Scale-Dependent Returns and the Interest Rate

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What?

There is growing evidence that returns on households' wealth increase with wealth;

All the papers use the data for recent years (post-1980), which is a special period (low economic growth, decline in interest rate, increase in inequality).

I extend the data horizon and study U.S. households' returns on wealth over a span of 70 years and show that returns on wealth did not always increase with wealth.

How?

I use the SCF+ data set (modern SCF extended back to 1949 using the old SCF). I measure net of debt repayment return on wealth for households:

$$Retun = \frac{y_t^{Div} + y_t^{KG} - y^{debt}}{w_t + \frac{1}{2} f_t}$$

Measurements are in real terms and pre-(individual) tax.

Why?

- How the relative return on wealth of rich vs non-rich households has changed over time?
- What shapes the relative return of the rich to non-rich households?
- What are the implications for welfare?

Pre-80's

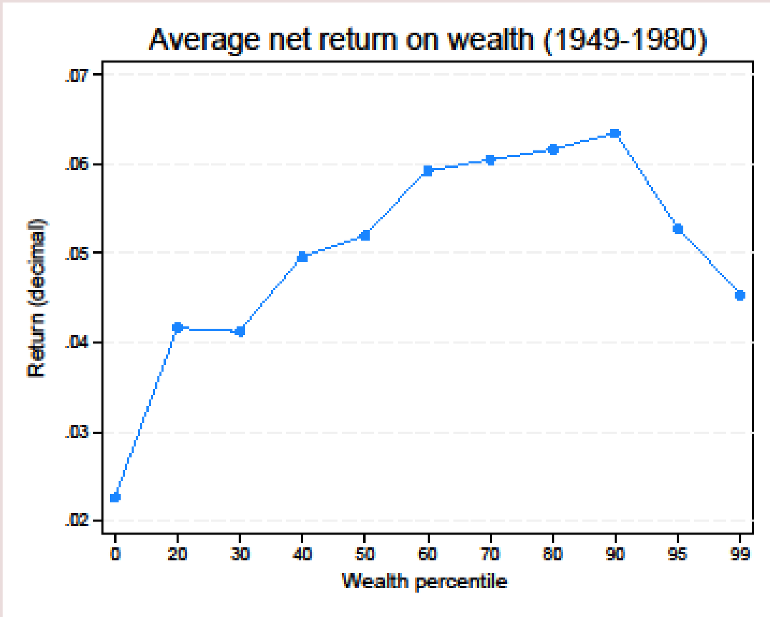

Figure 1: Average return of wealth across wealth for 1949-1980

Post-80's

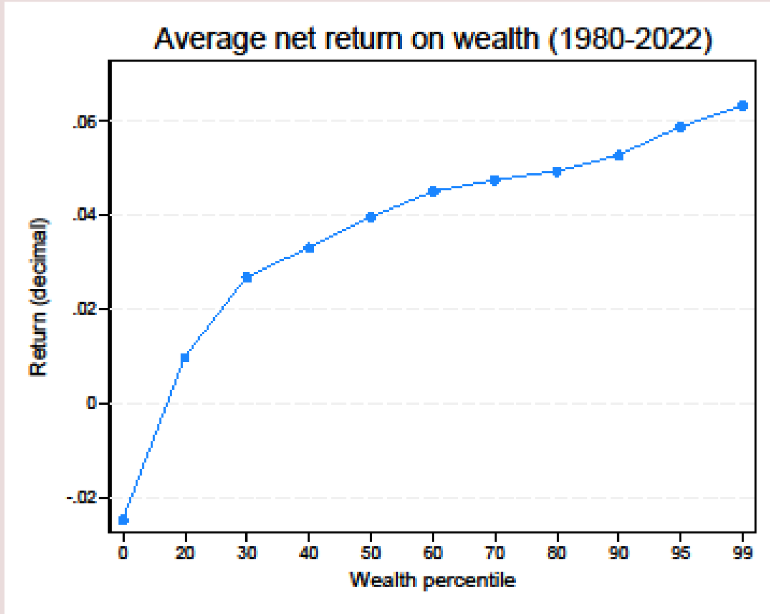

Figure 2: Average return of wealth across wealth for 1980-2022

Mechanism

1) Dynamics of long-term interest rate

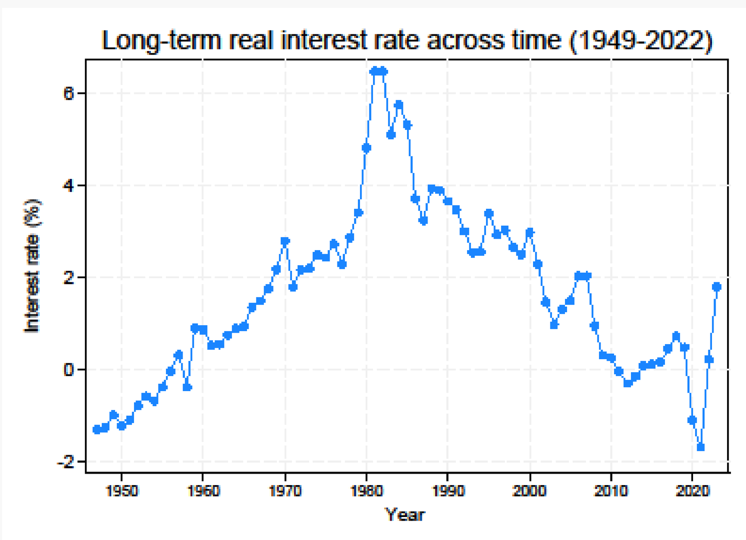

Figure 3: 5-year real interest rate (Greenwald et al. 2024)

2) Heterogeneity in interest rate exposure

Since wealthier people tend to have lots of stock and private businesses which are of longer durations, an increase in the risk-free interest rate (as it was before 1980) resulted in lower returns for the rich.

Conversely, a decrease in the risk-free interest rate (as seen after 1980) led to higher returns for the wealthy.

- **Duration**: Average time that cash flows are received
- **Interest rate exposure** of an asset is negatively correlated with its duration.

Economic Channel

"Changes in interest rates affect the returns of different households differently based on the duration of their assets."

Economic Implications

- Households in the top 10% of the wealth distribution own on average 70% of the total household wealth. So, their return on wealth is key for dynamics of inequality.
- In the pre-80 period, the top 10% earned on average **1.4 p.p. less returns** than the bottom 90%.
- In the post-80 period, the top 10% earned on average **1.7 p.p. more returns** than the bottom 90%.
- **Welfare Question:** Did this reversal harm the rich in the pre-80 and benefit them in post-80? …. Or there were also benefits to this change for the rich?
- **Answer:** This reversal, had also some benefits for the rich in terms of smoothing the growth of the economy and labor income shocks due to that.

Hedging Growth

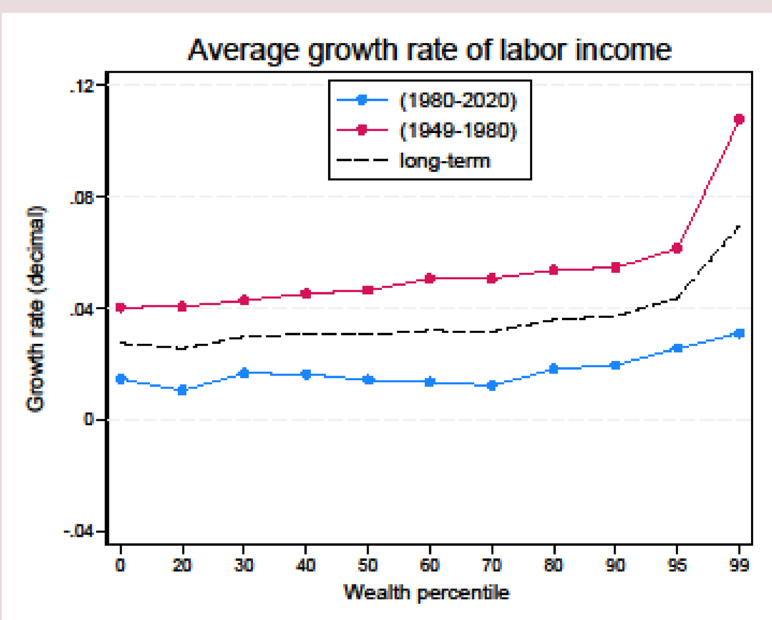

Figure 4: Average growth rate of labor income across wealth for pre-80, post-80, and long-term.

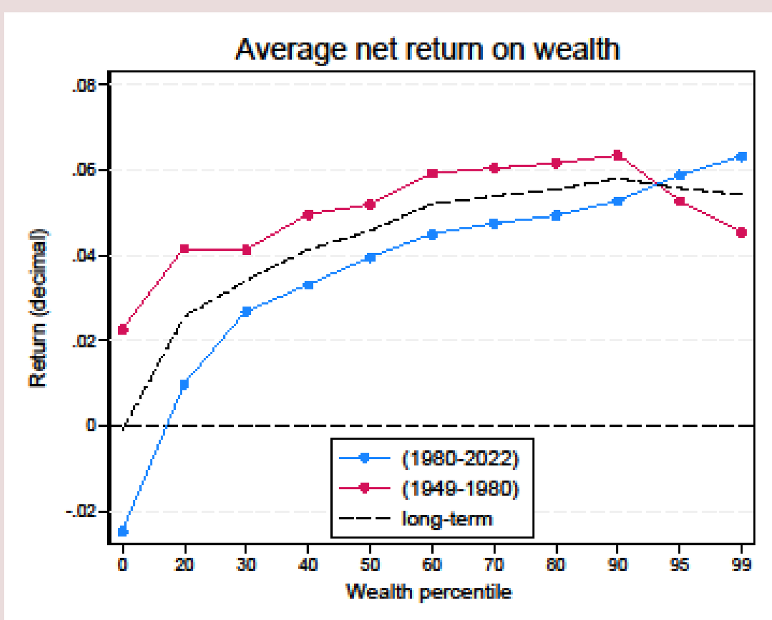

Figure 4: Average return on wealth across wealth for pre-80, post-80, and long-term.

The rich households by holding long-duration assets smooth the correlated growth shocks of labor income and interest rates. (See the paper for the full model)

Conclusion

- Rich households own a lot stocks and private business which gives the a highly negative interest rate exposure.
- If interest rates go up (like pre-80), rich households will earn lower returns on their wealth than the non-rich, while if they go down (like post-80), they the ich will have higher returns.
- The holding if long duration assets helps the rich to smooth the economic growth.

Key References

1.Catherine, S., Miller, M., Paron, J. D., & Sarin, N. (2023). Interest-rate risk and household portfolios. Working Paper.

2.Greenwald, D., Leombroni, M., Lustig, H. N., & Van Nieuwerburgh, S. (2023).Financial and total wealth inequality with declining interest rates. Available at SSRN.

3.Kuhn, M., Schularick, M., & Steins, U. I. (2020). Income and wealth inequality in America, 1949–2016. Journal of Political Economy, 128(9), 3469-3519.

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