Comments on: "Financial and Total Wealth Inequality with Declining Interest Rates" By Daniel Greenwald, Matteo Leombroni, Hanno Lustig, and Stijn Van Nieuwerburgh

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Contribution:

- Authors examine relationship between decline in interest rates and (financial but also human) wealth inequalities through differences in cash flow duration of assets owned across wealth distribution
 - Use asset distribution from SCF and asset specific duration of cash flow
- Answer two main questions (focusing on financial wealth in comments):
 - what share of the observed rise in financial wealth inequality can be accounted for by falling interest rates (revaluation chanel)?
 - A lot!
 - "the repriced distribution, displays a rise in the top-10% financial wealth share of 7.9pp between 1983 and 2019, explaining 95% of the observed 8.3pp rise in the data". (also 57% of rise in top-1% share, and 113% of the rise in the Gini coefficient)
 - What are the implications for inequality in the consumption possibilities that actually determine welfare?
 - Winners (older adults) and losers (younger adults) from falling rates (life-cycle dynamics play key role)
 - 8% drop in lifetime consumptions at birth for households born in the 200s due to the decline in rates (while HHs born in 1920-1940s benefited)

Estimating Household Financial Wealth Duration:

- Cash flow duration: sensitivity of an asset's value to changes in long-term interest rates.
 - A fall in rates will increase financial wealth inequality if household portfolio durations are increasing in wealth, for which a sufficient condition is that aggregate (value-weighted) duration in the economy exceeds average (equal-weighted) duration.
 - US data meet that condition.
- Use data from Survey of Consumer Finances to characterize households' portfolio allocations across asset classes. Then use asset pricing data to assign each asset class a cash flow duration at every point in time.
 - Quite challenging to determine for several of the asset classes (real estate, private business wealth (PBW))

Duration of Assets and Liabilities:

Table 2: Duration of the Household Financial Wealth Portfolio

	Duration	Portfolio Shares			
		All	Bottom 90	P90-P99	Top 1
Assets					
Equities	49.78	0.21	0.15	0.24	0.23
Real Estate	12.28	0.47	0.79	0.40	0.23
Corporate PBW	55.93	0.09	0.01	0.07	0.19
Non-Corporate PBW	16.33	0.12	0.05	0.11	0.20
Vehicles	3.41	0.04	0.09	0.02	0.01
Fixed Income	5.28	0.15	0.15	0.16	0.14
Cash and Deposits	0.25	0.08	0.10	0.08	0.05
Liabilities					
Mortgage Debt	4.81	0.13	0.29	0.08	0.02
Vehicle Debt	1.45	0.01	0.03	0.00	0.00
Student Debt	4.50	0.00	0.01	0.00	0.00
Other Debt	1.00	0.01	0.02	0.01	0.01

Low levels of debt due to value weighted?

Debt and Liabilities: Wealth-Weighted Portfolio Shares vs Median Portfolio Share



		All	Bottom 90
Liabilities			
Mortgage Debt	4.81	0.13	0.29
Vehicle Debt	1.45	0.01	0.03
Student Debt	4.50	0.00	0.01
Other Debt	1.00	0.01	0.02



Might mortgage debt duration vary across wealth distribution?

(g) Mortgage Debt



Estimating Asset Duration for Real Estate:

- "compute an asset's duration at each point in time using only its contemporaneous price-dividend ratio (P_t/Div_t)."
- rents as the asset's cash flows
 - Zillow data for price and from 2015 onwards.
 - Prior to 2015, compute the price-rent ratio by scaling its 2015 value using the proportional changes in FHFA HPI and the CPI shelter index.
- Yields an average duration of 12 years for real estate > 21 years using data from Jorda, Schularick, and Taylor (2017) (used in robustness), and 16 years using FAUS data and the VAR model
 - Would be curious to see Fig. 3 reproduced with alternative durations

	Equities			Real Estate		
	Baseline	S&P 500	JST	FAUS Corporate	Baseline	JST
	(1)	(2)	(3)	(4)	(5)	(6)
1980-2019	49.78	45.25	48.08	33.64	12.28	21.46
1980-1989 1990-1999 2000-2009 2010-2019	26.59 52.20 65.90 54.43	24.03 43.42 62.98 50.57	26.55 50.18 61.50 54.08	22.37 36.47 37.23 38.51	11.51 11.31 13.68 12.63	19.97 19.93 23.77 22.17

Table D1: Duration of Equities and Housing

Note: The table reports the duration for equities and real estate. Column (1) to (4) show the duration for equities calculated using data from (1) CRSP, (2) S&P 500, (3) Jordà-Schularick-Taylor Macrohistory Database (JST) and (4) FAUS. Column (5) to (6) report the duration for real estate using data from (5) Zillow and (6) Jordà-Schularick-Taylor Macrohistory Database (JST).

Estimating Asset Duration for Real Estate:

Specification	Top-10% FW	Top-1% FW	Gini FW			
Data (WID)	+8.3pp	+11.3pp	+0.054			
Baseline	+7.9pp	+6.4pp	+0.061			
Panel A. Robustness to Private Business Wealth						
1. Corporate PBW from IPO data	+8.0pp	+6.6pp	+0.061			
2. Corporate PBW from Pitchbook	+8.0pp	+6.7pp	+0.062			
3. Corporate PBW from SCF	+7.9pp	+6.4pp	+0.060			
4. All PBW from SCF	+12.3pp	+10.8pp	+0.093			
5. All PBW from equities	+10.1pp	+8.9pp	+0.078			
Panel B. Robustness to Housing Wealth						
6. Housing from JST	+6.8pp	+5.4pp	+0.050			
7. Excluding primary home	+8.7pp	+7.5pp	+0.069			

Table 4: Transition Experiment, Alternative Specifications

Portfolio of low-wealth households and older households have lower financial durations:

Figure 3: Financial Duration by Net Wealth Percentiles and by Age



Note: This left panel displays average duration by financial wealth bin in the model and data (source: SCF). The x-axis is measured in percentiles, which each tick representing the right edge of the bin, so that e.g., "5" corresponds to households with financial wealth percentile in the interval [0, 5]. Red crosses display model equivalents (see Section 4). This right panel displays a binscatter of average duration by age in the data, after controlling for the financial wealth bins displayed in Figure 3a, while the red line represents the least squares fit (source: SCF), using a regression that pools over households in all SCF waves of our sample (1983–2019) with each wave weighted equally.

Impact of level of leverage over life cycle

- How are higher debtors

 (younger/lower income HH) affected
 by a decline in rates in terms of
 wealth and consumption?
- Does decline in interest rate move debt-financed consumption (housing) earlier in life cycle or price effects dominate?
- Which younger households benefit from increase in rates?



(a) Wealth-Weighted Portfolio Shares

Beyond inequalities, implications for overall consumption/welfare?

"lower interest rates increase aggregate financial wealth by 208.4%"



Figure 5: Histograms, Repriced Financial Wealth Distribution

(a) Hist: Original vs. Repriced

(b) Binscatter: Original vs. Repriced

Note: The left panel plots the original wealth distribution in the steady state with high interest rates in blue and the repriced wealth distribution after the decline in interest rates in green. The right panel is a binscatter plot, where each dot represents 5% of the population, that maps the financial wealth in the high interest rate steady state, reported on the x-axis, to the repriced financial wealth after the rate change on the y-axis.

Summary

- Establish impactful new channel to rise in wealth inequality: decrease in real interest rate
 - Driven by positive covariance between financial wealth levels and the duration of financial wealth across households
- Model predictions match data very well and explain high share of increase in wealth inequalities over last 30 years
- Normative analysis makes clear welfare implications with older households benefitting while younger ones negatively impacted (loss of 8% in lifetime consumption)
- Tons of work to estimate duration for different asset types (clever approaches, different data sources,...). Lot of interesting details.
- Would be interested to get more details on asset vs liability implications, particularly for HH at lower point in wealth distribution

Table 1:	Expected	Real I	Returns	Decade	Averages
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Asset	1980s	2010s	Decline
Ten-year real bond yield	4.94%	0.63%	4.31%
Aggregate stock market	7.98%	2.00%	5.98%
Housing wealth	8.24%	4.89%	3.35%
Growth stocks	5.21%	3.53%	1.68%
Value stocks	18.50%	7.19%	11.31%
Infrastructure stocks	11.75%	2.35%	9.40%
Small stocks	3.57%	3.18%	0.39%

Note: The table reports model-implied real expected real returns and average them over the 40 quarters in the 1980s and the 40 quarters of the 2010s. The model that generates these statistics is detailed in Appendix A.

- What would happen in context of declining population
- Demographics. The economy is populated by a continuum of households. Households transition through a life cycle, where age j varies from 0 to J. Households survive from age j to age j+1 with probability φj, with φJ = 0. When a household dies, it is replaced by a newborn household (j = 0), which inherits its remaining assets as a bequest.