

# **Before and After Target Date Investing: The General Equilibrium Implications of Retirement Saving Dynamics**

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**Discussion by Dan Greenwald**



# Introduction

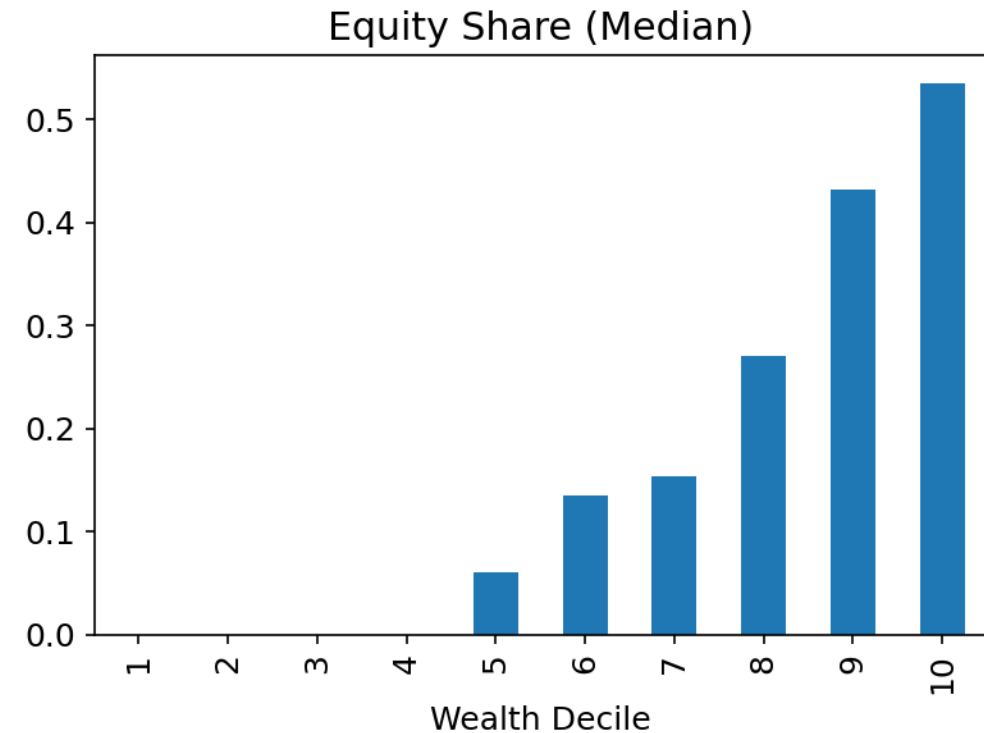
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- **Question:** what are the GE effects of financial innovations that ease frictions on portfolio adjustment
- **Approach:** state of the art life-cycle GE model solved with machine learning
  - Household face friction on adjusting their portfolios
  - Begin life with 0% equity share, remains suboptimally low (on average)
- **Main result:** adopting target date funds would have large benefits
  - Improves welfare, risk sharing, and reduces equity premium and volatility
- **My evaluation:** great question, amazing technical achievement, interesting and sensible results given assumptions
  - This discussion: implications of ignoring **housing wealth**

# Background: Household Portfolios

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- Data from 2019 SCF
- Right: median ratio of equities to total financial assets
  - Note: financial assets exclude housing and private businesses (as in paper)
  - Strongly increasing in wealth
- This paper has a similar pattern:
  - Allows high-income HHs (wealthy) to adjust portfolios, increase equity share
  - Since returns on equity are much higher, non-wealthy miss returns
  - Wealthy stuck bearing massive risk



# What about non-financial wealth?

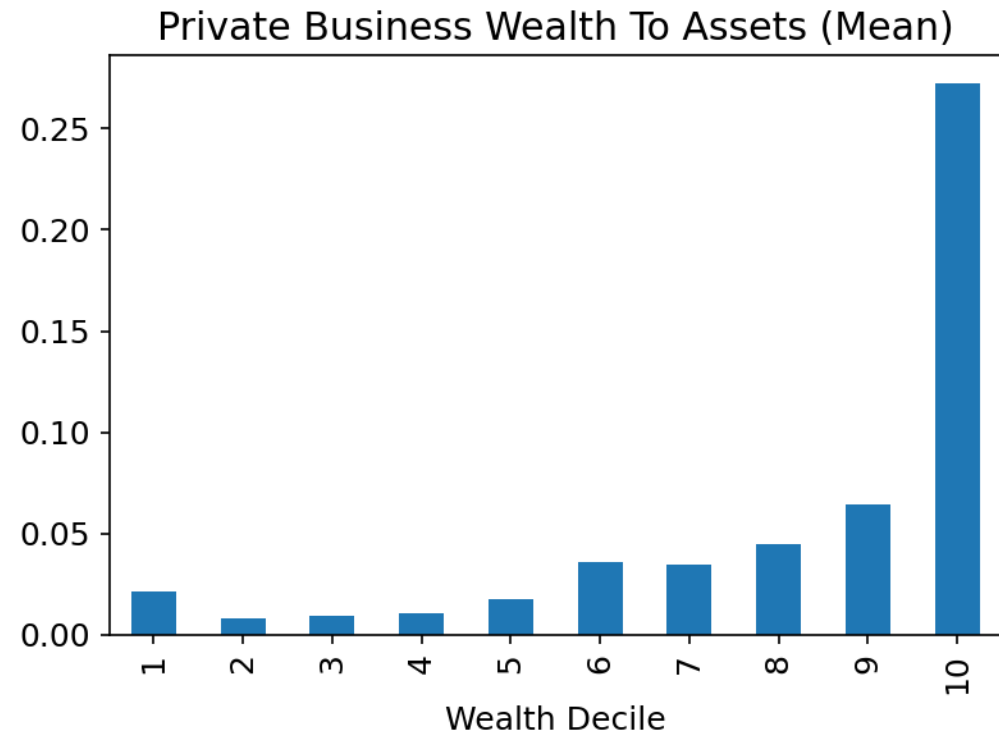
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- Previous plot (and the paper) ignore non-financial wealth
  - Private business equity (20% of total household assets in 2019 SCF)
  - Housing (37% of total household assets in 2019 SCF)
- These are highly nontrivial compared to financial assets
  - Equities represent 20% of household assets in 2019 SCF
  - Safe assets (cash, deposits, fixed income) represent 20%
- These are also risky assets that earn high returns
  - How do they change the risk-return profile of household portfolios?

# Private business wealth

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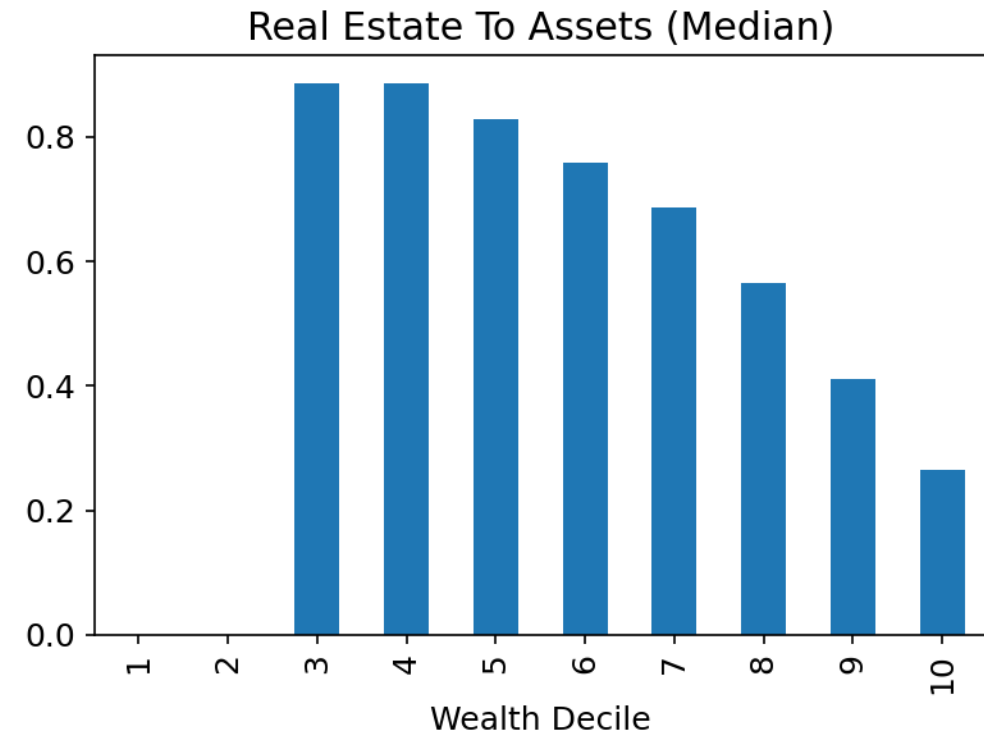
- Private business wealth turns out to be highly concentrated at the top of the wealth distribution
- This is important for many aspects of inequality (e.g., duration – see Greenwald, Leombroni, Lustig, Van Nieuwerburgh 2024)
- But should not alter the picture that less wealthy are underexposed to high-return risky assets



# Housing wealth

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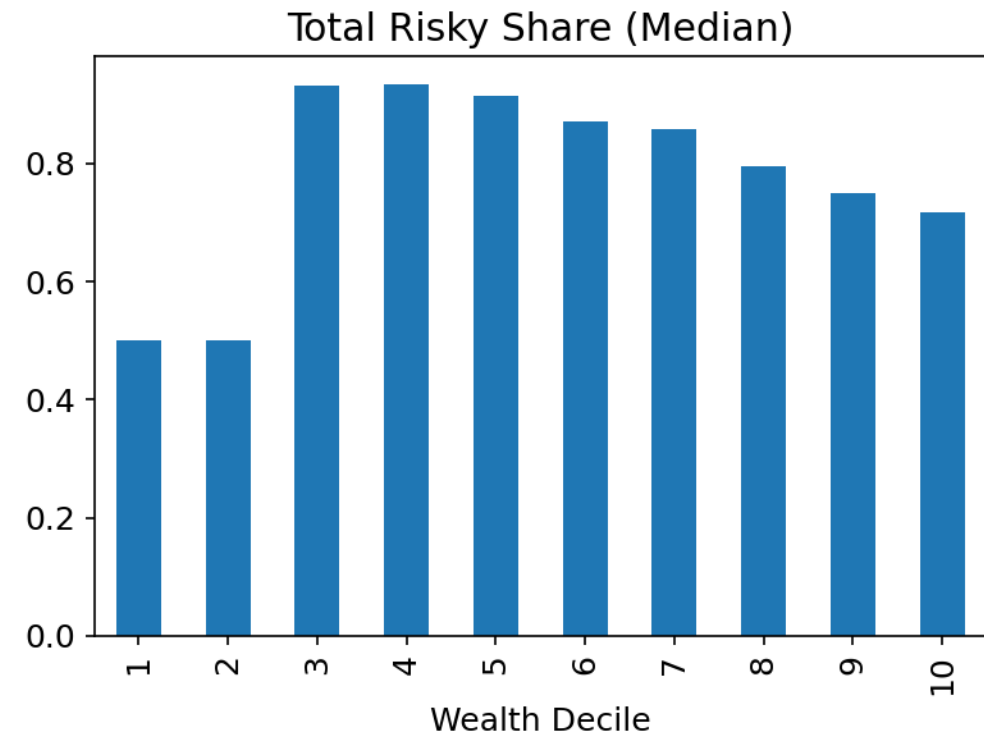
- But portfolios of the less wealthy are heavily tilted toward housing
  - Right: median ratio of real estate to total household assets (2019 SCF)
- Dominant asset beyond the bottom quintile of the wealth distribution
- Portfolio shares are generally **decreasing** in wealth
- Major risk exposure for typical household



# Total risky share of assets

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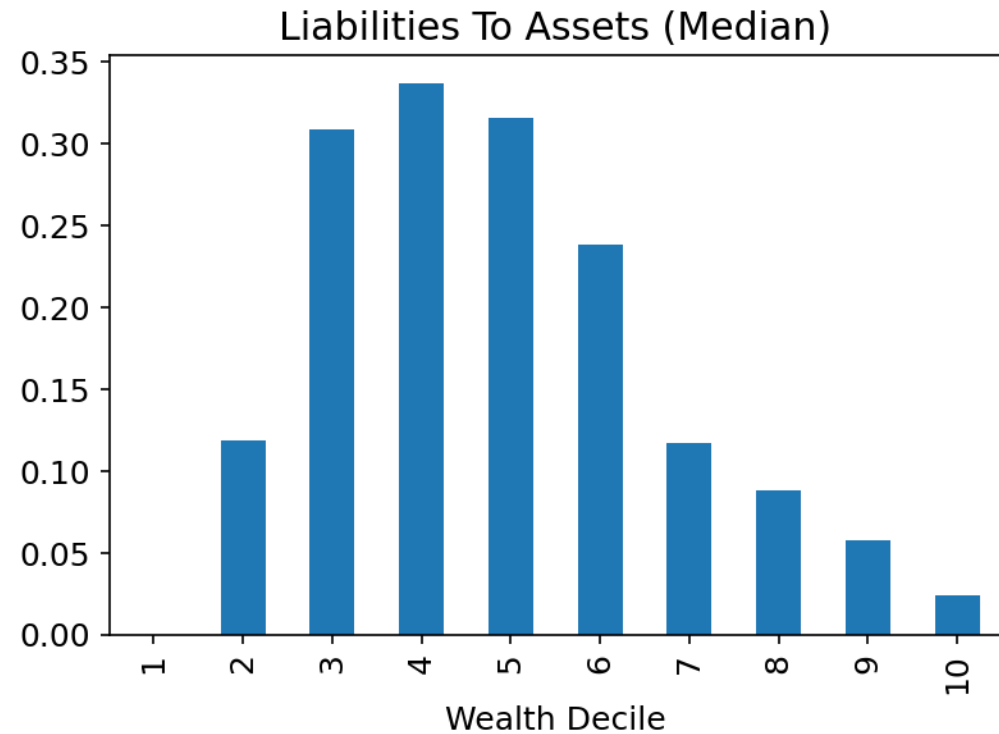
- Incorporating private business wealth and non-human wealth leads to a very different picture of household risk exposures
- Right plot shows median ratio of **total risky assets** (public equities + private businesses + housing) to total household assets
- This share is now decreasing with wealth after the bottom quintile!



# Household leverage

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- So far, have not accounted for household leverage
- But total wealth (value of household portfolio) should also net out liabilities
  - In particular, mortgages
- Right panel: **median leverage ratio** (total household liabilities to total household assets)

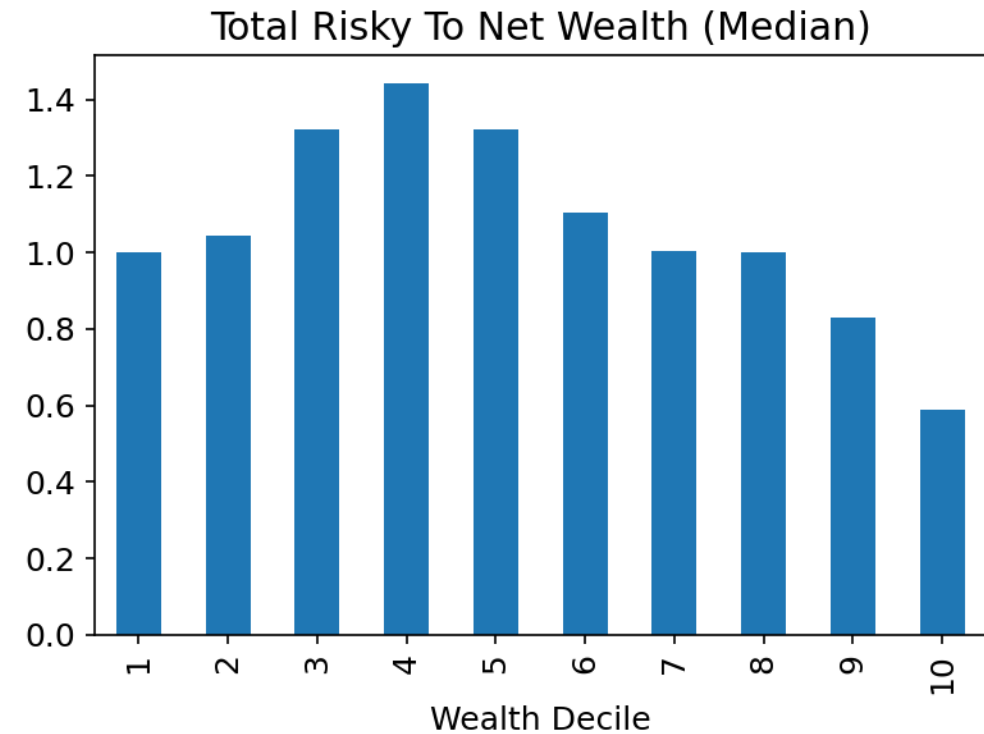




# Total risky share of net wealth

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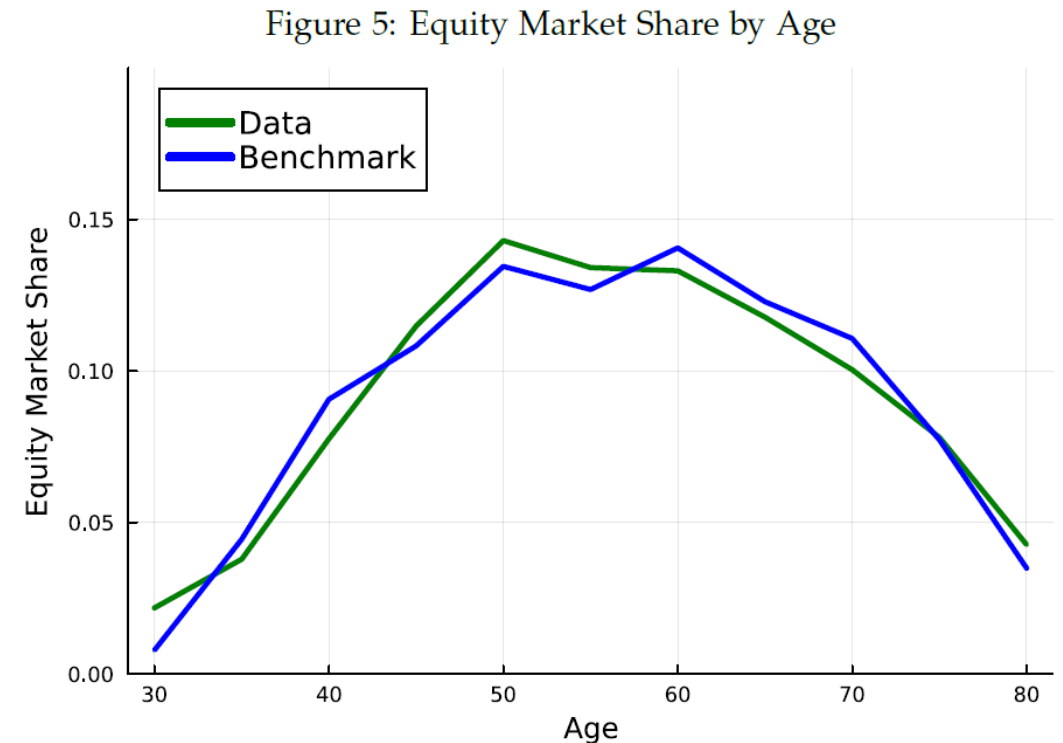
- Right: ratio of **total risky assets to net wealth** (assets – liabilities) in the 2019 SCF
- After accounting for leverage, the wealthy actually have the **smallest** portfolio shares of risky assets



# Equity share of financial assets by age

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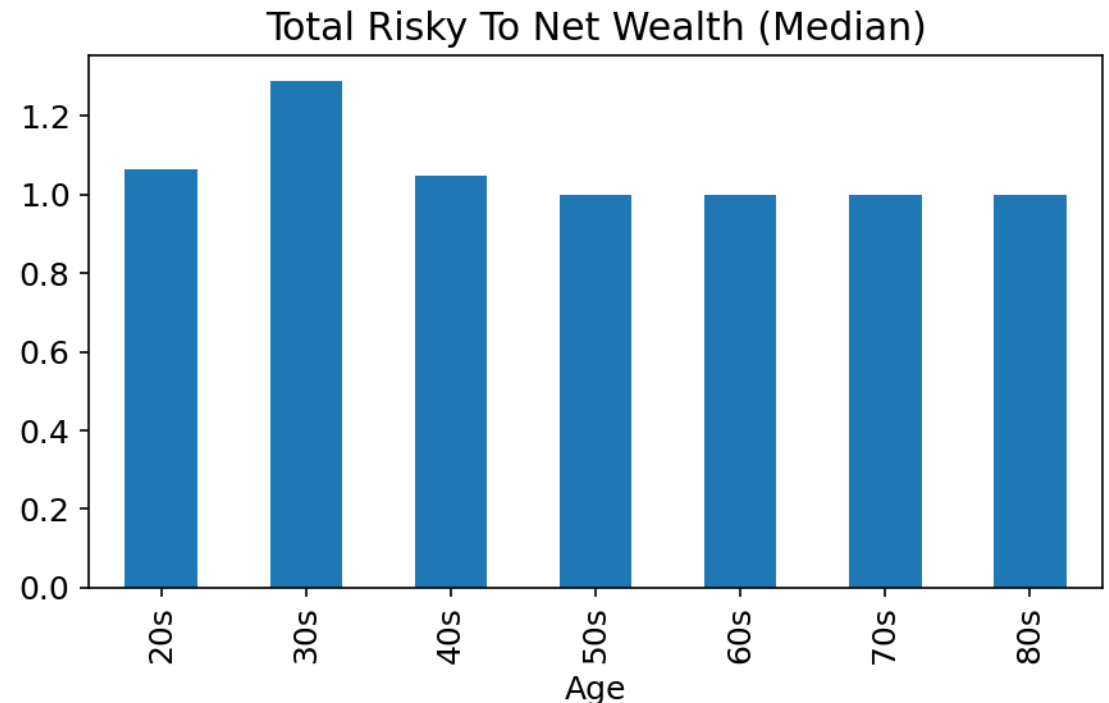
- Paper shows hump-shaped pattern of the equity share by age in the data (1995 – 2001 SCFs)
- Model is able to match this using its gradual adjustment technology
- Young households begin with zero equity share, only gradually adjust to optimal portfolio



# Risky portfolio share by age

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- Incorporating housing and private business wealth changes this picture
- The total risky share of household net wealth is basically flat
- The 20s, 30s groups that looked underinvested in equities hold largest risky asset shares



# Implications

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- When accounting for non-financial risky assets (esp. housing), I am not convinced that young and less wealthy households are underexposed
- Housing is a high-risk, high-return asset
  - Jorda et al (2019) measure real returns to housing from 1870 – 2015
  - Annual excess return on housing averaged **6.03%** over this period
  - Standard deviation of this object is **9.80%**
  - Compared to equity excess return mean of **5.85%** and volatility of **21.27%**
- Maybe households don't invest in equity because they already have enough risk in their portfolios (with a better Sharpe ratio!)
  - Portfolio of house levered 5 to 1 (standard 80% LTV) has huge risk + return

# Conclusion

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- Interesting paper with fantastic technical accomplishment
  - I completely believe the results for a world with only financial assets
- But is this really the world we live in?
  - Younger, less wealthy households are heavily invested in housing
  - Which has a risk-return tradeoff comparable to equity
  - Total risky portfolio shares appear decreasing in age and wealth
- My suggestion: account for this somehow in the model
  - Simple approach: model housing and private businesses as equities, or as combination of equity and safe asset
  - Whichever method, seems appropriate to get total risky share correct