

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 $\uparrow \Rightarrow$ capital taxation \uparrow
- **This paper:** Investigate how scale and type dependence shape equity-efficiency trade-off of optimal capital taxation
- **Surprising result:** Rising return inequality has non-trivial policy implications
 - ▶ 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 \Rightarrow Capital elasticity \uparrow

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 $r(a_i, i)$, note: $\frac{\partial r(a_i, i)}{\partial a_i} > 0$ vs. $\frac{\partial r(a_i, i)}{\partial a_i} = 0$
- Period 2: Households consume final after-tax wealth, linear tax τ_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 income tax
$$\frac{\tau_K}{1 - \tau_K} = \frac{1}{\text{capital income elasticity}} \times \text{capital income inequality}$$
- 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 $\downarrow \xrightarrow{SE \geq IE}$ savings $\uparrow \Rightarrow$ pre-tax return rate $\uparrow \Rightarrow$ savings $\uparrow \Rightarrow$ pre-tax return rate $\uparrow \Rightarrow \dots$
- 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 $\varepsilon_i^{r,a} \equiv \frac{\partial \log[r_i(a_i)]}{\partial \log(a_i)}$

Empirical Evidence

- Macro estimate from Survey of Consumer Finances $\hat{\varepsilon}^{r,a} = 0.8$
- Micro estimate from panel of U.S. foundations $\hat{\varepsilon}^{r,a} = 0.1$
- Benchmark calculated from Fagereng et al. (2020) $\hat{\varepsilon}^{r,a} = 0.9$
- Back to theory: What does this amount imply for opt. capital taxation?
- Medium amount of scale dependence ($\hat{\varepsilon}^{r,a} = 0.5$) \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
$$\frac{\tau_K}{1 - \tau_K} \downarrow / \rightsquigarrow = \frac{1}{\text{capital income elasticity} \uparrow} \times \text{capital income inequality} \uparrow$$
- Rise in inequality driven by type dependence
$$\frac{\tau_K}{1 - \tau_K} \uparrow = \frac{1}{\text{capital income elasticity}} \times \text{capital income inequality} \uparrow$$
- 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 $\varepsilon^{r,a} \equiv \frac{\partial \log[r_i(a_i)]}{\partial \log(a_i)} \geq 0$ & $\tilde{\zeta}^{r,(1-i)} \equiv \frac{\partial \log[r_i(a_i)]}{\partial \log(1-i)} \leq 0$
- Idea: decompose return inequality into endogenous part (scale dependence) and exogenous, residual part (type dependence)
- Isoquants of Optimal Capital Income Tax

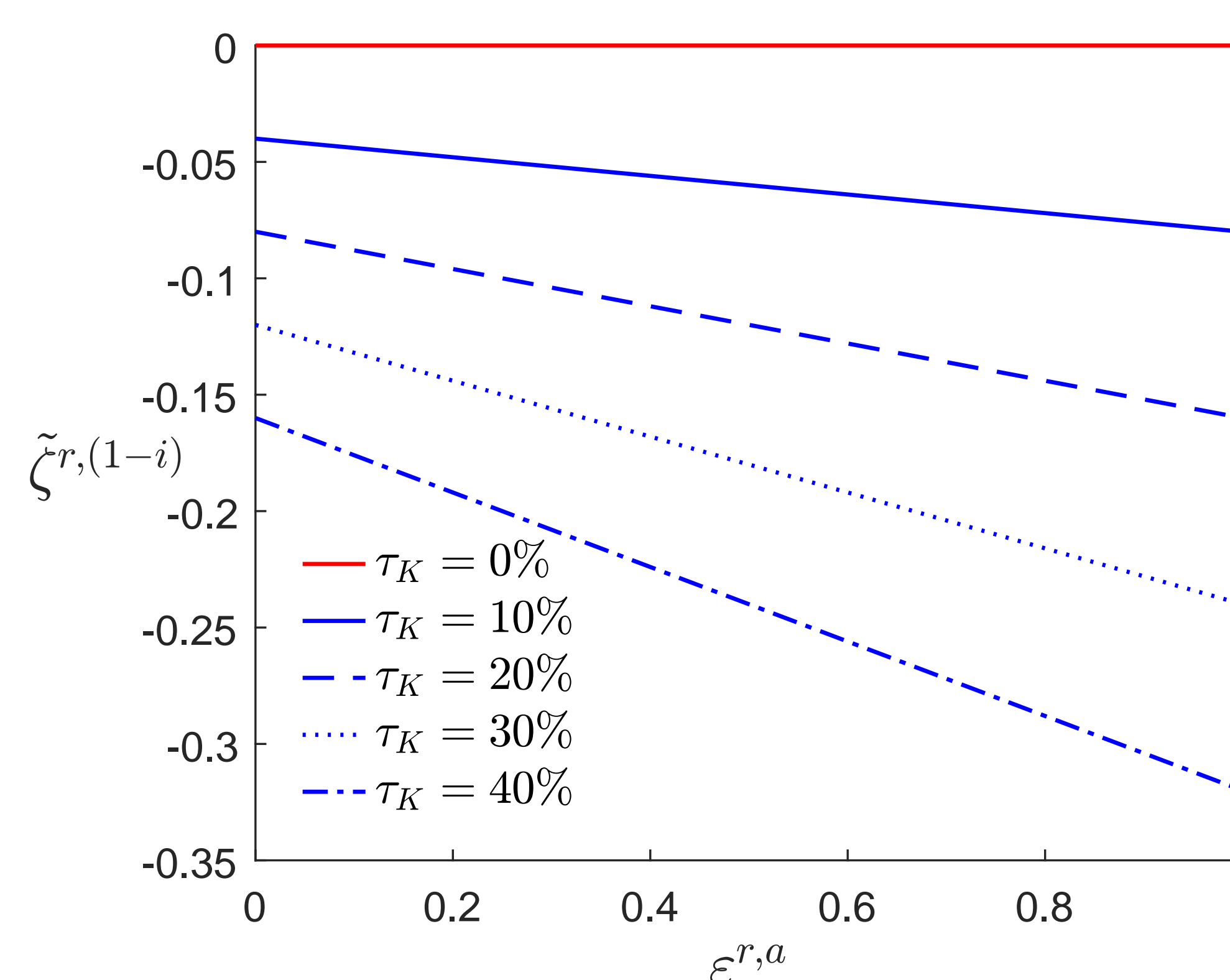


Figure: Type vs Scale Dependence (W/o Labor Income Inequality)

Extensions and Microfoundation

- Nonlinear taxes \checkmark Wealth taxes \checkmark Dynamics \checkmark Uncertainty \checkmark
- Microfoundation of scale & type dependence on Grossman & Stiglitz (1980) financial market \checkmark

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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