Redistribution of Return Inequality
Karl Schulz · ASSA 2022

Overview
- **Motivation**: Persistent heterogeneity in households’ investment return rates (Bach et al. (2020) and Fagereng et al. (2020))
  - The rich become richer because of their investment skill (“type dependence”) and their wealth (“scale dependence”), e.g., access to high-yield investments
- **Research question**: Should high fortunes with high return rates pay high capital taxes?
- **Conventional wisdom**: Return inequality ↑ ⇒ capital taxation ↑
- **This paper**: Investigate how scale and type dependence shape equity-efficiency trade-off of optimal capital taxation
  - Type dependence raises optimal capital taxation (in line with conventional wisdom)
  - Scale dependence either neutral or lowers optimal capital taxation (at odds with conventional wisdom)
- **Main insight**: Endogeneity of pre-tax return rates under scale dependence generates novel efficiency cost ⇒ Capital taxation↑

A Simple Two-Period Life-Cycle Framework
- Capital income taxation with **type** and **scale** dependence
- Period 1: Households $i \in [0, 1]$ earn labor income, consume, and save $a_i$ at pre-tax return rate $r(a_i)$, note: $\frac{\partial r(a_i)}{\partial a_i} > 0$ vs. $\frac{\partial r(a_i)}{\partial a_i} = 0$
- Period 2: Households consume final after-tax wealth, linear tax $\tau_K$ on capital income and lump-sum transfer
- Utilitarian social planner: Maximize aggregate welfare subject to aggregate budget constraint

Result 1: Neutrality
- Irrespective of magnitude of **scale** and **type** dependence, same Ramsey formula for the optimal linear capital tax
  $\tau_K = \frac{1}{\text{capital income elasticity}} \times \text{capital income inequality}$
- Standard equity-efficiency trade-off: inequality vs. elasticity
- Correct knowledge of these suff. stats. enough information
- But: Suff. stats. structurally depend on **scale** & **type** dependence

Result 2: Scale Dependence Raises Capital Income Elasticity
- Novel efficiency cost of taxation under **scale** dependence: Capital taxation affects pre-tax return rate (not only after-tax return rate) $\Rightarrow$ Capital income elasticity $\uparrow$
- Economic intuition: Capital income tax $\downarrow$ non-linear savings $\uparrow \Rightarrow$ pre-tax return rate $\uparrow \Rightarrow$ savings $\uparrow \Rightarrow$ pre-tax return rate $\uparrow \Rightarrow$ ...
- Measurement error under **scale** dependence
- Estimates of capital income elasticity biased downward if responses of pre-tax returns to tax reforms omitted
- Bias depends on own-return elasticity $\varepsilon_{a}^r \equiv \frac{\partial \log(c(a))}{\partial \log(a)}$

Empirical Evidence
- Macro estimate from Survey of Consumer Finances $\varepsilon_{a}^r = 0.8$
- Micro estimate from panel of U.S. foundations $\varepsilon_{a}^r = 0.1$
- Benchmark calculated from Fagereng et al. (2020) $\varepsilon_{a}^r = 0.9$
- Back to theory: What does this amount imply for opt. capital taxation?
- Medium amount of scale dependence ($\varepsilon_{a}^r = 0.5$) $\Rightarrow$ capital income elasticity $\uparrow$ by 200% and revenue-maximizing $\tau_K$ $\downarrow$ by 25%

Result 3: Comparative Statics
- Rise in inequality driven by **scale** dependence $\frac{\tau_K}{1 - \tau_K} \downarrow \rightarrow \text{capital income elasticity} \times \text{capital income inequality} \uparrow$
- Rise in inequality driven by **type** dependence $\frac{\tau_K}{1 - \tau_K} \uparrow \rightarrow \text{capital income elasticity} \times \text{capital income inequality} \uparrow$
- Implications of rising return inequality for tax policy non-trivial

Quantitative Illustration
- Novel approximation of optimal linear capital income tax in terms of structural primitives $c(a_i) \equiv \frac{\partial \log(c(a))}{\partial \log(a)} \geq 0$ & $\tilde{\varepsilon}^{(1-a)} \equiv \frac{\partial \log(c(a))}{\partial \log(1-a)} \leq 0$
- Idea: decompose return inequality into endogenous part (scale dependence) and exogenous, residual part (type dependence)
- Isoquants of Optimal Capital Income Tax

Extensions and Microfoundation
- Nonlinear taxes ✓ Wealth taxes ✓ Dynamics ✓ Uncertainty ✓
- Microfoundation of **scale** & **type** dependence on Grossman & Stiglitz (1980) financial market ✓

Contribution and Related Literature
- Atkinson & Stiglitz (1976) and others:
  - No return inequality $\Rightarrow$ Zero capital tax
- Saez (2002), Gerritsen et al. (2020) and others:
  - Return inequality $\Rightarrow$ Positive capital tax
- This paper: Source of return inequality important for tax policy

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