The Efficiency-Equity Tradeoff of the Corporate Income Tax: Evidence from the Tax Cuts and Jobs Act

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Job Market Paper

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Disclaimer

This research embodies work undertaken for the staff of the Joint Committee on Taxation, but as members of both parties and both houses of Congress comprise the Joint Committee on Taxation, this work should not be construed to represent the position of any member of the Committee. The views and opinions expressed here are the authors' own. They are not necessarily those of the Board of Governors of the Federal Reserve System, its members, or its staff.

Research Question

What are the efficiency and equity implications of corporate income tax cuts?

- Existing evidence primarily from state and local tax changes

- Federal tax changes may have different effects:
  - Differences in factor mobility; higher tax rates and broader base

- Why is existing evidence scarce?
  - Federal reforms are rare
  - Microdata not previously available to researchers
  - Challenging to find credible counterfactuals

This Paper

1. **Large Federal Tax Change + Rich Microdata + Within-Country Design**
   - Exploit variation from the 2017 Tax Cuts and Jobs Act (TCJA)
   - Rich employer-employee linked IRS microdata
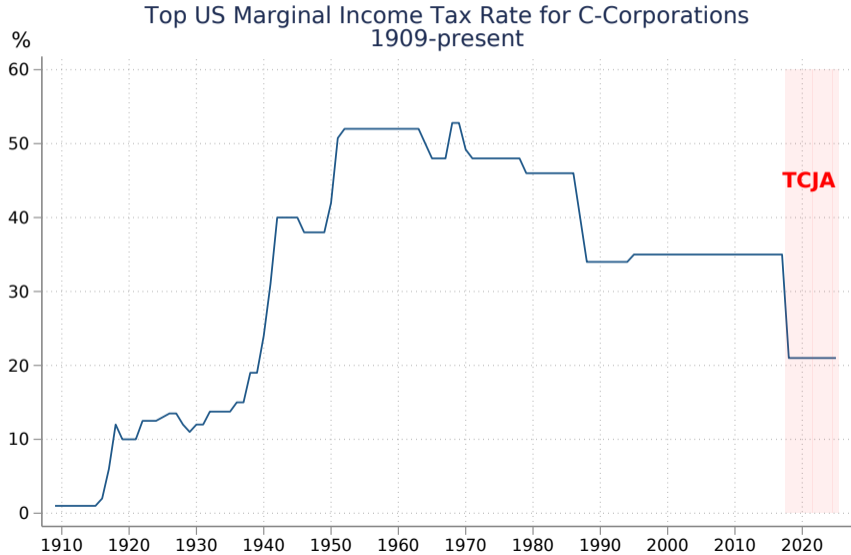   - DiD comparing C- and S-corps within the same industry-size bin

2. **Empirics**
   - Firm-level evidence: profits, investment, shareholder payouts
   - Worker-level evidence: employment, earnings
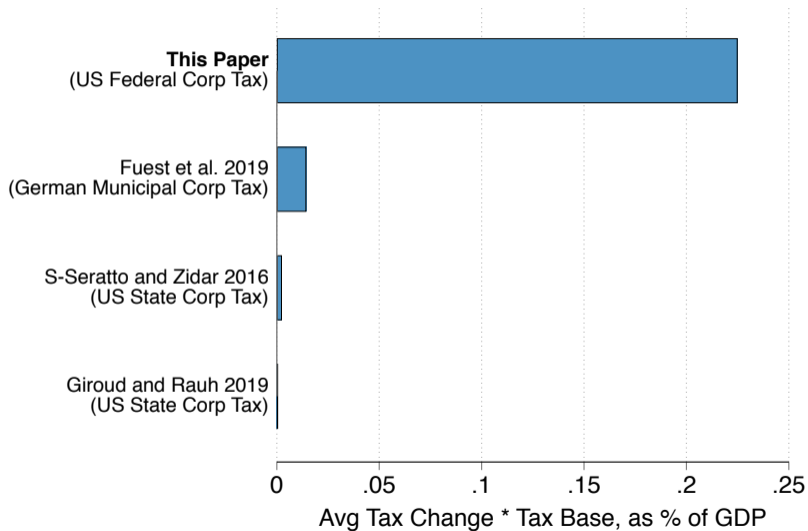
3. **Stylized Model**
   - Use reduced form elasticities to quantify efficiency gains, incidence
   - Benchmark against alternate taxes

Historically Large Reform

Top US Marginal Income Tax Rate for C-Corporations
1909-present

TCJA

Large Relative to Recent Studies

Avg Tax Change * Tax Base, as % of GDP

(Bar chart categories, top to bottom:)
- **This Paper** (US Federal Corp Tax)
- Fuest et al. 2019 (German Municipal Corp Tax)
- S-Seratto and Zidar 2016 (US State Corp Tax)
- Giroud and Rauh 2019 (US State Corp Tax)

(x-axis: 0, .05, .1, .15, .2, .25)

IRS Microdata

Sample: Employer-employee linked federal tax records, 2013-2019

Business Tax Returns (SOI 1120, 1120s)
- Sales, profits, investment, taxes, firm characteristics
- Restrict to large firms, balance panel, drop C$\leftrightarrow$S switchers

Individual Tax Returns + SSA Data
- Employment and earnings (W-2); S-Corps business income (K1), demographics

Measurement
- S-Corp MTR constructed as weighted average of shareholder MTR's
- Scale outcomes by 2016 sales to account for potentially non-positive values

Empirical Design: C vs. S Corps

DiD comparing two legal entity types:

	C-Corps	S-Corps
Legal Differences		
Taxes	Pay corp, dividend taxes on profits	Owners pay personal taxes on profits
Shareholders	No restrictions	<=100 owners; must be individual US citizens
TCJA Changes		
Top Rate Cut	$35\% \to 21\%$	$39.6\% \to 37\%$; 20% QBI deduction

Top Marginal Income Tax Rates

Top Marginal Income Tax Rates
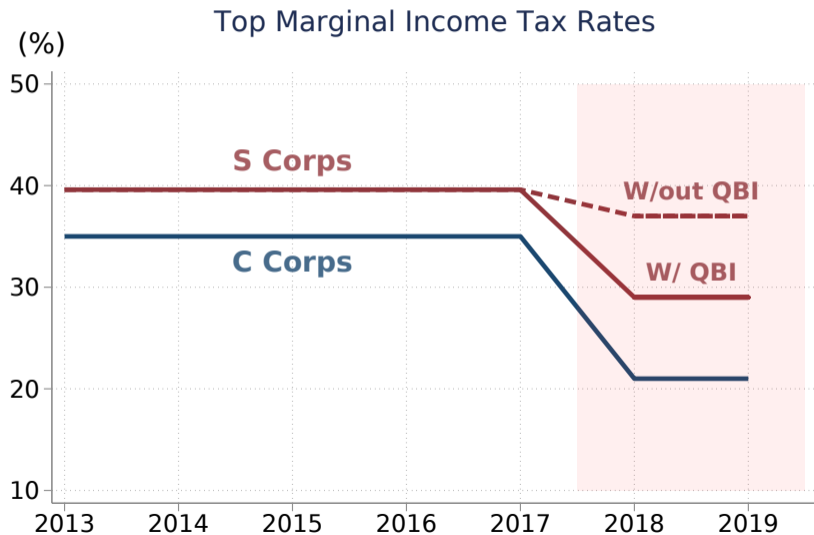
Empirical Strategy

Estimate:

$$y_{ft} = \sum_{t \neq 2016} \beta_t C_f * \mathbf{1}(year = t) + \gamma_f + \alpha_{is(f),t} + \epsilon_{ft}$$

- y_{ft} is an outcome for firm f in year t
  - $y \in \{$MTR, taxes, profits, payouts, investment, employment, workers' earnings$\}$

- C_f is an indicator $= 1$ if firm f is a C-Corp

- γ_f is a firm fixed effect

- $\alpha_{is(f),t}$ is an industry$\times$size-bin$\times$year fixed effect

- Cluster standard errors by firm

Identification and Interpretation

$$y_{ft} = \sum_{t \neq 2016} \beta_t C_f * \mathbf{1}(year = t) + \gamma_f + \alpha_{is(f),t} + \epsilon_{ft}$$

Identification

- Key assumption is parallel trends in counterfactual with no MTR shocks

- Defending parallel trends:
  - TCJA was unexpected prior to 2016 elections
  - Compare outcomes in narrow industry-size-year bins
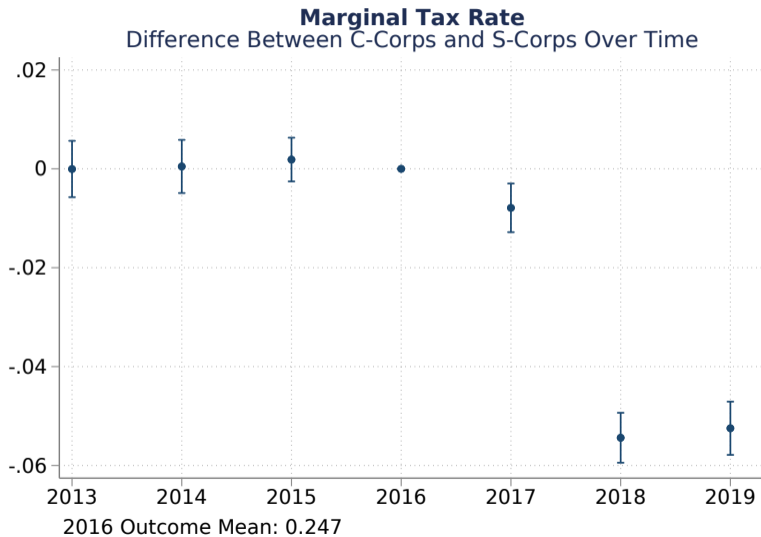 - Examine pre-trends to assess plausibility

Interpretation

- β_t captures differential trend of C-Corps relative to S-Corps
- Also report elasticities WRT to the net-of-tax rate, $(1 - \tau_f)$
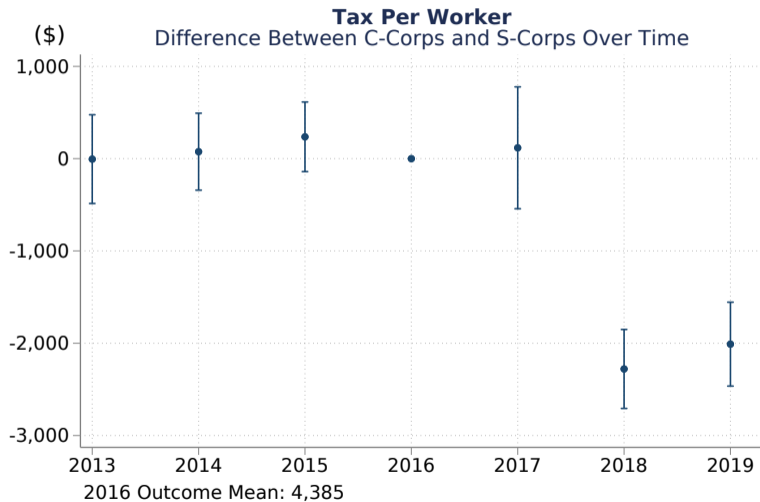
Potential Mechanisms

How might $\Delta \tau^{MTR}$ affect firm and worker outcomes?

- Changes in the cost of capital and relative prices

- Income or liquidity effects
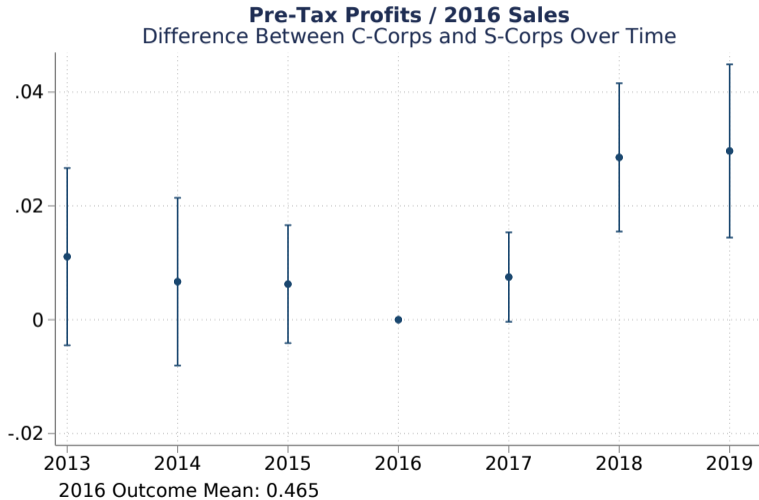
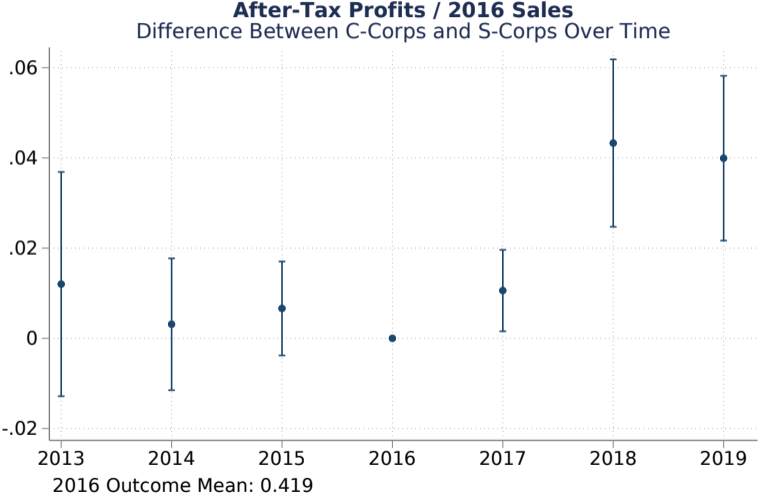- Other channels: expectations, salience, information...
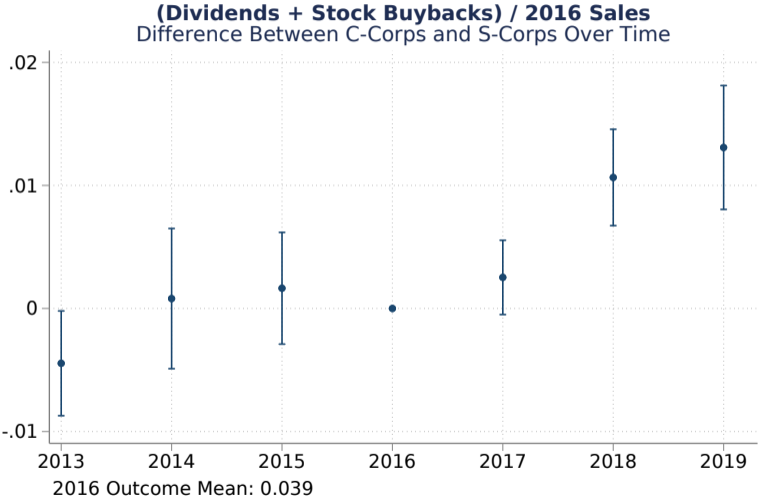
Marginal Tax Rate Wedge τ_f

Marginal Tax Rate
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 0.247

Tax Per Worker

Tax Per Worker
Difference Between C-Corps and S-Corps Over Time

($)

2016 Outcome Mean: 4,385

Pre-Tax Profits

Pre-Tax Profits / 2016 Sales
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 0.465

After-Tax Profits

After-Tax Profits / 2016 Sales
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 0.419

Shareholder Payouts

(Dividends + Stock Buybacks) / 2016 Sales
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 0.039

Net Investment / Lagged Capital

Net Investment / Lagged K
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 0.142
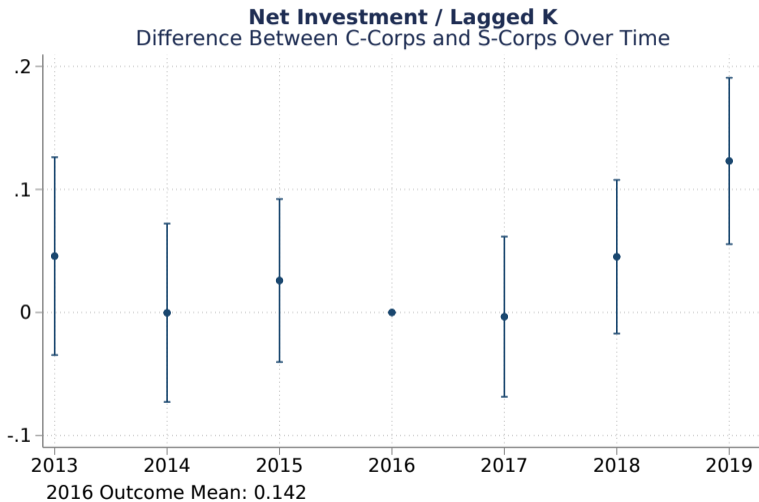
Labor Markets: Modest Employment Effect

Log Employment
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 2,924
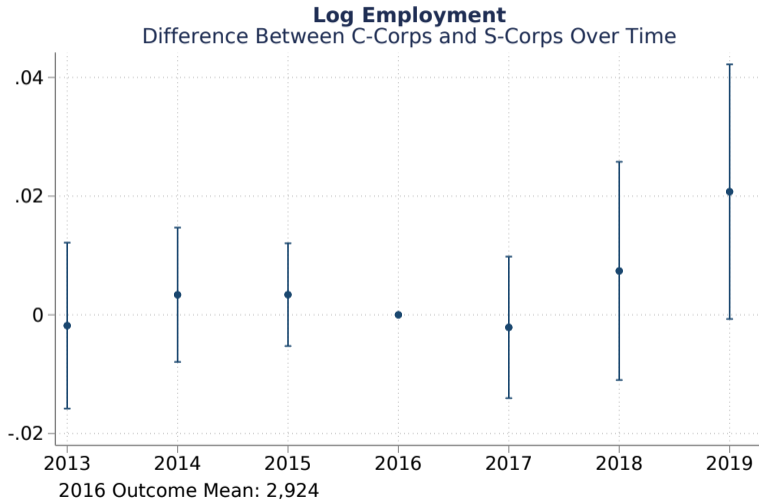
No Change in Median Earnings

Log Median Earnings
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 46,225

Big Increases at the Top

Log 99th Centile Earnings
Difference Between C-Corps and S-Corps Over Time

2016 Outcome Mean: 371,352
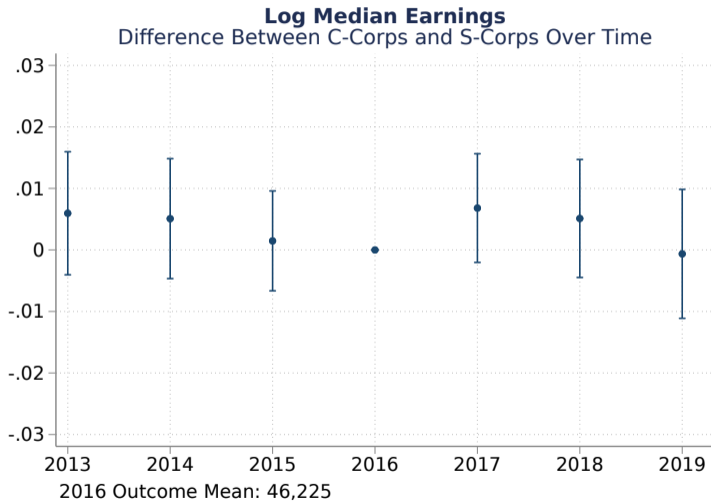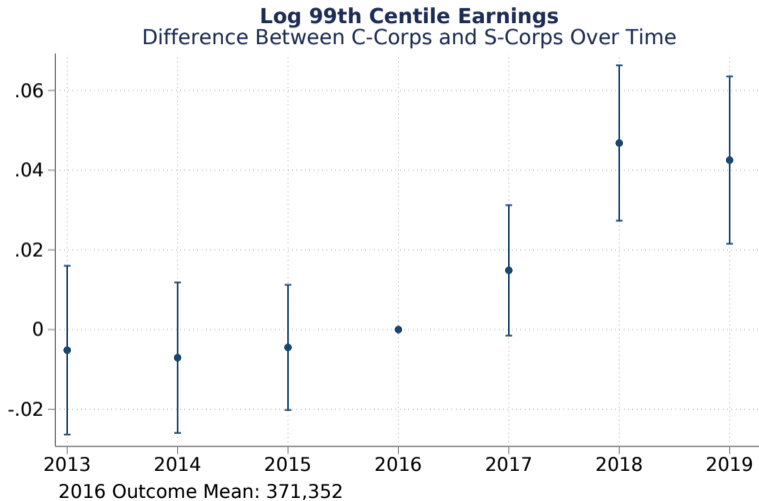
Firm Wage Quantile Regressions
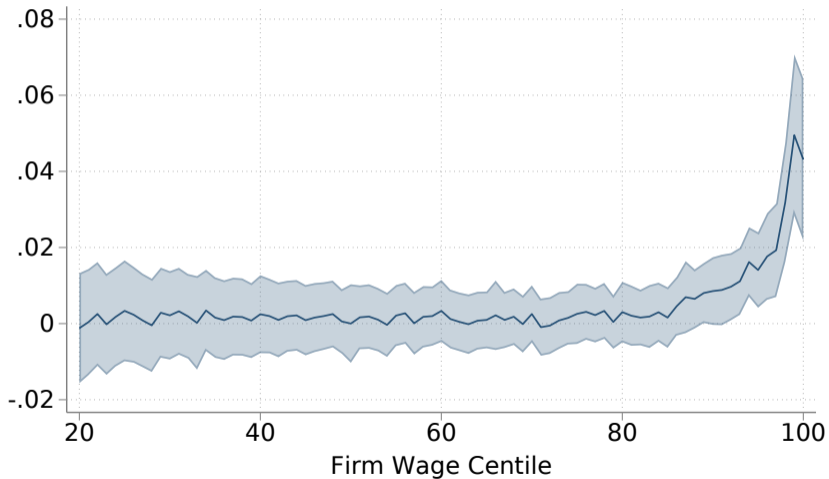
Elasticities

|	(1) $\ln(1 - \tau_f^{MTR})$	(2) Pre-tax π	(3) Post-tax π	(4) I_t/K_{t-1}	(5) w_{p50}	(6) w_{p95}	(7) Executives
C × 2019	0.069***	0.030***	0.040***	0.123***	-0.001	0.013***	0.047***
	(0.003)	(0.008)	(0.009)	(0.034)	(0.005)	(0.005)	(0.016)
2016 Outcome Mean	-0.305	0.465	0.419	0.142	46,225	157,534	6,209,335
ε^{NTR}		0.43	0.58	1.80	-0.01	0.20	0.65
s.e.		0.12	0.14	0.51	0.08	0.07	0.22
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Size-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.74	0.71	0.70	0.22	0.95	0.95	0.92
N	83,517	83,517	83,517	83,517	83,517	83,517	83,517
N Firms	12,110	12,110	12,110	12,110	12,110	12,110	12,110

- Federal corporate elasticity of taxable income $\varepsilon^\pi \approx 0.43$
  - $\varepsilon^\pi \leq$ most estimates from state/local tax lit; $\geq$ most estimates from personal tax lit
  - Consistent with theory that tax distortions are proportional to factor mobility
- Leverage other elasticities to estimate incidence

Incidence

	$ (bil)	%
Factor Incidence		
Firm Owners	44.3	69.8
Capital Owners	7.3	11.4
Executives	3.0	4.7
High-Paid Labor	9.0	14.1
Low-Paid Labor	0.0	0.0
Distributional Incidence		
Top 1%	16.9	26.6
91-99th%	26.5	41.7
Bottom 90%	20.1	31.7

- Distributional incidence estimated using K ownership data from Fed SCF (2018)
- $\approx 70\%$ of benefits flow to top 10% of earners

Corporate Tax Vs. Alternate Tax Instruments
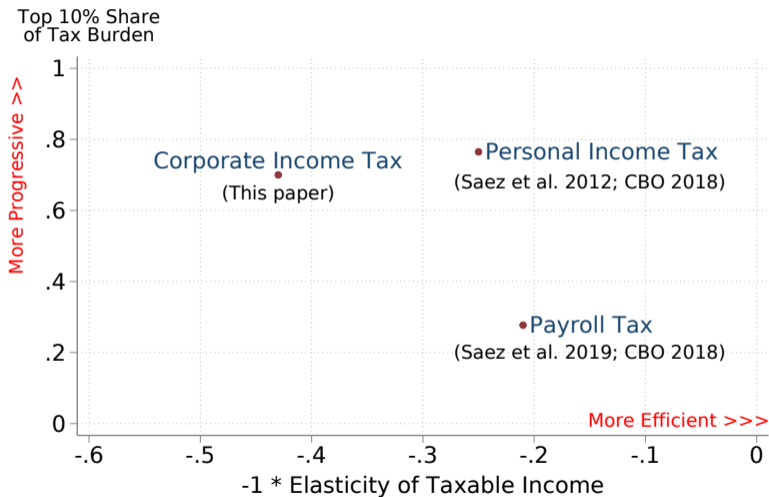
More in the Paper

Additional results:

- Shifting and evasion

- Mechanism and robustness tests

- Firm and worker heterogeneity

- Market-level effects

- Model-based welfare estimates

Conclusion

Clear evidence that corporate tax cuts have significant effects on real outcomes

Efficiency-equity tradeoff:

- **Efficiency:** Greater efficiency gains from cutting CIT relative to other federal taxes

- **Equity:** Tax cuts disproportionately benefit high earners