

# Discussion of 'The Business Investment Response to the Domestic Production Activities Deduction'

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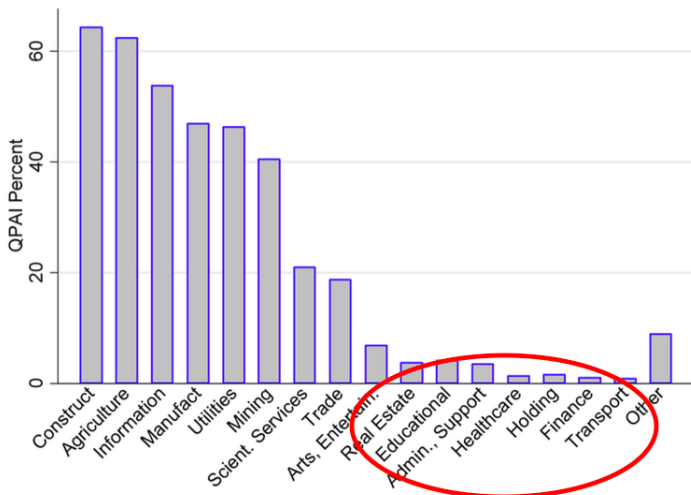
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## Interesting paper!

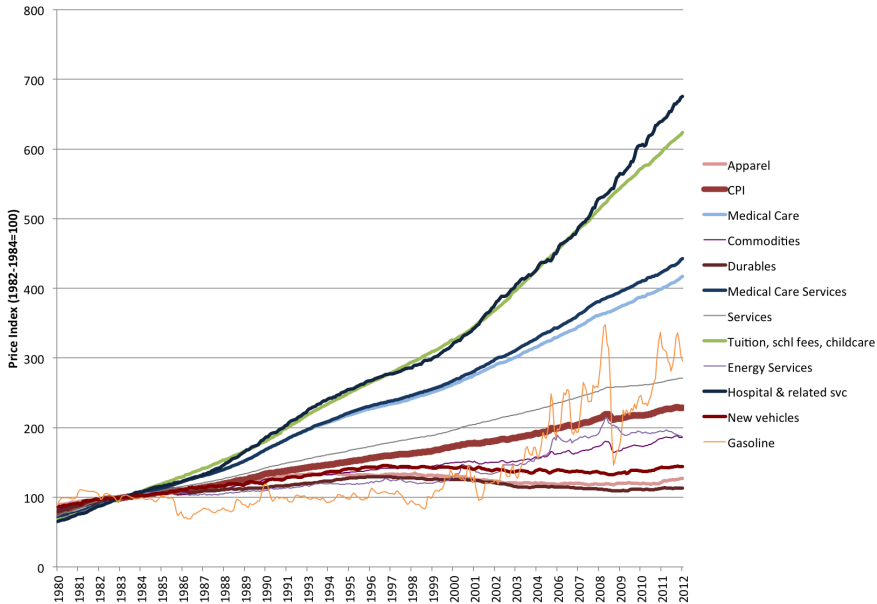
- 1 **Important Question:** How do investment rates respond to lower taxes?
- 2 **Clever Idea:** Compare responses of firms with different treatment intensities
- 3 **Provocative Results:** Large investment responses
  - *“This large response suggests DPAD, or more generally  $\downarrow \tau^c$ , is an investment stimulus policy far superior to other inventive such as the Bush Tax Cuts and Bonus Depreciation.”*

# Key Issue: what are counterfactual investment rates?

## QPAI by Sector

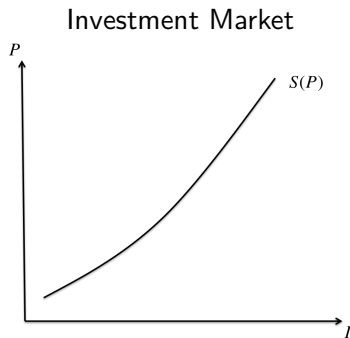
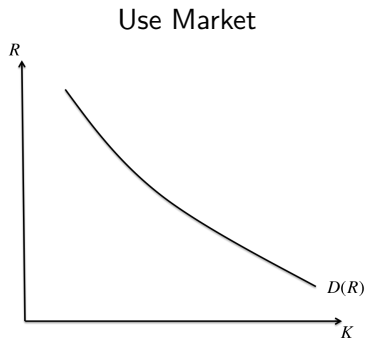


## Price Index by Type: 1980-2012



# Key Issue: what are counterfactual investment rates?

Baseline Investment Rate:  $\frac{I}{K} = \delta$



# Key Issue: what are counterfactual investment rates?

## Approaches in Paper

- 1 Include firm and year fixed effects
- 2 Include controls
- 3 Include industry fixed effects
- 4 Compare responses by group (e.g. small, young firms to large, old ones)
- 5 Try to measure and adjust for cyclical sensitivity
  - Drop extreme beta industries
  - Control for beta
  - Use residual investment

**Suggestion #1: Show your cyclical adjustments graphically**

## Suggestion #2: Help reader compare estimates

### Simplified Model for firm investment rate:

$$\frac{I_t}{K_{t-1}} = b_0 + b_1 \text{TaxDeduction} + b_2 \text{Controls} + e$$

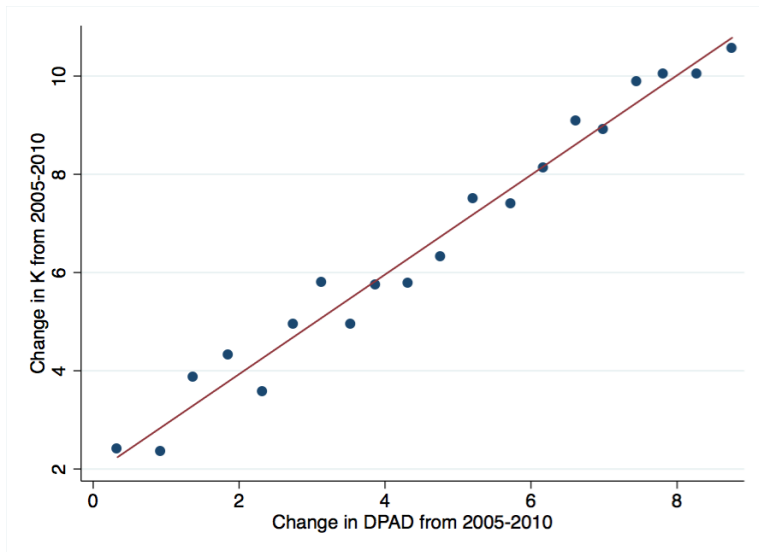
### Baseline Result:

$$\varepsilon = \frac{b_1}{\mu} = \frac{.14}{.45} = \frac{.31}{.09} \approx 3.5$$

### Other Specifications:

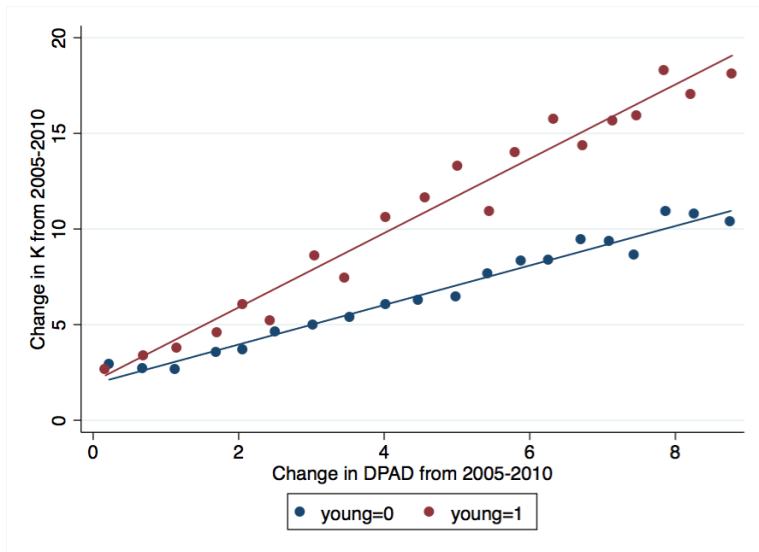
- Numerator varies across specifications
  - 1 Log Investment 2005-2008:  $\frac{.012}{.45} \approx .026 \Rightarrow \varepsilon \approx 0.3$
  - 2 Industry FX:  $\frac{.55}{.45} \approx 1.2 \Rightarrow \varepsilon \approx 13.6$
  - 3 Residual Investment:  $\frac{6.96}{.45} \approx 15.4 \Rightarrow \varepsilon \approx 171.9$
- Not clear denominator should be .09  $\Rightarrow$  larger  $\varepsilon$

## Suggestion #3: Show aggregate results





## Suggestion #3b: Show aggregate results by type



## Other Suggestions

- 1 Show raw data for 1990-2000 placebo and treatment
- 2 Theory on  $\pi'(I) = x$ . May have different  $\pi(I)$  functions or be at different parts of this function so comparative statics not as obvious
- 3 Test explanation why nontaxable group shows bigger effect (i.e. see if prior investment was higher)
- 4 How big would adjustment costs have to be to rationalize your effects for constrained firms? Is this plausible?
- 5 Defend not clustering standard errors at industry level (with industry level DPAD shock)
- 6 Minor: fix definition of  $d$  in theory section