Debt and Debt Management among Older Adults

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Abstract

Of particular interest in th e present economic environment is whether access to credit is changing peoples' indebtedness over tim e, particularly as they approach retirem ent. This project analyzes older indivi duals' debt, debt m anagement practices, and financial fragility using data from the Health and Retirem ent Study (HRS) and the National Financial Capability Study (NFCS). Specifica lly, we exam ine three different cohorts (individuals age 56–61) in different tim e periods, 1992, 2002 and 2008, in the HRS to evaluate cross-cohort changes in debt over tim e. We also draw on recent data from the National Financial Capability Study (NFCS) which provides detailed information on how families manage their debt. Our g oal is to assess how wealth and d ebt among older persons has evolved over tim e, along with the potential consequences for retirement security. We find that more recen t cohorts have taken on more debt and face more financial insecurity, mostly due to having pur chased more expensive homes with smaller down payments. In addition B oomers are m ore likely to have engaged in expensive borrowing practices. Protective factors include having higher incom e, more education, and greater financial literacy. Facto rs associated with financial fragility include having had more children and u nexpected large income declines. Thus shocks do play a role in the accumulation of debt close to retirem ent, but it is not enough to have resources: people also need the capacity to manage those resources, if they are to stay out of debt as they head into retirement.

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Introduction

Access to credit has becom e much easier and opportunities to bo rrow have expanded greatly. Yet recent research has sh own that ma ny individuals lack th e financial knowhow t o manage the complex new financial products increasingly available in the financial marketplace.[1] How people borrow and m anage debt has becom e of concern, given the evidence on overindebtedness documented in som e recent papers.[2] As a consequence, som e have suggested that older persons today are m uch more likely to enter retirem ent age in debt com pared to decades past. Our goals in the present paper ar e to evaluate em pirically what factors are associated with older individuals' debt and de bt management practices, and whether (and how) these patterns have changed signi ficantly over time. Accordingly, we evaluate older individuals' debt patterns using the Health and Retir ement Study (HRS) and the National Financial Capability Study (NFCS). Using the 2009 a nd 2012 National Financial Capability S tudy (NFCS), we explore detailed information on how families manage their debt. Using the HRS, we also compare three different cohorts of people on the verge of retirem ent (age 56-61) at three different time periods: 1992, 2002 and 2008. We draw conclusions about the determ inants of debt then assess how debt am ong older pers ons has evolved, and we discuss the poten tial consequences of our findings regarding indebtedness on the verge of retirement.[3]

Our focus on debt is important for several reas ons. First, debt genera lly rises at interest rates higher than those which can be earned generally on assets. For this reason, debt management is critical for thos e seeking to m anage their retirement assets. Second, not only do families have greater op portunities to borrow to buy a home and acces s home equity lines of credit, but also th ey need lower do wn payments needed to buy a home. Addition ally, as sub-prime mortgages proliferated, credit became increasingly accessible to consum ers with low credit scores, little income, and few assets. Consum er credit, such as credit card borrowing, has also become more accessible, and this typ e of unsecured borrowing has increased over tim e (Mottola 2013). Third, in m any states, alternative financial services have proliferated including payday loans, pawn shops, auto title loans, tax refund loans, and rent-to-own shops (Lusardi and de Bassa, 2013). Fou rth, a focus on debt m ay help to iden tify financially fragile families who

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[1] See for instance Lusardi and Mitchell (2007, 2008, 2011a, b, c, forthcoming) and Lusardi, Mitchell, and Curto, 2012)
[2] Lusardi and Tufano (2009a,b), Lusardi and De Bassa Scheresberg, (2013), and the review by Lusardi and Mitchell (2013).
[3] Our prior work examined saving and asset building among those 50+ (Lusardi and Mitchell, 2007, 2011a).

may be sensitive to shocks and not be able to afford a comfortable retirement. Last, the recent financial and economic crisis was largely driven by borrowing behavior, so understanding debt may be informative to help avoid a repeat of past errors.

Prior Literature

Many have expressed concern that Americans approaching retirement face worrisome levels of debt.[4] Data show that people do carry debt until late in the life cycle: over half (55%) of the American population age 55–64 carries a home mortgage, and about the same fraction (50%) has credit card debt (Bucks et al., 2009). Moreover, among people age 65–74, almost half had mortgages or other loans on their primary residences, over a third held credit card debt, a quarter had installment loans; in this age group, two-thirds held some form of debt. Furthermore, managing debt and other financial matters is problematic for many in the older population (FINRA, 2006, 2007). For instance, research has revealed a U-shaped age pattern of quality of financial decision-making regarding 10 financial areas including credit card balance transfers; home equity loans and lines of credit; auto loans; credit card interest rates; mortgages; small-business credit cards; credit card late-payment fees; credit card over-limit fees; and credit card cash-advance fees (Agarwal et al. 2009). Fees and interest paid are lowest in the early 50s and rise thereafter; moreover, older individuals pay some of the highest costs for these services.

Of late, there has also been an increase in the proportion of older Americans filing for bankruptcy. Pottow (2012) concluded that the age 65+ demographic is the fastest-growing in terms of bankruptcy filings, which were 2% in 1991 and rose to more than three times that rate by 2007. Credit card interest and fees were the most-cited reason for bankruptcy filings by such older people, with two-thirds of them providing these reasons. Evidence from the 2009 National Financial Capability Study and the TNS Debt Survey showed that people age 55+ hold widespread credit card debt and pay a great deal in fees for late payments and exceeding the credit limits – when they should be at the peak of their wealth accumulation process (Lusardi, 2011; Lusardi and Tufano, 2009a,b).

Moreover, these studies also detected a link between debt management and financial literacy; with those least financially literate incurring high fees and using high-cost borrowing. The least financially knowledgeable also report that their debt loads were excessive and they

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[4] For a few recent examples see AARP (2013), Cho (2012), Copeland (2013), Pham (2011), and Securian (2013).

were often unable to judge thei r debt positions (Lusardi and Tufano, 2009a). This group is also more likely to borrow from their 401(k) and pension accounts (Lu et al. 2010, Utkus and Young, 2011) and use high-cost methods of borrowing such as payday loans (Lusardi, 2010).

In what follows, we contribute to the literature with two sets of empirical analyses. First, using the HRS, we compare three different cohorts of people on the verge of retirement (age 56-61) at three different time periods: 1992, 2002 and 2008. Second, we examine older individuals' debt patterns using the 2009 and 2012 National Financial Capability Study (NFCS), focusing on how older households manage their debt.

Evidence from the Health and Retirement Study

The HRS is a unique dataset with both longitudinal/panel and cross-cohort features which offers insight into how debt has evolved ove r time among older Americans. Specifically, it reports asset and debt information for three cohorts on the verge of retirement: those interviewed in the 1992 *Baseline* HRS, those in the 2002 *War Baby* group, and the 2008 *Early Boomers*.[5] For each cohort we have comparable data on assets and debt. The difference in time periods allows us to examine how the onset of the financial crisis has affected the am ount of debt that persons age 56-61 are holding as they near retirement.

Cross-Sectional Results

Table 1 describes the evolution of total debt across three cohorts.[6] Total debt is measured in the HRS as the value of m ortgages and ot her loans on the household's prim ary residence, other mortgages, and other debt (including credit card debt, medical debt, etc.). The percentage of people age 56-61 arriving on the verge of retirement with debt rose from 64% in 1992, to 71% by 2008. Additionally, the value of debt rose s harply over tim e. While the m edian amount of debt in 1992 was about $6,200, m edian debt more than tripled by 2002 and quadrupled by 2008 (respectively $19,100 and $28,300, all in $2012). W e also see that the debt distribution appears

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[5] The Baseline HRS cohort was born 1931 to 1941; the War Baby group was born 1942 to 1947; and the Early Boomer group was born 1948 to 1953. For brevity, we sometiomes refer to these three groups below as the 1992, 2002, and 2008 cohorts, respectively and we focus on those who are age 56-61 year. We also note that the survey included different numbers of respondents per cohort, since the 1992 HRS survey was substantially larger than the subsequent groups. Results reported below use unweighted data. All values are expressed in 2012 dollars.

[6] The analysis attributes household assets and debt to each age-eligible individual in the HRS sample. This in effect implies that all household assets and liabilities influence married and single respondents when they make economic decisions. An alternative approach might seek to allocate assets and liabilities between members of a couple, but this would not affect the debt ratios examined below.

to have changed across cohorts. The top quartile of the debt distribution held around $50,000 in debt in 1992, while in the two later cohorts, th is same quartile of the population held $100,000 and $117,300 respectively. Addition ally, by 2008, the top 10 percent of the debt distribu tion reported debt of over $259,000. Depending on the inte rest rate charged on this debt, these families would be very likely to feel the bu rden of sizeable monthly debt repaym ents, and to carry debt into retirement.

Table 1 here

One factor driving the increase in debt for more recent groups is that the value of primary residence mortgages is much higher for m ore recent cohorts. As indicated in the second panel of Table 1, the percentage of near-r etirement individuals in th is age bracket having m ortgage debt has risen by over seven percentage points, from 41% in 1992 to 48% by 2008. Mortgage debt amounts have risen as well. For in stance, looking at the third qu artile of the m ortgage debt distribution in the whole sam ple (unconditional on having a m ortgage), we see that m ortgage debt tripled from 1992 to 2008. Over the sam e period, the third panel shows that the percentage of respondents with loans on thei r primary residence grew from 10% to 16%, an increase of 60%, and here too, the mortgage values rose. Other mortgages (e.g., on secondary residences) also became more prevalent, though relatively few (3-5%) held this form of debt, as is shown in the fourth panel.

The fifth panel of Table 1 indi cates that other debt for older individuals on the verge of retirement also rose across cohorts, from 37% for the earliest group to 44% for the m ost recent cohort. The distributions also became more skewed over time. For instance, in the distribution of other debt, the 90th decile held about $8,000 in 1992, while the sam e decile held over $21,300 in debt by 2008. Because this category includes non-collateralized debt, which tends to charge high interest rates, our findings im ply that older A mericans are increasing ly likely to have high monthly payments to service their debt. [7] A potential concern regardi ng individual indebtedness trends is wh at will happen to debt a nd the financial situation of older individua ls and families when short-term interest rates start to increase, in response to changes in the national policy of zero or very low short-term interest rates.

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[7] For example, it takes a monthly payment of $547 to pay off a debt of $21,000 charging an annual percentage rate (APR) of 20% in five years.

Additional insight into older a dults' financial situations by reporting ratios of debt to assets appears in Table 2. Here the total as sets measure includes all checking and savings accounts, CDs, money market funds, T-bills, bonds/bond funds, stocks/stock m arket funds, IRAs, 401(k)s/and Keoghs, the value of prim ary residence and other real estate, vehicles, business equity, and other savings. [8] We also consider the ratio of housing debt (including hom e mortgages and other hom e loans) to the value of the house. And last we consider the ratio of other debt to the value of liqui d assets defined as the sum of checking and savings accounts, CDs, money market funds, T-bi lls, bonds/ bond funds, and stocks /stock market funds. These ratios allow us to ev aluate older adults' leverage ratios, and to assess how much of their hom e loans they have paid off alrea dy. This, in turn, allows us to exam ine whether or not people will enter retirement having to make monthly mortgage payments.

Table 2 here

Comparing Table 2 with Table 1, we see that it is not ju st the *value* of debt that has increased over time, but the *proportion* of debt to assets as well. Thus older Americans are much more leveraged on the verge of retirement in the recent past, than back in 1992. For example, the first panel of Table 2 shows that the median value of total debt over total assets was rather small in 1992, i.e., only about 0.05, but this ratio increased to 0.08 in 2002 and 0.15 in 2012. [9] Moreover, a sizable fraction of th e 2008 cohort had ratios over 0.5 and some held debt worth as much as 0.8 times total assets.

One of the reasons for the increase in leverage is that peopl e nearing retirem ent accumulated more residual debt on their ho mes over time. Fewer than half of the older individuals had a m ortgage, but the ratio of th at mortgage along with other home loans to the home value rose over tim e. The second panel of Table 2 shows that th e most recent cohort nearing retirement had a much larger ratio of mo rtgages/home loans to pay off: at the m edian, the value rose from 0.06 to 0.25. This means that the most recent cohort must continue to service their mortgages and other home loans well into retirement.

The third panel shows that one reason why m ortgage debt ro se was that recent cohorts purchased more expensive homes than their predecessors. As the table shows, the value of homes owned by older individuals rose from 1992 to 2008; it remained high, even with the collapse of

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[8] Wealth values are winsorized at the top and bottom 0.5%.
[9] Ratios are defined only for those who have a strictly positive value of total assets.

the housing market in 2007 cutting home values in some states by half. The trend to buying more expensive homes also meant that the percentage of total assets accounted for by the home was larger for more recent cohorts. Thus at the median of the debt ratio distribution, the 1992 cohort held about 46% of their total assets in their primary residences, but the Boomers held 56% in their homes.

Non-mortgage debt also increased as a percentage of liquid asset values. Note that Table 2 reports these ratios conditional on the responding having strictly positive liquid assets. A much higher proportion of families in the more recent cohorts had debt equal to or higher than liquid assets. Thus people will need to continue to borrow or sell off other (less) liquid assets to pay off their non-collateralized debt. It is also noteworthy that a proportion of families had liquid assets even while carrying debt. Since debt is likely to incur higher interest rates than bank accounts, some families may be overlooking opportunities to better manage their balance sheets.

Next we turn to several *financial fragility indicators,* which reveal whether individuals on the verge of retirement have little net worth or are holding a large ratio of debt to total wealth. [10] Older adults close to retirement would be anticipated to be at or near at the peak of their wealth accumulation process, and one important decision after retirement is how to decumulate wealth. As noted above, however, recent cohorts will also need to manage and pay off debt during retirement. This is made more difficult by the fact that older persons often move some of their assets to fixed income assets. In addition, if equity returns are lower over the next 20 years than in the past (as many predict), it will be important for current older cohorts to manage assets and liabilities wisely and pay off some of their higher-interest debt first. Accordingly, it appears that the more recent cohorts must ensure that their income and asset drawdowns suffice to cover not just their target consumption streams, but also to service their mortgage and other debt during retirement. We note that there may be little flexibility in adjusting mortgage payments, apart from selling the home, moving to a smaller home, or engaging in reverse mortgages, which many older cohorts in the past seemed unwilling to do, at least until late in the life cycle (Venti and Wise, 1990, 1991; Hurd, 1990).

Table 3 suggests that the prevalence of financially fragility has risen over time. While fewer than 10% of the earlier cohort neared retirement with large debt to asset ratios (>0.5), by

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[10] The present analysis excludes pension and Social Security wealth. While these are important components of total wealth, in these cohorts, most still have defined benefit plans which often prohibit taking a lump sum.

2008 over one-fifth (22%) of them did so, as shown in the first panel. [11] Moreover, this pattern was in place prior to th e financial crisis, since the ratio of debt to assets was already higher in 2002 (16%) than in 1992. As noted earlier, part of th e increase in debt can be attributed to the rise in home mortgages, and the fact that recent cohorts approached retirement with much higher ratios of mortgage debt to home values. In turn this is because recen t cohorts purchased m ore expensive homes than their earlier peers, whic h helps explain why the collapse of the housing market starting in 2007 exacerbated the ratio of mortgages and other loans compared to the value of the house. The second panel shows that alm ost 30% of the 2008 cohort had loan/value ratios on their primary residences over 0.5, whereas only 17% did in th e first wave. The third panel indicates that non-m ortgage debt to asset ratios also grew over tim e, at about the sam e rate. Accordingly, Boomers are likely to need to dedicat e some of their liquid wealth to pay off debt in retirement, and hence this recent cohort is more exposed to the negative consequences of interest rate increases than previous cohorts.

Table 3 here

The last panel in Table 3 focuses on change in the prevalence of very low wealth, defined here as $25,000. We focus on that cutoff as it is about half median household income, not a very high level in the event of an old-age shock to health or some other unpleasant surprise. Results show that som e 18% had very low net worth acco rding to this defin ition in the 1 992 cohort, whereas almost one-quarter of the 2008 cohort was in this state. For this reason, we conclude that the financial crisis both eroded savings and boosted older persons' debt share over tim e, likely prejudicing retirement security in the future.

Multivariate Analysis

To further examine the factors associated with financial fragility among older Americans, Table 4 su mmarizes results from a m ultivariate regression analysis on the f our outcomes just discussed overall, and by marital status. That is, Panel A sho ws for the full sample which factors are associated with having (a) a total debt/asset ratio of m ore than 0.5, (b) a ratio of prim ary residence loans to home value of over 0.5; (c) othe r debt/liquid asset ratio over 0.5; and (d) total net worth under $25,000. Panel B focuses only on t hose married/living with a partner at the tim e of the survey, and Panel C includes only the nonmarried subset.

Table 4 here

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[11]These values refer to only those with strictly positive assets.

Several interesting findings obtain in the overa ll group (Panel A). First, we see that the cohort indicators are positiv e for all four dependent variables. Moreo ver, the Early Boom ers group (2008 cohort) was significantly more financially fragile than the reference group (the 1992 cohort); and for three of the four outcom es, the War Babies group (1998 cohort) was also significantly more fragile than th e reference group. In other word s, the directional conclusions from tabulations in Tables 1-3 are confirm ed after including controls for potential differences in socio-demographic factors (these include age, marital status, sex, number of children ever born, race, education, incom e, and whether in poo r health). The magnitudes of the cross-cohort differences also conf orm relatively well to t hose reported in the earlier tabulations, an unsurprising result in view of the relatively low R-squares in the multivariate analysis.

Another point worth noting is that som e socio-demographic factors are significantly associated with financial fragility. For ins tance, being married, White, b etter educated, and having higher incom e, rendered respondents much le ss likely to be financially fragile. Factors significantly associated with greater fragility include having had more children and being in poor health.

Panels B and C have a sim ilar story to tell , in that both single and partnered Boom ers were significantly m ore fragile than their c ounterparts in the 1992 Baseline HRS cohort. Thus coupled respondents in the Boom er cohort were more vulnerable than prior m arried cohorts, while singles were also at greate r risk (though s lightly less so). A dditionally, it is o f interest to examine associations with specific correlates. For instance, poor health was a strong predictor of high debt ratios for the full sam ple in Panel A (i n particular, non-mortgage debt ratios) and low wealth holdings close to retirem ent, perhaps because of m edical debt. This association was quantitatively more important for singles than for couples, as can be gleaned from a comparison of Panels B and C. Si milarly, singles were rela tively better protected when they had higher income compared to those with partners. T he protective role of educ ation is also worth highlighting: compared to high school dropouts, singles having co llege degrees were m arkedly wealthier and less likely to have high levels of debt.

Evidence from the National Financial Capability Study

Next we turn to an analysis of two waves of the NFCS, as this da ta source complements our findings in th e HRS in two way s: it offers mo re recent data and also it contains additional

detail about debt and debt m anagement unavailable in other surveys. [12] The 2009 wave can readily be aligned with the 2008 wave of the HR S respondents in the sam e age bracket to show that the two data sources yield the sam e conclusions. The 2012 wave provides m ore recent data along with additional questions on debt and debt management post-financial crisis.[13]

Comparing respondents 57–62 year old in 200 9 with the 2008 HRS cohort (results not detailed here) confirms that statistics are rather similar across years. For example, similar to the 2008 HRS cohort, m ore than half of NCFS re spondents who own their hom e get close t o retirement with m ortgages.[14] The NFCS data also show that down paym ents have been decreasing over tim e and that those who rece ntly bought hom es had put down only 5 or 10 percent. Even though it does not report debt values, the NFCS shows that many older respondents pay the minimum only on their credit cards and that a sizeable proportion have made use of high-cost methods of borrowing, such as payday loans, pawn shops, etc.[15]

Next we report inform ation from the 2012 NCFS wave, exam ining respondents who are age 56–61. We do so to focus on the m ost recent cohort of persons on the verge of retirement as above, but now a few years after the collapse of the housing m arket and the financial crisis (Table 5).

Table 5 here

Once again, we see that mortgage debt and other debt proved problematic for a relatively large subset of the near-retirem ent respondents. Some 8% overall reported being underwater, owing more on their homes than they thought they could sell them for (17% of the homeowners). As far as non-mortgage debt is concerned, many respondents said they did not pay off credit card balances in full (if they had th em), and th ey engaged in m any expensive behaviors such as paying only the minimum due or using the card for cash advances. They were also charged fees for late pay ment or ex ceeding the lim its. This picture reiterates th e point that m any older Americans are expo sed to illiqui dity and/or problem s in debt management. Turning to other indicators, 7% of those who had retirem ent accounts had borrowed on them, and 6% had taken a hardship withdrawal. Moreover, 23% reported having unpaid medical bills, and in the five years

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[12]For more on the NFCS, see Lusardi (2011) and FINRA Investor Education Foundation (2009).

[13] Nevertheless, this survey did not report specific debt levels.

[14] According to the HRS data, 58% percent of respondents with a home (defined as having a positive home value) had a mortgage on their primary residence in 2008. The NFCS reports a similar percentage (60.5) among respondents age 55 to 64.

[15] For brevity, these statistics are not reported but available upon request.

prior to the survey, over a fifth of the age 56-   61 group reported having engaged in high-cost borrowing using alternative financ ial services (such as rent-to- own stores, pawn shops, payday loans, auto title loans, and tax refund loans). When asked to ev aluate their debt (on a scale from 1 to 7), about 40% indicated they had too much debt (having values of 5, 6, or 7).

A different way to evaluate household financial fragility probes how people judge their ability to deal with a financial shock.[16] Specifically, the NFCS question asked respondents how confident they were that they could come up with $2,000, if an unexpected need arose in the next month. Possible answers included certain to/probably could/proba bly could not/certainly could not access this am ount if needed. The $2,000 amount was selected to represent a m edium-sized shock such as having a car o r house repair, o r an out-of-pocket medical bill. Table 5 indicates that about 36% of the age 56-61 respondents stat   ed they probably could not/were certain they could not com e up with this am ount in the tim e indicated. Despite the fact that one m   ight expected this age group to be at the peak of its wealth accumulation, in fact many had little or no ability to shield themselves against shocks.

Multivariate Regression Analysis

Finally we explore the 2012 NFCS in m   ore detail using a m ultivariate analysis of alternative indicators of debt and financial   fragility. As m entioned above, respondents were asked if they thought they had too much debt (t he indicator goes from 1 to 7 for the question 'I have too m uch debt right now', where 1 m eans strongly disagree and 7 strongly agree) and we use this variable as a proxy of problem s with de bt (in place of the ratios we used in the HRS)   . We also use an indicator equal to 1 for those wh o could not (probably or certainly) come up with $2,000 in an em ergency, within a m onth. We e xplore these indicators using all the socio-demographics used pre viously to exam ine the HRS data. In addition   , we add a control f   or whether respondents experienced a large and unexp ected drop in incom e in the previous year. Moreover, the NFCS i ncluded a set of questi   ons on financial literacy which provides an assessment of respondents' basic financial literacy (with 5 questions on numeracy, knowledge of inflation, risk diversification, and the workings of m ortgages and basic asse t pricing; Lusardi, 2011).

Results appear in Ta ble 6 where Panel A repor ts our estimates of the factors associated with self-assessed debt, and Pane l B focuses on financial fragility. Two specifications appear in

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[16] This approach was piloted by Lusardi, Schneider, and Tufano (2011).

each panel, where the first one controls on soci o-demographics and income shocks, while th e second also incorporates a financ ial literacy index (def ined as the num ber of correct answers to the five financial literacy questions). In both co lumns, results show that older and higher income persons were systematically less likely to report being in debt, whereas having had more children was strongly associated with repo rting excessive debt. Those who ex perienced a larg e and unexpected drop in incom e during the previous year also agreed they were over-indebted, suggesting that shocks do play a role in the accum ulation of debt close to retirement. Results in the second column are similar, with the additional finding that the more financially literate were less likely to report they had excessive debt. Accordingly, we conclude that shocks do play a role in the accumulation of debt close to retirem ent, but it is not enough to have resources: people also need the capacity to manage those resources, if they are to stay out of debt as they head into retirement.

Table 6 here

Next we explore the factors associated with whether people said they could come up with $2,000 in 30 days, with estim ates reported in P anel B. As in the HRS results on the chances of holding low wealth (less than $25,000 which is roughly the monthly value of $2,000 m ultiplied by 12), here we see that being m ale and/or White, having higher incom e, and being better educated, are all p rotective factors. Financial literacy also plays a protective role: being able to answer one additional financia l literacy question correctly was associated with a lower probability (by 3 percentage points) of being financially fragile. Also having more children and having had an income shock made these respondents more likely to report they were financially fragile. According to our estim ates, those who experienced such shocks were 12 percentage points more likely to be financially fragile.

Implications and Policy Relevance

Prior to the recent financial crisis and Gr eat Recession, consumer credit and m ortgage borrowing expanded rapidly, leaving relatively uns ophisticated consumers in the historically unusual position of being ab le to decide how much they coul d afford to borrow. Whether and how cohorts on the verge of retire ment appear to have changed th eir debt levels and financial fragility is important for understanding near-term consequences, for instance as a factor spurring bankruptcy, and in the long run, determining lifetime wealth sufficiency and retirement security.

Our paper analyzed older individuals' debt and debt management practices using data from the Health and R etirement Study (HRS) and the National Financial Capability Study (NFCS). Specifically, we examine three different cohorts of persons age 56–61 surveyed by the HRS, at three different tim e points, na mely 1992, 2002 and 2008. Our analysis provides an evaluation of cross-cohort changes in debt over time. We also offer det ail on financial fragility using the recent Natio nal Financial Capability Study (N FCS), showing how older persons manage their debt on the verge of retirement. Our goal was to assess how wealth and debt among older persons has evolved over tim e, along with the potential conseque nces for retirem ent security. Results indicate that m ore recent coh orts have, indeed, taken on m ore debt and face more financial insecurity, m ostly due to having purchased more expensive hom es with sm aller down payments. In addition, Boom ers are more likely to have engaged in the use of expensive alternative financial services. Factors reducing exposure to debt include having higher incom e, more education, and greater financial literacy. F actors associated with great er financial fragility include having had m ore children, poor health, and unexpected large income declines. Thus shocks do play a role in the accumulation of debt close to retirement, but it is not enough to have resources: people also need the capacity to manage those resources, if they are to stay out of debt as they head into retirement.

It is interesting that most theoretical models of household portfolios have tended to focus on household portfolio patterns wit hout devoting much attention to debt patterns (e.g., Lusardi, Michaud, and Mitchell, 2011; Delav ande, Rohwedder, and W illis, 2008; Chai et al. 2012). The present research indicates that an alysts and policymakers in the future may be interes ted in formulations that incorporate debt and debt management practices into the factors driving retirement security. The fact that th ere is ofte n a wedge between interest rates charged on debt versus returns that people can earn on their saving is generally not taken into account. Moreover extant models tend to overlook the fact that interest rates charged to individuals are not fixed but can be shaped by peoples' behavior. Our paper thus motivates additional research on key aspects of debt and debt management for future policy analysis.

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Table 1. Levels and Distribution of Cohort Total Debt and Debt Components in the Health and Retirement Study (HRS)

	% debt owners in total sample	p10	p25	p50	p75	p90	Mean	N
1. Total debt								
HRS	63.79%	0 0		6,218	49,091	106,363	37,514	4,675
War Babies	67.57%	0 0		19,147	99,565	191,470	66,228	1,178
Baby Boomers	71.42%	0	0	28,259	117,301	259,130	87,835	1,627
2. Value of all mortgages/land contracts (1ry residence)								
HRS	40.47%	0 0		0	31,091	81,818	26,196	4,675
War Babies	47.20%	0 0		0	74,035	165,941	52,766	1,178
Baby Boomers	47.82%	0 0		0	94,908	207,944	66,326	1,627
3. Value of other home loans (1ry residence)								
HRS	9.97%	0 0		0	0	0	4,365	4,675
War Babies	11.97%	0 0		0	0	10,212	4,674	1,178
Baby Boomers	15.98%	0 0		0	0	19,195	7,924	1,627
4. Value of all mortgages/land contracts (2ndry residence)								
HRS	5.73%	0 0		0	0	0	3,318	4,675
War Babies	3.23%	0 0		0	0	0	3,430	1,178
Baby Boomers	4.00%	0 0		0	0	0	5,220	1,627
5. Value of other debt								
HRS	36.94%	0 0		0	2,291	8,182	3,634	4,675
War Babies	37.01%	0 0		0	3,829	15,318	5,358	1,178
Baby Boomers	44.44%	0 0		0	5,332	21,328	8,364	1,627

Note: The sample includes all age-elig ible individuals age 56-61 in the cohort indicated. HRS cohort observed in 1992; War B abies observed in 2002; Baby Boomers observed in 2010. Total debt includes the value o f mortgages and other l oans on the household's primary residence, other mortgages, and other debt (including credit card debt, medical debt, etc.). All dollar values in $2012. Percentiles indicated in percentiles. Data unweighted.

Table 2. Levels and Distribution of Cohort Total Debt Ratios and Debt Ratio Components in the HRS

	p10	p25	p50	p75	p90	Mean	N
1. Total debt/Total assets							
HRS	0	0	0.05	0	0	1	4,437
War Babies	0	0	0.08	0	1	1	1,147
Baby Boomers	0	0	0.15	0	1	4	1,557
2. All 1ry res. loans/1ry res. value							
HRS	0	0	0.06	0.37	1	0	3,771
War Babies	0	0	0.17	0.53	1	3	983
Baby Boomers	0	0	0.25	0.58	1	0	1,268
3. Value of 1ry residence/Total assets							
HRS	0	0.19	0.46	0.75	0.92	0	4,437
War Babies	0	0.24	0.51	0.78	0.93	1	1,147
Baby Boomers	0	0.23	0.56	0.84	0.94	1	1,557
4. Value of 1ry residence							
HRS	49,091	81,818	130,909	212,726	327,271	167,468	3,771
War Babies	57,441	102,117	178,706	306,352	478,676	244,324	983
Baby Boomers	63,983	117,301	213,275	351,904	533,189	292,630	1,268
5. Other debt/Liquid assets							
HRS	0	0	0	0.16	2	6	3,853
War Babies	0	0	0	0.22	4	14	1,047
Baby Boomers	0	0	0	1	10	46	1,341

Note: 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 See also Table 1.

Table 3. Levels of Cohort Total Debt/Asset Ratios, and Debt Component/Asset Ratios in the HRS

	%	N
1. *Total debt/Total assets > 0.5*		
HRS	9.56%	4,437
War Babies	15.95%	1,147
Baby Boomers	22.86%	1,557
2. *All 1ry Res Loans/1ry Res. Value >0.5*		
HRS	17.02%	3,771
War Babies	26.35%	983
Baby Boomers	29.34%	1,268
3. *Other debt/Liquid assets >0.5*		
HRS	17.54%	3,853
War Babies	21.39%	1,047
Baby Boomers	28.78%	1,341
4. *Respondents with less than $25,000 in savings*		
HRS	18.03%	4,675
War Babies	16.38%	1,178
Baby Boomers	24.28%	1,627

Note: See Tables 1 and 2.

Table 4. Multivariate Analysis of the Factors Associated with Financial Fragility in the HRS

A. Full Sample

	Total debt/Total	1ry residence ratio > 0.50	Other debt/Liquid assets > 0.50	Total net wealth < $25,000
War babies	0.068 ***	0.074 ***	0.053 ***	0.013
	(0.013)	(0.018)	(0.016)	(0.012)
Early boomers	0.132 ***	0.101 ***	0.127 ***	0.071 ***
	(0.014)	(0.017)	(0.017)	(0.012)
Married	-0.04 ***	-0.038 **	-0.04 ***	-0.214 ***
	(0.011)	(0.015)	(0.014)	(0.012)
Male	0.011	0.034 ***	0.01	0.006
	(0.007)	(0.009)	(0.008)	(0.007)
Childnum	0.004 *	0.014 ***	0.016 ***	0.011 ***
	(0.002)	(0.003)	(0.003)	(0.002)
White	-0.041 ***	-0.032 **	-0.082 ***	-0.13 ***
	(0.012)	(0.016)	(0.017)	(0.013)
Education_hs	-0.02 *	0.012	-0.012	-0.126 ***
	(0.011)	(0.014)	(0.014)	(0.012)
Education_smcl	-0.021	0.022	-0.038 **	-0.158 ***
	(0.015)	(0.018)	(0.018)	(0.014)
Education_gtcl	-0.036 **	0.035	-0.056 ***	-0.158 ***
	(0.017)	(0.023)	(0.020)	(0.015)
Hitot	-0.001 **	0.004 ***	-0.003 ***	-0.004 ***
	(0.001)	(0.001)	(0.001)	(0.001)
Poorhealth	0.051 ***	-0.005	0.083 ***	0.153 ***
	(0.011)	(0.014)	(0.015)	(0.012)
Constant	0.43 ***	0.793 ***	0.592 ***	1.025 ***
	(0.146)	(0.200)	(0.187)	(0.147)
N	7,141	6,022	6,241	7,480
R2	0.045	0.034	0.053	0.254

Notes: Coefficient estimates from OLS regression, standard errors in parentheses. Data unweighted. See Table 3 for dependent variable definitions. Explanatory variables include age, married indicator, male, number of children, white, educational attainment indicators (high school, some college, college degree with reference category high school dropout), total household income, and indicator of poor health. See also Tables 1-3.
*** p<0.01, ** p<0.05, * p<0.1

(continued)

(continued)

B. Married Only Sample

	Total debt/Total assets > 0.50	1ry Residence Ratio > 0.50	Other debt/Liquid assets > 0.50	Total net wealth < $25,000
War babies	0.074 ***	0.086 ***	0.041 **	0.024 *
	(0.016)	(0.021)	(0.019)	(0.012)
Early boomers	0.142 ***	0.12 ***	0.117 ***	0.076 ***
	(0.017)	(0.021)	(0.020)	(0.014)
Male	0.029 ***	0.051 ***	0.025 ***	0.006
	(0.007)	(0.009)	(0.009)	(0.007)
Childnum	0.006 **	0.016 ***	0.019 ***	0.013 ***
	(0.003)	(0.004)	(0.004)	(0.003)
White	-0.042 ***	-0.037 *	-0.099 ***	-0.128 ***
	(0.016)	(0.019)	(0.022)	(0.016)
Education_hs	-0.029 **	0.015	-0.014	-0.097 ***
	(0.013)	(0.015)	(0.016)	(0.013)
Education_smcl	-0.028 *	0.018	-0.022	-0.108 ***
	(0.017)	(0.021)	(0.020)	(0.014)
Education_gtcl	-0.056 ***	-0.001	-0.048 **	-0.098 ***
	(0.019)	(0.025)	(0.022)	(0.015)
Hitot	-0.001 **	0.004 ***	-0.003 ***	-0.004 ***
	(0.001)	(0.001)	(0.001)	0.000
Poorhealth	0.041 ***	-0.01	0.085 ***	0.114 ***
	(0.013)	(0.016)	(0.018)	(0.014)
Constant	0.524 ***	0.728 ***	0.756 ***	0.707 ***
	(0.157)	(0.219)	(0.207)	(0.145)
N	5,321	4,819	4,779	5,386
R2	0.049	0.042	0.052	0.146

Notes: Coefficient estimates from OLS regression, standard errors in parentheses. Data unweighted. See Table 3 for dependent variable definitions. Explanatory variables include age, married indicator, male, number of children, white, educational attainment indicators (high school, some college, college degree with reference category high school dropout), total household income, and indicator of po or health. See also Tables 1-3.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

(continued)

(continued)

C. Single Only Sample

	Total debt/Total assets > 0.50	1ry Residence ratio > 0.50	Other debt/Liquid assets > 0.50	Total net wealth < $25,000
War babies	0.051 **	0.034	0.082 ***	-0.024
	(0.025)	(0.034)	(0.031)	(0.026)
Early boomers	0.104 ***	0.035	0.155 ***	0.058 **
	(0.024)	(0.031)	(0.029)	(0.024)
Age	0.002	-0.015 *	0.006	-0.012 *
	(0.006)	(0.008)	(0.007)	(0.006)
Male	-0.05 ***	-0.045 *	-0.052 **	0.014
	(0.019)	(0.026)	(0.024)	(0.021)
Childnum	-0.003	0.007	0.005	0
	(0.004)	(0.006)	(0.006)	(0.005)
White	-0.035 *	-0.016	-0.046 *	-0.116 ***
	(0.021)	(0.027)	(0.027)	(0.021)
Education_hs	0.007	-0.002	-0.002	-0.183 ***
	(0.023)	(0.030)	(0.031)	(0.025)
Education_smcl	-0.005	0.028	-0.088 **	-0.276 ***
	(0.031)	(0.042)	(0.037)	(0.033)
Education_gtcl	0.011	0.151 ***	-0.085 **	-0.295 ***
	(0.037)	(0.052)	(0.043)	(0.039)
Hitot	-0.002	0.005 **	-0.004 ***	-0.017 ***
	(0.001)	(0.003)	(0.001)	(0.004)
Poorhealth	0.075 ***	0.015	0.077 ***	0.203 ***
	(0.022)	(0.028)	(0.029)	(0.023)
Constant	0.068	1.05 **	-0.072	1.29 ***
	(0.351)	(0.480)	(0.430)	(0.368)
N	1,820	1,203	1,462	2,094
R2	0.03	0.029	0.052	0.222

Notes: Coefficient estimates from OLS regression, standard errors in parentheses. D ata unweighted. See Table 3 for dependent variable definitions. Explanat ory variables include age, married indicator, m ale, number of children, white, educational attainment indicators (high school, so me college, college degree with reference category high school dropout), total household income, and indicator of po or health. See also Tables 1-3.

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Level and Composition of Self-Reported Household Debt and Debt Concerns: 2012 National Financial Capability Study (NFCS)

	Age 56-61	All sample
Underwater with home value*	17.0%	22.4%
Credit card fees, at least one type*	31.4%	36.8%
Loan on retirement accounts*	7.0%	11.8%
Hardship withdrawal from retirement accounts*	5.7%	8.7%
Unpaid medical bills	23.4%	25.8%
High-cost borrowing	21.2%	29.5%
Too much debt	39.9%	41.8%
Cannot come up with $2,000	35.5%	39.1%
N	2,983	25,509

Note: The sample includes all age-eligible individuals age 56-61 in the 2012 NCFS. Statistics related to hardship withdrawal and loan and retirement account are conditional to owning a retirement account. Statistics weighted using sample weights.
* Values conditional on holding the asset or debt.

Table 6. Determinants of Self-assessed Debt Status in the 2012 NFCS

Panel A. Multivariate Regression Model of Self-assessed Debt

	(1)	(2)
Age	-0.080***	-0.079***
	(0.026)	(0.026)
Married	-0.040	-0.039
	(0.110)	(0.110)
White	-0.156	-0.127
	(0.113)	(0.114)
Male	0.064	0.115
	(0.093)	(0.095)
Number of dependent Children	0.236***	0.233***
	(0.056)	(0.056)
Ed. High School	-0.120	-0.071
	(0.221)	(0.221)
Ed. Some College	-0.117	-0.036
	(0.222)	(0.223)
Ed. College or More	-0.237	-0.128
	(0.229)	(0.233)
Income $15k-$25k	0.111	0.122
	(0.205)	(0.205)
Income $25k-$35k	-0.212	-0.190
	(0.210)	(0.211)
Income $35k-$50k	-0.231	-0.200
	(0.201)	(0.202)
Income$50k-$75k	-0.418**	-0.365*
	(0.193)	(0.195)
Income $75k-$100k	-0.760***	-0.691***
	(0.221)	(0.224)
Income $100k-$150k	-0.820***	-0.751***
	(0.224)	(0.227)
Income >$150k	-1.359***	-1.280***
	(0.232)	(0.236)
Income Shock	0.750***	0.750***
	(0.107)	(0.107)
FinLit Index		-0.080**
		(0.038)
Constant	8.986***	9.006***
	(1.572)	(1.571)
Observations	2940	2940
R-squared	0.085	0.086

Note: The sample includes all age-eligible individuals age 56-61 in the 2012 NCFS; estimates weighted using sample weights. The dependent variable is the response to the following question: "How strongly do you agree or di sagree with the following statem ent? 'I have too m uch debt right now.'" Values range from 1 to 7, where 1 m eans I strongly disagree a nd 7 I strongly agree. Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B. Multivariate Regression Model of Financial Fragility

	(1)		(2)	
	Probit	Dy/dx	Probit	Dy/dx
Age	-0.017	-0.005	-0.016	-0.004
	(0.018)	(0.005)	(0.018)	(0.005)
Married	-0.018	-0.005	-0.018	-0.005
	(0.072)	(0.020)	(0.073)	(0.020)
White	-0.319***	-0.090***	-0.276***	-0.077***
	(0.074)	(0.021)	(0.075)	(0.021)
Male	-0.145**	-0.041**	-0.075	-0.021
	(0.064)	(0.018)	(0.066)	(0.018)
Number of dependent Children	0.075*	0.021*	0.073*	0.021*
	(0.042)	(0.012)	(0.042)	(0.012)
Ed. High School	-0.356***	-0.101***	-0.292**	-0.082**
	(0.138)	(0.039)	(0.139)	(0.039)
Ed. Some College	-0.385***	-0.109***	-0.277*	-0.078*
	(0.141)	(0.040)	(0.143)	(0.040)
Ed. College or More	-0.565***	-0.160***	-0.417***	-0.117***
	(0.145)	(0.041)	(0.150)	(0.042)
Income $15k-$25k	-0.412***	-0.116***	-0.395***	-0.111***
	(0.121)	(0.034)	(0.122)	(0.034)
Income $25k-$35k	-0.691***	-0.195***	-0.666***	-0.186***
	(0.126)	(0.035)	(0.127)	(0.035)
Income $35k-$50k	-0.963***	-0.272***	-0.917***	-0.257***
	(0.121)	(0.032)	(0.122)	(0.032)
Income$50k-$75k	-1.271***	-0.360***	-1.202***	-0.337***
	(0.124)	(0.032)	(0.126)	(0.033)
Income $75k-$100k	-1.623***	-0.459***	-1.536***	-0.430***
	(0.146)	(0.037)	(0.149)	(0.038)
Income $100k-$150k	-2.027***	-0.573***	-1.939***	-0.543***
	(0.167)	(0.042)	(0.169)	(0.042)
Income >$150k	-2.099***	-0.594***	-2.003***	-0.561***
	(0.203)	(0.053)	(0.202)	(0.053)
Income Shock	0.450***	0.127***	0.458***	0.128***
	(0.067)	(0.018)	(0.067)	(0.018)
FinLit Index			-0.111***	-0.031***
			(0.027)	(0.007)
Constant	2.192**		2.228**	
	(1.074)		(1.074)	
Observations	2,983	2,983	2,983	2,983

Note: The sample includes all age-eligible individuals age 56-61 in the 2012 NCFS; estimates weighted using sample weights. The depe ndent variable is a dummy variable response to the following question: "How confident are y ou that you coul d come up with $2,00 0 if an unexpected need arose within the next m onth?" Outcome coded as 1 for t hose certain or probably could NOT come up with $2,000. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1