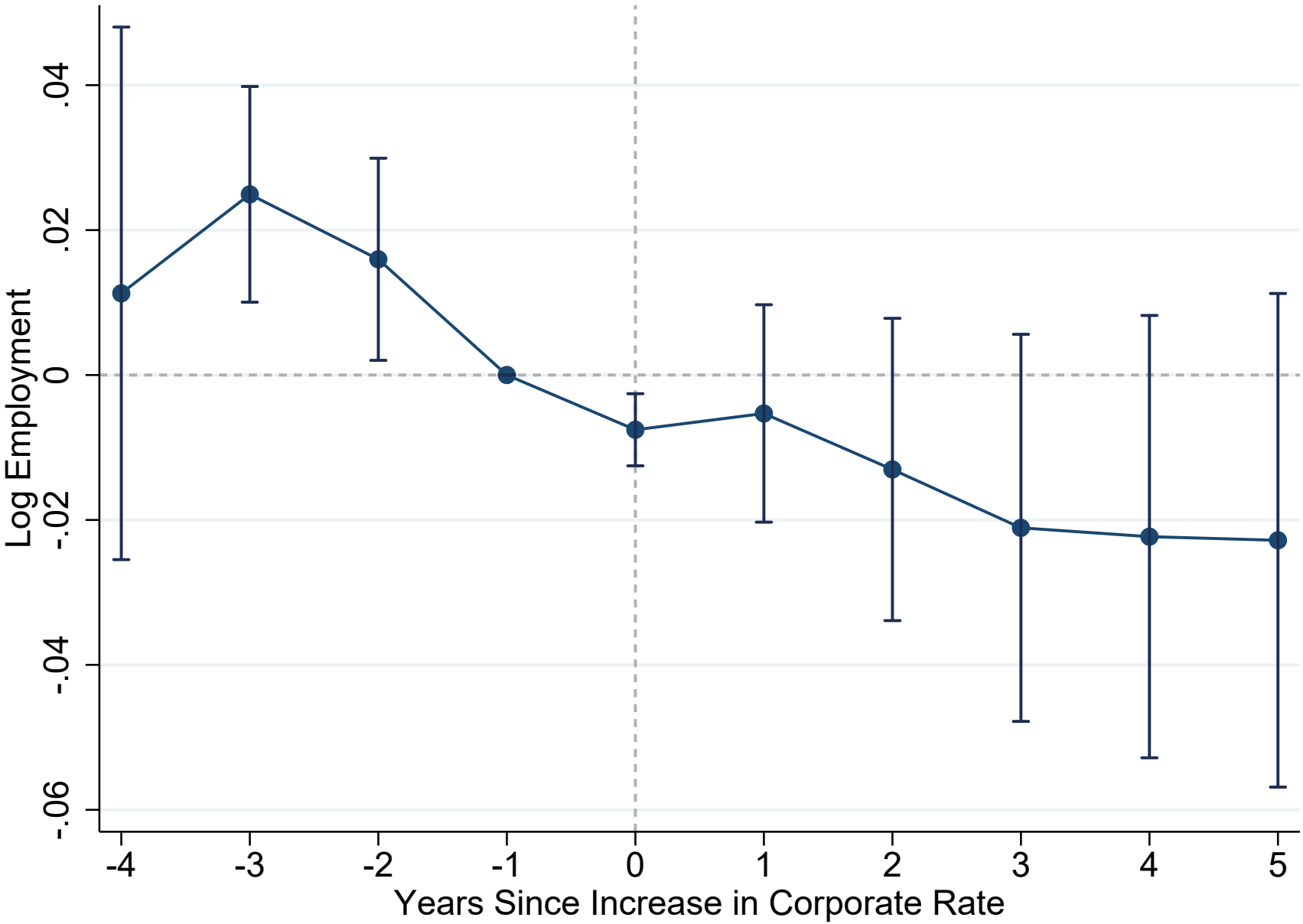
where

- D_{st}^k is an indicator for state s having changed the state tax rate k periods in the past
- α_s is a state fixed effect
- γ_t is a time fixed effect.
- The coefficients β_k provide the impact on the time path of mean outcomes relative to the period before the tax change (which has been normalized to zero).

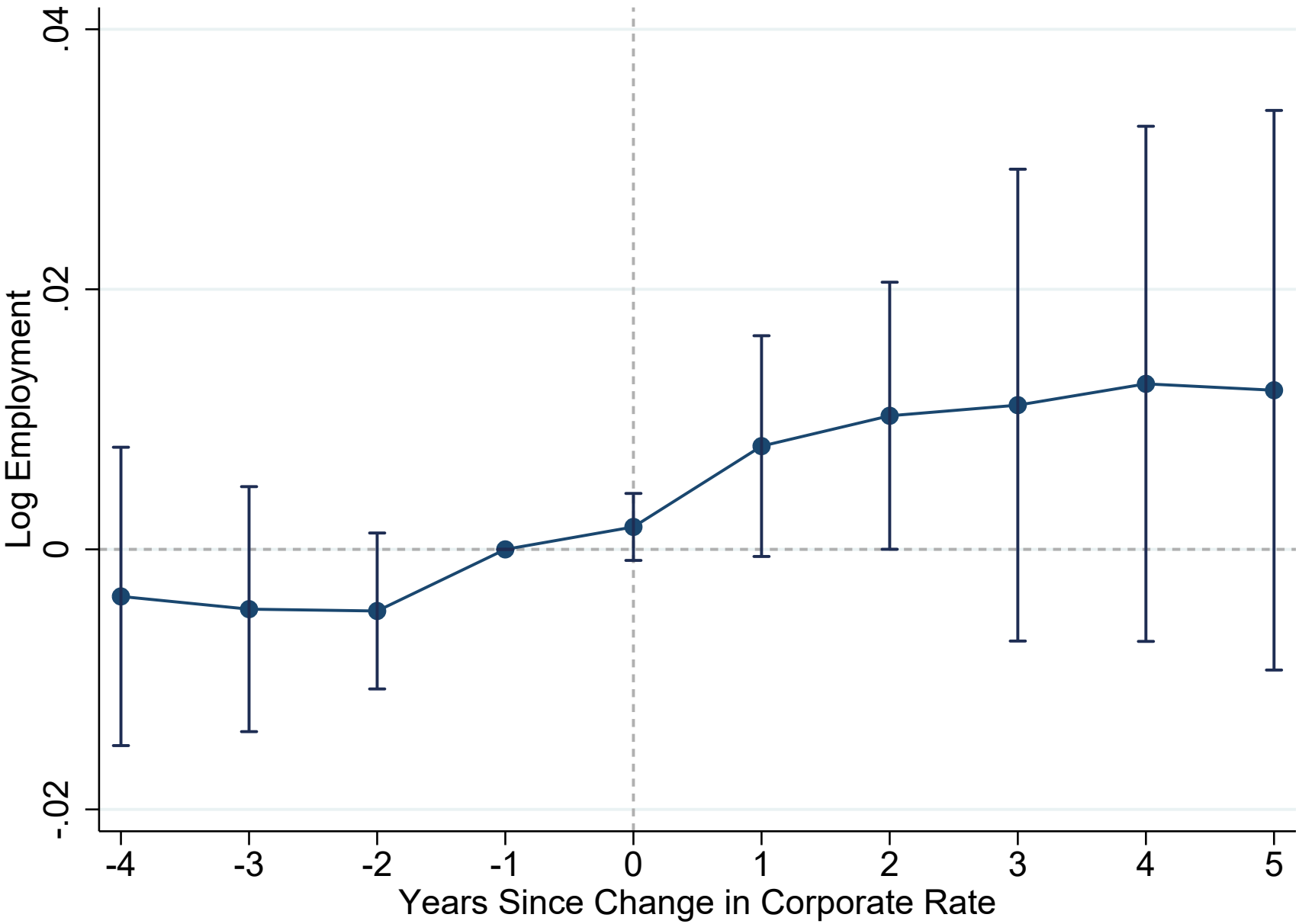
#2 & #3 pretends,T & C: Event Study of τ_s^c **decrease**



#2 & #3 pretends, T & C: Event Study of τ_s^c **increase**



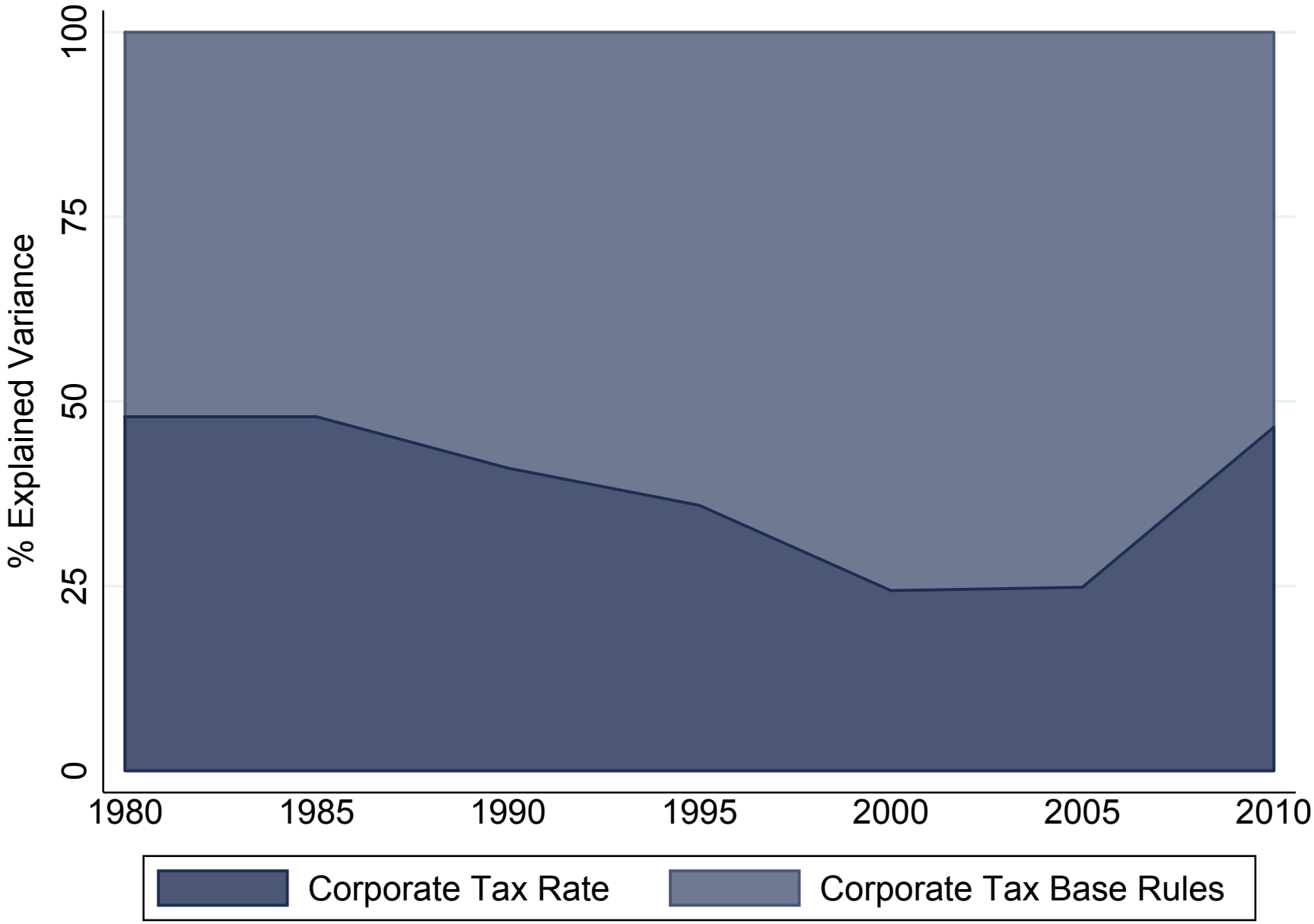
#2 & #3: E.S. of keep rate $(1 - \tau_s^c)$ change



#4 Other tax policy and corporate tax base changes

- Paper includes some controls: ITC, R&D, bank tax, gov spending, etc
- Could include major state tax rates: τ^{inc}, τ^{sales}, apportionment
- Could also include tax base changes

#4 Other tax policy and corporate tax base changes



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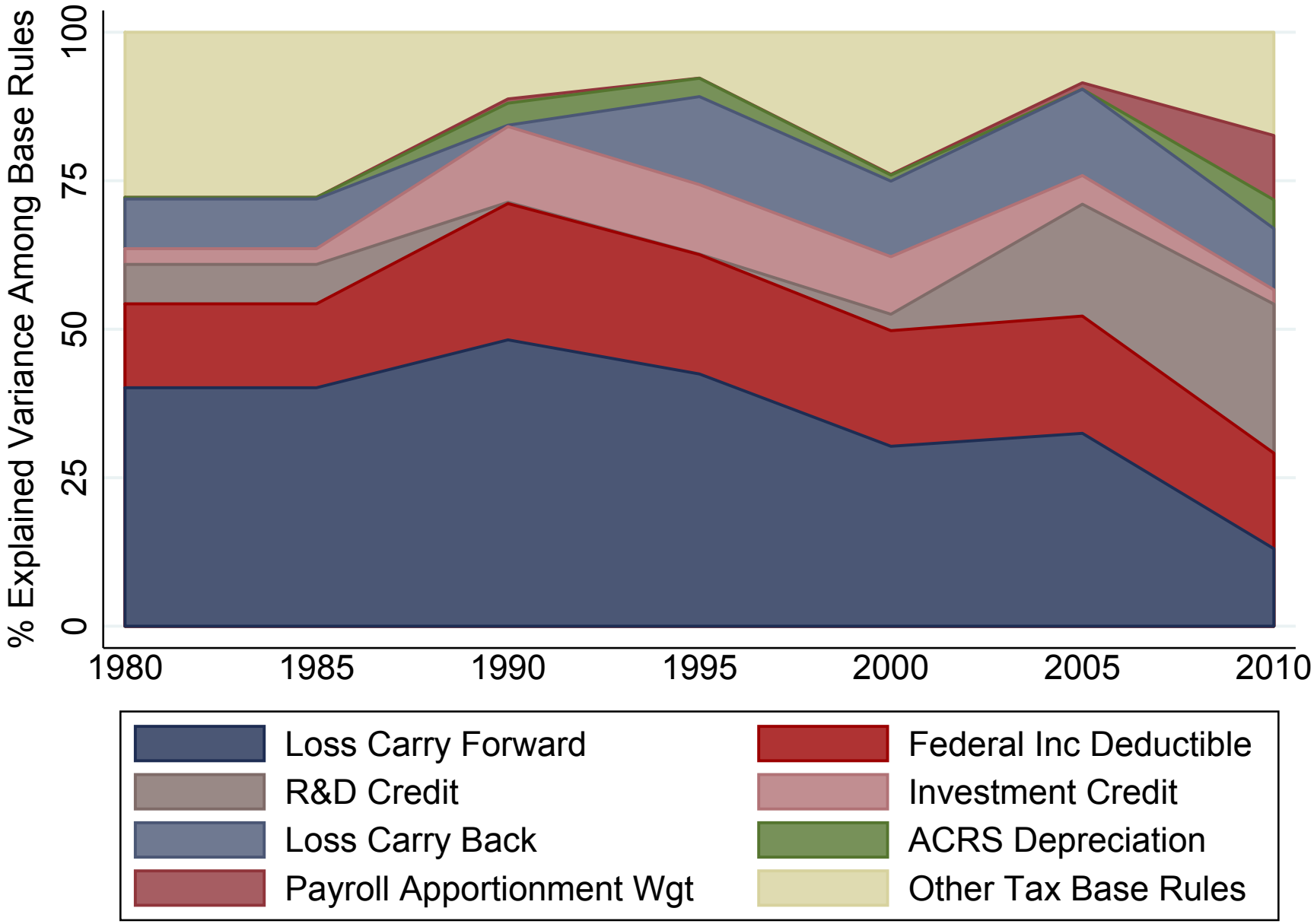

#5 Can use industry-level results

- Instead of using them as a robustness check, authors can use industry results to look at spillovers
- For example, **tradables vs non-tradables** could be informative and very interesting rather than just robustness check

Conclusion:

- Great paper that shows clean evidence of impacts
- Encourage you to embrace Diff-in-Diff and GE effects
- **Six additional suggestions:**

1. Use levels (versus first differences with trends)
2. Graphical evidence on parallel trends in pre-period
3. Show both treatment and control event studies
4. Concomitant policy changes (other taxes and tax base rules)
5. Exploit industry-level analysis: tradables vs non-tradables
6. Report longer-term effects like 5 or 10 year long-differences