American Economic Association | Papers and Proceedings
Vol. 108 | May 2018

The Changing Face of Debt and Financial Fragility at Older Ages

By ANNAMARIA LUSARDI, OLIVIA S. MITCHELL AND NOEMI OGGERO*

* Lusardi: The George Washington University School of Business, 2201 G Street, NW Washington, DC 20052 (e-mail: alusardi@gwu.edu); Mitchell: The Wharton School of the University of Pennsylvania, 3620 Locust Walk, 3000 Steinberg Hall-Dietrich Hall, Philadelphia, PA 19104 (e-mail: mitchelo@wharton.upenn.edu); Oggero: University of Turin, Piazza Arbarello 8, 10122 Torino, Italy (e-mail: noemi.oggero@carloalberto.org). The authors thank Yong Yu for expert programming assistance and gratefully acknowledge financial support from the TIAA Institute and the Pension Research Council/Boettner Center at the Wharton School of the University of Pennsylvania. Opinions and conclusions expressed herein are solely those of the authors and do not represent the opinions or policy of the funders or any other institutions with which the authors are affiliated.

U.S. consumer credit and mortgage borrowing expanded rapidly prior to the 2008-9 financial crisis, allowing relatively unsophisticated consumers to decide how much they could afford to borrow. As a consequence, Americans today are more likely to enter retirement in debt than ever before, which poses some concerns. For one, higher debt levels make older households quite sensitive to rising interest rates. For another, retirees may need to devote a growing fraction of their incomes to servicing the rising debt.

Various explanations have been offered for the rapid increase in debt among the population at large, including the rise in house prices during the 2000's and the growth of easier mortgages (e.g., Dynan and Kohn, 2007; Mian and Sufi, 2011). Another is that technological change in the lending market induced risk-based pricing and made it easier for households to borrow (Edelberg, 2006; Dynan, 2009). Moreover, uninformative sales tactics have "shrouded" customers' understanding of financial contracts and boosted total amounts borrowed (e.g., Gabaix and Laibson, 2006).

Though this literature offers reasons for the overall rise in debt, much less is known about the consequences of higher debt for older Americans. To evaluate whether borrowing practices of people close to retirement make them increasingly financially vulnerable at older ages, we compare debt patterns for three cohorts of older persons age 56–61 in the Health and Retirement Study (HRS) and discuss the implications of our findings.

I. Evolution of Debt Across Cohorts

We evaluate assets and debt of people age 56-61 at three different points in time; the cohorts covered are the HRS baseline (born 1931–1941, surveyed in 1992), the War Babies (born 1942–1947, surveyed in 2004), and the Early Boomers (born 1948–1953, surveyed in 2010). The difference in time

periods allows us to examine how debt across the cohorts changed and how the financial crisis affected the amount of debt that people held as they neared retirement.

Panel A of Table 1 describes the evolution of indebtedness across the three cohorts of respondents age 56–61. The percentage of people nearing retirement with any debt rose from 64% for the HRS baseline group to 71% among Early Boomers. Moreover, the value of total debt held (in constant dollars) also grew sharply over time: compared to the reference group, median debt more than quadrupled for War Babies and roughly quintupled for Early Boomers (from $6,800 to $31,200 and $32,700 respectively). The distribution of debt holdings also changed across cohorts: for the baseline HRS group, those in the top quartile of the debt distribution (75th percentile) had around $51,000 in total debt, versus more than double that amount ($106,000) for the War Babies and almost triple ($146,800) for Early Boomers. Additionally, the top 10 percent of the debt distribution (90th percentile) reported total debt of over $272,000, more than double their age peers 18 years earlier. These results imply that these households will be very likely to face sizeable monthly debt repayments and carry debt well into retirement, particularly as interest rates begin to rise again. Moreover, when debt levels are higher, this implies that borrowers' ability to repay becomes progressively more sensitive to drops in income as well as interest rates hikes. And others have shown that given any particular shock, those with higher debt have a higher probability of defaulting (Cecchetti, Mohanty, and Zampolli, 2011).

[Insert Table 1 Here]

A key explanation behind the rise in debt across time is the increasing value of older people's residential mortgages. The second section of Panel A shows that housing debt more than tripled among Early Boomers compared to the baseline group for the top quartile of the mortgage distribution across the whole sample (not conditioned on having a mortgage). Moreover, there is also an eight percentage point rise in the share of people holding mortgage debt close to retirement, from 41% for the HRS baseline group to 49% for Early Boomers.

The third section of Panel A shows that liabilities besides housing debt also rose for these older cohorts over time. The mean value of other debt held was about $3,000 in the baseline group, but it grew to over $5,000 for the War Babies and almost $8,000 for the Early Boomers. Here too, the debt distribution became more skewed. Since non-housing debt includes non-collateralized debt which

charges high interest rates, this suggests that older Americans are increasingly likely to face high monthly payments to service their debt. Our concern regarding these trends is that debt and financial situation of people at older ages will deteriorate as short-term interest rates increase again from record low levels of late (Schmidt, 2013).

We next turn to explore debt to asset ratios, to assess older persons' financial situation as they near retirement. Panel B of Table 1 shows that it is not just the value of debt that increased over time, but also the size of debt relative to assets; accordingly, Americans age 56–61 today are much more leveraged than were their counterparts in the past. The first section of Panel B shows that the median total debt to asset ratio was small for the HRS baseline cohort (around 4%), while it rose to 11% for the War Babies and 15% for Early Boomers. Moreover, many Early Boomers have ratios over 50% and some even have debt worth as much as 90% of their total assets.

One reason for the observed rise in leverage is that people nearing retirement most recently have accumulated far more debt on their homes. The second section of Panel B shows that the median ratio of primary mortgage to home value rose, from 5% in the HRS baseline cohort, to 30% among Early Boomers. The top 10 percent of the distribution went from 63% to 92%. This implies that Early Boomers nearing retirement must continue servicing their mortgages well into retirement. Mortgage debt rose in part because more-recently surveyed cohorts purchased more expensive homes than did their predecessors. Our previous work documented the importance of housing in Baby Boomers' wealth holdings (Lusardi and Mitchell, 2007).

The final section of Panel B indicates that non-housing debt also rose as a percentage of liquid asset values. A much larger proportion of Early Boomer households held debt worth as much or more than their liquid assets; at the mean, the ratio rose tenfold. Again, this implies that a growing group of older Americans will need to borrow or sell off other (less) liquid assets, if they are to pay off their non-collateralized debt. Interestingly, an important fraction of respondents reported having liquid assets even while carrying debt. Since debt is likely to incur higher interest rates than liquid assets pay, some households are likely overlooking sensible ways to manage their balance sheets.

II. Financial Fragility Indicators

One of the most important decisions people make during retirement is how to decumulate

wealth, yet our results imply that aging Americans will also need to manage and pay off heavy debt burdens in retirement. This is made more difficult by the fact that older persons frequently move a portion or all of their wealth to fixed income assets. In addition, if future equity returns are lower than in the past (as many predict), it will be increasingly critical for older people to manage assets and liabilities wisely, and to pay off some of this higher-interest debt. These challenges are exacerbated by older persons' unwillingness to sell their homes, move to smaller homes, or engage in reverse mortgages (Hurd, 1990; Venti and Wise, 1990).

We have created four indicators of financial fragility to further assess older persons' prospects as they near retirement. In line with the debt to asset ratios examined above, we these indicators including (i) having a total debt to asset ratio greater than 0.5; (ii) having a primary residence loan to home value ratio above 0.5; and (iii) having an other debt to liquid asset ratio above 0.5. In addition, we look at respondents (iv) having total net worth lower than $25,000. The last threshold is useful as it is approximately half of median income, and it is could be thought of as the minimum one might need to weather a health shock or other costly financial emergency.

Using these indicators, we learn that financial fragility at older ages as measured by these indicators has risen over time. In particular, the percentage of respondents with debt to asset ratios over 0.5 (given they have positive assets) more than doubled among Early Boomers, compared to the HRS baseline (22% versus 9%). Interestingly, this trend had already started *prior to* the financial crisis, as the ratio of debt to assets among War Babies had risen to 15%. As noted earlier, a portion of the rise can be attributed to larger home mortgages; this also explains why the collapse of the housing market in 2007 exacerbated the role of mortgages and other loans in driving near-retirement debt.

We also learn that 16% of HRS baseline respondents approached retirement with loan to value ratios over 0.5 on their primary residences, versus one quarter (26%) of War Babies and more than a third (35%) of Early Boomers. Moreover, non-housing debt to asset ratios also rose rapidly: only about 16% of the HRS baseline group had other loan to liquid asset ratios greater than 0.5, versus 22% for the War Babies and 27% for the Early Boomers. As a result, more recent cohorts will need to dedicate some of their assets to pay off debt in retirement, or they will be more exposed to the negative consequences of interest rate hikes. Last, we trace changes in

the prevalence of very low wealth, defined here as having less than $25,000 in savings. This comparison shows that 15% of the HRS baseline and War Babies held such little wealth, while close to one-fourth (24%) of the Early Boomers are in this situation. Accordingly, Americans on the verge of retirement today are not only holding more debt but have less savings than before.[1]

III. Policy Relevance

It is useful to learn how and why indebtedness and financial vulnerability close to retirement has changed over time, so we can better understand the likely implications for retirement security and potentially, for the economy as a whole. We show that older Americans surveyed recently have taken on substantially more debt and face more financial insecurity as they near retirement, compared to their predecessors, mostly due to having purchased more expensive homes with smaller down payments. This larger stock of household debt among the older population can have important macroeconomic implications, in that older persons will be more sensitive to interest rate increases. Moreover, debt at older ages may become a factor in elder bankruptcy and retirement security.

Most theoretical models of household behavior to date have tended to focus on investment portfolios, but they have devoted little attention to debt patterns (e.g., Chai et al., 2011; Lusardi, Michaud, and Mitchell, 2017). The present research suggests that analysts and policymakers could do more to explore ways to enhance debt management practices as determinants of retirement security. Indeed, the fact that interest rates charged on debt are usually much higher than what people can earn on their savings is typically not taken into account in such work. Our paper thus motivates additional research on key aspects of debt and debt management at older ages, to inform both research and policy.

[1] In multivariate analysis not detailed here, we find that both the War Babies and Early Boomers were more likely to be in debt at ages 56–61 and financially vulnerable, versus the HRS baseline reference group, even after controlling for socio-demographic differences such as marital status, sex, number of children, race, education, income, and health. Early Boomers held significantly more debt and were more financially vulnerable for all three debt-to-asset measures.

REFERENCES

Cecchetti, Stephen G., Madhusudan Mohanty, and Fabrizio Zampolli. 2011. “The Real Effects of Debt.” BIS Working Papers 352.

Chai, Jingjing, Wolfram Horneff, Raimond Maurer, and Olivia S. Mitchell. 2011. “Optimal Portfolio Choice over the Life Cycle with Flexible Work, Endogenous Retirement, and Lifetime Payouts.” *Review of Finance* 15(4), 875-907.

Dynan, Karen E. 2009. "Changing Household Financial Opportunities and Economic Security." *Journal of Economic Perspectives* 23(4), 49-68.

Dynan, Karen E., and Donald L. Kohn. 2007. "The Rise in U.S. Household Indebtedness: Causes and Consequences." Federal Reserve Board Working Paper 37, Finance and Economics Discussion Series.

Edelberg, Wendy. 2006. "Risk Based Pricing of Interest Rates for Consumer Loans." *Journal of Monetary Economics* 53(8), 2283-2298.

Gabaix, Xavier, and David Laibson. 2006. "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets." *Quarterly Journal of Economics* 121(2), 505-540.

Hurd, Michael D. 1990. "Research on the Elderly: Economic Status, Retirement, Consumption, and Saving," *Journal of Economic Literature* 28(2), 565-637.

Lusardi, Annamaria, Pierre-Carl Michaud, and Olivia S. Mitchell. 2017. "Optimal Financial Literacy and Wealth Inequality." *Journal of Political Economy* 125 (2), 431-477.

Lusardi, Annamaria, and Olivia S. Mitchell. 2007. "Baby Boomer Retirement Security: The Roles of Planning, Financial Literacy and Housing Wealth." *Journal of Monetary Economics* 54(1), 205-224.

Mian, Atif, and Amir Sufi. 2011. "House Prices, Home Equity-Based Borrowing, and the US Household Leverage Crisis." *American Economic Review* 101(5), 2132-2156.

Schmidt, Sebastian. 2013. "Optimal Monetary and Fiscal Policy with a Zero Bound on Nominal Interest Rates." *Journal of Money, Credit, and Banking* 45(7), 1335-1350.

Venti, Steven F., and David A. Wise. 1990. "But They Don't Want to Reduce Housing Equity." In *Issues in the Economics of Aging*. Edited by David A. Wise, 13-32. Chicago: University of Chicago Press.

TABLE 1— DEBT AND DEBT RATIOS BY COHORT IN THE HEALTH AND RETIREMENT STUDY (HRS)

	Debt holders (percent)	p10	p25	p50	p75	p90	Mean
Panel A							
I. Total debt ($)							
HRS baseline	64.04	0	0	6,760	50,700	119,990	38,941
War Babies	69.76	0	0	31,250	106,250	212,500	74,473
Early Boomers	71.43	0	0	32,700	146,833	272,500	99,405
II. Value of mortgages ($; 1ry res.)							
HRS baseline	40.76	0	0	0	33,800	92,950	27,493
War Babies	49.00	0	0	0	87,500	181,250	56,398
Early Boomers	48.67	0	0	0	109,000	218,000	73,923
III. Value of other debt ($)							
HRS baseline	36.72	0	0	0	2,535	8,450	3,123
War Babies	39.17	0	0	0	4,750	17,500	5,467
Early Boomers	42.04	0	0	0	5,450	21,800	7,726
Panel B							
I. Total debt/Total assets							
HRS baseline	-	0	0	0.04	0.22	0.47	0.45
War Babies	-	0	0	0.11	0.34	0.61	2.26
Early Boomers	-	0	0	0.15	0.47	0.89	10.40
II. All 1ry res. loans/1ry res. value							
HRS baseline	-	0	0	0.05	0.36	0.63	0.21
War Babies	-	0	0	0.22	0.53	0.73	0.42
Early Boomers	-	0	0	0.30	0.67	0.92	0.40
III. Other debt/Liquid assets							
HRS baseline	-	0	0	0	0.12	1.60	4.86
War Babies	-	0	0	0	0.32	5.00	29.36
Early Boomers	-	0	0	0	0.75	11.00	50.38

Notes: The sample includes all individuals age 56–61 in the HRS cohorts indicated; data weighted. Total debt includes the value of mortgages and other loans on the household's primary residence, other mortgages, and other debt (including credit card debt, medical debt, etc.). Total assets include all checking and savings accounts, CDs, money market funds, T-bills, bonds/bond funds, stocks/stock market funds, IRAs, 401(k)'s and Keoghs, the value of primary residence and other real estate, vehicles, business equity, and other savings. Housing debt includes home mortgages and other home loans. Liquid assets are defined as the sum of checking and savings accounts, CDs, money market funds, T-bills, bonds/bond funds, and stocks/stock market funds. All monetary values in $2015. Ratios defined only for those who have a strictly positive value of assets.