A Q-Theory of Inequality

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Summary

- Theoretical model:
  - Observation: a lower interest rate increases the growth rate of the value of net-investment projects
  - Implications for inequality, focus on Pareto exponent
- Empirical exercise:
  - Estimate Pareto exponent from Forbes data
  - Estimate model-implied interest-rate effect, cet par
  - Significant proportion (> 0.5) of increase in exponent could be due to discount-rate drop

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  - Right tail populated by high τ agents

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- Paper: investment-driven growth over potentially long time

Model

- Investment i per unit of capital; capital grows at rate g, becomes consumption good at Poisson (δ)
- Value of a share grows at expected rate r:

$$r = -\frac{i}{q} + g + \delta\left(\frac{1}{q} - 1\right)$$

- Conditional on continued growth, value-growth rate $> r$ ($q > 1$)
- In fact, $g - i/q$ decreases in r (b/c increases in q)
- Given consumption at rate ρ, wealth growth is $\gamma = g - i/q - \rho$, and depend on r given by

$$\partial_r \gamma = \underbrace{-\frac{i}{q}}_{\substack{\text{payout} \\ \text{ratio}}} \times \underbrace{\partial_r \log(q)}_{\text{duration}}$$

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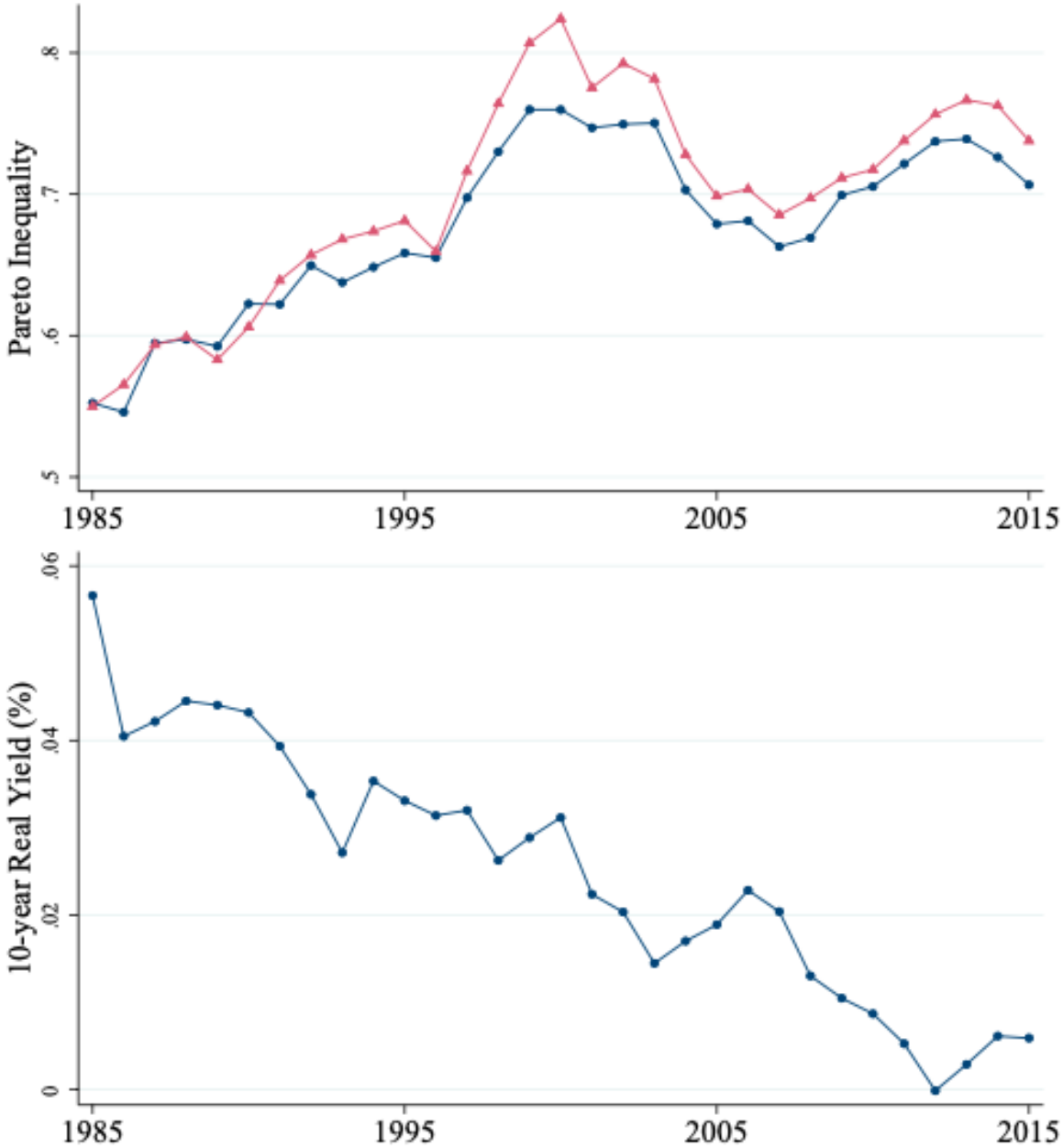
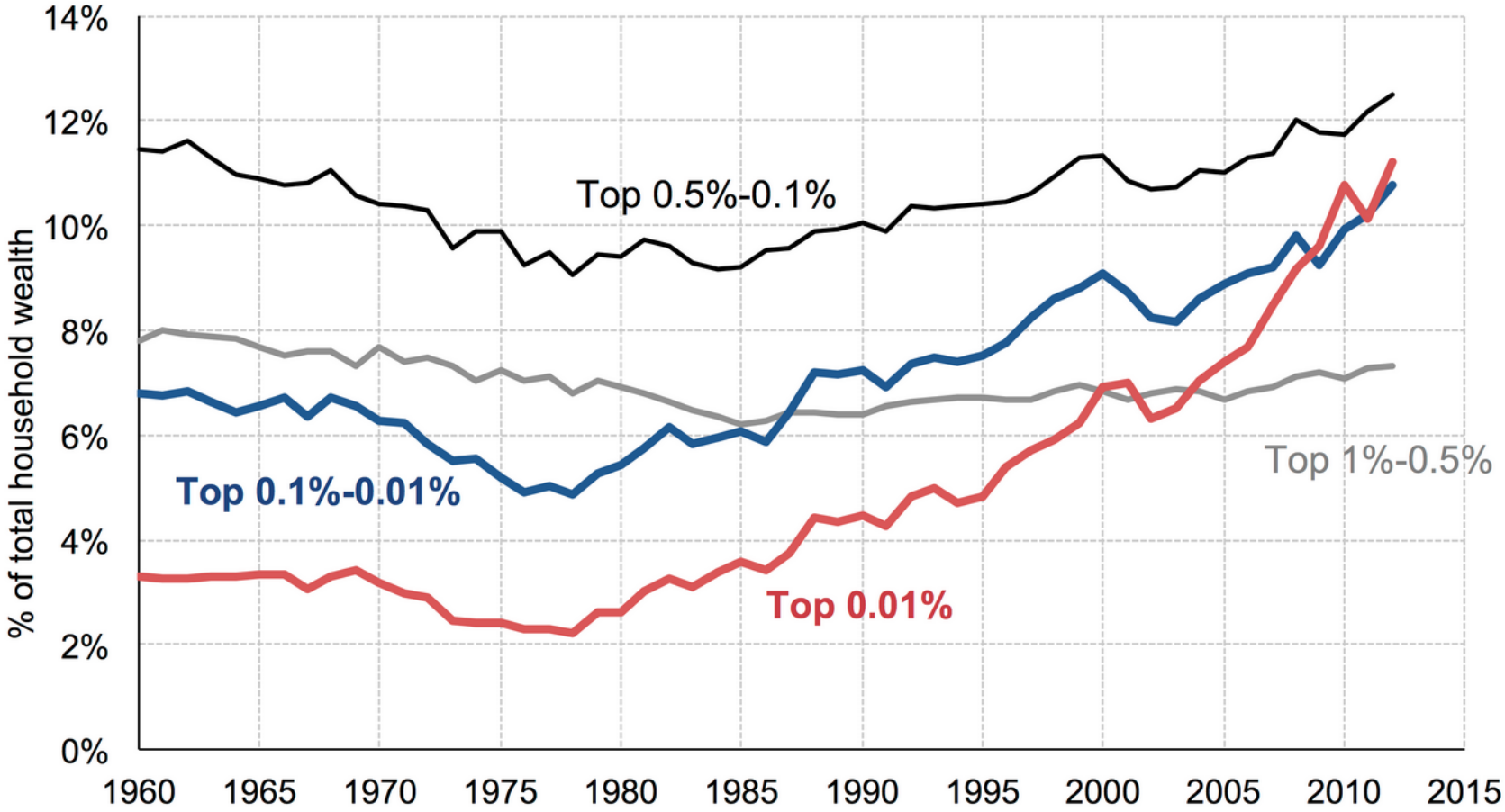
- How long does it take for tail to look different? Transition exercise could seek to characterize tail after 30 years

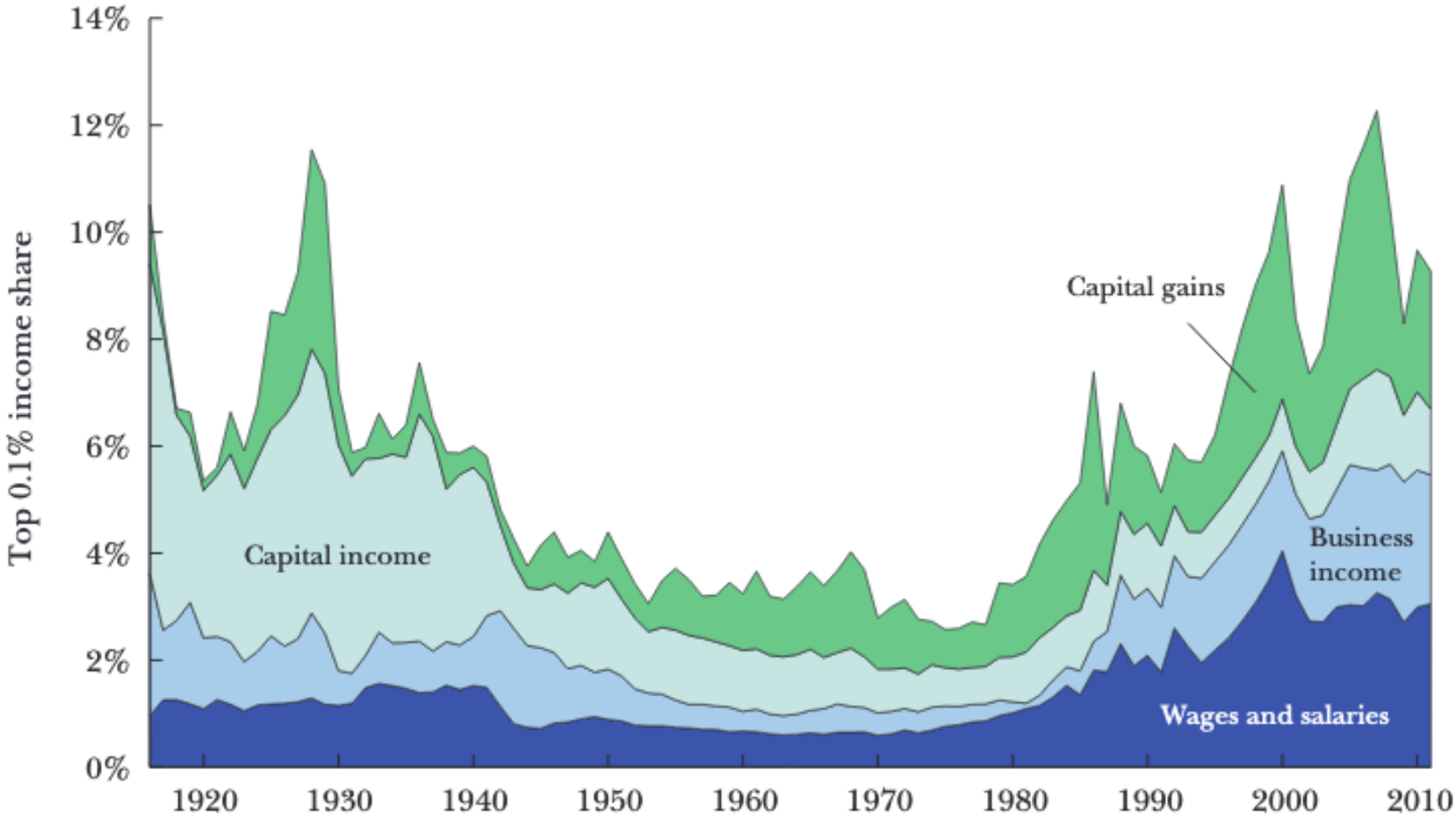
Pareto Inequality vs Interest Rate



Saez-Zucman (2016) Wealth Shares



Top 0.1 Percent Income Share



Source: These data are taken from the "data-Fig4B" tab of the September 2013 update of the spreadsheet appendix to Piketty and Saez (2003).