Taxing Wealth or Profits?
Evidence from German Wealth Taxation

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Motivation

- Wealth taxes are back at the center of policy debates

The New York Times

Dec. 26, 2025

A Wealth Tax Floated in California Has Billionaires Thinking of Leaving

It's uncertain whether the proposal will reach the statewide ballot in November, but some billionaires like Peter Thiel and Larry Page may be unwilling to take the risk.

FT FINANCIAL TIMES

DECEMBER 3 2025

Tax

Why wealth taxes are back in the spotlight

A decade after Thomas Piketty's unlikely bestseller, his ideas are getting renewed political attention

Le Monde

'Zucman tax': What the proposed wealth tax would mean for France

Motivation

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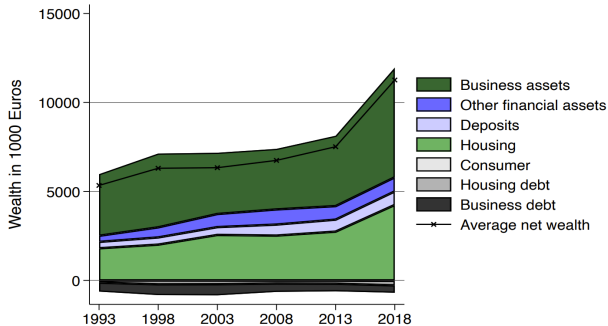
- Businesses are a major source of wealth at the top of the distribution (Albers et al., 2024)



German wealth composition of the top 1%, Albers et al. (2024)

Motivation

- Wealth taxes are back at the center of policy debates
- Businesses are a major source of wealth at the top of the distribution (Albers et al., 2024)
- **But:** business profits are already taxed substantially
- How does taxing the **stock** of capital differ from taxing **profits**?
- Substantial evidence on corporate taxation, some recent evidence on individual responses to wealth taxes (Brülhart et al., 2022; Jakobsen et al., 2020, 2024)
- **Very limited evidence for real effects of wealth taxes on firms and workers**

Conceptual Puzzle

- Standard models often treat all capital taxes as equivalent
- This breaks down once firms differ in profitability/returns (Gaillard and Wangner, 2022; Guvenen et al., 2023)

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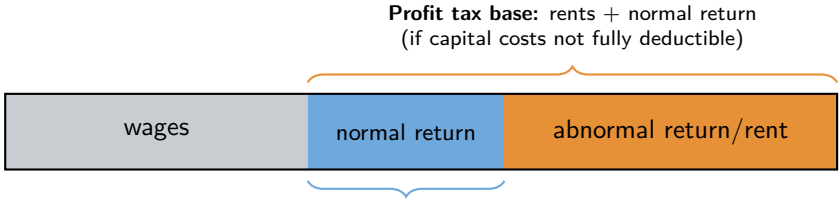

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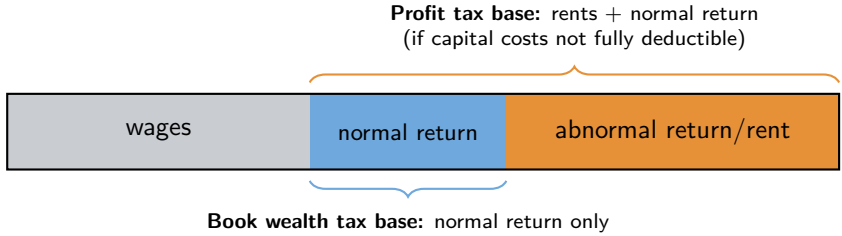

- **Key distinction:** a **book-wealth tax** falls only on the **normal return to capital**, a **profit tax** also reaches abnormal returns/economic rents

$\Rightarrow$ the two taxes hit **different margins** and have **different incidence**

- **But reduced-form evidence is scarce**

This Paper

- How does taxing wealth affect firms?
  - **Approach:** Unique German institutional setting provides variation in business wealth taxes
  - **Results:** Reduced-form effects on wages, employment, investment, entry, profits, tax revenues

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  - **Approach:** Spatial equilibrium model with both types of taxes
  - **Results:** Comparison of the taxes and sufficient statistics for welfare analysis
- What are the implications for the design of business taxation?
  - **Approach:** Use the estimated elasticities to compare the welfare impacts of both taxes
  - **Results:** Profit tax dominates for plausible worker/owner weights

Preview (1): Reduced-Form Results

Firms

- ↑ **Investment:** strong increase in equipment & machinery
- ↑ **Profits:** increase in net and gross profits
- ↑ **Entry:** increases, driven by *lower-productivity* firms

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Workers

- ↑ **Wages:** workers capture part of the gains
- → **Employment:** no long-run effect

Takeaway

- Workers gain through higher wages
- Selection shifts toward **lower-productivity** entrants

Preview (2): Model-Based Results

	Profit Tax	**Wealth Tax**
Tax base (by definition)	rents (+ normal return if $\kappa < 1$)	normal return to capital

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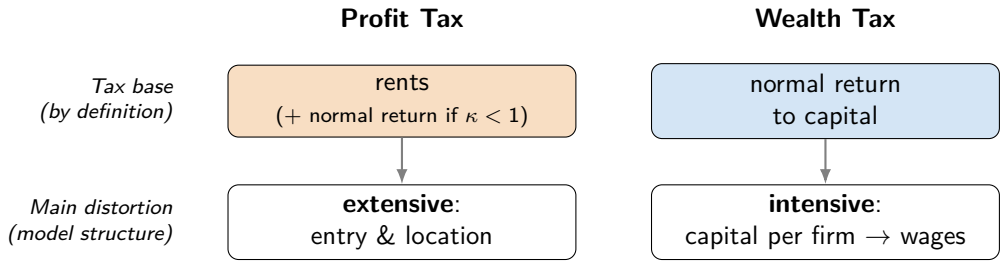

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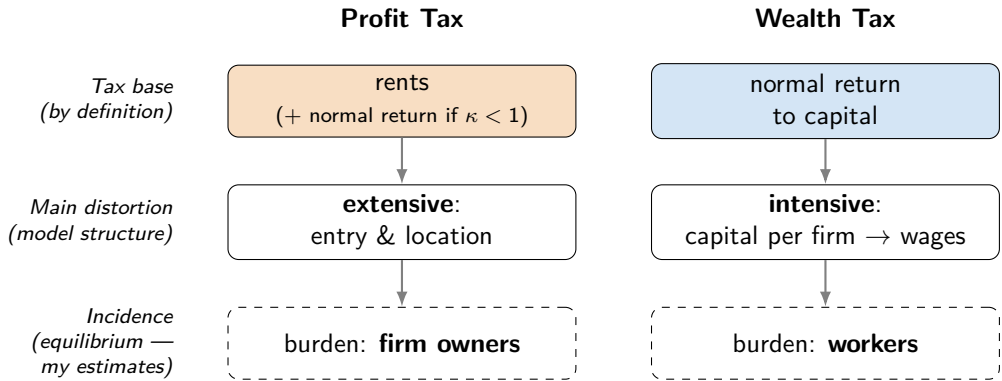

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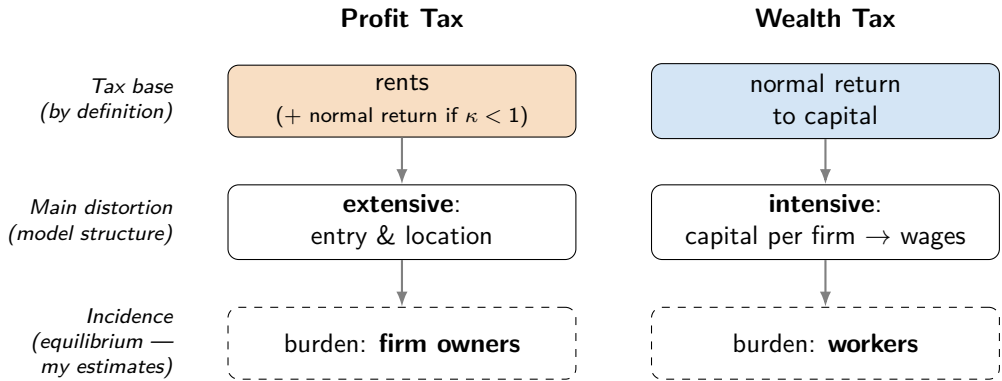

⇒ Under the estimated elasticities, the **profit tax has the lower marginal welfare cost** for plausible worker/owner weights

Literature and Contribution

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3. **Comparing capital income and wealth taxation**: Gaillard and Wangner (2022); Guvenen et al. (2023, 2024); Schjelderup and Zoutman (2024); **Optimal corporate taxation**: Swonder and Vergara (2025, 2024)
   - **Empirically untested → compare both taxes in a spatial equilibrium model, derive sufficient statistics, and compare the desirability of both taxes**

Outline

Institutional Background: German Local Business Tax (LBT)

- Liability criteria and tax base defined on the federal level
- Tax rates can be autonomously chosen by each municipality

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Tax Bases:

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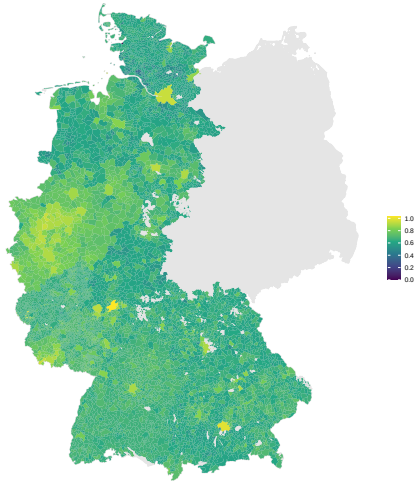
- About 12% of the total LBT revenue was from the tax on capital
- Municipalities were compensated for lost revenue through VAT revenue

Example | Municipality Descriptives | Compensation | Tax Cut Distribution

Institutional Background: Regional Variation



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- **Municipalities**: data on tax rates, revenues and expenditures collected from the Statistical Offices of the Federal States

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- **Plants**:
  - **Employment and Wages:** Administrative data based on social security records
  - **Profits and Taxes paid:** Administrative data based on local business tax statistics
  - **Investment:** Ifo investment survey data (see Link et al. (2024))

Identification Idea

Source of Variation

- In 1998, the tax on firm capital was abolished nationwide
- Municipalities differed in pre-reform capital tax rates
- $\Rightarrow$ Plants experienced **different-sized tax cuts**

Why is this variation plausibly exogenous?

- The reform applied uniformly and simultaneously in all West German states
- Pre-reform tax rates were set years earlier
- Timing was uncertain until late in the legislative process

Identifying Assumption

- In the absence of the reform, outcomes would have evolved similarly across higher- and lower-tax municipalities

Empirical Strategy

Dynamic difference-in-differences around the 1997 abolition

$$y_{i,l,t} = \alpha_i + \gamma_t + \sum_{t \neq 1996} \boldsymbol{\beta_t} \times \mathbb{1}[\text{Year} = t] \times \text{LBTC}_{l,1996} + X'_{i,l,t}\delta + \varepsilon_{i,l,t}$$

$\text{LBTC}_{l,1996}$: LBT-on-capital rate in location l in 1996
Outcomes $y_{i,l,t}$: wages, employment, profits, investment

- **Baseline controls:** plant FE, year FE, changes in LBT and property tax rates
- **Additional controls:** State × Year FE, Independent City × Year FE, population, baseline covariates
- **Sample:** balanced panel, no relocations, plants in liable sectors

Interpreting Magnitudes: User Cost of Capital

Key conversion

A 1pp change in the **wealth tax** moves the user cost of capital $\sim$**11 times more** than a 1pp change in the **profit tax**

Derivation Calibration

Interpreting Magnitudes: User Cost of Capital

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A 1pp change in the **wealth tax** moves the user cost of capital $\sim$**11 times more** than a 1pp change in the **profit tax**

- Both taxes act through the user cost $\tilde{\rho}_c = \dfrac{(1-\kappa_k\tau_c^p)\rho + (1-\kappa_k)\tau_c^k}{1-\tau_c^p}$
- Broad base, low rate: 1pp of τ^k raises $\ln\tilde{\rho}_c$ by 13.8%, 1pp of τ^p by only 1.23%

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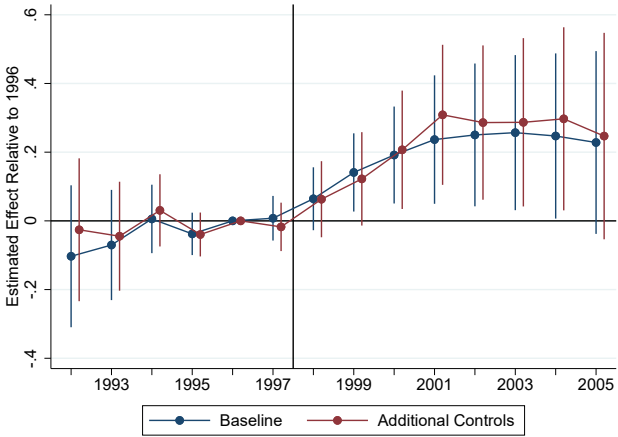
- Broad base, low rate: 1pp of τ^k raises $\ln \tilde{\rho}_c$ by 13.8%, 1pp of τ^p by only 1.23%
- $\Rightarrow$ To compare with the corporate tax literature, **rescale semi-elasticities by** $13.8/1.23 \approx 11$
- Similar approach in recent work (Curtis et al., 2021; Siegloch et al., 2025)

Derivation Calibration

Outline

Main Results: Capital

Finding 1: Plants that experienced a larger tax cut increased their capital stock more.



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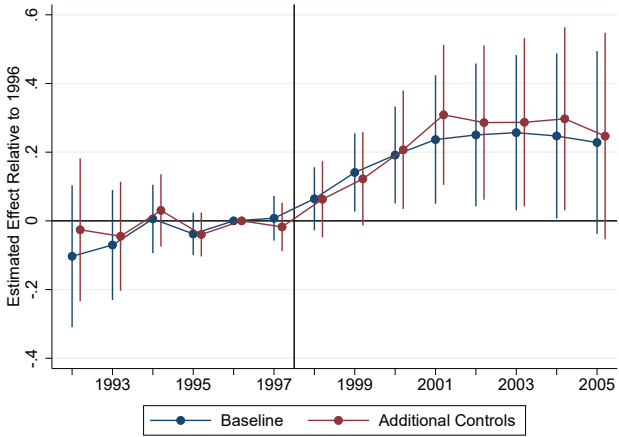
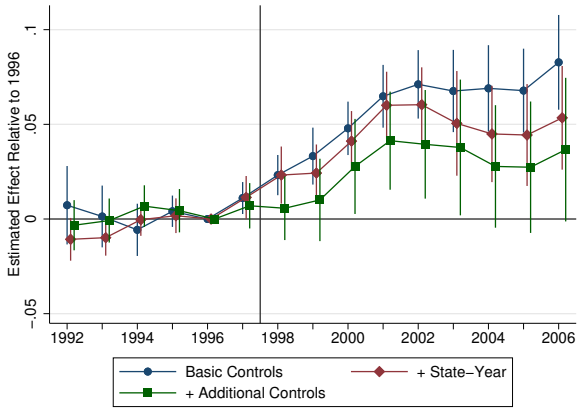


- Link et al. (2024) and Zwick and Mahon (2017) find semi-elasticity of about 3
- Ohrn (2018) find 4.7 for investment
- My CoC-adjusted estimate is 4.5.

Using Industry Variation DiD Results

Main Results: Wages

Finding 2: Plants that experienced a larger tax cut increased wages more.



Using Industry Variation | Employment Industry Variation | Automation | Industry Variation Table | DiD Results

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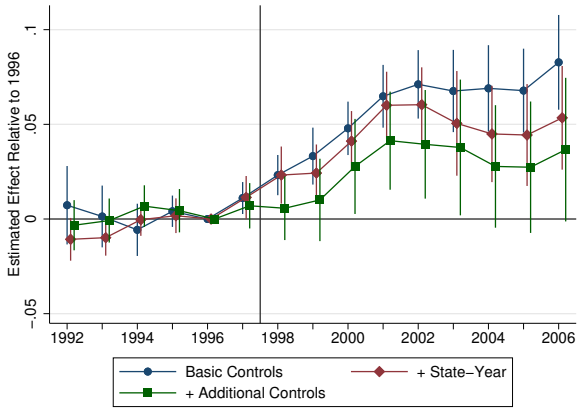


- Fuest et al. (2018) find elasticity of 0.23 to 0.4
- My CoC-adjusted estimate is 0.2 to 0.4
- The tax cut did not have a detectable impact on employment. Employment

Using Industry Variation | Employment Industry Variation | Automation | Industry Variation Table | DiD Results

Main Results: Profits

Finding 3: Plants that experienced a larger tax cut reported higher profits and paid lower taxes.

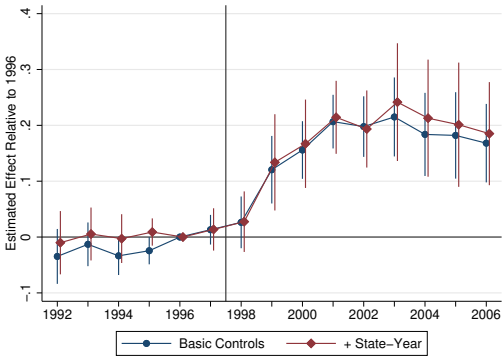
	Log Net Profit	Log Gross Profit	Log Tax Revenue
Post × Δ LBTC	0.0345***	0.0139***	-0.132***
	(0.00510)	(0.00437)	(0.0125)
Tax Change Controls	✓	✓	✓
Municipality × Industry FE	✓	✓	✓
Industry × Year FE	✓	✓	✓
State × Year FE	✓	✓	✓
Observations	399,615	399,615	399,615

Additional DiD Results

Main Results: Entry and Productivity

Finding 4: Entry of new plants increased and productivity declined.

Figure 2: Effect on Entry



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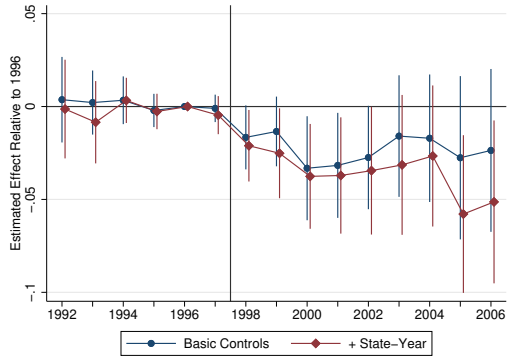


Entry by Productivity | Additional Results

Mechanism: Who Responds to Which Tax?

Finding 5: The two taxes move capital in *different* firms.

Figure 4: Wealth tax

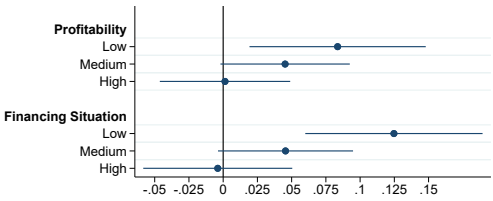
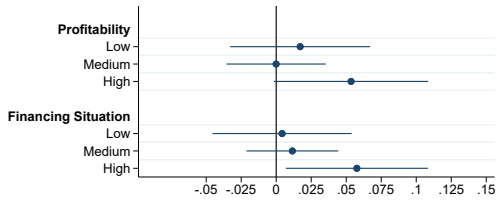


Figure 5: Profit tax



Survey Set-up

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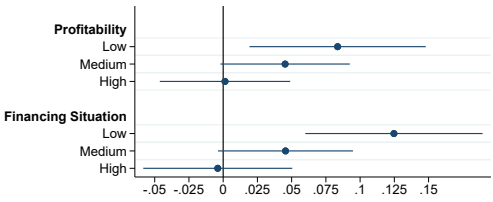

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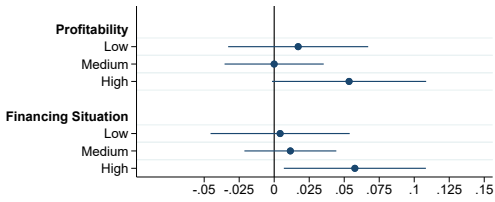

- **Wealth tax:** strongest response in **low-profitability, financially constrained** firms
- **Profit tax:** strongest response in **profitable, unconstrained** firms
- Direct evidence for the *use-it-or-lose-it* mechanism (Guvenen et al., 2023) and for taking the stock/flow distinction seriously

Summary of Empirical Elasticities

Outcome	**Wealth tax** (this paper, CoC-adjusted)	**Profit tax** (literature)	Sources
Capital and Labor			
Investment (semi-elast.)	~ 4.5	3 to 5	Link et al. (2024); Ohrn (2018); Zwick and Mahon (2017)
Wages (elast.)	0.2 to 0.4	0.23 to 0.5	Fuest et al. (2018); Gstrein et al. (2025)
Profits and Revenues			
Profits (elast.)	0.2 to 0.26	1.5 to 2.3	Gstrein et al. (2025); Suárez Serrato and Zidar (2016)
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$\Rightarrow$ **How can we reconcile this pattern?**

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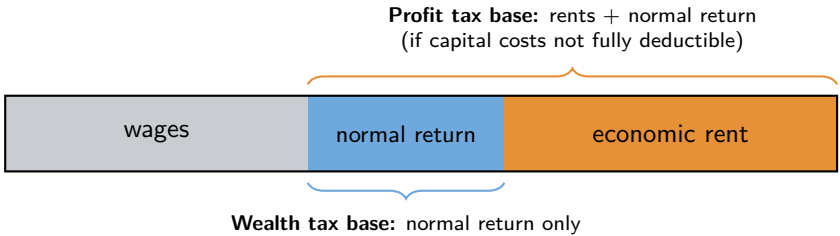
How do the taxes differ?

Gross operating surplus split:



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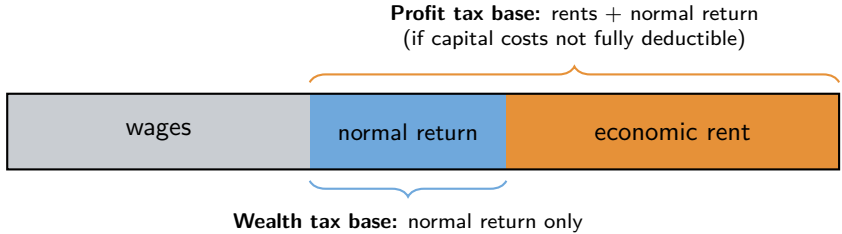

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$\Rightarrow$ the two taxes hit **different margins** and have **different incidence**

Model: Key Ingredients

- Spatial equilibrium model with heterogeneous firms and workers (Suárez Serrato and Zidar, 2016, 2023)
- Monopolistically competitive firms:
  - Use labor and capital, choose location, inputs, and prices
  - Draw idiosyncratic productivity shocks for each municipality
  - Operate in one of **two sectors** with different demand elasticities $\Rightarrow$ different **markups** ($\mu_L < \mu_H$)
- Workers draw preference shocks for each municipality $\rightarrow$ imperfectly mobile
- One local labor market: wages clear labor demand and supply in each municipality
- Two tax instruments: profit tax and **tax on the capital stock**

Wage Elasticities Profit Elasticities

Profit Maximization

Firms in sector s choose inputs and prices to maximize after-tax profits:

$$\pi_{jsc} = \max_{l,\,k,\,x_v,\,p} (1-\tau_c^p)\left(p_{jsc}y_{jsc} - w_c l_{jsc} - \int_v p_v x_{v,jsc}\,dv\right) - \left((1-\kappa\,\tau_c^p)\rho + b\,\tau_c^k\right) k_{jsc}$$

- profit π_{jsc}, plant j, sector s, location c
- taxes τ_c^p, τ_c^k, deductibility κ, wealth base b
- prices p_{jsc} and quantities y_{jsc}
- wages w_c, employment l_{jsc}
- capital k_{jsc}, national interest rate ρ
- intermediate inputs $x_{v,jsc}$

Common Cobb–Douglas technology and **sector-specific demand elasticity** $\varepsilon_s^{PD} \Rightarrow$ markup μ_s:

$$y_{jsc} = B_{jsc}\, l_{jsc}^{\gamma} k_{jsc}^{\delta} M_{jsc}^{1-\gamma-\delta}, \qquad p_{jsc} = \mu_s \times \text{marginal cost}$$

User Cost of Capital — the Shared Channel

What does one unit of capital cost the firm per year?

$$\rho$$

No taxes: just the interest cost.

User Cost of Capital — the Shared Channel

What does one unit of capital cost the firm per year?

$$\rho + b\tau^k$$

Wealth tax: paid on the stock — *whether or not the firm makes profits.*

User cost

User Cost of Capital — the Shared Channel

What does one unit of capital cost the firm per year?

$$\tilde{\rho} = \frac{\left(1 - \kappa \tau^{p}\right) \rho + b \tau^{k}}{1 - \tau^{p}}$$

Profit tax: taxes the return (denominator) — but capital costs are share-κ deductible (numerator).

User cost

User Cost of Capital — the Shared Channel

What does one unit of capital cost the firm per year?

$$\tilde{\rho} = \frac{(1 - \kappa\tau^p)\,\rho + b\,\tau^k}{1 - \tau^p}$$

Profit tax: taxes the return (denominator) — but capital costs are share-κ deductible (numerator).

- Sensitivity of $\tilde{\rho}$ to each tax:

$$s_k \equiv \frac{\partial \ln \tilde{\rho}}{\partial \ln \tau^k} = \frac{b\,\tau^k}{\tilde{\rho}(1 - \tau^p)}, \qquad s_p \equiv -\frac{\partial \ln \tilde{\rho}}{\partial \ln(1 - \tau^p)} = 1 - \frac{\kappa\rho}{\tilde{\rho}}$$

User cost

User Cost of Capital — the Shared Channel

What does one unit of capital cost the firm per year?

$$\tilde{\rho} = \frac{\left(1 - \kappa\tau^{p}\right)\rho + b\,\tau^{k}}{1 - \tau^{p}}$$

Profit tax: taxes the return (denominator) — but capital costs are share-κ deductible (numerator).

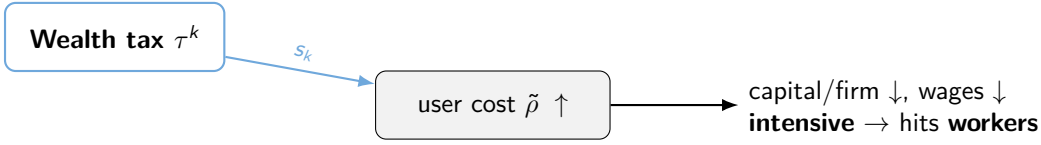
- Sensitivity of $\tilde{\rho}$ to each tax:

$$s_k \equiv \frac{\partial \ln \tilde{\rho}}{\partial \ln \tau^{k}} = \frac{b\,\tau^{k}}{\tilde{\rho}(1 - \tau^{p})}, \qquad s_p \equiv -\frac{\partial \ln \tilde{\rho}}{\partial \ln(1 - \tau^{p})} = 1 - \frac{\kappa\rho}{\tilde{\rho}}$$

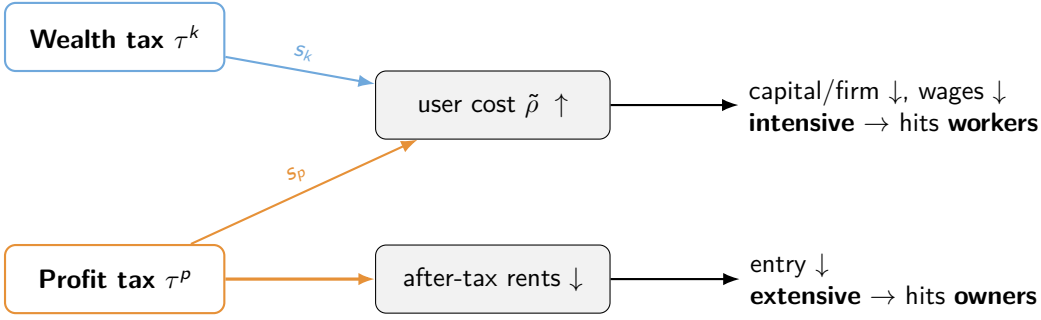
- **The asymmetry:** at $\kappa = 1$, $s_p = 0$, the profit tax *escapes* the user cost entirely (pure rent tax). **The wealth tax never can:** its base *is* the capital stock

User cost

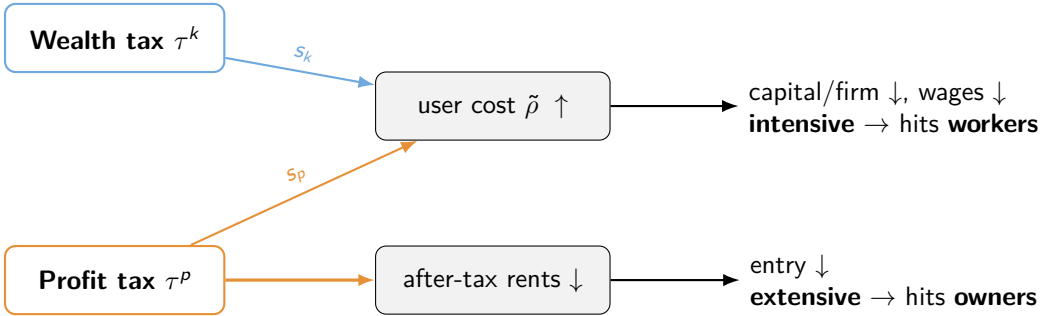
Two Margins: One Shared Channel



Two Margins: One Shared Channel



Two Margins: One Shared Channel



- Entry: wealth $-\frac{\delta}{\sigma^F} s_k$ vs. profit $\underbrace{-\frac{\mu_s - 1}{\sigma^F}}_{\text{extra channel}} - \frac{\delta}{\sigma^F} s_p$
- Cross-section: $\frac{K_s}{\Pi_s} = \frac{\delta}{(\mu_s - 1)\tilde{\rho}} \Rightarrow$ **low-margin firms hold the wealth-tax base**

Derivation Incidence

Distortion per Euro of Revenue: Two Margins

Both taxes distort capital through the same channel ($\tilde{\rho}$): compare what each euro of revenue costs, margin by margin:

Intensive margin (capital)

$$\left.\frac{\Delta K_p \,/\, € \text{ raised}}{\Delta K_k \,/\, € \text{ raised}}\right|_s = \frac{\delta\, s_p}{\mu_s - 1} \quad \Rightarrow \textbf{ profit tax} \text{ cheaper in high-}\mu \text{ sectors}$$

Extensive margin (entry)

$$\left.\frac{\dot{E}_p \,/\, € \text{ raised}}{\dot{E}_k \,/\, € \text{ raised}}\right|_s = 1 + \frac{\delta\, s_p}{\mu_s - 1} \quad \Rightarrow \textbf{ wealth tax} \text{ cheaper on this margin}$$

- **Neither ratio depends on** σ^F — it scales both margins jointly

Derivation

From Reduced Form to Welfare

Only three estimated elasticities per tax + a welfare weight θ are needed:

$$\mathcal{W}_T = -\frac{(1-\theta)\,\dot{w}^T + \theta\,\dot{\pi}^T}{\dot{R}^T}, \qquad T \in \{p, k\}.$$

- Three sufficient statistics, one per agent:
  - **Workers:** wage elasticity $\dot{w}^T$
  - **Owners:** profit elasticity $\dot{\pi}^T$
  - **Government:** revenue elasticity $\dot{R}^T$
- All directly estimated $\Rightarrow$ transparent ranking of *who bears the burden* and the *welfare cost per euro*
- The formula uses **aggregate** elasticities $\Rightarrow$ **robust to the heterogeneity underneath** — that is the point of the sufficient-statistics design

Incidence ratio

Outline

Calibration

Table 1: Empirical elasticities used

Object	Baseline	Range	Source
$\dot{w}^p$	0.50	[0.25, 0.75]	Fuest et al. (2018); Gstrein et al. (2025)
$\dot{w}^k$	-3.5	$[-7.0, -1.0]$	This paper
$\dot{\pi}^p$	1.7	[1.0, 2.5]	Gstrein et al. (2025); Suárez Serrato and Zidar (2016)
$\dot{\pi}^k$	-2.5	$[-6.0, -1.0]$	This paper
$\dot{R}_k$	9.6	[5.0, 15.0]	This paper

Incidence per Euro of Revenue

Raw (CoC-adjusted) distortions looked comparable. Per euro of revenue, they are not.

	Wealth tax	**Profit tax**
Wage cost per euro of revenue, $\lvert\dot{w}/\dot{R}\rvert$	$\approx$ 0.21–0.43	$\approx$ 0.06–0.16
Owner cost per euro of revenue, $\lvert\dot{\pi}/\dot{R}\rvert$	$\approx$ 0.21–0.28	$\approx$ 0.38–0.74

Incidence per Euro of Revenue

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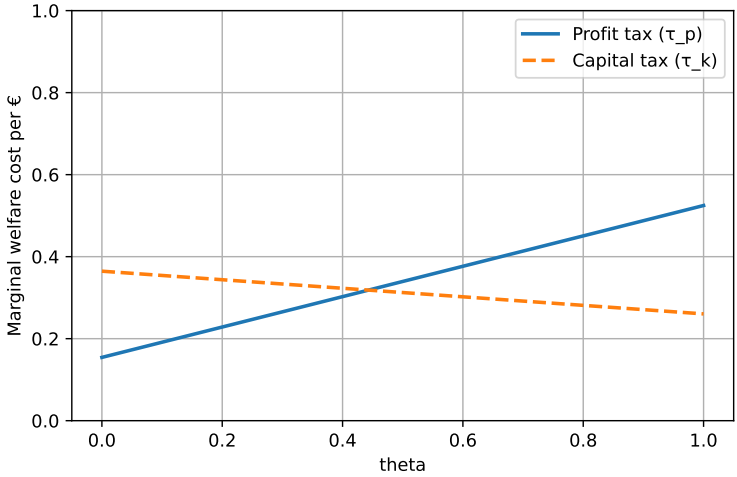
Owner cost per euro of revenue, $\lvert\dot{\pi}/\dot{R}\rvert$	$\approx$ 0.21–0.28	$\approx$ 0.38–0.74

- Per euro raised, the wealth tax costs **workers more**, the profit tax hits **owners** more

Welfare Comparison



Outline

Placebo

- No effects in former East German States Placebo East
- No effects in non-liable sector Placebo Non-Liable Table
- No effects in combined sample Placebo Full
- No effects on non-affected investment categories Placebo Building Investment

Additional Results and Robustness

- Investment effects are largest in low-profitability and financially constrained firms Set-up
- Employment composition by education remains constant Link
- Effects on Wages are not driven by changes in composition Link
- Wages increase throughout the within-firm wage distribution, but slightly more towards the top Link
- Wages increase mostly in plants with fewer than 50 employees, small effects above, do not increase in firms that paid lowest wages
- Wages increase more for higher productivity firms Link
- Wages do increase monotonically with the size of the tax cut Link

Outline

Conclusion

What this paper adds

- First quasi-experimental evidence on the **real effects of taxing business wealth**: investment, wages, profits, entry with elasticities directly comparable to the corporate-tax literature
- A transparent **sufficient-statistics welfare comparison** of stock- vs. flow-based capital taxation, disciplined by the estimates

Conclusion

What this paper adds

- First quasi-experimental evidence on the **real effects of taxing business wealth**: investment, wages, profits, entry with elasticities directly comparable to the corporate-tax literature
- A transparent **sufficient-statistics welfare comparison** of stock- vs. flow-based capital taxation, disciplined by the estimates

The economics in one line

- Scaled by the user cost, the two taxes distort capital **alike**, but per euro of revenue they are **very different**: the profit tax reaches rents, the wealth tax taxes the distorted base and its burden falls more on **workers**
- Under the estimated elasticities, the profit tax raises revenue at **lower welfare cost** unless owners carry a large welfare weight

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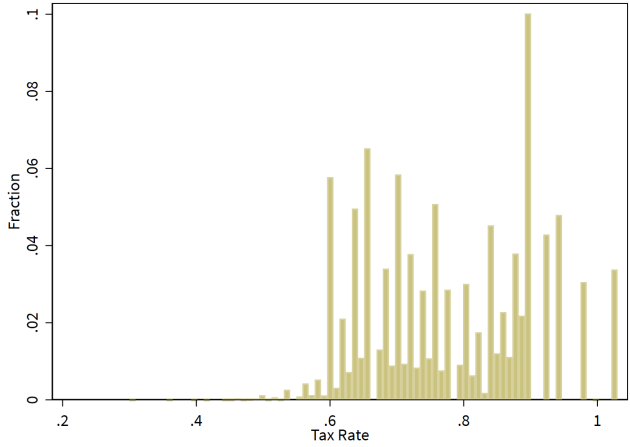
Additional Results

- Share of Highly Educated workers increases in more affected establishments Link
- Effects on Wages are not driven by changes in composition Link
- Wages increase throughout the within-firm wage distribution, but slightly more towards the top Link
- Wages increase mostly in plants with fewer than 50 employees, small effects above
- Wages do not increase in the 20% of plants that payed the lowest wages before the tax cut
- Wages increase more for higher productivity firms Link
- Wages do increase monotonically for the size of the tax cut Link

Institutional Background: Tax Rates in 1997



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Descriptives: Municipalities

Table 2: Descriptive Statistics - Municipalities

Municipality characteristics - West German sample				
Panel A: Unweighted				
N = 8,003	Mean	SD	Minimum	Maximum
LSF 1996	325.06	30.18	100	515
LBTC rate 1996	.6501	.0604	.2	1.03
LBTP rate 1996	16.25	1.5090	5	25.75
LBT revenue 1996 (in 1000€)	2917.658	26631.39	-23.86	1255781
Population 1996	8444.81	53100.95	11	3425759
Panel B: Weighted by LBT tax base				
N = 8,003	Mean	SD	Minimum	Maximum
LSF 1996	388.85	60.99	100	515
LBTC rate 1996	.7777	.1220	.2	1.03
LBTP rate 1996	19.44	3.05	5	25.75
LBT revenue 1996 (in 1000€)	196692.2	345737.5	-23.86	1255781
Population 1996	260929.2	418996.8	11	3425759

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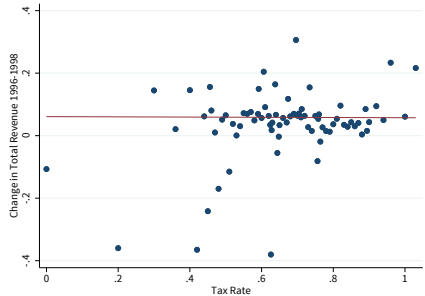
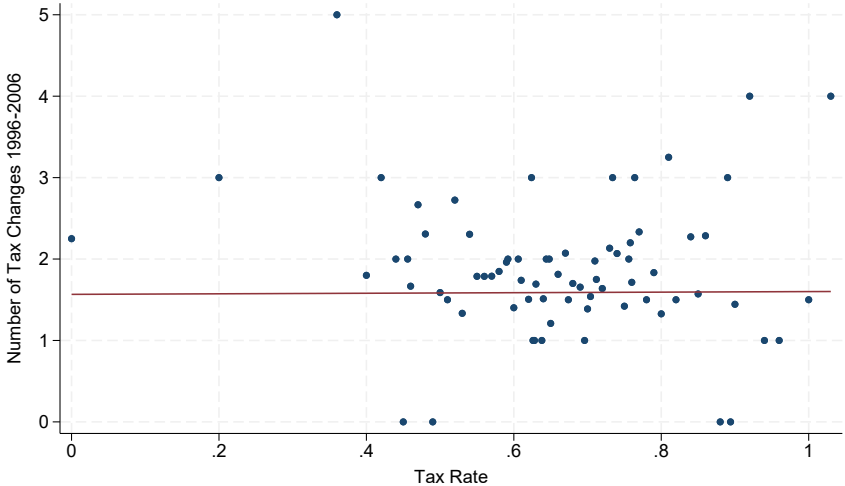
Institutional Background: Compensation of Municipalities

- Compensation for lost revenue
- 2.2% of VAT revenue split across municipalities
- Based on 1990-1996 LBT revenue (70%) and 1990-1995 number of employees (30%)
- Hardship rules for municipalities that would lose revenue through this compensation scheme



Institutional Background: Tax rate Changes



Interpretation of (Semi-)Elasticities

The theoretical framework maps the local profit tax τ_c^p and the book-wealth tax τ_c^k into the user cost of capital

$$\tilde{\rho}_c \;=\; \frac{(1-\kappa_k \tau_c^p)\rho + b\tau_c^k}{1-\tau_c^p},$$

where ρ is the national interest rate and $\kappa_k \in [0,1]$ is the deductibility share of capital costs. A central object in the empirical analysis is the response of outcomes to changes in the user cost, $\partial \ln Y / \partial \ln \tilde{\rho}_c$, rather than to the statutory tax rates themselves.

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Interpretation of (Semi-)Elasticities

Average interest rate on business loans in 1997–1998, $\rho = 6.5\%$ (Bundesbank, 2023), an average LBTC rate $\tau_c^k = 0.74\%$, and an average LBTP rate $\tau_c^p = 18.5\%$. For these values,

	$\kappa_k = 0$	$\kappa_k = 0.5$	$\kappa_k = 1$
$\tilde{\rho}_c$	0.089	0.077	0.065
$\epsilon_k = \partial \ln \tilde{\rho}_c / \partial \tau_c^k$	13.8	7.98	0
$\epsilon_p = \partial \ln \tilde{\rho}_c / \partial \tau_c^p$	1.23	0.71	0
ϵ_k / ϵ_p	11.26	11.26	-
$s_k = \partial \ln \tilde{\rho}_c / \partial \ln \tau_c^k$	0.102	0.059	0
$s_p = \partial \ln \tilde{\rho}_c / \partial \ln(1 - \tau_c^p)$	-1	-0.575	0
$s_k / \lvert s_p \rvert$	0.102	0.102	-

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Example for LBT Calculation

Table 3: Calculation of LBT in Munich 1997 and 1998

	1997		1998	
Local Scaling Factor	490%		490%	
Tax base	Profit	Capital	Profit	Capital
Basic Rate	5%	0.2%	5%	0%
Tax rate	24.5%	0.98%	24.5%	0%
Tax base (Amount)	100,000	200,000	100,000	200,000
Tax Payment	24,500	1,960	24,500	0
ETR	26.5%		24.5%	

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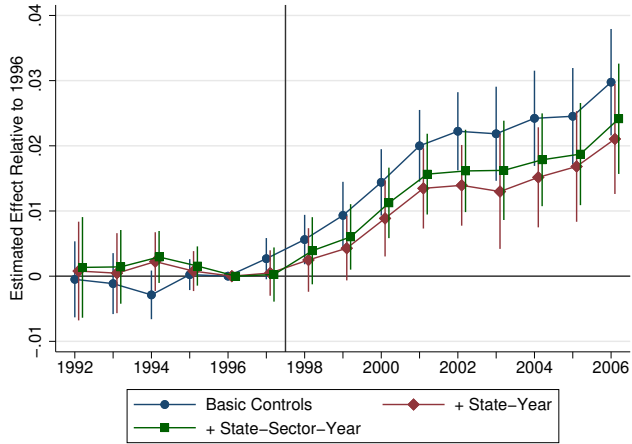
Main Results: Wages

Using regional and industry variation



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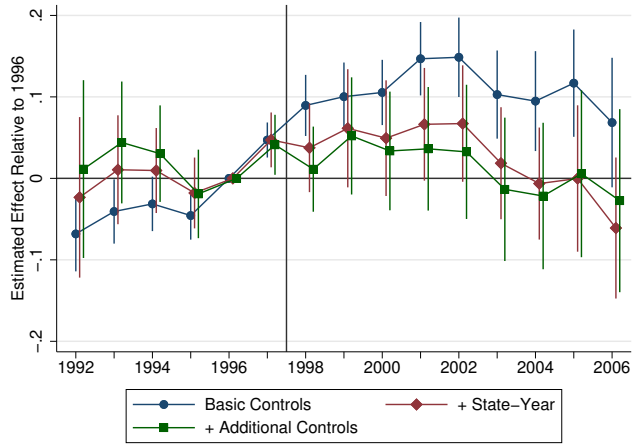
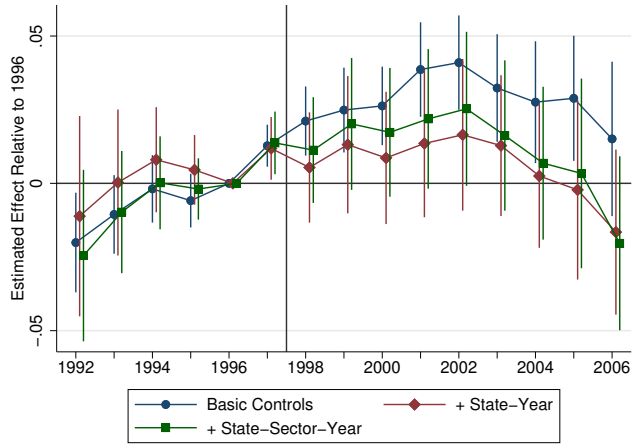
Main Results: Employment

The tax cut did not have a detectable impact on employment.



Main Results: Employment

Using regional and industry variation



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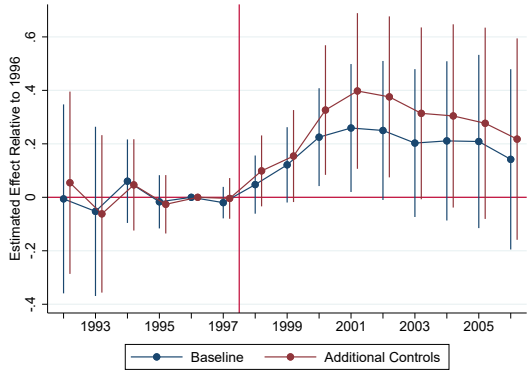
Main Results: Capital

Using regional and industry variation



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DiD estimates: Investment

Table 4: DiD estimates: Log Capital Investment

	Log Capital Investment			
	Total		Machinery	
Post × Δ LBTC	0.510*	0.714**	0.556*	0.756**
	(0.302)	(0.334)	(0.284)	(0.314)
Municipality FE	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓
Industry × Year FE	✓	✓	✓	✓
State × Year FE		✓		✓
Observations	9,398	9,394	9,399	9,395

Notes: DiD regressions of log capital investment on the size of the tax cut. Standard errors in parentheses are clustered at the municipality level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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DiD estimates: Wages and Employment

Table 5: DiD estimates: Labor Market Outcomes

	Labor Market			
	Log Mean FT Wage			
Post × Δ LBTC	0.0514***	0.0448***	0.0247**	0.0446***
	(0.00988)	(0.00816)	(0.0110)	(0.00766)
	Log FT Employment			
Post × Δ LBTC	0.138***	0.0325	0.00158	0.0290
	(0.0259)	(0.0451)	(0.0499)	(0.0441)
Tax Change Controls	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓
Pre-Treatment Controls		✓	✓	✓
State × Year FE		✓	✓	✓
Industry × Year FE	✓	✓	✓	✓
Population Category × Year FE			✓	
Industry × State × Year FE				✓
Observations	2,462,460	2,462,460	2,462,460	2,462,460

DiD estimates: Profits

Table 6: DiD estimates: Profit Outcomes

	Log Net Profit		Log Gross Profit	
Post × Δ LBTC	0.0345***	0.0311***	0.0139***	0.0103**
	(0.00510)	(0.00477)	(0.00437)	(0.00407)
Tax Change Controls	✓	✓	✓	✓
Municipality × Industry FE	✓	✓	✓	✓
Industry × Year FE	✓	✓	✓	✓
State × Year FE	✓		✓	
District × Year FE		✓		✓
Observations	399,615	399,615	399,615	399,615

Notes: DiD regressions of profits on the size of the tax cut. Standard errors in parentheses are clustered at the municipality level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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Additional Results - Regional Level

Figure 6: Effect on Wages

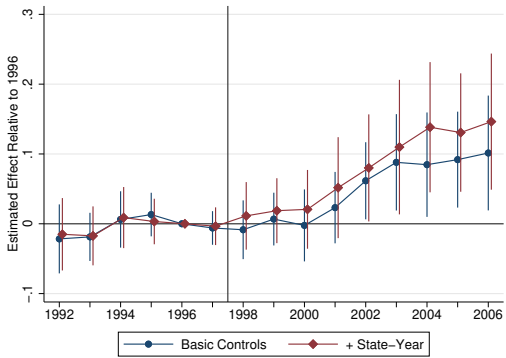
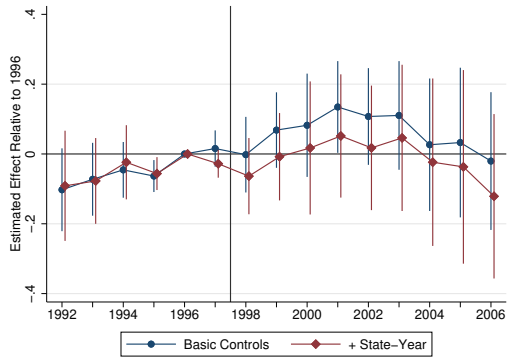


Figure 7: Effect on Employment



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Productivity

Table 7: DiD on the Regional Level

Panel A:	Labor Market				
	Employment	Wage	Entry	Exit	Productivity
Post × Δ LBTC	0.0332	0.0598**	0.132***	0.0500	-0.0254**
	(0.0616)	(0.0295)	(0.0270)	(0.0478)	(0.0122)
Panel B:	Entry by Productivity				
	Low	Mid-Low	Mid	Mid-High	High
Post × Δ LBTC	0.360***	0.318***	0.0946***	-0.0507	0.121***
	(0.102)	(0.104)	(0.0306)	(0.0659)	(0.0438)
Tax Change Controls	✓	✓	✓	✓	✓
District FE	✓	✓	✓	✓	✓
District type FE × Year FE	✓	✓	✓	✓	✓
State × Year FE	✓	✓	✓	✓	✓
Observations	4845	4845	4845	4845	4845

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Employment by Education

	Share Low	Share Medium	Share High	Share Other
Post × LBCT 1996	0.00477	-0.00493	-0.0000721	0.000230
	(0.00933)	(0.00751)	(0.00522)	(0.00293)
Observations	2462460	2462460	2462460	2462460
District FE	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓
District type FE × Year FE	✓	✓	✓	✓
State × Year FE	✓	✓	✓	✓
Pre-Period Characteristics	✓	✓	✓	✓

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Controlling for Composition

	Mean Log Wage FT		
Post × LBCT 1996	0.0247**	0.0274**	0.0330***
	(0.0110)	(0.0110)	(0.0110)
Observations	2462460	2462460	2462460
District FE	✓	✓	✓
Establishment FE	✓	✓	✓
District type FE × Year FE	✓	✓	✓
State × Year FE	✓	✓	✓
Pre-Period Characteristics	✓	✓	✓
Education Comp		✓	✓
Age Comp			✓

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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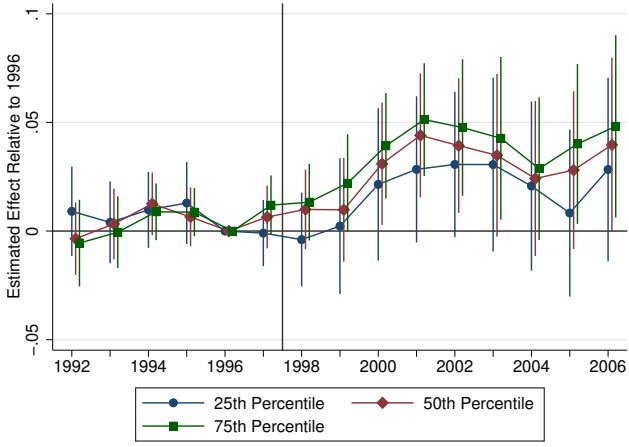
Effect through the wage distribution



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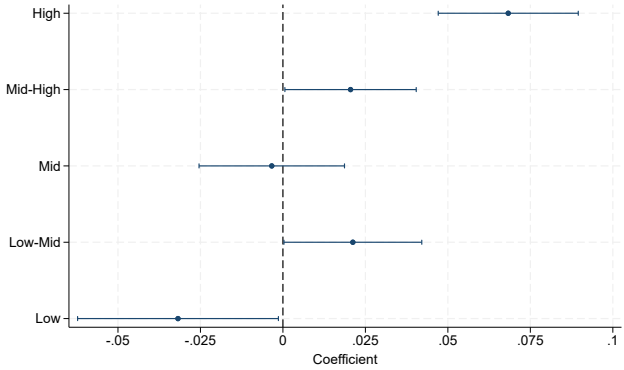
Wage effect by Productivity



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Wage effect by tax cut level

	Mean Log Wage FT			
LBTC: 0.65%-0.75% × Post	0.00120	0.00314*	0.000223	-0.000450
	(0.00167)	(0.00147)	(0.00152)	(0.00152)
LBTC: 0.75%-0.85% × Post	0.0122***	0.0105***	0.00441	0.00299
	(0.00223)	(0.00216)	(0.00227)	(0.00222)
LBTC: 0.85%-0.95% × Post	0.0151***	0.0148***	0.00652**	0.00592*
	(0.00259)	(0.00230)	(0.00243)	(0.00248)
LBTC > 0.95% × Post	0.0141**	0.0182***	0.0168***	0.0186***
	(0.00502)	(0.00259)	(0.00244)	(0.00241)
Observations	2462460	2462460	2462460	2462460
Tax Change Controls	✓	✓	✓	✓
District FE	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓
District type FE × Year FE	✓	✓	✓	✓
Pre-Treatment Controls		✓	✓	✓
State × Year FE			✓	✓
Industry × Year FE				✓

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Employment effect by industrial robot adoption

	Log Emp. FT		Mean Log Wage FT	
Post × LBCT 1996	0.00298	-0.0199	0.0300***	0.0316***
	(0.0324)	(0.0327)	(0.00975)	(0.0111)
Post × Robot	0.388***	0.329***	0.0456**	0.0226
	(0.0519)	(0.0500)	(0.0216)	(0.0204)
Post × Robot × LBCT 1996	-0.435***	-0.400***	-0.0433	-0.0158
	(0.0696)	(0.0661)	(0.0302)	(0.0285)
Observations	2462340	2462310	2462340	2462310
District FE	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓
District type FE × Year FE	✓	✓	✓	✓
State × Year FE	✓	✓	✓	✓
Pre-Period Characteristics	✓	✓	✓	✓
Industry × Year FE		✓		✓

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Using Industry Variation

Table 8: DiD mean full-time wages and full-time employment - Using Industry Variation

Panel A:	Labor Market				
	Log Mean Wage FT				
Post × Δ LBTC Industry	0.0180***	0.0100***	0.0115***	0.00755**	0.0129**
	(0.00286)	(0.00334)	(0.00275)	(0.00328)	(0.00555)
	Log FT Employment				
Post × Δ LBTC Industry	0.0342***	0.00620	0.0187	-0.00411	-0.0196
	(0.00865)	(0.0162)	(0.0148)	(0.0143)	(0.0160)
Tax Change Controls	✓	✓	✓	✓	
District FE	✓	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓	✓
District type FE × Year FE	✓	✓	✓	✓	✓
Pre-Treatment Controls		✓		✓	✓
State × Year FE		✓	✓	✓	✓
Industry × Year FE	✓	✓	✓	✓	✓
Industry × State × Year FE				✓	
District × Year FE					✓
Observations	2,462,460	2,462,460	2,462,460	2,462,460	2,462,460

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Robustness: Sample Selection

Figure 8: Sample restrictions 1

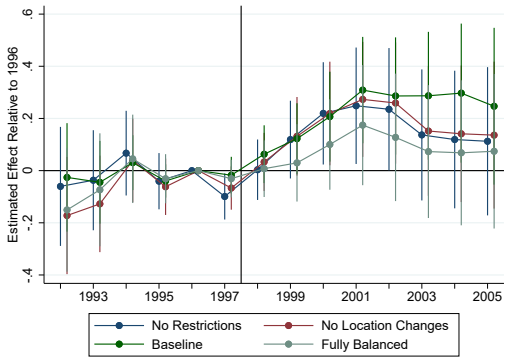
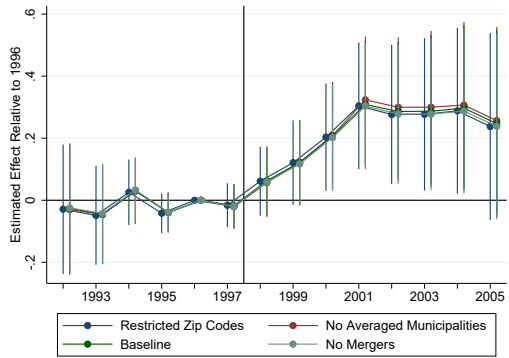


Figure 9: Sample restrictions 2



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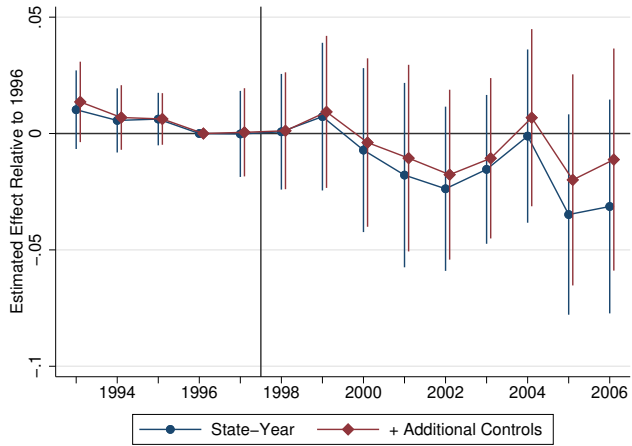
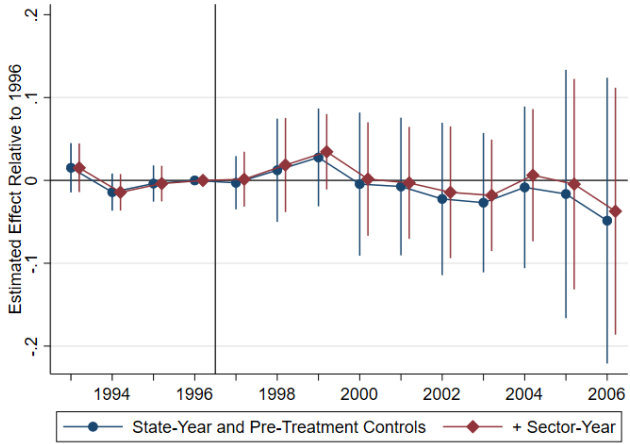
Placebo: Effects on Wages in East Germany and Non-Liable Sector



Placebo: Effects on Wages in East Germany



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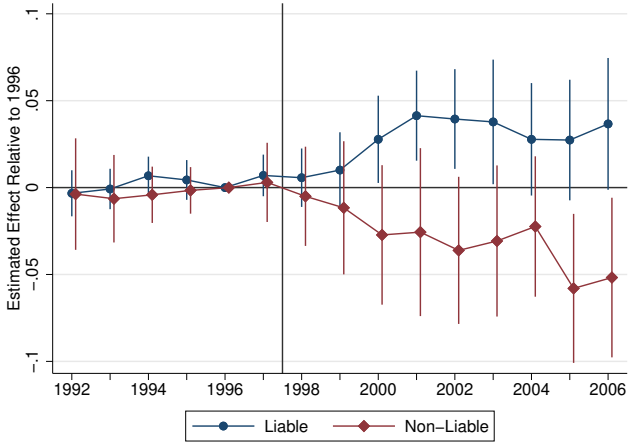
Placebo: Effects on Wages in the Non-liable Sector



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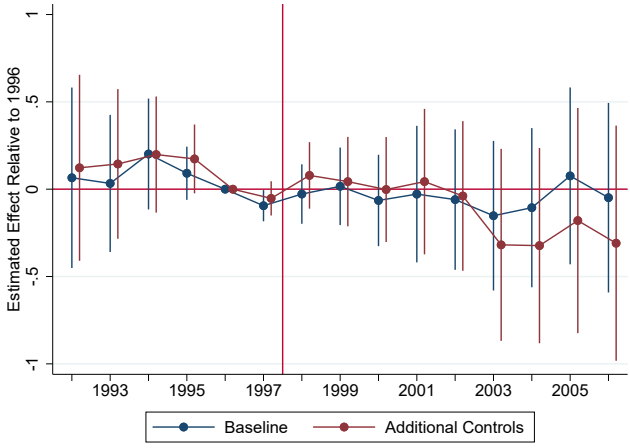
Placebo: Effects on Building Capital



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Liable vs Non-Liable: Table

Table 9: Liable and Non-Liable Firms

	Log Regular Employment			Mean Log Wage FT		
Post × Δ LBTC	0.0829*	-0.00141	-0.00813	-0.02237*	-0.0215	-0.000486
	(0.0423)	(0.0392)	(0.0356)	(0.0124)	(0.0139)	(0.0135)
Post × Liable × Δ LBTC	-0.00808	0.00529	-0.0143	0.0783***	0.0860***	0.0452***
	(0.0292)	(0.0245)	(0.0239)	(0.0085)	(0.0100)	(0.00996)
Tax Change Controls	✓	✓	✓	✓	✓	✓
District FE	✓	✓	✓	✓	✓	✓
Establishment FE	✓	✓	✓	✓	✓	✓
District type FE × Year FE	✓	✓	✓	✓	✓	✓
Pre-Treatment Controls		✓	✓		✓	✓
State × Year FE		✓	✓		✓	✓
Industry × Year FE			✓			✓
Observations	3,358,290	3,358,290	3,358,290	3,358,290	3,358,290	3,358,290

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Heterogeneity

Use one main Question from the ifo Survey for heterogeneity:

"Our domestic investment activities were positively/ negatively influenced this or next year by the following factors:"

	assessment of the situation in 19WW**				
	strong inducement [1]	slight inducement [2]	no influence [3]	slight negative influence [4]	strong negative influence [5]
financing situation					

Main factors: financing situation, profitability, demand, economic policy environment

To compare effects, I divide the capital stock effects by the difference of the effects on cost of capital. I also multiply the profit tax effects by -1. Back

Theory - Wage elasticities

$$\dot{w}_c^p = \frac{\frac{\partial \ln L_c^D}{\partial \ln(1-\tau_c^p)}}{\varepsilon^{LS} - \frac{\partial \ln L_c^D}{\partial w_c}} = \frac{\frac{1}{-(\varepsilon^{PD}+1)\sigma^F} - 1 + \frac{\delta}{\sigma^F}\left(1 - \frac{\kappa_k \rho}{\tilde{\rho}_c}\right)}{\varepsilon^{LS} - \varepsilon^{LD}} \tag{1}$$

$$\dot{w}_c^k = \frac{\frac{\partial \ln L_c^D}{\partial \ln \tau_c^k}}{\varepsilon^{LS} - \varepsilon^{LD}} = -\frac{\frac{\delta}{\sigma^F}\frac{(1-\kappa_k)\tau_c^k}{(1-\kappa_k\tau_c^p)\rho+(1-\kappa_k)\tau_c^k}}{\varepsilon^{LS} - \varepsilon^{LD}} \tag{2}$$

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Theory - Profit elasticities

The effect of $1 - \tau_c^p$ on profits is:

$$\dot{\pi}_c^p = 1 \underbrace{-\delta\left(\varepsilon^{PD}+1\right)}_{\text{Capital wedge}} + \underbrace{\delta\left(\varepsilon^{PD}+1\right)\frac{\kappa_k \rho}{\tilde{\rho}_c}}_{\text{Deductibility effect}} + \underbrace{\gamma\left(\varepsilon^{PD}+1\right)\dot{w}_c^p}_{\text{Labor costs}} \tag{3}$$

The effect of τ_c^k on profits is:

$$\dot{\pi}_c^k = \underbrace{\delta\left(\varepsilon^{PD}+1\right)\frac{(1-\kappa_k)\tau_c^k}{(1-\kappa_k\tau_c^p)\rho + (1-\kappa_k)\tau_c^k}}_{\text{Increasing capital wedge}} + \underbrace{\gamma\left(\varepsilon^{PD}+1\right)\dot{w}_c^k}_{\text{Reducing labor costs}} \tag{4}$$

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Backup: user cost

$$\tilde{\rho} = \frac{(1-\kappa\tau^p)\rho + b\tau^k}{1-\tau^p}, \qquad N \equiv \tilde{\rho}(1-\tau^p).$$

$$s_k = \frac{\partial \ln \tilde{\rho}}{\partial \ln \tau^k} = \frac{b\tau^k}{N}, \qquad s_p = -\frac{\partial \ln \tilde{\rho}}{\partial \ln(1-\tau^p)} = 1 - \frac{\kappa\rho}{\tilde{\rho}} = \frac{(1-\kappa)(\rho+\tau^k)}{N}.$$

$$\boxed{s_p - s_k = \frac{(1-\kappa)\rho}{N} \geq 0}$$

Back MEB

Backup: entry elasticities

Location value $v_c = \frac{\ln(1-\tau^p)}{-(\epsilon_s^{PD}+1)} + \bar{B}_c - \gamma \ln w - \delta \ln \tilde{\rho} + \text{const}$, entry share $E_c \propto e^{v_c/\sigma^F}$. Hence

$$\frac{\partial \ln E_c}{\partial \ln(1-\tau^p)} = \underbrace{\frac{1}{\eta_s \sigma^F}}_{\text{rent channel}} + \frac{\delta}{\sigma^F} s_p, \qquad \frac{\partial \ln E_c}{\partial \ln \tau^k} = -\frac{\delta}{\sigma^F} s_k,$$

with $\eta_s \equiv -(\epsilon_s^{PD} + 1) > 0$. The rent channel exists *only* for the profit tax and survives even at $s_p = 0$.

Back

Backup: incidence ratio

With $\Delta \equiv \varepsilon^{LS} - \varepsilon^{LD}$:

$$\dot{w}^k = -\frac{(\delta/\sigma^F)s_k}{\Delta}, \qquad \dot{\pi}^k = -\frac{\delta s_k - \gamma \dot{w}^k}{\mu_s - 1} \;\Rightarrow\; \boxed{\frac{\dot{w}^k}{\dot{\pi}^k} = \frac{\mu_s - 1}{\sigma^F (1 + 1/\sigma^W)}}$$

independent of s_k and δ. The profit tax instead carries a mechanical rent term with no wage counterpart, $\dot{\pi}^p = \mathbf{1} + \frac{\delta s_p - \gamma \eta_s \dot{w}^p}{\mu_s - 1} \Rightarrow$ higher owner incidence.

Back

Backup: Distortion per Euro — Derivation

Common ingredients. Capital response $\partial \ln K_s / \partial \ln \tilde{\rho} = -(1 + \delta/\sigma^F)$. Mechanical revenue per log tax change (in €): $M_p = (1-\tau^p)\Pi_s$, $M_k = \tau^k b\, K_s$. CES shares give the base ratio (exposure lemma):

$$\frac{M_k}{M_p} = \frac{\tau^k b\, K_s}{(1-\tau^p)\Pi_s} = \underbrace{s_k\, \tilde{\rho}(1-\tau^p)}_{=\tau^k b} \cdot \frac{K_s}{(1-\tau^p)\Pi_s} = s_k\, \frac{\delta}{\mu_s - 1}.$$

Intensive. Capital destroyed (in €) per log change: $K_s(1 + \delta/\sigma^F)\, s_T$. Per € raised:

$$\frac{\Delta K_p / M_p}{\Delta K_k / M_k} = \frac{s_p}{s_k} \cdot \frac{M_k}{M_p} = \frac{\delta\, s_p}{\mu_s - 1}.$$

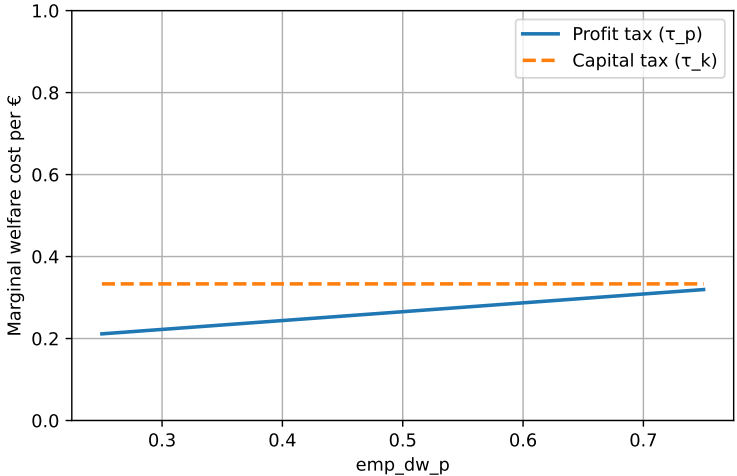
The wedge $\omega = \tilde{\rho} - \rho$ multiplies both taxes' capital responses $\Rightarrow$ the DWL ratio is identical to the ΔK ratio.

Extensive. Entry responses: $\dot{E}_p = \big[(\mu_s - 1) + \delta s_p\big]/\sigma^F$, $\dot{E}_k = (\delta/\sigma^F)\, s_k$. Entry erodes the *total* local base R, so leakage per € raised is $\dot{E}_T\, R / M_T$:

$$\frac{\dot{E}_p / M_p}{\dot{E}_k / M_k} = \frac{(\mu_s - 1) + \delta s_p}{\delta\, s_k} \cdot \frac{M_k}{M_p} = \frac{(\mu_s - 1) + \delta s_p}{\mu_s - 1} = 1 + \frac{\delta\, s_p}{\mu_s - 1}.$$

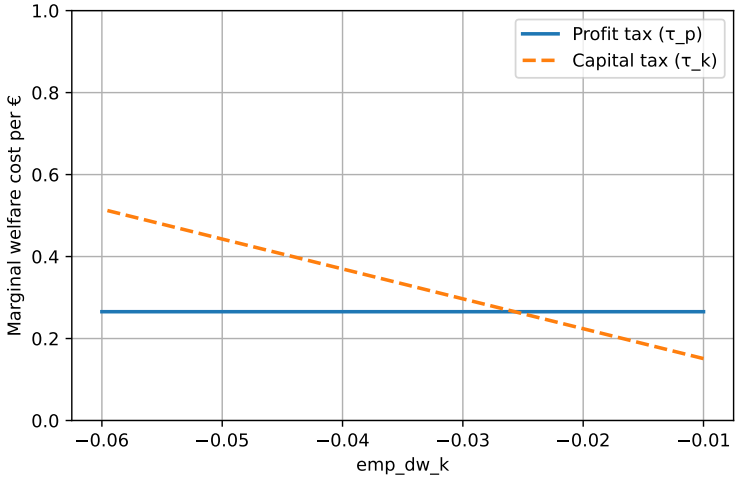
σ^F appears in every response but cancels in both ratios; b and ω cancel as well. Both comparisons are pinned down by (δ, s_p, μ_s) alone.

Welfare Robustness: Wage Elasticity ($\dot{w}^p$)



Back to Welfare Comparison

Welfare Robustness: Wage Elasticity ($\dot{w}^k$)



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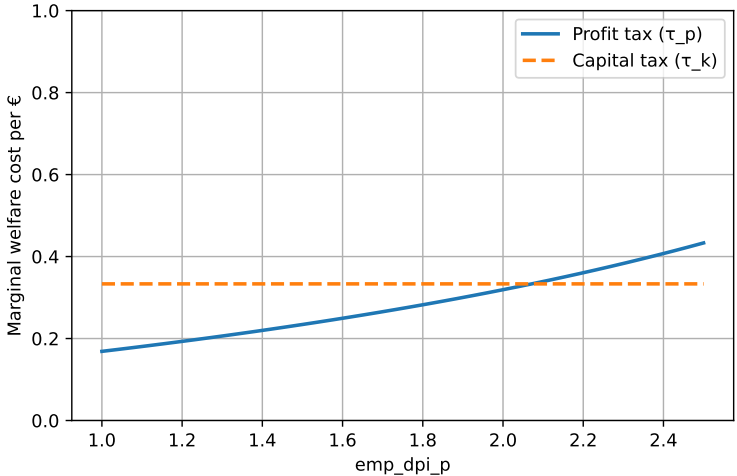
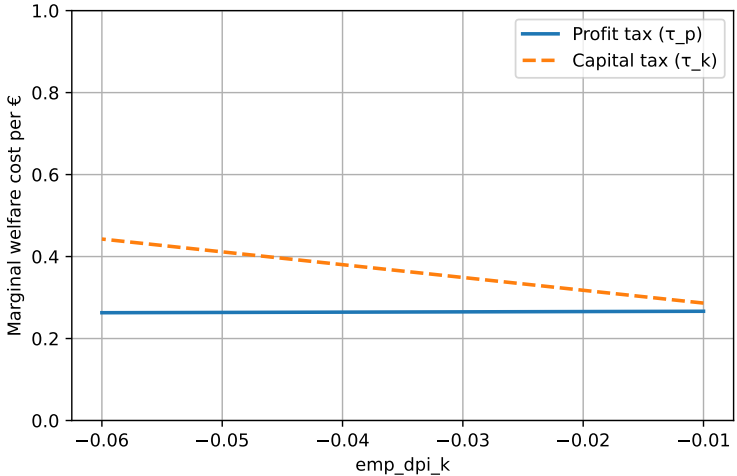
Welfare Robustness: Profit Elasticity ($\dot{\pi}^p$)



Back to Welfare Comparison

Welfare Robustness: Profit Elasticity ($\dot{\pi}^k$)



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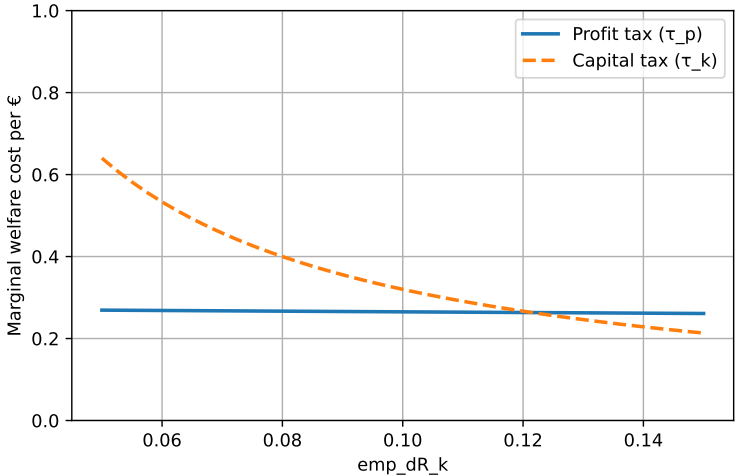
Welfare Robustness: Revenue Elasticity ($\dot{R}^k$)



Back to Welfare Comparison