Topics in Economics

Axelle Ferriere

Sciences Po, CNRS & CEPR

November 2025

On Inequality and Redistribution

- History of Modern Macroeconomics

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  - First-generation models: dynamic models with rational expectations

    · Equilibrium, solve, calibrate with a representative agent

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        · Macro shocks $\Rightarrow$ inequality, welfare

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    - Third-generation models: business cycles, HANK

        · Amplification, inequality $\Rightarrow$ macro

On Inequality and Redistribution
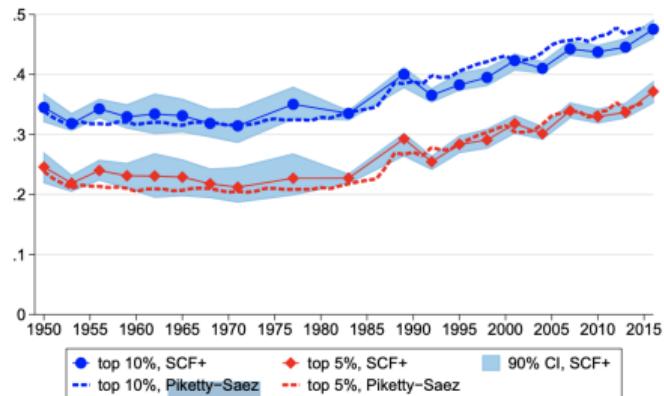
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- This class: **On inequality and the welfare state**
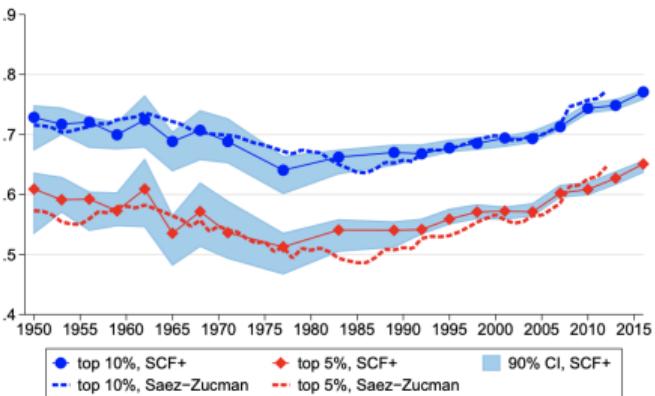
    - Long run, business cycles

Rising Income and Wealth Inequality

Figure 5: Top 5% and top 10% income and wealth shares


(a) Income
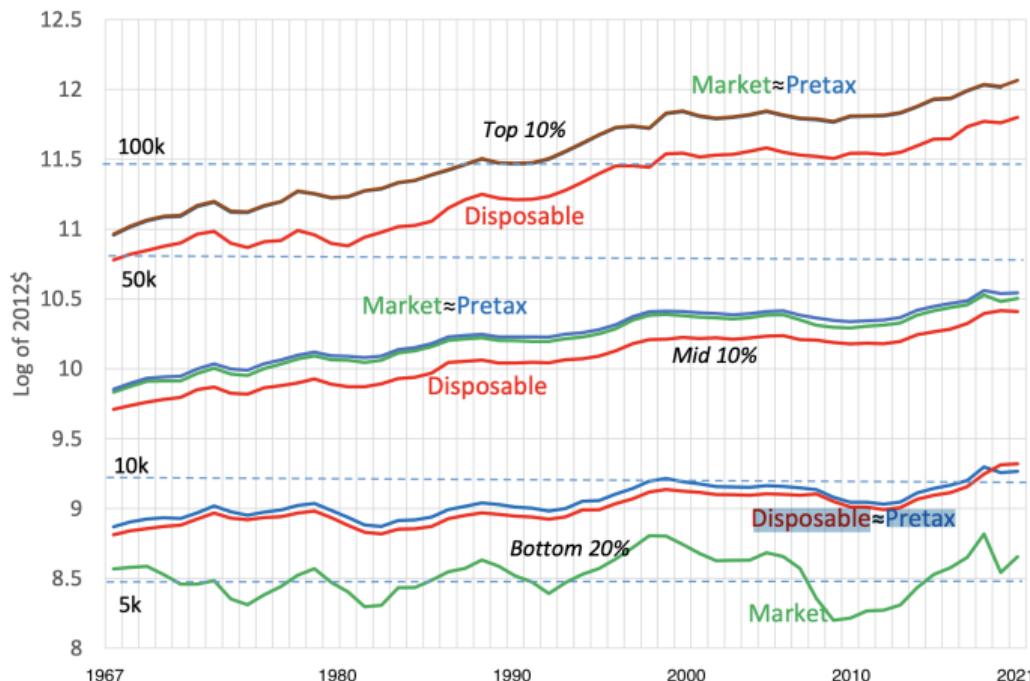
(b) Wealth

- Top-income and -wealth shares have increased (SCF+, United States)

  Kuhn, Schularick and Stein (2020)

No Income Growth for the Poor

- Household income has been flat for 5 decades at the bottom (CPS, United States)
  Heathcote, Violante, Perri and Zhang (2023)

On Inequality and Redistribution

- **On the welfare state:** Two main questions

On Inequality and Redistribution

■ **On the welfare state:** Two main questions

   – Should we tax wealth? Or capital income?

      · *"Heterogeneity and Persistence in Returns to Wealth"*
       A. Fagereng, L. Guiso, D. Malacrino and L. Pistaferri, Econometrica 2020

      · *"Use It or Lose It: Efficiency and Redistributional Effects of Wealth Taxation"*
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          National Accounts, Moffitt, my own work

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          D. Daruich and R. Fernandez, AER 2024

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- **On business cycles:** Should we use fiscal policy to dampen recessions?

  - Targeted instruments? Ferriere and Navarro, IMFER 2025

Capital Income Taxes

History of Capital Income Taxes

- First-generation models: Capital taxes should be 0
  - Chamley (1986), Judd (1985)

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  - Rich distribution of wealth and income, OLG structure: age dynamics

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- Why do people accumulate so much wealth?

Heterogeneous Capital Returns Theory

■ New theoretical literature in the early 2010s: **heterogeneous capital returns**

  – Benhabib, Bisin, and Zhu (2011), Benhabib, Bisin, and Luo (2019)

  – Gabaix, Lasry, Lions, and Moll (2016)

Heterogeneous Capital Returns <small>Theory</small>

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  - Very simple idea: labor income is additive, capital income is multiplicative

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- A simple example with Bob and Jane

  - Bob and Jane start with a stock of wealth $w_0 = 100$ (consume $c = 0$)

  - Bob earns $y_\ell^b = 110$ and makes 10% of returns on wealth

  - Jane earns $y_\ell^j = 100$ and makes 20% of returns on wealth

Heterogeneous Capital Returns Theory

- A simple example with Bob and Jane (cont.)

    - In year 1, Bob has $w_1 = w_0 + y_\ell^b + r^b \times w_0 = 100 + 110 + 10 \times 100 = 220$

        Jane has $w_1 = w_0 + y_\ell^j + r^j \times w_0 = 100 + 100 + 20 \times 100 = 220$

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    - In year 2, Bob has $w_2^b = w_1 + y_\ell^b + r^b \times w_1 = 220 + 110 + 10 \times 220 = 352$

        Jane has $w_2^j = w_1 + y_\ell^j + r^j \times w_1 = 220 + 100 + 20 \times 220 = 364$

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  – In year 5, Bob has $w_5^b = 832$, Jane has $w_5^j = 992$

  – In year 10, Bob has $w_{10}^b \approx 2012$, Jane has $w_{10}^j \approx 3215$

  – ...

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- Needed ingredients for capital returns to generate (a lot of) wealth inequality
    - Persistent idiosyncratic returns (even across generations)
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- Plausible in the data?

Heterogeneous Capital Returns <small>Data</small>

Fagereng, Guiso, Malacrino, and Pistaferri (2020)

- Norwegian administrative data

  - Individual tax records 2005-2015

    - Labor and capital income

    - **Asset holdings and liabilities**

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- Compute individual returns to wealth

  - 33 millions of observations (pooling all years)

- Large heterogeneity in portfolios

Heterogeneous Capital Returns Data

- Large heterogeneity in portfolios

- Very heterogeneous returns on wealth

    - Large heterogeneity *overall*

        · Large heterogeneity across assets

        · Large heterogeneity within classes of assets

    - Large scale dependence: from net worth-10th to -90th percentile

    - Strong persistence across generations

Heterogeneous Capital Returns **Portfolio Compositions**

TABLE 1A

PORTFOLIO COMPOSITION OF NET WORTH, BY SELECTED FRACTILES[a]

| | Gross Wealth Shares | | | | Leverage Ratios | | | |
	Safe	Risky	Housing	Private Equity	Consumer Debt	Student Debt	Long-Term Debt	Gross Wealth (Logs)
Bottom 10%	0.51	0.03	0.43	0.02	0.50	2.47	9.08	10.73
10–20%	0.78	0.03	0.18	0.01	0.42	3.08	3.39	9.06
20–50%	0.31	0.02	0.66	0.01	0.01	0.05	0.40	11.89
50–90%	0.11	0.02	0.86	0.02	0.00	0.01	0.21	13.42
90–95%	0.12	0.02	0.81	0.05	0.00	0.00	0.12	14.12
95–99%	0.13	0.03	0.73	0.11	0.00	0.00	0.10	14.55
99–99.9%	0.15	0.04	0.44	0.36	0.00	0.00	0.07	15.41
99.9–99.99%	0.14	0.04	0.11	0.71	0.00	0.00	0.04	16.94
Top 0.01%	0.08	0.04	0.03	0.85	0.00	0.00	0.02	18.78

[a]The table reports the share of gross wealth in safe assets (cash/deposits, bonds, outstanding claims and receivables), risky assets (foreign assets, mutual funds, directly held listed stocks), housing, private business wealth, consumer debt, student debt, and long-term debt (mortgages and personal loans) for Norwegian taxpayers against selected fractiles of the net worth distribution. Debt leverage values are winsorized at the top 1%. In the last column, we report the logarithm of real gross wealth. Data are for 2005–2015.

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TABLE 3

RETURNS TO WEALTH: SUMMARY STATISTICS[a]

Wealth Component	Mean	St. Dev.	Skewness	Kurtosis	P10	Median	P90
Net worth (before tax)	0.0379	0.0859	−0.79	47.75	−0.0308	0.0321	0.1109
Net worth (after tax)	0.0365	0.0781	−0.71	36.88	−0.0283	0.0316	0.1067
Net worth (before tax, unweighted)	0.0004	0.2205	−6.73	68.46	−0.0600	0.0230	0.1037
Net worth (after tax, unweighted)	0.0155	0.1546	−5.28	56.42	−0.0449	0.0247	0.1040
Financial wealth	0.0105	0.0596	−1.78	22.17	−0.0171	0.0084	0.0530
Safe fin. assets	0.0078	0.0188	4.38	53.52	−0.0106	0.0059	0.0268
Risky fin. assets	0.0425	0.2473	−0.08	6.22	−0.2443	0.0418	0.3037
Non-financial wealth	0.0511	0.0786	1.80	15.47	−0.0215	0.0429	0.1275
Housing	0.0485	0.0653	0.73	9.95	−0.0209	0.0441	0.1165
Private equity	0.1040	0.5169	18.01	836.79	−0.0531	0.0052	0.3616
Debt	0.0236	0.0216	2.51	29.50	0.0030	0.0215	0.0461
Long-term debt	0.0230	0.0209	3.54	56.92	0.0038	0.0209	0.0446
Consumer debt	0.0961	0.1086	4.60	82.60	−0.0124	0.0741	0.2119
Student debt	0.0078	0.0260	0.68	4.14	−0.0213	0.0074	0.0399

[a]The table reports summary statistics for various measures of real returns to wealth, pooling data for 2005–2015. Except when noted, all returns are value-weighted.

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Panel A: Average and median return to net worth

Heterogeneous Capital Returns

- What explains heterogeneous capital returns within a class of assets?

Heterogeneous Capital Returns Scale and Type Dependence

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- Active literature

  - *"Why Are the Wealthiest So Wealthy?"*
    Salgado, Halvorsen, Ozkan and Hubmer, R&R Econometrica (2024)

  - Many other papers looking at . . .

Implications for Taxation

- New question for taxation: should we tax capital income? Or the stock of capital?

  – Should we tax capital or wealth?

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- Under **homogenous returns**, taxing capital = taxing wealth

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- What if returns are heterogeneous?

$$(1 + r_i(1 - \tau_k))a_i \text{ vs. } (1 - \tau_a)(1 + r_i)a_i$$

Guvenen et al. (2023)

- Assume two agents, a and b,
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- A wealth tax shifts the tax burden **away** from the more productive hh

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"Use it or lose it!" Three channels

In a dynamic general-equilibrium model

1. "Use-it-or-lose-it" channel

    - Capital reallocates toward more productive entrepreneurs

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In a dynamic general-equilibrium model

1. "Use-it-or-lose-it" channel

    - Capital reallocates toward more productive entrepreneurs

2. "Behavior response" channel

    - More productive entrepreneurs will save more

3. "Price" channel

    - Wages and interest rates will adjust

- Overlapping generations (OLG) model

  – Age h, live up to H years

  – Wealth inheritance

Environment Demographics

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- Households make three decisions

    – Endogenous labor until retirement R

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    – Portfolio choice

        · Choose how much to invest in own technology ("entrepreneurship")

    => No occupation decision, intensive margin

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    – Idiosyncratic shock: e_{ih} follows an AR(1)

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- Social security: $y^R(\kappa, e) = \phi(\kappa, e)\bar{E}$ when $h > R$

- Entrepreneurial ability z_{ih}

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    - Stochastic process $\mathbb{I}_{ih} \in \{\mathcal{H}, \mathcal{L}, 0\}$

    $$z_{ih} = \begin{cases} (\bar{z}_i)^{\lambda} & \text{if } \mathbb{I}_{ih} = \mathcal{H} \quad \text{with } \lambda > 1: \text{ "fast-lane" entrepreneurs} \\ \bar{z}_i & \text{if } \mathbb{I}_{ih} = \mathcal{L} \\ 0 & \text{if } \mathbb{I}_{ih} = 0 \end{cases}$$

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Environment Production

■ Final good: $Y = Q^\alpha L^{1-\alpha}$

 – Aggregate labor L, with $\alpha = 0.4$

 – Intermediates: $Q = \left(\int x_{ih}^\mu \right)^{\frac{1}{\mu}}$, with $\mu = 0.9$

 – Competitive sector

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- Intermediate goods: $x_{ih} = z_{ih}k_{ih}$

    - Intermediates: $Q = \left(\int (z_{ih}k_{ih})^\mu\right)^{\frac{1}{\mu}}$

    - Price $p_{ih} = \alpha x_{ih}^{\mu-1} Q^{\alpha-\mu} L^{1-\alpha}$

- **Bond market**: individuals can lend and borrow at rate r

Environment Household entrepreneurial problem

- **Bond market**: individuals can lend and borrow at rate r

- **Entrepreneurial** choice: Choose capital to max profits

$$\pi(a, z) = \max_{k \leq \nu(z)a} p(zk)zk - (r + \delta)k$$

  – Financial friction which generates misallocation

  – Invests more if z is higher and if a is higher

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■ After-tax wealth

$$\Pi(a, z; \tau) = a + (ra + \pi(a, z) \times (1 - \tau_k))$$
$$= a \times (1 - \tau_a) + (ra + \pi(a, z))$$

■ Choose how much to work (when $h \leq R$), consume, and save in assets

$$V_h(a, \bar{z}, \mathcal{I}, e, \kappa) = \max_{c,n,a'} u(c,n) + \beta s_{h+1} \mathbb{E}\left[V_{h+1}(a', \bar{z}, \mathcal{I}', e', \kappa)\right]$$

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- Equilibrium: $\int a = \int k$

Calibration

- Standard earnings risk

- Dynamics of entrepreneurship to match fast wealth growth of super wealthy (Forbes 400)

- Collateral constraint: $\nu(z) = 1 + \varphi(\bar{z} - \bar{z}_0)$, with φ to match business debt/GDP

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- Collateral constraint: $\nu(z) = 1 + \varphi(\bar{z} - \bar{z}_0)$, with φ to match business debt/GDP

- Taxes: $\tau_k = 25\%$, $\tau_\ell = 22.4\%$, $\tau_c = 7.5\%$, $\tau_a = 0\%$

Calibration

⇒ Generates high wealth inequality!

	top-50	top-10	top-1	top-0.5	top-0.1
Data (SCF+)	0.99	0.75	0.36	0.27	0.14
Model	0.97	0.66	0.36	0.31	0.23

- Model : 50% households with no business income, 7% earn majority of income from business ("entrepreneur")

Main Experiment A Wealth Tax

- Suddenly and unexpectedly . . . steady-state comparison

- Set $\tau_k = 0$, balance budget with a wealth tax

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    – Lower r, higher wages, large welfare gains: $+6.8\%$! (2020 calibration)

■ Why does capital increase? Three channels

Main Experiment A Wealth Tax

- Why does capital increase? Three channels

  - "Use-it-or-loose-it" [fixing prices & decision rules to benchmark] $K \uparrow$

  - GE effects [with prices of new equilibrium] $K \downarrow$

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- All three channels are approximately of the same magnitude!

Main Experiment A Wealth Tax

- Who wins from the reform?

Main Experiment A Wealth Tax

- Who wins from the reform?

- Welfare gains by age and entrepreneurial ability

TABLE IX – Welfare Gain/Loss by Age Group and Entrepreneurial Ability

Age groups:	Entrepreneurial Ability Groups ($\bar{z}_i$ Percentiles)					
	0–40	40–80	80–90	90–99	99–99.9	99.9+
	RN Reform					
20	7.0	7.3	7.9	8.9	10.6	11.7
21–34	6.5	6.3	6.3	6.6	7.0	6.8
35–49	5.1	4.4	3.9	3.3	1.7	0.1
50–64	2.3	1.8	1.4	0.8	–0.6	–1.8
65+	–0.2	–0.3	–0.4	–0.6	–1.2	–1.8

- The high-wealth/low-z (= the old) **loose**

- The young **benefit**... from $\tau_k = 0$ (high z), from higher w (low a)

Optimal Taxation Capital and Wealth Taxes

Optimize steady-state fiscal system

- Optimal wealth tax:

  - $\tau_a \approx 3\%$, $\tau_\ell \approx 14\%$

  - Much larger welfare gains: $+ 8.7\%$

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- Transitions

Taxing Capital? Taking Stock 1/2

- Should we tax capital income?

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   – No! $\tau_k = 0$ to reach optimal stock of capital

      · More capital $\Rightarrow$ more output and consumption

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    - Yes! $\tau_k = 34\%$ when there is (also) inequality in labor income

        · When some households are rich and poor and face a borrowing constraint

        · When the young work and save "too much" to accumulate for retirement

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    · Better allocation of capital

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  · Side comment: Why are we all using US data?

Taxing Capital? Taking Stock 2/2

- With heterogeneous capital returns, positive wealth tax

  - Mostly for efficiency reasons! Reallocation

  - Does it decrease wealth inequality? Not necessarily

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- What if high returns reflect rents? Gaillard and Wangner (2024)

- What else can we study with the admin Norwegian dataset?

    - Many papers: on who becomes rich, who gives what to their kids, housing, . . .

Going Forward Data

- What else can we study with the admin Norwegian dataset?

    – Many papers: on who becomes rich, who gives what to their kids, housing, . . .

- *"Why Are the Wealthiest So Wealthy? New Longitudinal Empirical Evidence and Implications for Theories of Wealth Inequality"*
  Ozkan, Hubmer, Salgado, Halvorsen, R&R Econometrica (2024)

Empirical Approach

- Study lifecycle dynamics of wealth accumulation

    – 1993–2015 Norwegian panel data on wealth and income

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- Backwards approach

  - How many of the wealthiest at age 50 were already wealthy at age 25?
    - "Old Money" vs. "New Money"

  - Where does the wealth of the wealthiest at age 50 come from?
    - Labor income, capital returns, saving rates, inheritances, initial wealth?

- Complementary frontwards approach

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- Complementary frontwards approach

- Accounting . . . complemented with models!

Methodology

- Build measures of net wealth and capital returns
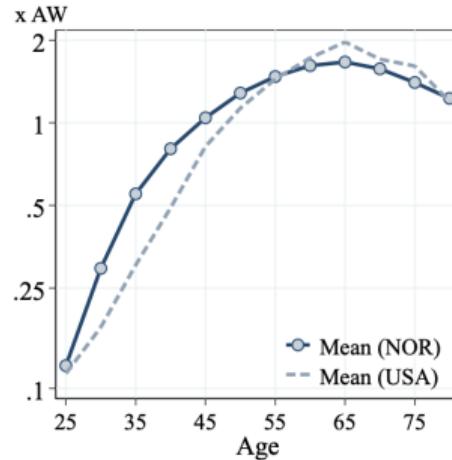
  – Follow Fagereng et al. (2020)

Methodology

- Build measures of net wealth and capital returns

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  – Indirect ownership for retained earnings (7 layers)

  – Inheritance severely undervalued

  – Value of equity owned excludes intangibles

Methodology

- Build measures of net wealth and capital returns

  - Follow Fagereng et al. (2020)

  - **Indirect** ownership for retained earnings (7 layers)

  - **Inheritance** severely undervalued

  - Value of **equity** owned excludes intangibles

- Average wealth (AW) $\approx$ \$437,000 in 2015

  - Life-cycle similar to the US

FIGURE 3 – WEALTH DIST

(A) Average Net Worth
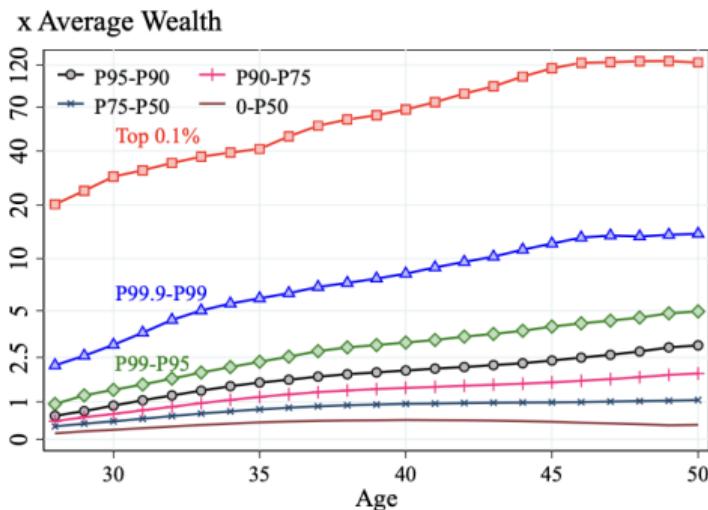
Backwards Life-Cycle Profiles

- The Rich Started Rich

    - Top-0.1% 50-54y have 125 AW
      ≈ $55 million

    - In their late 20s have already 20 AW
      ≈ $9 million

    - Higher within-cohort inequality earlier
      in life

(a) Backward-Looking Wealth Profile

Backwards Life-Cycle Profiles

	$< P75$	$[P75, P90)$	$[P90, P95)$	$[P95, P99)$	$[P99, P99.9)$	$\geq P99.9$
A. 1994 Wealth Quantile for $BW^{50-54}_{>P99.9}$ households						
	21.4%	7.4%	5.9%	13.0%	23.2%	29.2%

■ The Rich Started Rich
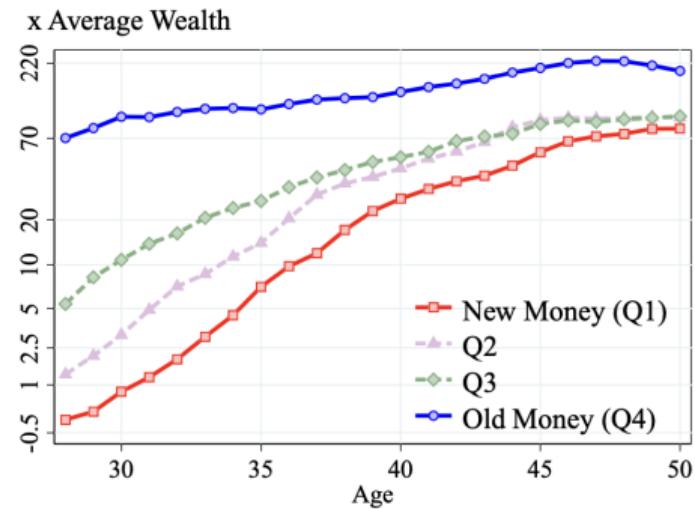
- 1/3 of the wealthiest at age 50 started in the top-0.1%

  ⇒ "Old Money"

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x Average Wealth

New Money (Q1)
Q2
Q3
Old Money (Q4)

Age
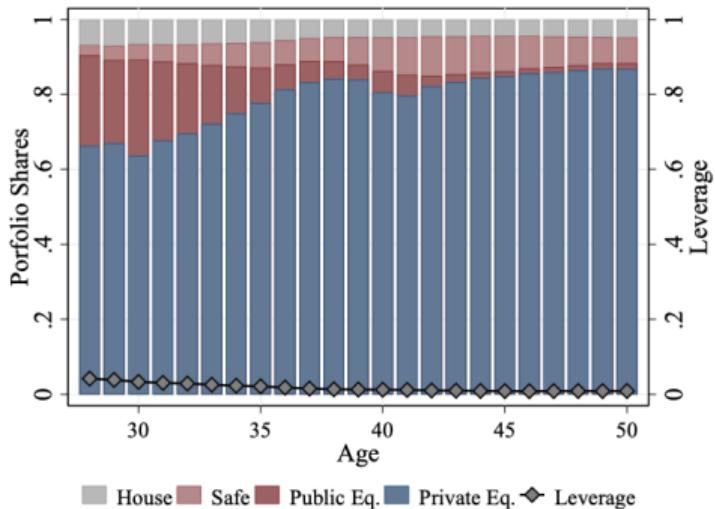
Portfolio Compositions The Rich Hold Equity
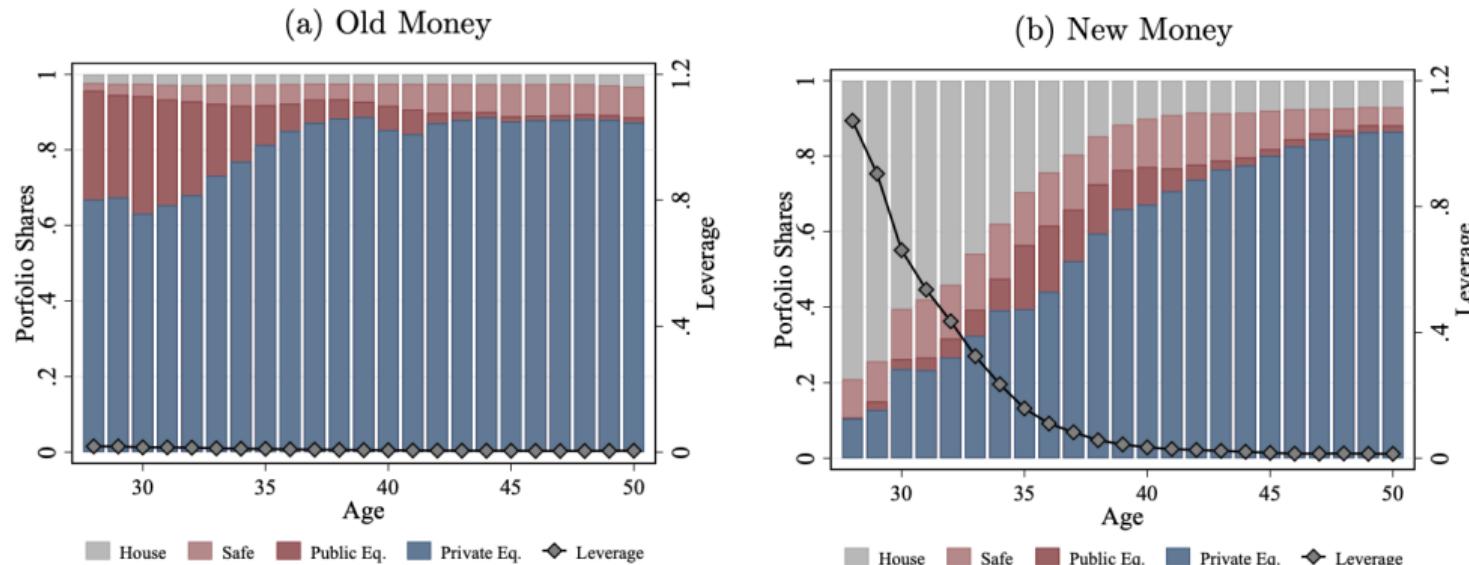
(a) Households in the top 0.1%

- Public + Private equity always above 80%, with little leverage

Portfolio Compositions The Rich Hold Equity

(a) Old Money

(b) New Money

- Public + Private equity always above 80%, with little leverage

  – Old Money: even less housing at younger ages

  – New money: leveraged at younger ages

■ Accounting equation

$$W_{i,\tau} = W_{i,1993} + \sum_{t=1994}^{\tau} [L_{i,t} + H_{i,t} + R_{i,t}^E + R_{i,t}^S + R_{i,t}^H + T_{i,t} - I_{i,t}^L] - \sum_{t=1994}^{\tau} C_{i,t}$$

Sources of Income Income of the Rich is Equity Returns

Figure 6 – DECOMPOSITION OF TOTAL LIFETIME RESOURCES
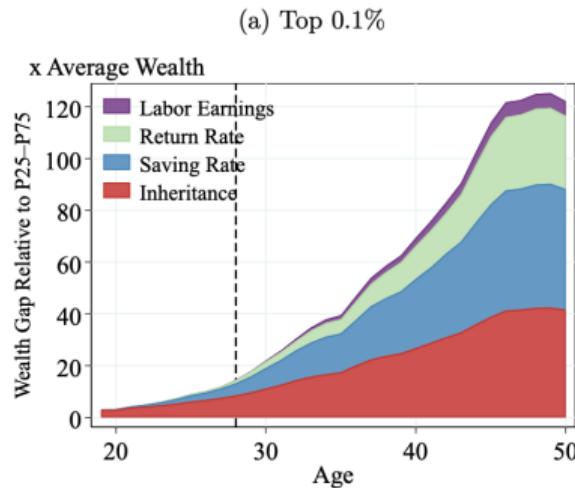
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Why are the Wealthiest so Wealthy?
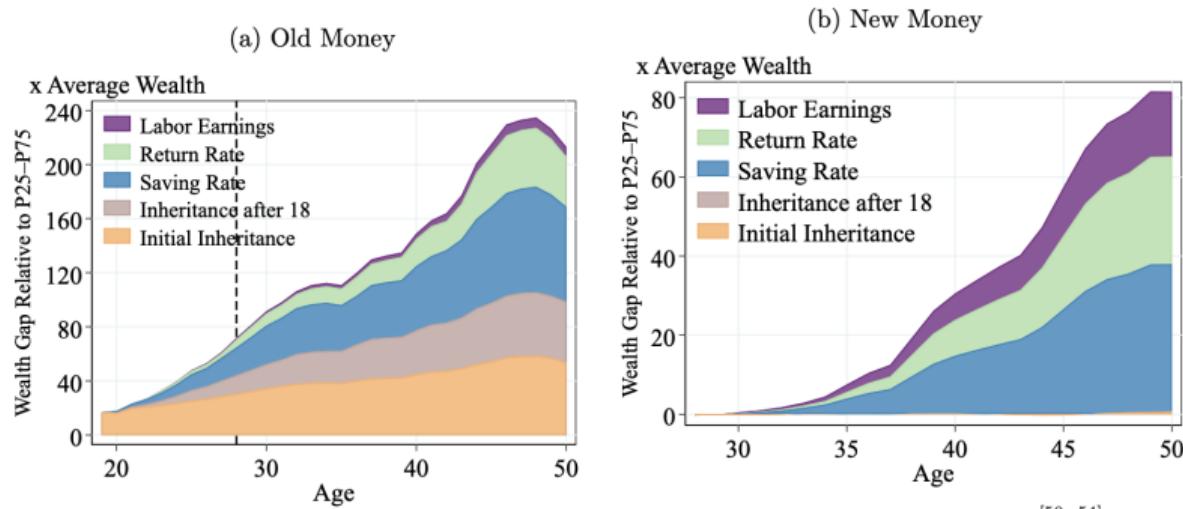
■ End wealth can differ because of: inheritances, labor earnings, return rates & saving rates

■ Accounting: Shapley-Owen decomposition

    − Simulate the counterfactual evolution of wealth factor by factor

Why are the Wealthiest so Wealthy? Inheritances!

(a) Top 0.1%

- **End wealth** can differ because of: inheritances, labor earnings, return rates & saving rates

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Why are the Wealthiest so Wealthy?

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Why are the Wealthiest so Wealthy? Taking Stock

- A third is "Old-Money"
    - $\approx 40\%$ comes from inheritances
    - Returns on equity and saving rates

- A fifth is "New-Money"
    - No inheritance, more labor income, mostly returns on equity and saving rates

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- A fifth is "New-Money"

    - No inheritance, more labor income, mostly returns on equity and saving rates

- How many individuals?. . .

    - Norway: 5 million individuals . . . Age $50 - 54 \approx 250{,}000$?

    - Top 0.1% of $50 - 54 \approx 250$ individuals

    - Old Money ≈ 75 individuals, New-Money ≈ 50 individuals?

Why are the Wealthiest so Wealthy?
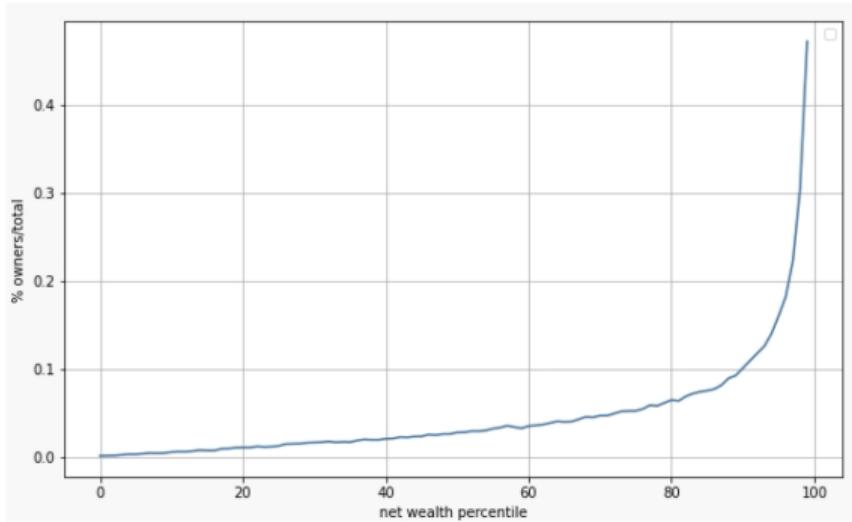
- Going forward: testing alternative models of wealth accumulation

Why are the Wealthiest so Wealthy?

■ Going forward: testing alternative models of wealth accumulation

■ Going forward: Bacher, Ferriere, Irarrazabal, Lizarraga and Zheng (2025)

    — Same data

    — Focus on private limited liability companies

    — Entrepreneurs or investors? *"When money meet skills"*
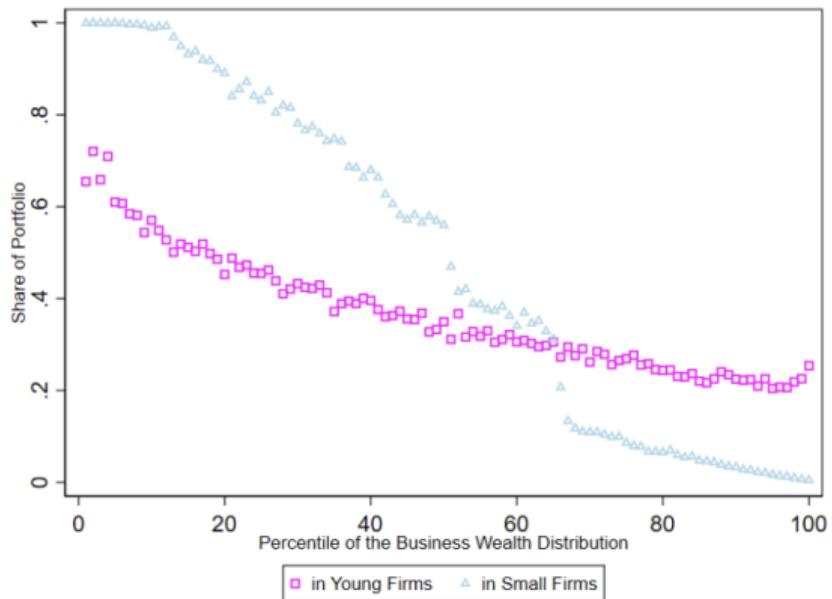
Private Businesses and Wealth Accumulation

- Where are private business owners situated in the net wealth distribution?

  - In the top of the distribution
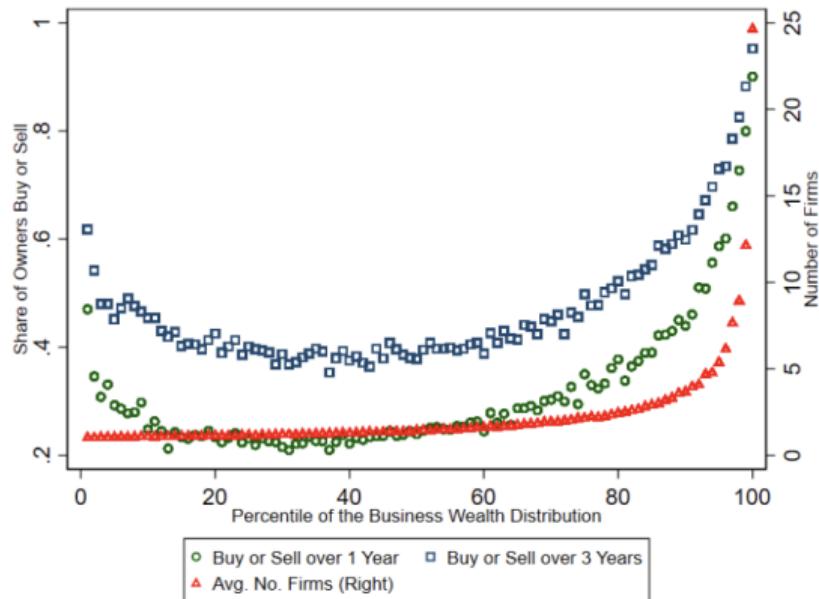
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- What kind of firms do they owe?
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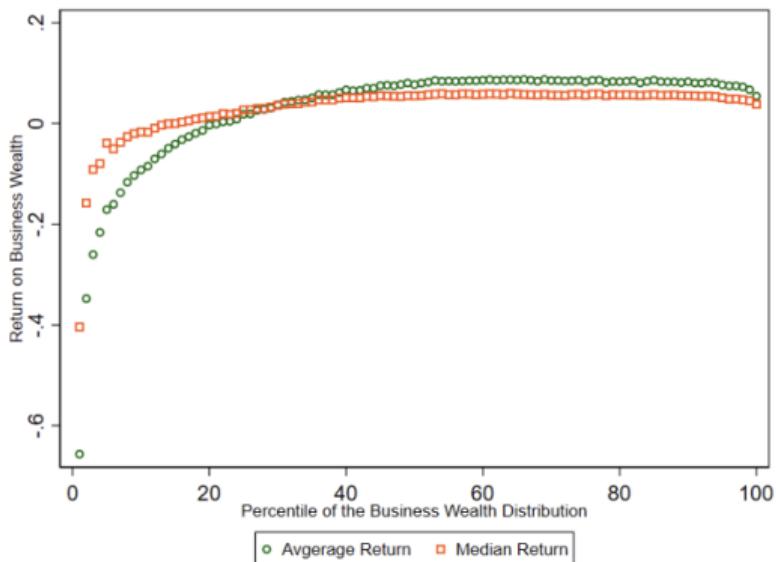
Private Businesses and Wealth Accumulation

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- How many firms do they owe?
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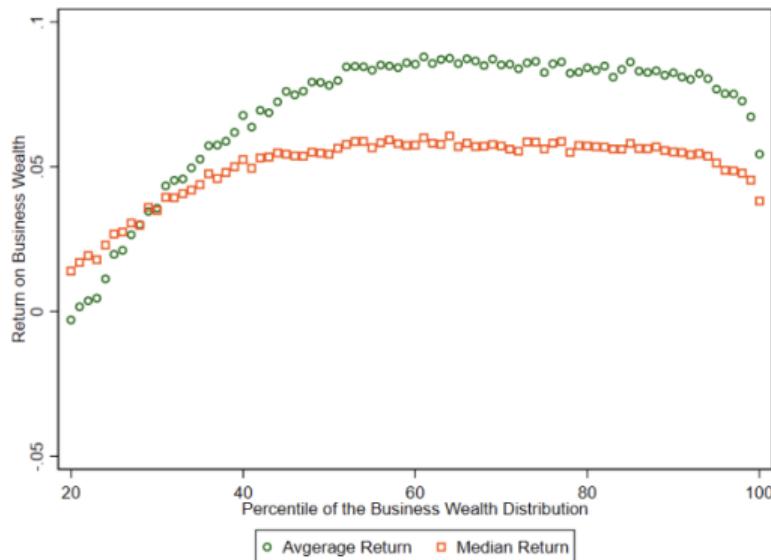
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  - Yes! Up to the 50th percentile

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  - Yes! Up to the 50th percentile

Investors or Entrepreneurs

- Empirical distinction bw entrepreneurs & investors

  - Owners who also supply skill

  - Owners who only supply money

- Role Database

  - Entrepreneurs if have a Role and some shares

  - Multiple layers
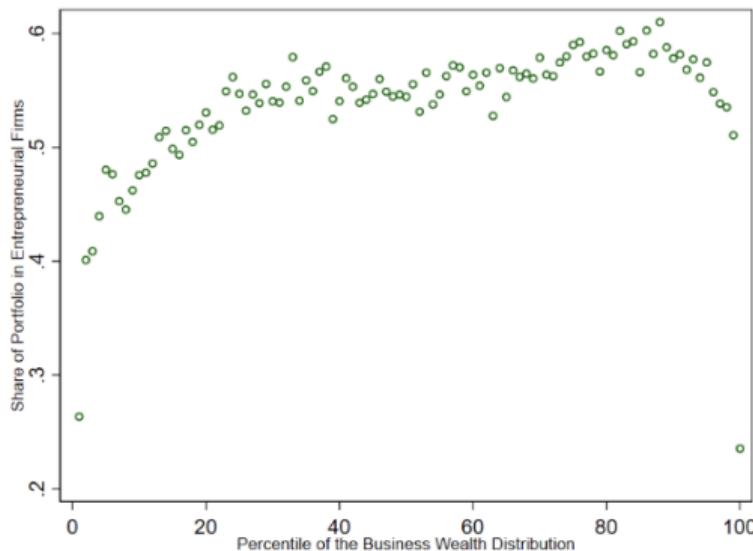
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  - Entrepreneur-owners have 42% of business wealth, investor-owners have 58%

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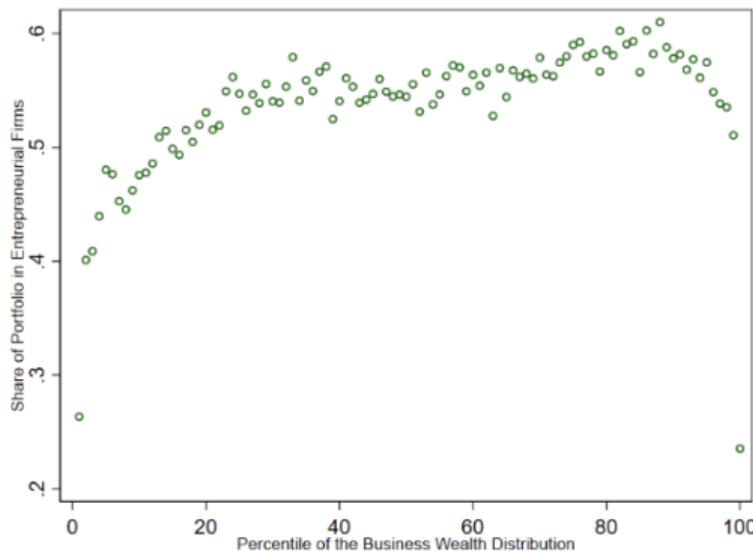
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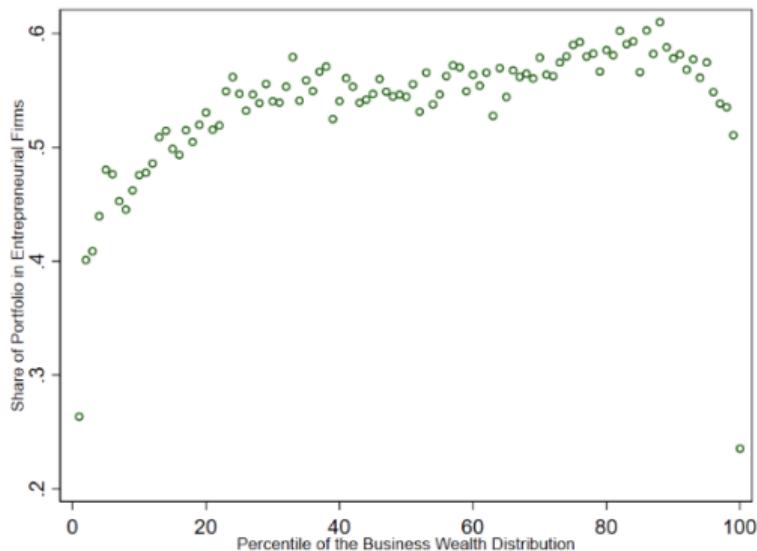
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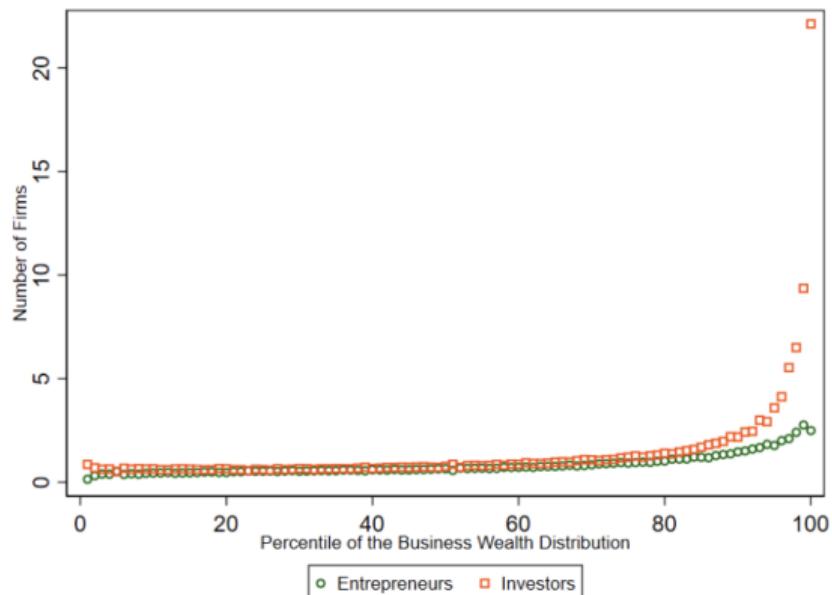
  – Except at the very top

- Top: Serial investors

Investors or Entrepreneurs

- Which investment has higher returns? As entrepreneur or investor?

- How do you make it to the very top? As entrepreneur or investor?

Investors or Entrepreneurs

- Which investment has higher returns? As entrepreneur or investor?

- How do you make it to the very top? As entrepreneur or investor?

- Who can invest in private businesses?

- Should we tax differently entrepreneurs and investors?

Transfers

On Inequality and Redistribution

- **Broad topic 2**: Transfers

- Focus on the bottom of the income distribution

On Inequality and Redistribution

- **Broad topic 2**: Transfers

- Focus on the bottom of the income distribution

- Brief description of the tax-and-transfer ($t\&T$) system in the US

- Universal Basic Income in models calibrated to the US

The U.S. Tax-and-Transfer System

- Personal income taxes
    - Progressive taxes (brackets) on labor and capital income taxes

The U.S. Tax-and-Transfer System

■ Personal income taxes

 – Progressive taxes (brackets) on labor and capital income taxes

 · Deductions

 · Long-run capital gains are partly exempted

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  - Transfers: SNAP, TANF, ... complex eligibility conditions

- Non-monetary transfers: spending on education, childcare, ...

Taxes or Transfers?

- Three examples of taxes and transfers

    - My pre-$t\&T$ income is $y = \$10$

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  - World A. I pay a tax of \$1 and receive a transfer of \$2

    · After-$t\&T$ income $\hat{y} = y - 1 + 2 = \$11$

  - World B. I pay a tax of \$0 and receive a transfer of \$1

    · After-$t\&T$ income $\hat{y} = y - 0 + 1 = \$11$

  - World C. I pay a tax of \$2 and receive a refundable tax credit of \$3, and no transfer

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- Always consider the joint distribution of taxes and transfers

    - In data, in models!

Marginal or Average Progressivity? 1/2

- Three examples of taxes and transfers, revisited
    - Bob makes pre-tax income of $10, Jane makes $20

Marginal or Average Progressivity? 1/2

■ Three examples of taxes and transfers, revisited

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    — World 1. Uniform flat taxes of 20% rebated to both hh

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    - Bob has: $\hat{y}^b = (1 - 20\%) \times \$10 + \$3 = \$11$
    - Jane has: $\hat{y}^b = (1 - 20\%) \times \$20 + \$3 = \$19$
    - Bob's average $t\&T$ rate is -10%, Jane's average $t\&T$ rate is 5%
    - Bob and Jane's marginal rate is 20%
  - ⇒ Progressivity in average rates, no progressivity in marginal rates!

Marginal or Average Progressivity? 2/2

- More progressivity in marginal rates

    - World 2. Tax of 0% when $y < \$15$, tax of 10% when $y > \$15$, rebated to both hh

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Marginal or Average Progressivity? 2/2

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■ More progressivity in average rates

   − World 3. Uniform flat taxes of 30% rebated to both hh

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        · Jane has: $\hat{y}^b = (1 - 30\%) \times \$20 + \$4.5 = \$18.5$, average $t\&T$ rate is 7.5%

Marginal or Average Progressivity? 2/2

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The U.S. Tax-and-Transfer System: Trends Over Time

- **Marginal progressivity** has decreased over time

- **Average progressivity** has increased over time

- **In-work benefits** have become much larger

Marginal Progressivity Has Decreased Over Time

Figure 0.7. The top income tax rate, 1900-2020

Interpretation. The top marginal tax rate applied to the highest incomes averaged 23% in the United States from 1900 to 1932, 81% from 1932 to 1980, and 39% from 1980 to 2018. Over these same periods, the top rate was 30%, 89% and 46% in Britain, 18%, 58% and 50% in Germany, and 23%, 60% and 57% in France. Fiscal progressivity was at its highest level in the middle of the century, especially in the United States and in Britain. **Sources and series**: see piketty.pse.ens.fr/ideology.

Average Progressivity Has Increased Over Time

- Broad definition of transfers
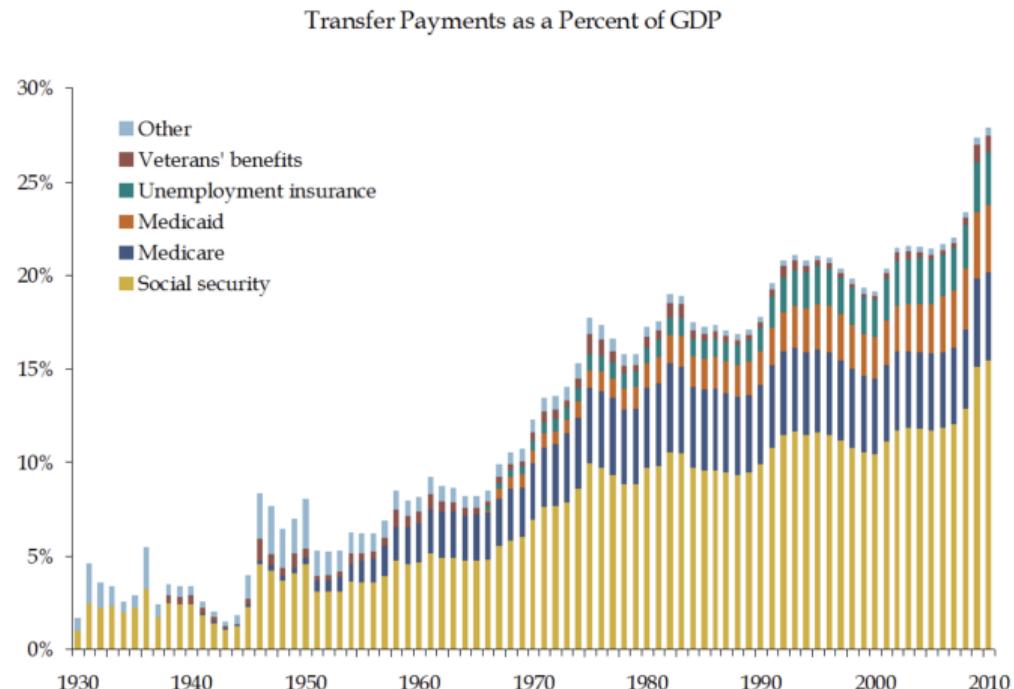
- For the old
  Social security + Medicare

- For the poor
  Health-related: Medicaid

  Source: BEA, Econompic (??)

Transfer Payments as a Percent of GDP

Legend:
- Other
- Veterans' benefits
- Unemployment insurance
- Medicaid
- Medicare
- Social security

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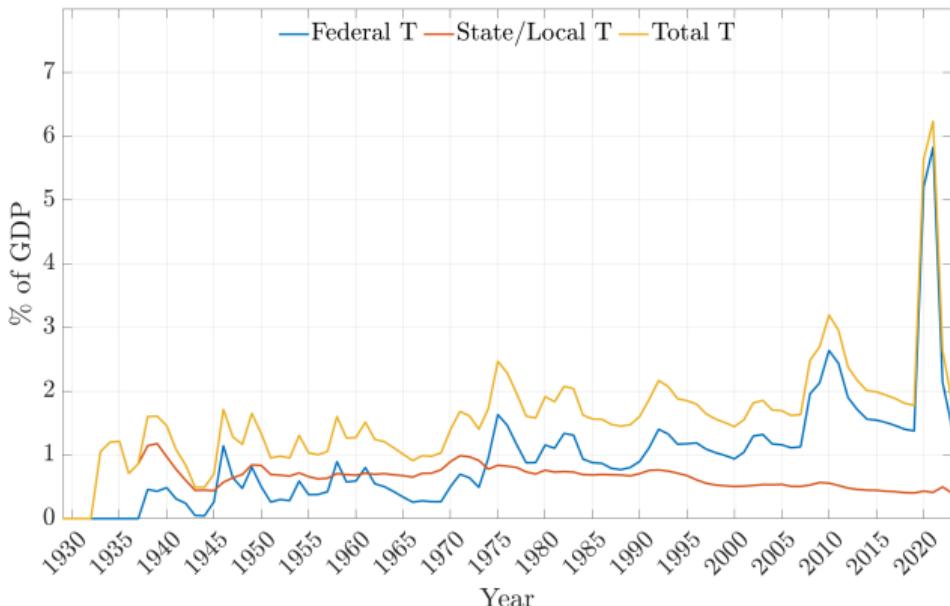
- Narrow definition of transfers

– Federal:

UI benefits, workers' compensation, food stamps, SSI, refundable tax credits

– State/local:

Temporary disability insurance, workers' compensation, family assistance, SSI, general assistance, energy assistance, other assistance

Source: NIPA Tables

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Optimal Tax-and-Transfer System

- What do models say about optimal progressivity?

    - Workhorse models of taxation: an efficiency-redistribution trade-off

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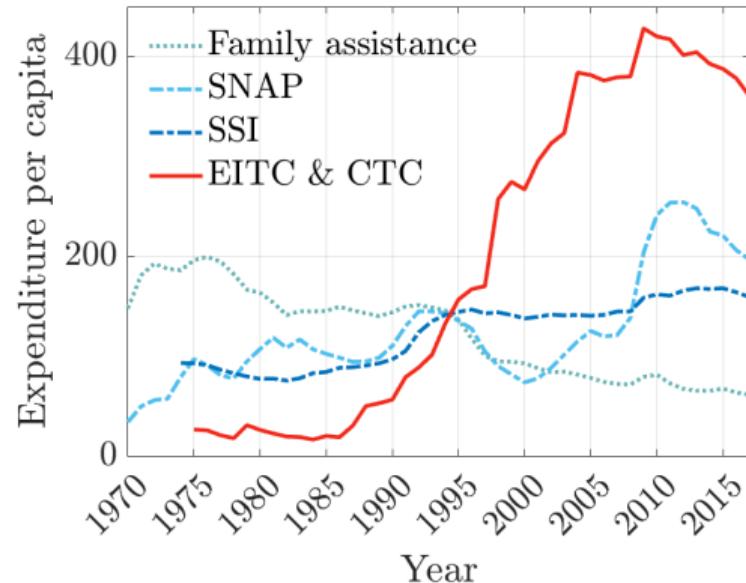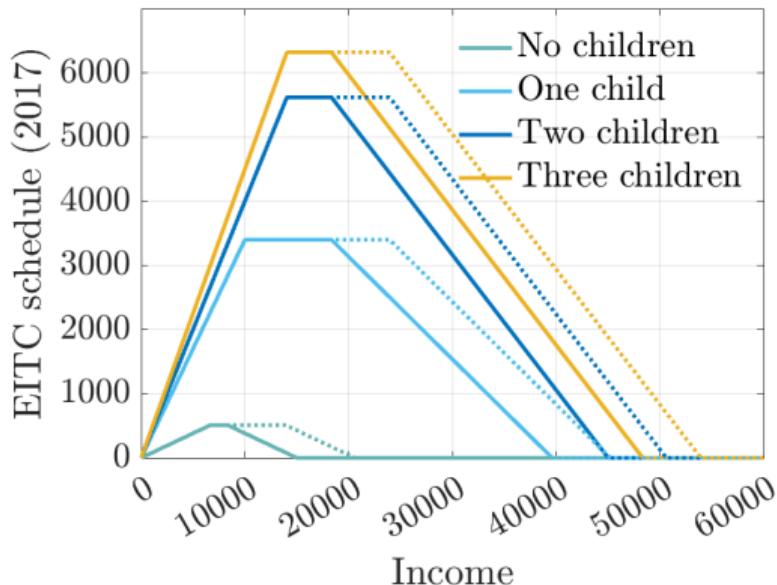
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    · To incentivize labor supply and savings

  - How to implement that?

    · Large transfers, high but flat taxes work pretty well

    · Ferriere, Gruebener, Navarro and Vardishvili (2023)

In-Work Benefits Have Become More Important

■ Source: IRS and NIPA, my own computations

Have We Gone Too Far?

- In-work benefits are good for incentives...

  - but don't provide income support to the very poor

Have We Gone Too Far?

- In-work benefits are good for incentives. . .

  – but don't provide income support to the very poor

- Should we rather implement a Universal Basic Income?

- Daruich and Fernandez (2024)

A Rich Quantitative Model to Evaluate UBI

- **Objective** of the paper:

  - Use a general equilibrium overlapping generations (GE-OLG) model

  - Analyze long-term UBI effects on welfare, inequality, and intergenerational mobility

    - Much cheaper than a real experimentation!

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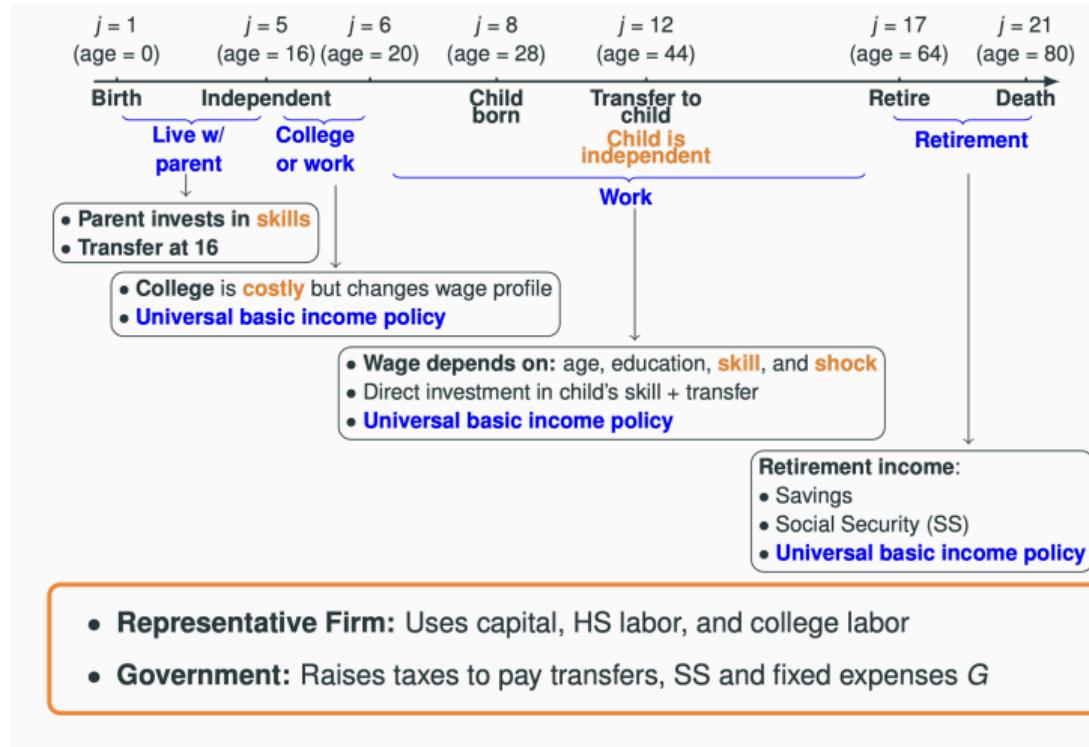
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  - Endogenous education function of parental investments in child skills and intervivo transfers

  - Distortionary taxes to fund UBI

The Model

The Model

$$V_j\left(a, \theta, e, \eta, \theta_k\right) = \max_{c, a', h, m} u(c, h) + \beta \mathbb{E}\left[V_{j+1}\left(a', \theta, e, \eta', \theta_k'\right)\right]$$

$$c + a' + m = y + a\left(1 + r\right) - T\left(y, a, c\right)$$

$$y = w_e h E_{e,j}\left(\theta, \eta\right) \ , \quad a' \geq \underline{a}_{e,j} \ , \quad 0 \leq h \leq 1, \quad \eta' \sim \Gamma_{e,j}(\eta)$$

$$\underbrace{\theta_k'}_{\substack{\text{Next period} \\ \text{child's skills}}} = \left[\alpha_{1j} \underbrace{\theta_k^{\rho_j}}_{\substack{\text{Current} \\ \text{child's skills}}} + \alpha_{2j} \underbrace{\theta^{\rho_j}}_{\substack{\text{Parent's} \\ \text{skills}}} + \alpha_{3j} \underbrace{I^{\rho_j}}_{\substack{\text{Parental} \\ \text{investments}}}\right]^{1/\rho_j} \exp\left(\nu\right), \nu \sim N(0, \sigma_{j,\nu})$$

$$I = \bar{A} \underbrace{m}_{\text{Money}} \qquad m \geq 0$$

Main Forces

- Why UBI Could Be Good?

    – Reduces inequality by providing unconditional transfers to all

    – Improves intergenerational mobility

        · Low-income households can invest more in their kids' skills

        · Kids from low-income families can go to college more

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- Why UBI Could Be Bad?

  – Higher transfers and associated higher taxes both contribute to...

    · Lower labor supply, lower savings and capital stock

    · Lower parental investments in child skills, lower college enrollment

    · Lower output and consumption!

General Equilibrium Results

- Impact of UBI of $\approx \$1,000$/month per adult:

  - Labor supply, education, and capital stock decline

  - Higher mobility and lower inequality

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- Impact of UBI of $\approx \$1,000$/month per adult:

  - Labor supply, education, and capital stock decline

  - Higher mobility and lower inequality

- Overall, large welfare losses

- Decomposition

  - Effects of higher taxes vs. higher transfers

  - Endogenous response of capital vs. skills

  - General equilibrium

  - Current cohorts vs. newborns

What Next?

- Richer household heterogeneity

- EITC vs. transfers that phase-out but do not phase-in