

TAX CUTS BY OCCUPATION: EN- TREPRENEURS VS. WORKERS

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Introduction *Motivation*

- In downturns like the 2008 GFC and 2020 COVID-19, the U.S. prioritized tax relief for entrepreneurs.
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 3. the transmission channels remain unclear.
- This paper: how the macroeconomic effects of tax cuts depend on their occupational targeting—toward entrepreneurs or workers.

Introduction *Research Questions*

- What are the macroeconomic effects of tax relief targeted at entrepreneurs relative to workers?
- Through which channels do occupationally targeted tax policies influence aggregate outcomes?
- Can a structural occupational choice model explain the observed differences in responses to tax policy by occupation?

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 - Disaggregate by occupation, state, and income level.
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- **Occupation-choice Model Analysis**
 - Develop an incomplete markets model with occupational choice.
 - Three states (E, W, N) with two types of productivity
 - Earnings-based borrowing constraint

What We Find

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3. The Occupation-choice Model
 - Entrepreneurial tax cuts generate larger and more persistent macro effects than worker tax cuts
 - Higher multipliers (1.3–2.2 vs. 0.7–0.8)
 - Earnings-based borrowing constraint matters.

Related Literature

- Tax policy with heterogeneous effects
 - Zidar (2019): Output effects depend on who gets the tax cut
 - Cullen & Gordon (2007); Gentry & Hubbard (2000): *Taxes shape self-employment incentives*
 - Mertens & Ravn (2013): *Personal vs. corporate tax shocks have different macro effects*
 - Akcigit et al. (2021): *Taxes affect innovation*; Zwick & Mahon (2017), Giroud & Rauh (2019): *Firm-level investment and employment effects*
- Model features
 - **Occupational choice model** (Quadrini, 2000; Cagetti & De Nardi, 2006; Kzwark and Ma, 2021)
 - **Earnings-based borrowing constraint** (Lian and Ma, 2020; Drechsel, 2023)
 - Demand externality (Krueger et al, 2016; Phan, 2025)
- **Contribution:**
 - The systematic comparison of the macroeconomic effects of tax cuts for entrepreneurs versus wage earners.

Empirical Analysis

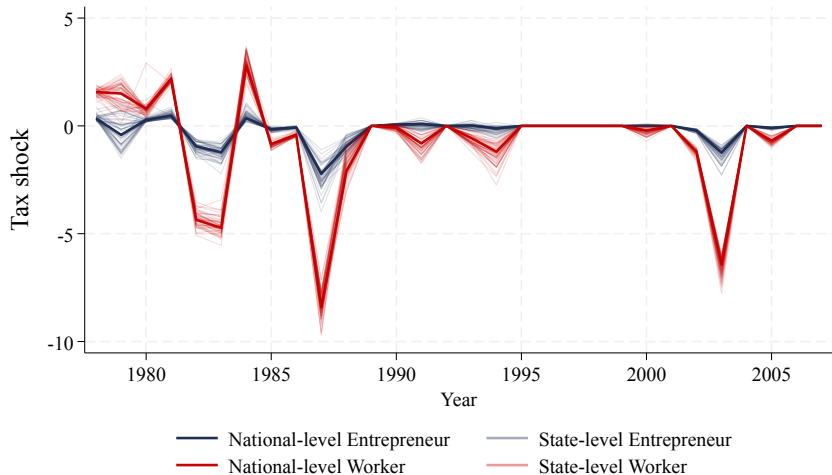
- **Current Population Survey (CPS):**
 - income sources, labor market status, and demographic characteristic.
 - annual data 1978 to 2018 state-level
- **Occupation:**
 - entrepreneurs: *the primary taxpayer positive business income or report their occupation as self-employed.*
 - workers: not entrepreneurs

Data *Tax Shocks*

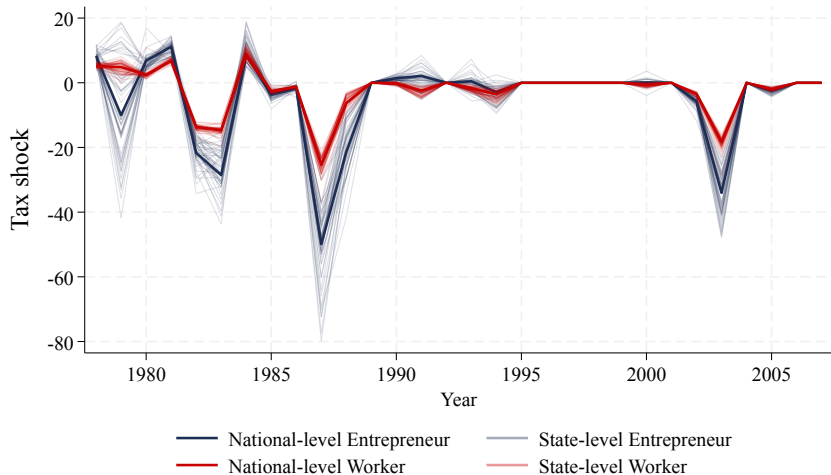
- **Goal** : exogenous variation tax change by occupation (and states).
- Our identification:
 - *Romer&Romer tax event + CPS + NBER TAXSIM*
- *Tax shocks* = liability change between actual and counterfactual
 - *Actual* liability: year $t - 1$ tax system & year $t - 1$ income
 - *Counterfactual* liability: year t tax system & year $t - 1$ income.
- The *tax shock*, $T_{s,t}^g$, for group g (entrepreneurs or workers) in state s in year t as:

$$T_{s,t}^g \equiv \frac{\text{Tax Liability Change}_{s,t}^g}{\text{Total Tax Liability}_{s,t-1}}, \quad (1)$$

Data *Tax Shocks*



Data *Tax Shocks*



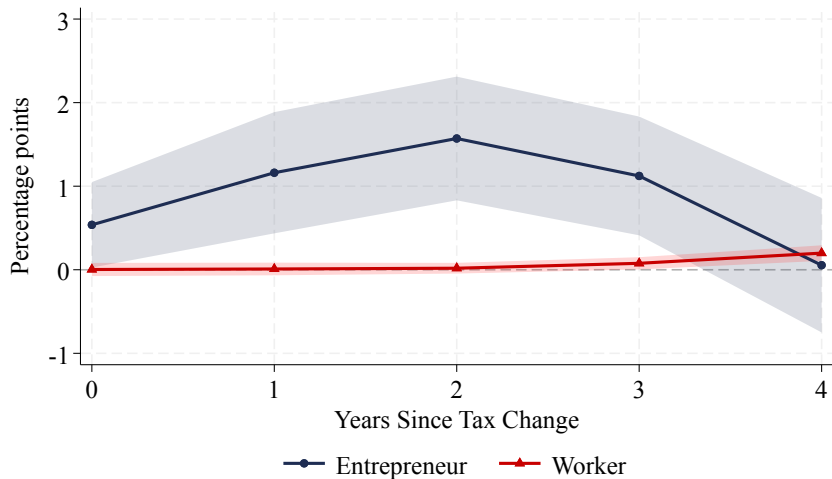
Econometric Methodology

- We employ local projections to estimate the dynamic effects of tax changes b/w entrepreneurs and workers

$$y_{s,t+h} - y_{s,t-1} = \alpha_h^E(T_{s,t}^E) + \alpha_h^W(T_{s,t}^W) + \mu_{s,h} \times \theta_{s,t,h} + \mu_{s,h} \times \delta_{t,h} + \epsilon_{s,t,h} \quad (2)$$

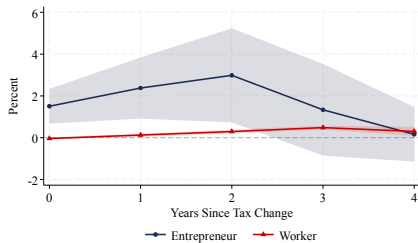
- α_h^E and α_h^W : the dynamic responses of economic activity
- $\mu_{s,h}$: horizon-specific state component
- $\theta_{s,t,h}$: horizon-specific credit control term
- $\delta_{t,h}$: horizon-specific time component

Results *GDP*

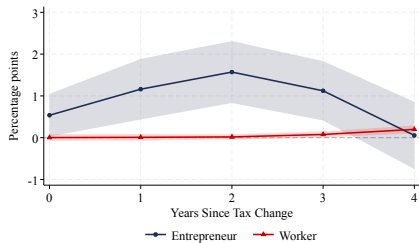


Results *Labor Market*

(A) Employment



(B) Labor Force Participation

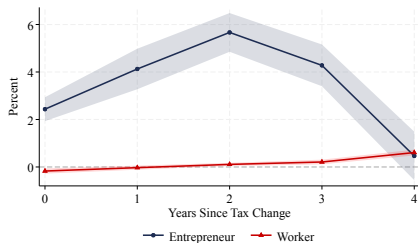


Results *Mechanism*

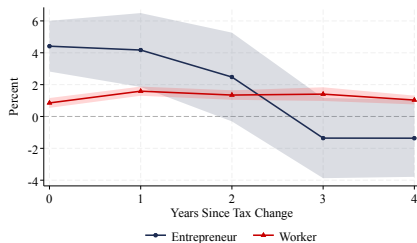
- To better understand the underlying mechanisms, we examine two key channels:
 - i) how employment responses to tax cuts for entrepreneurs vary by occupation
 - ii) how the two types of tax reforms differentially affect real wages and consumption

Results *Mechanism*

(A) Employment: Workers



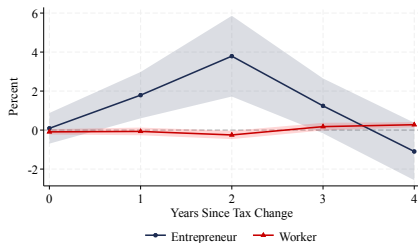
(B) Employment: Entrepreneur



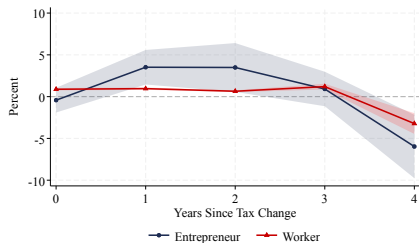
Tax cuts for entrepreneurs spur new entrepreneur entry and boost hiring in existing firms.

Results *Mechanism*

(A) Real Wages



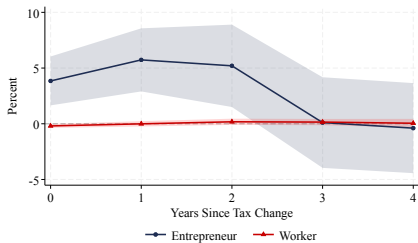
(B) Consumption



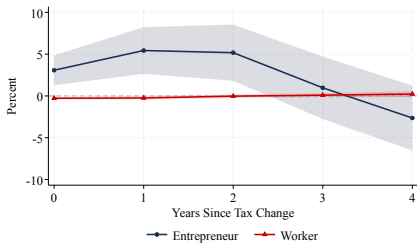
Entrepreneurial tax cuts generate additional supply-side effects through business formation and hiring.

Results *National-Level Data*

(A) GDP



(B) Employment



Results *Tax Multipliers*

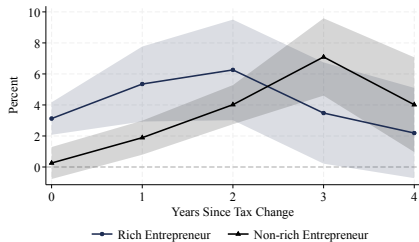
	(1)	(2)	(1)	(2)
	$h = 2$		$h = 6$	
	State-level Data			
m_h^E	3.30**	3.23**	3.72**	3.61**
m_h^W	0.31**	0.47	0.73**	0.82*
	National-level Data			
m_h^E	1.37	2.87**	1.84	2.59*
m_h^W	0.19**	0.22*	0.19	0.32

- $m_h^E = 2 - 4$ vs $m_h^W = 0.2 - 0.8$

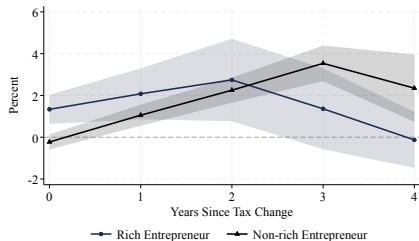
Results *Discussion*

- Rich vs. Non-Rich Entrepreneurs

(A) GDP



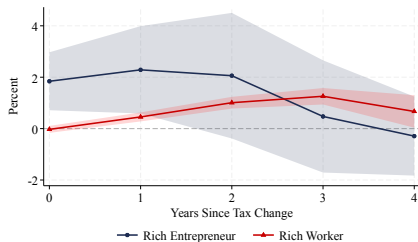
(B) Employment



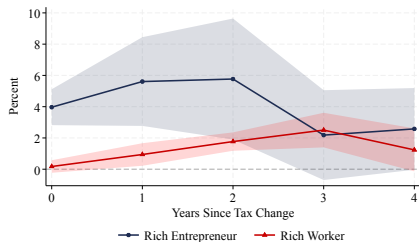
Results *Discussion*

- Rich Entrepreneurs vs. Rich Workers

(A) GDP



(B) Employment



Occupational Choice Model

Households *Heterogeneity*

- Households differ along two idiosyncratic state variables, each of which evolves as a stationary log-AR(1) process,

$$\ln s_t = (1 - \rho_s) \ln \bar{s} + \rho_s \ln s_{t-1} + \epsilon_{s,t}, \quad \epsilon_{s,t} \sim N(0, \sigma_s), \quad (3)$$

- x : labor productivity
- z : managerial ability

- The corporate sector employs Cobb–Douglas technology:

$$F(K_t, L_t, d_t) = d_t K_t^\alpha L_t^{1-\alpha}, \quad (4)$$

- d_t is demand externality from tax shocks (Krueger et al., 2016):

$$d_t = C_t^\omega$$

Technology *Entrepreneurial Production*

- DRS technology:

$$f(k_t, l_t, z_t, d_t) = d_t z_t \left(k^\alpha l^{1-\alpha} \right)^\psi, \quad (5)$$

- $0 < \psi < 1$: a span-of-control parameter.
- Earnings-based financing view as in Drechsel (2023):

$$k_t \leq \theta \max\{\pi_t, 0\}. \quad (6)$$

Earnings-based constraints better match data and dynamics.

Households *Problem*

- Wage Worker's Problem

$$V^W(\chi; \mu, \xi) = \max_{c, a'} \{u(c) - \Gamma^W + \beta \mathbb{E} [V(\chi'; \mu', \xi')]\} \quad s.t. \quad (7)$$

$$c = (1 - \tau)wx + (1 + r)a - a' + T, \quad (8)$$

- Entrepreneur's Problem

$$V^E(\chi; \mu, \xi) = \max_{c, a', k, l} \{u(c) - \Gamma^E + \beta \mathbb{E} [V(\chi'; \mu', \xi')]\} \quad s.t. \quad (9)$$

$$c = (1 - \tau)\pi + (1 + r)a - a' + T, \quad (10)$$

- $V^N(\chi; \mu, \xi)$ is similarly defined.

- Occupational Choice

$$V(\chi; \mu, \tau) = \max \{V^W, V^E, V^N\}.$$

Government

- Budget Constraints

$$T_t + G_t = TAX_t, \quad TAX_t = \int \tau_t \pi_t d\mu_E + \int \tau_t w_t x_t d\mu_W,$$

- Tax shocks

$$\tilde{\zeta}_t = \rho_{\tilde{\zeta}} \tilde{\zeta}_{t-1} + \epsilon_{\tilde{\zeta},t}, \quad \epsilon_{\tilde{\zeta},t} \sim N(0, \sigma_{\tilde{\zeta}}).$$

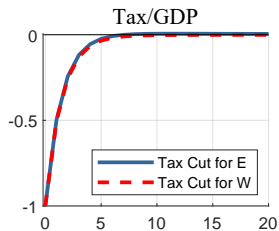
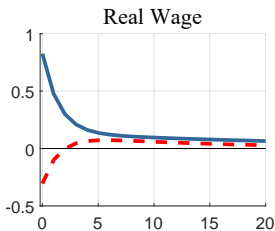
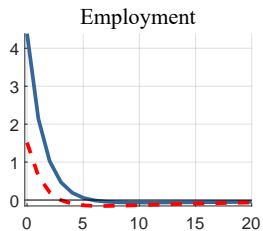
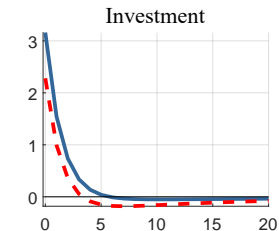
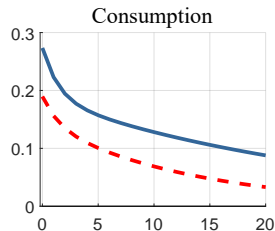
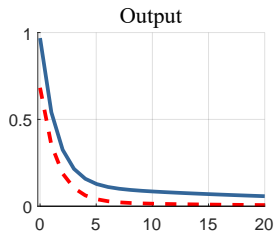
- We assume a single shock, $\tilde{\zeta}$, scales both the net-of-tax rate and lump-sum transfers:

$$(1 - \tau_t) = \tilde{\zeta}_t(1 - \bar{\tau}), \quad T_t = \tilde{\zeta}_t \bar{T},$$

Results *Key Moments*

Moment	Data	Model
<i>Targeted</i>		
Population share of worker	0.60	0.60
Population share of entrepreneur	0.10	0.10
Gini for entrepreneurs' income	0.55	0.55
Income share of entrepreneur	0.21	0.21
<i>Untargeted</i>		
Gini for income	0.53	0.57
Gini for wealth	0.80	0.77
Gini for workers' income	0.50	0.47
Wealth share of entrepreneur	0.35	0.26

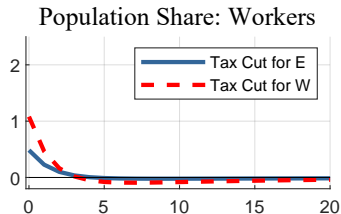
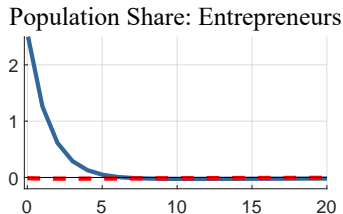
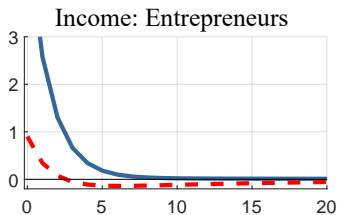
Results *Effects of Tax Cuts*



Results *Tax Multipliers*

	On-Impact	2-year	4-year	8-year
Tax Cuts for Entrepreneurs	0.97	1.31	1.68	2.19
Tax Cuts for Workers	0.68	0.74	0.78	0.82

Results *Mechanism*



Conclusion

- This paper studies the differential effects of tax cuts targeted at entrepreneurs vs. workers.
- Entrepreneurial tax cuts are more expansionary
 - with a multiplier around 3 vs. 0.4 for workers,
 - boosting entrepreneurship, jobs, wages, and consumption.
- Using a DSGE model with occupational choice, we show that
 - entrepreneurial tax cuts have a greater impact on real economic activity.
 - Taken together, entrepreneurial tax cuts generate additional supply-side effects through business formation and hiring.