Use It Or Lose It:
Efficiency Gains from Wealth Taxation

Fatih Guvenen, Gueorgui Kambourov, Burhan Kuruscu, Sergio Ocampo, Daphne Chen

October 18, 2022

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- Short Answer: The two taxes have very different — sometimes opposite — implications.

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2. Technical: Capital taxes paid by the very wealthy.
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4. Theoretical: Interesting **new economic mechanisms**. Example next.

Taxation with Return Heterogeneity: A Simple Example

- One-period model.
- Government taxes to finance $G = \$50$.
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- Two brothers, Fredo and Mike, each with $1000 of wealth.
- Heterogeneity in investment/entrepreneurial ability.
  - (Fredo) Low ability: earns $r_f = 0\%$ return.
  - (Mike) High ability: earns $r_m = 20\%$ return.

Capital Income (τ_k) vs. Wealth Tax (τ_a)

Capital Income Tax

$a_{i,\text{after-tax}} = a_i + (1 - \tau_k) r_i a_i$

	Fredo ($r_f = 0\%$)	Mike ($r_m = 20\%$)
Wealth	\$1000	\$1000
Before-tax Income	**0**	**\$200**
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Tax liability		
After-tax return		
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After-tax return	0%	15% $(= \frac{200-50}{1000})$	-2.5% $(= \frac{0-25}{1000})$	17.5% $(= \frac{200-25}{1000})$
After-tax wealth ratio	1.15 $(= {}^{1150}/_{1000})$		1.20 $(\approx {}^{1175}/_{975})$	

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Simple Example: Takeaways

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- Negative (–): Higher wealth inequality
  - But: effect on consumption inequality ambiguous when wage income present.

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Quantitative analysis of capital income and wealth taxation:

- Lifecycle model with OLG demographics.
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- Lifecycle model with OLG demographics.
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- Financial frictions: collateral constraints

Model generates:

1. Thick Pareto tail & extreme concentration of wealth unlike Aiyagari-style models.
2. Very fast wealth growth for super wealthy (1/2 of US billionaires are self made).
3. and a host of other features of data on returns, entrepreneurs, etc.

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   - No equity-efficiency trade-off.

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4. Gains from optimal wealth tax come from reallocation, not capital accumulation.
   - Hence, gains remain even after taking the transition into account.

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2. Parameterization
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   - Tax reform
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4. Robustness
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Disclaimer: Focus on understanding new mechanisms. Nothing to say about implementation.

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Individuals:

- Have preferences over consumption, leisure and bequests

- Make three decisions:

  consumption-savings || labor supply || entrepreneurial activity

- Two exogenous characteristics:

  y_{ih} (labor market productivity) || z_{ih} (entrepreneurial productivity)

Entrepreneurial Productivity z_{ih}: Key Source of Heterogeneity

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- Entrepreneurial productivity, z_{ih}, varies
  1. across individuals
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- Individual i produces x_{ih} units of intermediate good i:

$$x_{ih} = z_{ih} k_{ih},$$

using k_{ih} units of capital.

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- Entrepreneurial productivity transitions between 3 phases of life: $\mathbb{I}_{ih} \in \{H, L, \mathbf{0}\}$:

$$z_{ih} = f(z_i^p, \mathbb{I}_{ih}) = \begin{cases} \left(z_i^p\right)^{\lambda} & \text{if } \mathbb{I}_{ih} = H \\ z_i^p & \text{if } \mathbb{I}_{ih} = L \\ z_{min} & \text{if } \mathbb{I}_{ih} = \mathbf{0} \end{cases} \quad \text{where } \lambda > 1$$

where λ is degree of superstar productivity.

$$\text{Transition matrix: } \Pi_{z^s} = \begin{bmatrix} 1 - p_1 - p_2 & p_1 & p_2 \\ 0 & 1 - p_2 & p_2 \\ 0 & 0 & 1 \end{bmatrix}$$

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- $p_2 = \Pr\{\text{losing all productivity}\} \rightarrow$ become a passive saver.

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- Halvorsen, Hubmer, Ozkan, and Salgado (2021): Large fraction of rich household start relatively poor and experience fast growth early in life and in a few years.

Competitive Final Good Producer

Final good production combines efficiency adjusted capital and labor:

$$Y = Q^{\alpha} L^{1-\alpha}$$

- Efficiency-adjusted capital:

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- Defines demand curve for individual entrepreneurs
- Aggregate labor supply (used by aggregate firm, not to produce x_{ih}):

$$L = \int (y_{ih} \ell_{ih}) didh$$

- Note: All entrepreneurs earn (monopoly) rents in the model.

Bond Market & Entrepreneur's Problem

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Entrepreneur's Problem

- Without taxes, entrepreneur's capital choice:

$$\pi^{\star}(a, z) = \max_{k \leq \vartheta(z) \cdot a} \left\{ \mathcal{R} \cdot (z \cdot k)^{\mu} - (r + \delta) k \right\}$$

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After-tax wealth:

$$\Pi(a,z;\tau) = \begin{cases} a + [ra + \pi^{\star}(a,z)] \times (1-\tau_k) \\ a \times (1-\tau_a) + [ra + \pi^{\star}(a,z)] \end{cases}$$

Budget Constraints

Individuals:

- During working life:

$$(1+\tau_c)\cdot c_{ih} + a'_{ih} = \Pi\left(a_{ih}, z_{ih}; \tau\right) + (1-\tau_\ell)\cdot\left(w y_{ih}\ell_{ih}\right) \qquad \text{and} \quad a'_{ih} \geq 0$$

- During retirement labor income replaced with SS pension

Government budget balances:

- **Outlays:** Expenditure (G) + Social Security pensions
- **Revenues:** taxes on consumption (τ_c), labor income (τ_ℓ), bequests (τ_b) plus:
  1. tax on capital income (τ_k), or
  2. tax on wealth (τ_a).

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Parameterization

- Preferences:

$$u(c,\ell) = \frac{\left(c^{\gamma}\ell^{1-\gamma}\right)^{1-\sigma}}{1-\sigma} \qquad v(b) = \chi\frac{\left((1-\tau_b)\,b + \underline{b}\right)^{\gamma(1-\sigma)}}{1-\sigma}$$

- Technology:
  - Capital share $\alpha = 0.4$, curvature $\mu = 0.9$.
- Tax rates in benchmark US economy:
  - $\tau_k = 25\%$, $\tau_\ell = 22.4\%$, and $\tau_c = 7.5\%$ (McDaniel, 2007), $\tau_b = 40\%$
- Collateral constraint: $\vartheta(\bar{z}) = 1 + \varphi(\bar{z} - \bar{z}_0)$, with φ chosen to match business debt plus external funds /GDP ratio of 1.5.

Inequality in the Model

- Parameters of entrepreneurial productivity: $\lambda, p_1, p_2, \sigma_{\varepsilon_{\bar{z}}}$, and ρ_z chosen to match five moments:

	Data	Benchmark
Top 1% wealth share	0.36	0.36
Self-made billionaires (fraction)	0.54	0.56
Pop. share of entrepreneurs at top 1%	0.65	0.68
Wealth share of entrepreneurs	0.42	0.39
Intergenerational correlation of avg. return	0.1	0.1

Entrepreneurship | Intergenerational wealth ranks | Dbn. of capital income

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- Note also: 53% of individuals earn NO business income (i.e., $z_{ih} = 0$), and only 7% earn majority of income from business (our definition of "entrepreneur")

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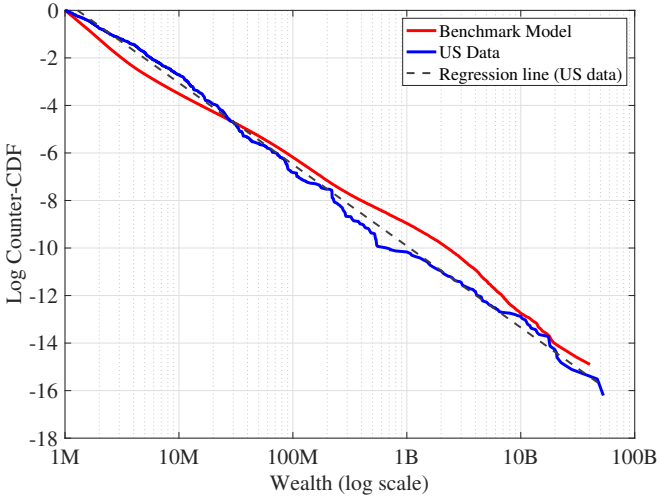
	Data	Benchmark	Low-Ineq. Calibration
Top 1% wealth share	0.36	0.36	0.20
Self-made billionaires (fraction)	0.54	0.56	0.26
Pop. share of entrepreneurs at top 1%	0.65	0.68	0.68
Wealth share of entrepreneurs	0.42	0.39	0.34
Intergenerational correlation of avg. return	0.1	0.1	0.1

- Note also: 53% of individuals earn NO business income (i.e., $z_{ih} = 0$), and only 7% earn majority of income from business (our definition of "entrepreneur")

Entrepreneurship | Intergenerational wealth ranks | Dbn. of capital income

Pareto Tail of Wealth Distribution: Model vs. Data



Note: Both axes are in natural logs.

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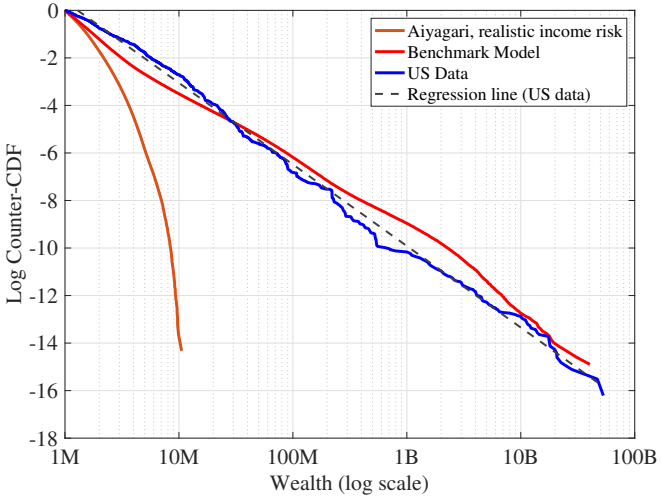

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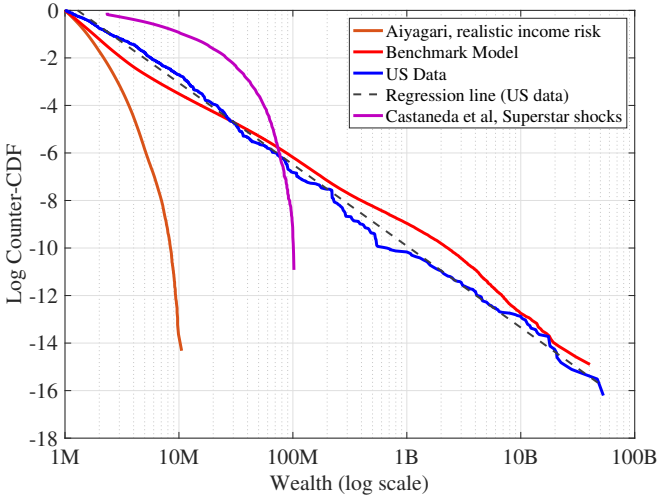

Note: Both axes are in natural logs.

Performance of the benchmark model: return heterogeneity

Table 1: Distribution of Rates of Return (Untargeted) in the Model and the Data

	Annual Returns			Persistent Component of Returns					
	Std dev	P90-P10	Kurtosis	Std dev	P90-P10	Kurtosis	P90	P99	P99.9
Data (Norway)	**8.6**	**14.2**	47.8	6.0	7.7	78.4	4.3	11.6*	23.4*
Data (Norway, bus. own.)	–	–	–	4.8	10.9	14.2	10.1	–	–
Data (US, private firms)	17.7	33.8	8.3	–	–	–	–	–	–
Benchmark Model	**8.4**	**17.1**	7.6	4.1	9.2	6.1	5.8	13.9	19.7
L-INEQ Calibration	**6.7**	**13.1**	9.2	3.8	9.2	4.3	5.6	11.2	15.8

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Data (US, private firms)	17.7	33.8	8.3	–	–	–	–	–	–
Benchmark Model	8.4	17.1	7.6	**4.1**	9.2	6.1	5.8	13.9	**19.7**
L-INEQ Calibration	6.7	13.1	9.2	**3.8**	9.2	4.3	5.6	11.2	**15.8**

Outline

1. Model
2. Parameterization
3. **Quantitative results**
   - Tax reform
   - Optimal taxation
4. Robustness
5. Conclusions

Tax Reform

Tax reform

- Start from the benchmark US economy...
  - RN Tax Reform: Replace τ_k with τ_a so as to keep government revenue constant.
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  - BB Tax reform: Let pensions adjust according to SS formula. Balance the budget.
- Compare steady states.

Tax Reform: Aggregate Variables

	Benchmark	RN Wealth Tax
τ_k	25.0%	0.00
τ_a	0.00	**1.19%**

Variable	% Change
K	
Q	
TFP_Q	
TFP	
Y	
w	
C	

Tax Reform: Aggregate Variables

	Benchmark	RN Wealth Tax
τ_k	25.0%	0.00
τ_a	0.00	**1.19%**

Variable	% Change
K	16.4
Q	22.6
TFP_Q	5.3
TFP	2.1
Y	
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C	

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Variable	% Change
K	16.4
Q	22.6
TFP_Q	5.3
TFP	2.1
Y	9.2
w	8.0
C	9.5

Tax Reform: Average Welfare Change

	RN	BB	RN (L-INEQ)
Average welfare change:			
$\overline{CE}_1$	**6.8%**	4.8%	4.9%
$\overline{CE}_2$	7.2%	4.3%	4.8%
% with welfare gain	**68%**	94%	64%

$\overline{CE}_1$: % consumption transfer to each newborn to be indifferent, averaged over newborns.

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Key: Tax reform **replaces** τ_k with τ_a. This is $\neq$ from adding wealth taxes.

- Adding wealth taxes reduces welfare by –10% to –14%

Revenue Neutral Tax Reform: Who Gains? Who Loses?

Average (consumption equivalent) **welfare gain** by age-productivity groups:

	Productivity group (Percentile)					
Age	0-40	40-80	80-90	90-99	99-99.9	99.9+
20	**6.7**	**6.3**	**6.8**	**8.5**	**11.5**	**13.4**
21-34						
35-49						
50-64						
65+						

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21-34	6.3	5.5	5.5	6.5	8.5	9.7
35-49	4.9	3.8	3.3	3.3	3.1	2.8
50-64	2.2	1.5	1.1	0.9	0.4	-0.2
65+	-0.2	-0.3	-0.4	-0.4	-0.7	-1.0

Tax Reform: Average Welfare Change

	RN	**BB**	RN (L-INEQ)
Average welfare change:			
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	RN	BB	**RN (L-INEQ)**
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Optimal taxation

Optimal Tax Systems

Three experiments:

Gov't maximizes expected lifetime utility of newborns... by choosing

optimal labor income tax rate and:

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2. progressive wealth tax: no tax below exemption level.
3. capital income tax.

Optimal Tax Structure and Outcomes

	Benchmark US Economy	RN Reform	OWT
Tax Rates			
τ_k	25.0	—	—
τ_a	—	1.19	3.03
τ_ℓ	22.4	22.4	15.4
ΔWelfare			
$\overline{CE}_1$	—	6.8	9.0
$\overline{CE}_2$	—	7.2	**8.7**

Note: *Percentage changes are computed with respect to the US benchmark.*

- Most of the gain from optimal wealth tax is from replacing τ_k with τ_a.

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	Benchmark US Economy	RN Reform	OWT	OWT L-INEQ
Tax Rates				
τ_k	25.0	—	—	—
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τ_ℓ	22.4	22.4	15.4	18.1
ΔWelfare				
$\overline{CE}_1$	—	6.8	9.0	6.0
$\overline{CE}_2$	—	7.2	**8.7**	5.2

Note: *Percentage changes are computed with respect to the US benchmark.*

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Optimal Tax Structure and Outcomes

	Benchmark US Economy	RN Reform	OWT	OWT L-INEQ	OWT Opt. $\underline{a}_{ex} = 0.3\overline{y}$
Tax Rates					
τ_k	25.0	—	—	—	—
τ_a	—	1.19	3.03	2.54	3.80
τ_ℓ	22.4	22.4	15.4	18.1	14.4
ΔWelfare					
$\overline{CE}_1$	—	6.8	9.0	6.0	9.1
$\overline{CE}_2$	—	7.2	**8.7**	5.2	8.8

Note: *Percentage changes are computed with respect to the US benchmark.*

- Most of the gain from optimal wealth tax is from replacing τ_k with τ_a.
- Optimal threshold is 30% of av. income and exempts 32% of population.

Optimal Tax Structure and Outcomes

	Benchmark US Economy	RN Reform	OWT	OWT L-INEQ	OWT Opt. $\underline{a}_{ex} = 0.3\overline{y}$	OKIT
Tax Rates						
τ_k	25.0	—	—	—	—	−13.6%
τ_a	—	1.19	3.03	2.54	3.80	—
τ_ℓ	22.4	22.4	15.4	18.1	14.4	31.2
ΔWelfare						
$\overline{CE}_1$	—	6.8	9.0	6.0	9.1	4.2
$\overline{CE}_2$	—	7.2	**8.7**	5.2	8.8	5.1

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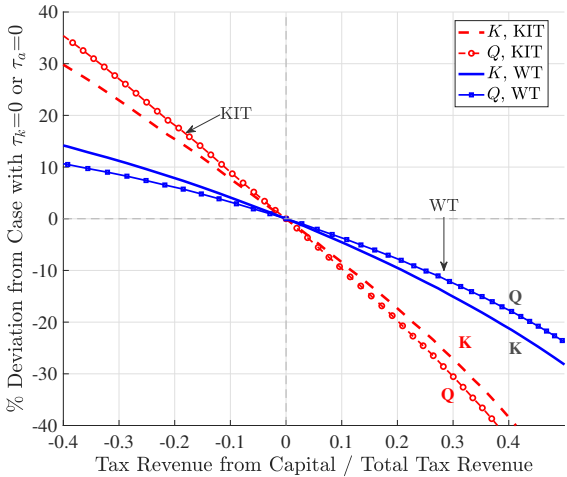
Mechanisms at Play

Figure 1: How K and Q Vary with Revenue Raised from Taxing Capital



Optimal Taxes: Aggregate Variables

% change from US benchmark	ΔK	ΔQ	ΔTFP_Q	ΔL	ΔY	Δw	Δw (net)
Tax reform	16.4	22.6	5.3	1.2	9.2	8.0	8.0
Optimal τ_a							
Opt. τ_a + Threshold							
Optimal τ_k							

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Tax reform	16.4	22.6	5.3	1.2	9.2	8.0	8.0
Optimal τ_a	**2.6**	10.5	7.7	3.3	6.1	2.8	**12.0**
Opt. τ_a + Threshold	−3.0	5.4	8.7	3.3	4.1	0.8	11.2
Optimal τ_k	**38.6**	46.1	5.4	−1.0	15.7	16.8	**3.6**

Welfare: Levels vs Redistribution

- Welfare gain comes from changes in consumption (c) and leisure(ℓ).
- How much comes from changes in the **level** vs **distribution** of c and ℓ?

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	Tax Reform	Opt. τ_a	Opt. τ_a+Threshold	Opt. τ_k
CE_2 (NB)	7.2	8.7	8.8	5.1
Level $(\bar{c}, \bar{\ell})$	8.9			
Dist. (c, ℓ)	−1.5			

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Level $(\bar{c}, \bar{\ell})$	8.9	5.9	4.3	14.7
Dist. (c, ℓ)	−1.5	**2.6**	**4.3**	**−8.3**

Optimal taxes with transition

Optimal Tax Equilibrium with Transition

- Fix opt. tax level (τ_a or τ_k) and solve transition to new steady state
- Use labor income tax (τ_ℓ) to finance debt from deficits during transition

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	τ_a Transition	τ_k Transition
$\overline{CE}_2$ (newborn)	**6.0** (8.7)	
$\overline{CE}_2$ (all)	3.5 (4.3)	

Dbn. of Welfare Gains

Optimal Tax Equilibrium with Transition

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$\overline{CE}_2$ (all)	3.5 (4.3)	−6.1 (4.5)

- Capital income taxes (τ_k): Gains turned to large losses with transition
- Wealth taxes (τ_a): Large gains achieved through reallocation not accumulation

Dbn. of Welfare Gains

Outline

1. Model
2. Parameterization
3. Quantitative Results
   - Tax reform
   - Optimal taxation
4. **Robustness**
5. Conclusions

Robustness

- Pure rents: no heterogeneity in entrepreneurial productivity.
- Alternative modeling of financial frictions
  - No collateral constraints. Unlimited borrowing subject to a credit spread.
  - Introducing public firms with increased credit access.
  - Increased credit access for all, constant ϑ,...
- A model with a corporate sector
- Reconcile capital income tax results with Conesa, Kitao, and Krueger (AER, 2009)
- Nonlinear capital income taxes
- Other Robustness and Extensions
  - Higher mark-up ($\mu = 0.8$)
  - Eliminate stochastic variation over lifecycle ($z_{ih} = \bar{z}_i$)
  - Everybody starts life in middle lane ($z_{i0} = \bar{z}_i$ for all i) but can move up to fast lane

Robustness

	Baseline	Pure rents	Credit Spread		Public	Corp.	Conesa et al	Non-linear OKIT	
	OWT	model	10.1%	6%	Firms	Sector	version	$y_{\text{after-tax}} = (1-\tau_k)\, y^{1-\eta}$	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
τ_a	3.03	1.40	2.33	2.46	2.76	3.85	—	—	—
τ_ℓ	15.4	27.0	13.6	15.5	17.6	12.8	15.0	22.4 (fixed)	32.3
τ_k	—	—	—	—	—		42.3	$(0.27, -0.022)$ (τ_k, η)	$(-0.2, 0.008)$ (τ_k, η)
	Change in Welfare (%)								
$\overline{CE}_1$	9.0	−1.7	6.1	4.3	5.9	9.5	1.6	0.9	4.2
$\overline{CE}_2$	8.7	−1.4	5.6	3.5	4.8	8.8	1.4	0.8	5.4

Additional robustness exercises

	Looser Constraints	Constant ϑ	Higher Markups	Constant Productivity	No Start in Fast Lane	Add τ_a to Benchmark			
						2% Wealth Tax		OWT Wealth Tax	
	debt/GDP = 2.5	$\vartheta(z) = \overline{\vartheta}$	$\mu = 0.8$	$z_{ih} = \bar{z}_i$	$z_{ih} = \bar{z}_i$	τ_ℓ fixed	Adjust τ_ℓ	τ_ℓ fixed	Adjust τ_ℓ
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
τ_a	2.34	3.66	2.45	2.16	2.8	2.00		3.03	
τ_ℓ	19.5	12.4	18.0	19.4	16.1	22.4	14.9	22.4	12.0
	Change in Welfare (%)								
$\overline{CE}_1$	4.4	11.8	8.2	6.0	8.5	−8.3	0.9	−11.9	0.3
$\overline{CE}_2$	4.2	11.2	7.6	5.5	8.2	−9.9	0.0	−14.2	−1.0

Conclusions

- Many countries currently have or have had wealth taxes:
  - France, Spain, Norway, Switzerland, Italy, Denmark, Germany, Finland, Sweden, Colombia, among others.
- However, the rationale for wealth taxes are often vague:
  - fairness, reducing inequality, etc.
  - and not studied formally
- Here, we are proposing a case for wealth taxes based on efficiency (and distributional benefits) and quantitatively evaluating its impact.

Wealth tax has very different implications of capital income tax

Tax reform from τ_k to τ_a: Substantial welfare gains

- Reallocates capital: less productive wealthy $\rightarrow$ more productive agents
- Gives the right incentives to the right people to save
- Increases output, consumption, and wages

Optimal taxes: Welfare gain substantially larger under wealth taxes

- Capital income taxes (τ_k): smaller gains that go away with transition
- Wealth taxes (τ_a): large gains act through reallocation not accumulation

Thanks!

Labor Market Productivity y_{ih}

- Labor market efficiency of household i at age h is

$$\log y_{ih} = \underbrace{\kappa_h}_{\text{life cycle}} + \underbrace{\theta_i}_{\text{permanent}} + \underbrace{\eta_{ih}}_{\text{AR(1)}}$$

- Permanent component θ_i is imperfectly inherited from parents:

$$\theta_i^{child} = \rho_\theta \theta_i^{parent} + \varepsilon_\theta$$

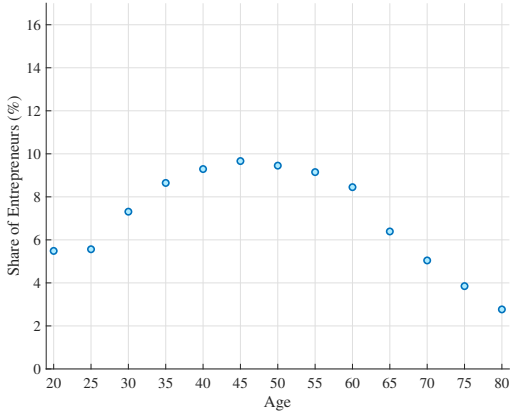
Back to Households

Entrepreneurship in the Model

- Not all individuals are active entrepreneurs:
  - Only 47% of working-age population have positive productivity.
- 7% of of individuals earn more than half of their income from their business:
  - These entrepreneurs account for 68% (39%) of the top 1% (10%) of wealth holders
  - They hold 40% of aggregate wealth (and 50% within top 1%)
  - Most of them are 35-64 years old (in the model)
- These are in line with SCF:

  Pass-through business owners are ~12% of households, account for 46% of wealth and constitute 70% of top 1% wealth holders.

Fraction of Entrepreneurs over the Life Cycle, Benchmark Model



Notes: The figure plots the fraction of entrepreneurs over the life cycle for our baseline economy. All numbers are in percentage points. An entrepreneur is defined as someone who earns more than 50% of their income from their business.

Entrepreneurship over lifecycle is hump-shaped as documented in the data (see, e.g., Kelley, Singer, and Herrington (2011); Liang, Wang, and Lazear JPE, 2018). Inequality in the model

Concentration of Capital Income and Wealth in the Model

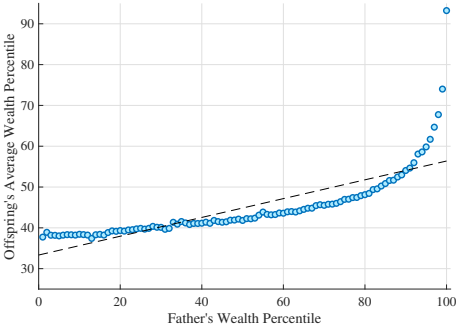
Top x% of Wealth Dbn.	Wealth Share (%)	Capital Income Share (%)	Top x% of Capital Income Dbn.	Capital Income Share (%)
0.1	22.3	32.0	0.1	34.3
0.5	30.5	43.0	0.5	45.7
1	35.1	48.2	1	51.9
10	64.9	73.1	10	78.9
50	96.4	97.0	50	98.1

Notes: The table reports wealth and capital income shares for individuals at the top of the wealth distribution (first three columns) and at the top of the capital income distribution (last two columns). All numbers are in percentage points.

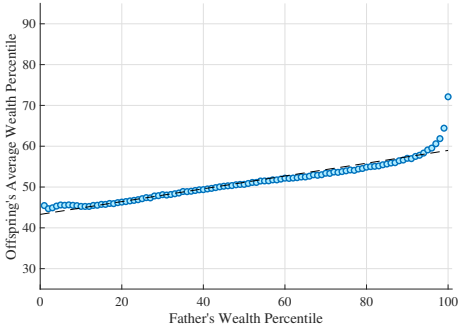
- The top 0.1% share by capital income varies between 30% and 41% since 2000 according to Saez and Zucman (QJE, fig 3).
- Smith, Zidar, Zwick (2021, fig A5) report shares sorted by individual components of capital income and the top 1% share for interest, dividend, and capital gains income are all above 60% since 2000

Inequality in the model

Intergenerational Rank Correlation of Wealth



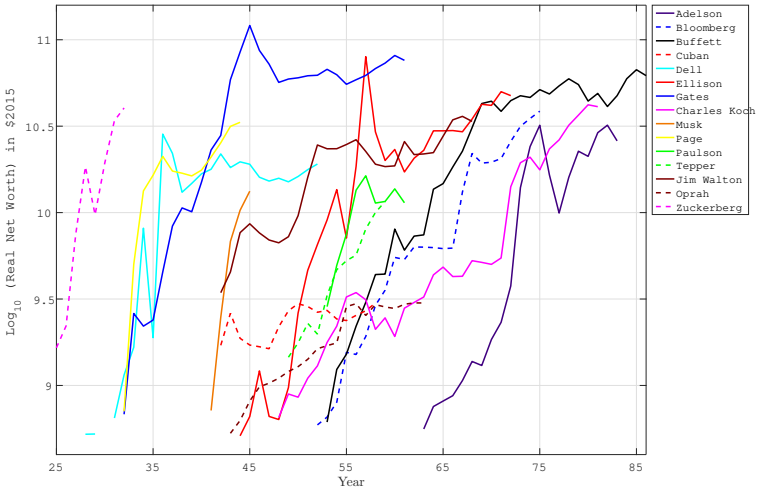
(a) Baseline Model



(b) Norway: Fagereng, Guiso, Malacrino, and Pistaferri (2020, Figure 11)

Notes: *The figures show rank-rank plots for the wealth distribution of parents and children.*

Evolution of Net Worth Among Forbes 400



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Distribution of Welfare Gains under Optimal Taxes

	Optimal Wealth Tax						Optimal Capital Income Tax					
	Distribution of Welfare Gains and Losses						Distribution of Welfare Gains and Losses					
	Ability Groups ($\bar{z}_i$ Percentiles)						*Ability Groups ($\bar{z}_i$ Percentiles)*					
	0-40	40-80	80-90	90-99	99-99.9	99.9+	0-40	40-80	80-90	90-99	99-99.9	99.9+
20	9.4	8.3	8.3	10.1	13.9	16.3	3.4	3.8	5.1	7.5	11.4	13.8
21–34	8.7	6.8	5.8	6.4	8.0	8.6	3.3	3.6	4.7	7.0	11.2	13.9
35–49	6.3	4.1	2.4	1.6	−0.4	−2.3	2.9	2.8	3.5	4.8	7.1	8.7
50–64	2.5	1.0	−0.1	−1.2	−3.4	−5.2	1.6	1.5	1.9	2.7	3.8	4.6
65+	−0.5	−0.9	−1.3	−1.9	−3.1	−4.3	0.1	0.2	0.4	0.9	1.6	1.9

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Distribution of Welfare Gains *with Transition*

	Optimal Wealth Tax						Optimal Capital Income Tax					
	Distribution of Welfare Gains and Losses						Distribution of Welfare Gains and Losses					
	Ability Groups ($\bar{z}_i$ Percentiles)						*Ability Groups ($\bar{z}_i$ Percentiles)*					
	0-40	40-80	80-90	90-99	99-99.9	99.9+	0-40	40-80	80-90	90-99	99-99.9	99.9+
20	5.4	4.9	5.6	8.4	13.5	16.7	-8.8	-7.5	-4.8	0.2	8.7	13.8
21–34	4.8	3.8	3.9	6.0	10.0	12.1	-8.2	-5.9	-1.9	5.7	19.8	30.2
35–49	2.9	1.7	1.1	1.5	1.6	1.0	-6.3	-3.9	0.0	6.5	18.5	27.1
50–64	0.5	-0.3	-0.8	-1.1	-2.2	-3.4	-3.1	-1.3	1.3	5.2	12.2	17.0
65+	-0.7	-0.9	-1.1	-1.4	-2.5	-3.7	0.6	1.2	2.2	4.0	7.0	9.1

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How Much Inequality in Aiyagari-Style Models?

Parametrization:	U.S. Data	Gaussian $\rho = 0.985, \sigma^2 = 0.0234$	GS benchmark Rich process
Gini	0.85	0.58	0.66
Top 0.1%	**14.8%**	**1.1%**	**2.2%**
Frac > $10M	**0.4–0.5%**	≈ 0	**0.02%**
Top 1%	35.5%	7.0%	9.2%
Top 10%	75.0%	37.9%	41.6%
Top 20%	87.0%	48.2%	52.8%

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