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## The Graying of American Debt

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Brown, Meta; Lee, Donghoon; Scally, Joelle; and van der Klaauw, Wilbert, "The Graying of American Debt" (2019). *Wharton Pension Research Council Working Papers*. 531.  
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## The Graying of American Debt

### Abstract

Between 2003 and 2015, real aggregate debt in the hands of Americans aged 50 to 80 increased by 59 percent. Meanwhile, real debt held by Americans in their twenties and thirties was approximately flat. Using data from the Federal Reserve Bank of New York's Consumer Credit Panel, we describe the extent of this debt increase and the distribution of debt growth by loan type. Real per capita home-secured debts held by older consumers show the steepest growth, though older borrowers have increased their obligations in all major debt categories. For long-held debts, these developments lead us to ask how such changes emerged: did older borrowers carry more debt through the Great Recession, after which access to consumer credit declined for new borrowers of all ages? Alternatively, have loan originations since the Great Recession favored older over younger borrowers? While our results indicate that the stock of long-held, home-secured debt sits largely with older borrowers, we also uncover evidence of a decisive tilt of new auto and mortgage originations away from younger borrowers and toward borrowers in their fifties, sixties, and even seventies. The motivation behind older consumers' substantial new borrowing, often with long repayment terms, is the focus of ongoing research.

### Keywords

Older adults, debt, home-secured debt, Great Recession

### Disciplines

Economics

# **The Graying of American Debt**

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May 2, 2019

**PRC WP2019-9**

**Pension Research Council Working Paper**

**Pension Research Council**

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The authors wish to thank Andrew Haughwout, Henry Korytkowski, Equifax, and seminar participants at the Financial Planning Association for comments. The views and opinions offered in this paper do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System. All findings, interpretations, and conclusions of this paper represent the views of the author(s) and not those of the Wharton School or the Pension Research Council. © 2019 Pension Research Council of the Wharton School of the University of Pennsylvania. All rights reserved.

## **The Graying of American Debt**

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### Abstract

Between 2003 and 2015, real aggregate debt in the hands of Americans aged 50 to 80 increased by 59 percent. Meanwhile, real debt held by Americans in their twenties and thirties was approximately flat. Using data from the Federal Reserve Bank of New York's Consumer Credit Panel, we describe the extent of this debt increase and the distribution of debt growth by loan type. Real per capita home-secured debts held by older consumers show the steepest growth, though older borrowers have increased their obligations in all major debt categories. For long-held debts, these developments lead us to ask how such changes emerged: did older borrowers carry more debt through the Great Recession, after which access to consumer credit declined for new borrowers of all ages? Alternatively, have loan originations since the Great Recession favored older over younger borrowers? While our results indicate that the stock of long-held, home-secured debt sits largely with older borrowers, we also uncover evidence of a decisive tilt of new auto and mortgage originations away from younger borrowers and toward borrowers in their fifties, sixties, and even seventies. The motivation behind older consumers' substantial new borrowing, often with long repayment terms, is the focus of ongoing research.

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As the US population ages, older Americans are reshaping the face of consumer debt. In this chapter, we use the New York Fed Consumer Credit Panel (CCP), based on Equifax credit report data, to look at how debt is changing as Baby Boomers reach retirement and Millennials find their footing. We find that aggregate debt balances held by younger borrowers have essentially remained constant from 2003 to 2017, but their portfolio had moved away from mortgage, auto, and credit card debt, toward student debt. Debt held by borrowers between the ages of 55 and 80, however, increased by 87 percent in real terms over the same time period. This shifting of debt from younger to older borrowers is of obvious relevance to markets fueled by consumer credit. It is also relevant from a loan performance perspective, as consumer debt payments are being made by older debtors than in past decades.

To understand such marked growth in debt held later in life, one must consider the composition of older borrowers' obligations. In CCP data, we break per capita debt balances for consumers under 35 and over 64 years of age into home-secured, auto, education, and card debt. While auto and home-secured debt for those under 35 declines substantially from 2003 to 2017, education debt increases dramatically. Young consumers' debt portfolios show a similar overall per capita balance in 2003 and 2017, and yet underlying this is a decisive reallocation away from debt secured by large assets and into substantial amounts of education debt. Consumers and 65+, however, show no similar reallocation of debt. Instead, we observe growth in per capita consumer debt from 2003 through 2007, and then a further increase in per capita debt by 2017. This growth is evident in the balances of most standard consumer debts for retirement-age individuals, and most noteworthy in residential and auto debt. Real per capita residential debt among those 65+ in the CCP grew by 89 percent from 2003 to 2017, and real per capita auto debt by 69 percent. Hence, as young consumers backed away from debt secured by large assets, older consumers appear to

have propped up demand in home and auto loan markets. Widely-reported evidence of a gradual recovery of these consumer debt markets toward pre-recession levels has masked a combination of younger consumers' waning participation in housing and auto markets and older consumers' increasing reliance on secured debt well into retirement (New York Fed 2017; Consumer Financial Protection Bureau (CFPB) 2017; Davidson 2017; Berry 2017).

But what sort of housing consumption rationalizes such a climb in residential debt among retirees? For answers, we turn to the Federal Reserve Board's Survey of Consumer Finances (SCF).<sup>1</sup> In determining the uses of debt, survey data are helpful, and the SCF particularly so. We again analyze the composition of real per capita debt growth among younger and older Americans using the SCF and, despite some well-known dissimilarities between CCP and SCF debt measures, by and large, we find similar patterns (Brown et al. 2015). Further, the self-reported purposes of residential mortgages in the SCF allow us to separate debt secured by the primary residence from other residential debt secured by assets such as second homes, vacation homes, and land contracts. This exercise demonstrates that, in real terms, both primary residence debt and other residential debt have grown substantially among households whose heads are age 55+. Per capita primary residence debt rose by \$21,229 from 2001 to 2016 (68%), and per capita other residential debt rose by \$5,417 (102%).<sup>2</sup> Hence, this combined evidence from the CCP and SCF shows us that most of the debt-climb among older households in recent years comes from growth in residential debt, and that more than a fifth of this increase arises from properties other than the primary residence.

Our next query concerns the path by which the economy has arrived at this new circumstance, in which consumer debt is at least as much the province of retirement-age households as that of young families. A slowdown in all types of lending in the wake of the financial crisis may have had the mechanical effect of raising the age of the average outstanding

loan, and the age of its associated borrower. At the same time, to the extent that inferred creditworthiness correlates with age, tightening underwriting standards may have affected access to new debt differently for younger and older borrowers. We begin by establishing evidence from the CCP that credit scores increase steeply with age among US consumers. Given this, we turn to the age distribution of new originations of mortgages and auto loans in, first the early 2000s, and then in 2017 for news regarding the relative contributions of a slowdown in lending and a tilting of new originations toward older borrowers to the overall graying of US consumer debt. We find evidence of both slowed originations and a tilt of new originations toward older lenders in mortgage and auto loan markets, with the mortgage market characterized more accurately by a slowdown and the auto loan market characterized more accurately by a reallocation of new auto loans away from young borrowers and toward borrowers in their 60s, 70s, and beyond.

Next, a look at repayment reveals that, despite the growth in debt among seniors, older borrowers have long been noteworthy for the reliability of their debt repayment, and there is little or no evidence of a change on this front. The rate at which borrowers' debt transitions into severe derogatory status in the CCP slopes downward steeply with age, and this relationship is stable from 2003 through 2007 to 2017. A similar pattern emerges in SCF households' self-reported 60-days-past-due delinquency. These results hold despite evidence from the SCF that the ratio of self-reported debt payments to income is no greater for younger than for older borrowers over this period, and within each wave. If the large recent increase in debt in the hands of seniors is leading to new threats to household financial stability, the evidence of such threats does not emerge in the form of rising delinquency and default. If anything, our findings suggest that the reallocation of debt from risky younger borrowers to reliable older borrowers over the past 15 years is likely to portend improving overall repayment reliability for the consumer credit sector.

Finally, though the above analysis paints a somewhat rosy picture of the reasons for, and repayment performance of, this new glut of senior debt in the aggregate, there may remain pockets of seniors who are now struggling with consumer debt. To determine how more and less affluent seniors are weathering new consumer debt, we perform heterogeneity analysis of debt levels, growth, and repayment across the distributions of household asset levels and neighborhood income levels. In the SCF, we find that growth of debt balances for households in the top two deciles of the household asset distribution for those 55+ dwarfs the debt growth for lower-asset older households, largely from primary residence and other residential debt. Nevertheless, we do find some suggestion of rising in heterogeneity in the ratio of debt to assets for older SCF households. Though the dollar increases in debt for affluent older households are striking, increases in the ratio of debt to assets are marked only for older households in the lower asset deciles. The rise in the ratio of debt to assets is evident for the second through fifth decile, but then remains near zero throughout the top half of the asset distribution. The jump in the ratio of debt to assets for the lowest asset households is largely attributable to a substantial increase in the ratio of student debt to assets. Overall, the increase in debt for the lowest decile of the asset distribution amounts to an increase in their total debt to asset ratio from 0.33 to 1.02 between 2001 and 2016. The second through fifth deciles of the age 55+ household asset distribution show an increase in the ratio of total debt to assets of 0.13, arising mainly from a growth in primary residence debt relative to assets.

Having established these patterns in the distributional characteristics of borrowing at older ages, we compare the news for older households with that for younger households. While combing through finer cells of older households, and adjusting our measurements, serves to reveal



some signs of increased debt burden among the first decile of the age 55+ household asset distribution, signs of struggle with debt are immediately obvious for younger borrowers.

In what follow, we summarize findings regarding debt growth, originations, uses, repayment, and burden among older and younger consumers. Additionally, in an Online Appendix<sup>3</sup>, we discuss recent developments in aggregate borrowing at younger and older ages, summarize the related literature, and detail the administrative and survey data on consumer debt on which we build this study.

### **Measurement and Empirical Findings**

**Rising per capita US consumer debt from 2003 to 2017 and its components.** A large increase in debt among retirees may mean different things depending on the type of borrowing they have done, and on whether the debt is asset-secured or not. Figure 1 divides the CCP real per capita debt of younger and older consumers in 2003, 2007, and 2017 into its component types (all in \$2016). In panel (a) of Figure 1, we see young borrowers increasing their total debt from 2003 to 2007 by \$7,280, from \$30,876 in 2003 to \$38,156 by 2007. By 2017, however, they returned to pre-crisis debt levels, with a mean per capita debt of \$28,315. Moreover, the composition of their debt changed dramatically in comparison with both 2003 and 2007. The lower segments of the bars depict the movement of housing debt over the period, and we see that real per capita housing debt for the young households increased from \$19,465 in 2003 to \$25,493 by 2007, but then reversed course to fall well below its 2003 levels by 2017, to \$14,172. The growth of the segment of the bar second to the top shows us the steady expansion of per capita education debt over the period, from \$3,212 in 2003, through \$5,320 in 2007 to \$8,080 by 2017. A noteworthy aspect of this chart is the extent of convergence of education and housing debt per capita balances among 18- to 34-

year-olds over the course of 14 years.

*Figure 1 here*

By contrast, older borrowers spent these same 14 years boosting their (real, per capita) reliance on housing, card, auto, and education debt. Panel (b) of Figure 1 depicts real per capita debt balances by type among individuals age 65+. The lower segments depict a steady rise of housing debt, from \$14,220 through \$22,163 to \$26,929. Note that, by 2017, mean per capita housing debt among retirement-age Americans exceeded even the peak housing debt observed for young consumers in 2007. This overall rise amounted to an 89 percent increase in real per capita housing debt from 2003 to 2017. It echoes the rising housing debt across three cohorts of Health and Retirement Study respondents demonstrated in Lusardi et al. (2018), the rise in housing debt among older CCP fileholders reported by Brown et al. (2016), and the rise in housing debt among older Americans reflected in CoreLogic loan-level data in Trawinski (2020). But this is not the only source of increasing financial obligation among retirement-age Americans: auto debt grew from \$1,655 through \$1,748 to \$2,798 (69%), and card debt increased from \$2,669 to \$3,114 (17%). Education debt rose over the period even for retirement-age consumers, from a real per capita mean of \$69 in 2003 through \$191 in 2007 to \$727 by 2017. Unlike younger consumers, older consumers have become more reliant on all four major categories of consumer debt.

Though borrowing among older consumers increased across all debt markets, the dollar amount of the rise in housing debt stands out, leading to questions regarding the sources of this extensive housing debt now being carried far into retirement. Is this debt securing the primary residence of the older household, or does it reflect vacation and second homes, which may have very different implications for household financial stability in retirement? Is the debt assumed for older individuals' and couples' own housing, or is it taken on to support separate or shared housing

used by children and other relatives? For answers, we turn to the SCF. Figure 2 depicts the composition of real per household debt reported by SCF households. Heads of households represented in Panel (a) of Figure 2 are age 18 to 34, while heads of households represented in Panel (b) are age 55+.<sup>4</sup> The long history and stable questionnaire of the SCF allow us to establish a pattern of consumer borrowing over a longer window of observation, with measures drawn from the 1989, 2001, 2007, and 2016 waves. The qualitative patterns of debt use among younger households in the SCF from 2001, through 2007, to 2016 closely resemble the pattern for young individuals observed in the CCP in 2003, 2007, and 2017. The extension of the window of observation back to 1989 does add one new insight. The drop in reported housing debt secured by the primary residence (the lower segment of each bar) from the housing boom peak in 2007 to the more recent balance in 2016 actually takes housing debt for households with heads age 34 and under in 2016 back to a level very near its real per household level from 1989: mean primary residence debt among these young households rose from \$35,115 in 1989 through \$44,014 in 2001 and \$71,939 in 2007, then fell all the way to \$40,261 by 2016.<sup>5</sup>

*Figures 2 here*

By contrast, debt among older households in the SCF increased sharply from 2001 to 2007 and then leveled off to 2016. Panel (b) of Figure 2 depicts changes household-level debt by type in the SCF that closely resemble the evidence for individual debt in the CCP over this period.<sup>6</sup> In the lower segments of the debt bars, we see the rise of debt secured by the primary residence from \$13,071 to a peak of \$58,222 by 2007, and then retreat modest to \$52,650 in 2016. The SCF allows us to follow debt secured by other residences separately, represented by the top segment of each debt bar, and its rise is particularly steep. Other residential debt increases from \$3,386 in 1989 through \$5,297 in 2001 to \$12,105 in 2007, dropping slightly to \$10,713 in 2016. Hence, just over

a fifth of the increase in overall residential debt among older households between the early 2000s and 2016 is seen, in the SCF, to arise from debt collateralized by property other than the primary residence. Finally, much like the older CCP consumers, older SCF households increased their auto debt from 2001 to 2016 by 69 percent in real terms. Older households in both the CCP and SCF boosted the dollar amount of their total debt balances largely through secured borrowing against residences and vehicles, and the SCF data show us that an unexpectedly large share of this growth arose from debt associated with properties other than the primary residence.

**The path from the early 2000s to today: underwriting changes and origination ages.** Next we ask how retirement-age Americans accumulated unprecedented levels of consumer debt, particularly housing and, to a degree, auto debt. Several potential explanations present themselves. One is the influence of the tightening of underwriting standards in the wake of the financial crisis. The impact of tighter underwriting on the age profile of the stock of debt can operate in two different manners. A slowdown of lending across the board, independent of new borrower characteristics, will result in a gradual aging of the average outstanding loan observed in the population, and a resulting aging of the average borrower. Hence, in seeking the source of the observed graying of debt, we must investigate the extent to which mortgage and auto originations have slowed for borrowers of all ages.

In addition, the creditworthiness of borrowers inferred from their credit histories and (ECOA-admissible) characteristics is typically lower for younger borrowers. Figure 3 depicts the median Equifax Risk Score by single year of age using six separate panels of risk score observations for six decennial cohorts. The cohorts were born, respectively, in 1940, 1950, 1960, 1970, 1980, and 1990, and so their scores were observed at different but overlapping age ranges of ages in our 1999 to 2018 CCP panel.<sup>7</sup> What we observe is a steep positive association between

median Equifax Risk Score and age, across of all cohorts.<sup>8</sup> The median Equifax Risk Score at age 30 sits at or near 645 for two decennial cohorts observed 10 years apart, while the median Equifax Risk Score at 70 is near 770 for two cohorts. It is worth noting that this inferred creditworthiness profile, rather than appearing as a function of age alone, is consistent with age differences in repayment success, measured in terms of number and severity of delinquent accounts as well as bankruptcies, charge-offs, and foreclosures to be discussed below. In other words, the age profile of Equifax Risk Scores depicted in Figure 3 does not appear to be an artifact of credit scoring methods, but instead a reflection of progress in debt repayment that characterizes the life cycle of the typical consumer.

*Figure 3 here*

Given the evidence in Figure 3, we may expect tightening underwriting standards to affect credit access differently for borrowers of different ages. Younger consumers, with their lower median credit scores, will be excluded from credit markets at higher rates than older borrowers. Therefore, a tightening of underwriting standards can be expected to lead not only to a slowdown in overall lending and a resulting increase in the ages of borrowers with existing debt, but also a tilting of new originations toward older will borrowers. This, in turn, would contribute to an increase in the share of outstanding debt held by older borrowers relative to younger borrowers.

To assess these two explanations for the graying of American debt, we turn to the age distribution of new originations early and late in the years tracked by the Consumer Credit Panel. Panel (a) of Figure 4 depicts the number of mortgage originations per capita by single year of age in the CCP in 2004 and 2017. The number of originations observed in the CCP is denominated by the Census projected population at each year of age for 2004 and 2017, respectively.<sup>9</sup>

*Figure 4 here*

The mortgage origination age profiles in Figure 4 reveal the great extent to which a slowdown in mortgage originations helps explain the rightward shift of the borrower-age distribution of the stock of outstanding mortgage debt. Overall per capita originations declined from 0.12 to 0.04 over 13 years, and the origination slowdown was sharper for people of some ages than for others. Mortgages originated per capita among 30-year-olds fell from 0.15 in 2004 to 0.04 in 2017. Over the same 13 years, mortgages originated per capita to 65-year-olds declined from 0.10 to 0.05. (Note the large difference in per capita originations to young families and to retirement-age buyers in 2004, and their surprising similarity by 2017). Figure 4 provides unambiguous evidence of a contemporary housing debt landscape shaped by a pronounced slowdown in new lending and a tilting of the remaining originations toward considerably older borrowers.<sup>10</sup> Outstanding mortgage debt today is much older, on average, than it was 13 years ago, and new mortgage debt is also issued more commonly to older borrowers, relative to young borrowers. All of this adds up to a far greater share of outstanding mortgage debt in the hands of retirees, and less in the hands of young families, than we seen in the early 2000s.

The standard term of a first lien mortgage is considerably longer than that of an auto loan. Hence, as we seek to understand the shift of auto debt toward older borrowers between 2003 and 2017, we may also expect to see some evidence of changing ages in auto loan origination. Panel (b) of Figure 4 depicts the number of auto loan originations per capita in 2003 and 2017 by single year of age, calculated using the number of originations at each age in the CCP as the numerator and the Census projected population at each age as the denominator. The auto loan origination evidence is quite different from the mortgage evidence. While per capita auto originations do indeed slow from 2003 to 2017 for persons age 22-66, for those age 67+, the number of per capita originations was actually greater in 2017 than in 2003. The figure shows some slowdown in

originations at young and middle ages, but also a decisive tilting of new auto loan originations away from younger toward retirement-age consumers. For example, while per capita auto originations to 30-year-olds fell from 0.23 in 2003 to 0.16 in 2017, per capita auto originations to 75-year-olds rose from 0.07 in 2003 to 0.09 in 2017. Hence we infer that the graying of auto debt arose more from a reallocation of new originations to older borrowers, than in the case of home-secured debt. Moreover, we see a similar increase in auto originations from age 67+ when we look at per capita dollar originated. This finding is in line with results indicating that retirement-age borrowers increased their balances across a variety of debt types; it suggests that demand for new credit, in dollar terms, at older ages increased from 2003 to 2017.

By and large, the trajectory of credit scores and originations points to a mix of mechanisms through which the graying of secured debt resulted. Older consumers were better positioned to weather the tightening of underwriting standards that followed the Great Recession. New originations slowed across the board, but, presumably as a result of post-recession underwriting, slowed more for younger than older borrowers. A slower rate of issuance of new debt led older outstanding debt to constitute a larger share of the stock of debt by 2017. At the same time, the issue of new debt favored older over younger borrowers in a way that had not been the case in the early 2000s.

**Delinquency and payment burden: how do retirement-age borrowers weather their greater financial obligations?** In the absence of similar growth in income or assets at older ages, an increase of 94 percent in the real debt in the hands of Americans age 50+ might be alarming news, as well as evidence of older borrowers struggling to repay a debt burden nearly twice that of comparable cohorts just 14 years before. In this subsection, we look into the delinquency rates and payment burdens relative to income of older borrowers in recent years, and compare these with

delinquency and payment burdens among older borrowers in the early 2000s. Further, we review the evidence on the growth of the assets of older households over this period and consider older peoples' ability to balance the debt growth described to this point.

Older borrowers are typically characterized by relatively stable households and income sources, at least in recent decades. It comes as little surprise, then, that older borrowers in our CCP and SCF data experienced less delinquency in repaying their debt than did younger borrowers. Panel (a) of Figure 5 depicts the percent of outstanding debt balance that transitions into a state of severe delinquency (more than 120 days past due over the calendar year) for 2003, 2007, and 2017 in the CCP.<sup>11</sup> These delinquency transitions are shown by age group, from age 18-29 through age 70+. The share of balance transitioning into severe delinquency declines monotonically from 4.5, 6.5, and 4.6 percent for those at age 18-29, to 1.8, 2.6, and 1.5 percent for the age 60-69 group. This monotonic decline was similar for each of the 2003, 2007, and 2017 calendar years. From the 60-69 age group to 70 and beyond, we observe a flat rate of transition into severe delinquency in 2017, but a modest uptick in the 2003 and 2007 age-delinquency profiles. This indicates that the relationship between transition into delinquency and age is a steeply declining one and also that it is stable over time. If anything, the rate of transition into delinquency at older ages improved modestly over time. This stable negative association between age and delinquency is one factor contributing to the positive association between age and Equifax Risk Score in Figure 3.

#### *Figures 5here*

The news on delinquency at younger and older ages is similar in the SCF, with the additional information on whether consumer debt reported whether they were ever 60 or more days past due on any consumer debt. This measure differs from the delinquency measure from the CCP in a number of ways. First, it is borrower-reported rather than lender-reported. This might lead us



to be concerned that survey respondents may underreport, or otherwise erroneously report, their experiences of delinquency. One observation that may be encouraging on this point is the fact that in Brown et al. (2015) found that SCF household survey respondents self-reported bankruptcy at rates that appeared quite consistent with household bankruptcy rates measured in the CCP, and that this consistency was relatively stable from wave to wave. SCF household respondents who report bankruptcy experiences reliably may also report less severe delinquency more reliably. Second, the SCF delinquency measure is an indicator for whether any debt became 60 or more days delinquent, rather than a measure of the delinquent share of balance. Third, the delinquency standard used by the SCF is more modest, at 60 or more days past due than the 120 or more days past due in the CCP. Fourth, it aggregates delinquency to the household-level, as opposed to the individual-level of the credit report data.

The self-reported SCF delinquency rate among households with positive consumer debt behaves quite similarly to the rate of transition into severe delinquency from the CCP. Panel (b) of Figure 5 reports the delinquent share of borrower households by age of household head for 1989, 2001, 2004, 2007, and 2016. The stability of the negative association between delinquency and age is striking. Delinquency rates declined steadily for the below age 35 to the age 75+ group in each of the SCF waves. Households below age 34 had delinquency rates of 9, 11, 11, 12, and 14 percent in the five waves. Households age 75+ had delinquency rates of 1, 1, 1, 3, and 4 percent in the five waves. Though the delinquency rates of 65- to 74-year-olds in 2016 were near the top of the five-survey range, at 4.5 percent, and those 75+ were higher in 2016 than in 1989, 2001, and 2007 (though not in 2004), at 2.8 percent, the delinquency rates of older SCF households in 2016 remain low in an absolute sense and similar to the delinquency rates of the older SCF households in previous waves. This is true despite the fact that SCF households with heads age 65+ in 2016

were repaying debts that were nearly five times the size of the debts owed by their predecessors in the same age group in 1989. In sum, although evidence of Americans all carrying higher levels of debt into retirement, we see little evidence of rising delinquency among older borrowers over many waves of data drawn from leading administrative and survey-based consumer data sources.

Our results might be seen as contradicting with those of Li and White (2020) who also use the CCP. Yet the studies track different measures of repayment success, or financial struggle. Li and White's outcome measure is the share of overall consumer bankruptcies (foreclosures) that involve older borrowers. They examine formal default and focus on the share of outstanding debt affected by formal default. By contrast, our CCP delinquency rates measure the share of outstanding debt that is troubled, and we do so separately for each age group, given changing population shares. Further, our measure encompasses both formal and informal default, as we track the share of debt transitioning to 120 or more days past due over the calendar year.<sup>12</sup> Hence the CCP data may be characterized by both modest declines in the share of outstanding debt held by older borrowers that transitions into severe delinquency, and modest increases in the share of bankruptcies (foreclosures) attributable to older borrowers.

Our SCF delinquency by age figure points to one other factor that may contribute to the apparent contrast between our findings and those of Li and White. In Figure 5, we see older households in 2016 self-reporting a rate of delinquency that is slightly high in comparison with prior rates (though not the highest across the SCF waves), and younger households self-reporting a rate of delinquency that is slightly low in comparison with prior rates (though not the lowest across the SCF waves). Elsewhere our CCP results have shown improving repayment performance for younger borrowers in recent years, as, for example, in Figure 3. Li and White are interested in the bankruptcy and foreclosure rates of older relative to younger consumers. Hence we expect that

one contributor to the rising relative formal default rates they report is the improving repayment performance of younger consumers.

Finally, there is some consistency across these two studies in terms of the qualitative results regarding financial distress by age over the years we study. Li and White estimate a modest or null influence of the 2005 bankruptcy reform and of the 2008 financial crisis, on the relative formal default rates of young and old consumers from 2000 to 2012. This seems in line with our own observation of stability in the age dependence of delinquency over these years. Li and White, however, find an increase in older borrowers' relative rates of formal default since 2012, when compared with those of younger borrowers. Our heterogeneity analysis below, with its evidence of emerging financial struggle among low-balance, low-asset households in the SCF provides some complementary evidence regarding these recent developments.

The SCF is further useful for our purposes as, unlike credit report data, it allows us to weigh changes in the debt side of the consumer balance sheet against changes in the asset side of the consumer balance sheet. Figure 6 describes at once the growth in household debt and household net worth from 1989 through 2016 in the SCF. In Panel (a), we observe a similar rightward shift in the age distribution of debt in the SCF to the rightward shift observed in the age distribution of debt from the CCP. Panel (b), however, indicates that this debt growth at older ages is dwarfed by the growth of assets at older ages. In 1989, the peak of the age profile of net worth in the SCF occurs at ages 55-64. Further, the mean household net worth level at age 55-64 in 1989 was not substantially higher than the mean net worth level in 1989 for age 45-54. By 2001, however, the net worth peak for age 55-64 is pronounced, and grew in real terms by 73 percent, from \$574,000 to \$993,000. At last, in 2016, we observe a far steeper climb of mean household net worth from the younger age groups to its peak for age 55-64. The value of mean net worth for this age group

rose again, to \$1,168,000. Most notably, where net worth fell off sharply at later ages in the 2001 SCF wave, mean net worth values in the 2016 SCF remained approximately flat for the 55-64 age group and into the older age groups, at \$1,066,000 and \$1,067,000 for the 65-74 and 75+ age groups, respectively.

*Figures 6 here*

As debt at older ages climbed to unprecedented heights between the early 2000s and recent years, it was therefore balanced by similarly unprecedented, and substantially larger, growth in assets at older ages. Like the evidence regarding the evolution over time of payment to income ratios, the evolving age profile of assets among US households helps to explain older households' ability to sustain and repay unprecedented levels of household debt. This debt is rendered less consequential by the newfound affluence of today's American elders.

**Heterogeneity in debt changes by socioeconomic status.** To this point, our analysis of debt accumulation, growth, and repayment has focused on broad age groups. In the aggregate, debt growth was mostly attributable to housing debt secured by the primary residence and housing debt secured by other residential properties. In the aggregate, older households bore only modest debt payment burdens, and they were more successful in avoiding delinquency than their younger contemporaries. But there is heterogeneity in older households' financial situations, which we examine by comparing delinquency rates of residents of high- and low-income neighborhoods in the CCP, and between high and low asset households in the SCF.

The SCF allows us to identify differences in borrowing and delinquency at older ages across deciles of the household asset distribution. Figure 7 depicts the 2001 and 2016 mean total household debt in the SCF by household asset decile: it reflects the debt of only households with heads all 55+, and the asset deciles are determined for this same age group. Panel (a) represents

the mean level of debt in 2016 US dollars held by members of each asset decile. Panel (b) represents the ratio of the mean household debt to the mean household asset level within each asset decile.<sup>13</sup>

*Figures 7 here*

This depiction of overall debt enables us to pinpoint the subgroups responsible for the lion's share of the rise in the aggregate dollars of debt held by older borrowers, and to identify which groups are increasingly laboring under the burden of consumer debt, as their debt to asset ratios rise to levels suggesting financial instability.<sup>14</sup> We find that the large increase in per capita debt dollars at older ages over the 2001 to 2016 period was concentrated primarily from increased borrowing among members of the wealthiest (9<sup>th</sup> and 10<sup>th</sup>) deciles of the household asset distribution. Moreover, their increase in overall dollars of debt arose predominantly from increased debt balances secured by primary residences, and in debt secured by other residential property.<sup>15</sup> Put differently, the bulk of the growth in debt held by older Americans from 2001 to 2016 is attributable to increased reliance on housing debt secured by higher-valued primary and other residential property among the most affluent members of the household asset distribution.<sup>16</sup> This evidence does not support the views of growing financial hardship among all older Americans, but instead indicates growing financial advantage on the part of older Americans, accompanied by outsized recourse to consumer credit markets. Younger borrowers, in contrast, are less favored by stringent underwriting standards.

We do, however, see a group of older households who may be struggling with increasing debt burden and the types of debts most closely involved: namely, households in the 3<sup>rd</sup> through 7<sup>th</sup> deciles of the household asset distribution, who experienced rising debt obligations attached to the primary residence. We are unable to distinguish clearly between fixed and adjustable rate

mortgages held by older consumers in our CCP data. Bucks and Pence (2008) showed that SCF respondents did report reliably on other details of their home mortgages, but they were comparatively unreliable in reporting whether they held fixed or adjustable rate mortgages. However, following Lusardi et al. (2018), we note that the large increases observed in the home-secured debt carried by middle-asset households into retirement do constitute a new source of financial risk in retirement. Further, per Lusardi et al., such households' financial risk is exacerbated to the extent that their debt contracts are vulnerable to interest rate changes.

The lowest decile of the asset distribution, despite its modest mean debt in dollar amount terms, displays the largest jump in the ratio of debt to assets between 2001 and 2016. Panel (b) of Figure 7 shows a jump in the ratio of total debt to assets for this group from 0.33 to 1.0. As is clear, the bottom asset decile carries the highest ratio of total debt to assets, by far, among the deciles of the asset distribution. Moreover, the burden of its debt at older ages relative to limited assets grew substantially from 2001 to 2016. The analysis of the lowest asset group's debt changes by type of debt presented in the online appendix reveals one noteworthy change: the dollar amount of the rise in student debt among this group is equivalent to 55 percent of its total household assets.

Our findings for lower asset households support the insights of Lusardi et al. (2020) regarding the emerging dependence on high cost debt of older socioeconomically disadvantaged consumers period. Results presented in our online appendix demonstrate the great extent to which the observed increase in the ratio of debt to assets among the lowest asset decile in the SCF is a product of reliance on unsecured debt (including both card and student debt). Lusardi et al. demonstrates a rising reliance on high-cost debt, in terms of interest and fees, among socioeconomically disadvantaged older borrowers. Further, they detailed the contributions of

financial literacy, information, and behavioral biases to such high-cost borrowing among older consumers.

In sum, the large dollar amount increase in debt among older households appears to stem from affluent older households' increasing reliance on primary and other residential debt, balanced by a striking run-up in assets. Yet the rising household-level ratio of debt to assets among older Americans was driven in large part by an increase in debt, paired with a modest decrease in assets, particularly among households in the lowest decile of the asset distribution. Such growth in debt burdens as a share of assets for the most financially vulnerable older households has been mainly due to their participation in the massive growth of educational borrowing in the US between 2001 and 2016.

**Heterogeneity in delinquency trends by socioeconomic status.** Another dimension to our results has to do with delinquency rates among older borrowers in the CCP and SCF, where we see few signs of new trouble for most older households. Figure 8 depicts the share of each household asset decile that self-reported being 60 or more days past due in any debt repayment, for both 2001 and 2016. With the exception of the fourth decile, delinquency rates were quite similar across deciles in 2001 to 2016. Only the 4<sup>th</sup> decile showed a notable increase, and its delinquency rate topped out at 9 percent. Moreover, despite the debt to asset ratio spike, we see no suggestion that repayment has deteriorated meaningfully for SCF households in the first decile of the asset distribution.

*Figures 8 here*

In the face of rising housing debt and, for the lowest-asset households, a large uptick in the ratio of debt to assets, the encouraging low levels of delinquency among older SCF households suggests that they are weathering repayment of these large obligations near and in retirement surprisingly well. One remaining concern, however, is how rational these default patterns are.

Evidence thus far indicates that older borrowers repay reliably even as debt obligations rise, as debt to asset ratios rise, and as they age into a stage of the life-cycle at which consumers' access to credit has traditionally been of limited importance. Accordingly, some failure to default may amount to a suboptimal choice. Future work will focus more closely on delinquency and default decisions as people age into retirement.

## **Conclusion**

This chapter has documented the rise of consumer borrowing among older Americans between the early 2000s and 2016-2017. We observed an 81 percent increase in the dollar amount of debt held by Americans between age 55-80 from 2003 to 2017 using administrative lender-side data; the increase in mean self-reported household consumer debt among households with heads age 55+ in borrower-side survey data from 2001 to 2016 rose by \$31,262, or 69 percent. There were also changes in the composition of older consumers' debt over the period, demonstrating mounting levels of card, education, auto, and housing debt among older Americans. The growth in secured debts was most rapid, however, with auto debt among Americans age 55+ growing by 69 percent from 2003 to 2017, and housing debt by 89 percent. Further, we find that the housing debt growth was driven by borrowing by the top half of the asset distribution, with debt secured by other properties rising particularly for the top two deciles of the household asset distribution.<sup>17</sup>

These results suggest that much of the rise in debt among seniors need not be interpreted as causing financial struggles in retirement. Connecting this change in borrowing to the change in assets held by older households over this same period, we observe that most older households' debt was well balanced by their assets. The age distribution of household assets has, like the age distribution of debt, shifted substantially rightward from 2001 to 2016; moreover, the growth in



assets has been far greater than the growth in debt for older American households. Accordingly, the mass of net worth held by the US older population has now reached unprecedented levels. This fact helps explain the resilience of older borrowers' repayment reliability in the face of growing obligations. Our analysis of delinquency among older borrowers indicates little or no increase in delinquency among older borrowers over the period. This is true in general, for seniors living in both high- and low-income zip codes (in the CCP), and across the household asset distribution (in the SCF). If the rise in senior debt were leading to financial struggles in retirement, evidence of this struggle has not yet emerged in the form of delinquency and default. Older consumers continue to repay very reliably.

Nevertheless, the population is heterogeneous. For the lower half of the household asset distribution, the ratio of total debt to assets has risen by more than 10 percentage points from 2001 to 2016, and the rise is particularly pronounced for the lowest decile of the asset distribution, from 0.33 to 1.02. Much of this increase is accounted for by the entry into the student debt market of the first decile of the senior household asset distribution between 2001 and 2016. Hence, while our results suggest that the overall increase in debt in retirement need not portend broad financial trouble for seniors, particular categories of loans are of concern.

Our evidence leaves many topics open for further study. As one example, we observe increasing secured debt in the hands of older consumers, while young students and families appear to have backed away from credit markets. This raises the question of differential access to credit early and late in the life cycle, and of the changing nature of consumer debt in the 21<sup>st</sup> century. Another example is the risen vulnerability to housing market downturns. In particular, retirement-age Americans now hold unprecedented levels of housing debt, which could leave them more vulnerable to future housing market swings than previous retirees. A third area of concern is

whether younger cohorts holding substantial student debt, and who have been slow to enter into homeownership, will be able to save adequately for retirement.

### **Acknowledgements**

We thank Andrew Haughwout, Henry Korytkowski, Equifax, and seminar participants at the Financial Planning Association for comments. The views and opinions offered in this paper do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

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## Endnotes

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<sup>1</sup> CCP data offer a unique opportunity to track multiple (first and second home, mortgage and home equity) residential loans at the level of the individual or even the household. However, the closing of repaid mortgages on primary residences as borrowers age poses a (not insurmountable) challenge for tracking the sources of residential debt among older consumers in the CCP. Loans for vacation properties, for example, may begin to look like loans for primary residences.

<sup>2</sup> For ease of comparison, all financial variables in the paper are reported in 2016 US dollars.

<sup>3</sup> Online Appendix forthcoming.

<sup>4</sup> Note that we have widened the range of ages included in our treatment of older households here, as the SCF sample is considerably smaller than the CCP, and we sought to establish patterns based on a larger proportion of sample households.

<sup>5</sup> Note also that balances in other residential debt are quite small for younger households in the SCF.

<sup>6</sup> The average total balance at the household level for each wave is greater than the average total balance we find for individuals in the CCP, which is to be expected given the large proportion of US households containing either two or three adults.

<sup>7</sup> The Equifax Risk Score uses credit report components to establish a score value that can be used to predict the relative probability that a consumer will default on newly issued debt in 24 months. In this sense, it is analogous to the FICO score.

<sup>8</sup> The risk score profile of the most recent cohort, the 1990 birth cohort, lies above that of the 1980 birth cohort for each of their ages of overlap. Potential explanations for this phenomenon vary, including the passage of first the bankruptcy reform (BAPCPA) in 2005 and then the CARD act in 2009, each of which specifically influences the credit access or repayment options of either

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young borrowers or student borrowers. In addition, this cohort holds more student debt during the earlier ages being compared, which typically raises inferred creditworthiness in the years before repayment struggles emerge. Finally, we have long observed markedly more successful repayment at early ages among this cohort than among earlier cohorts.

<sup>9</sup> The reader may note that we have moved from our previous study of the 2003 wave of the CCP to the 2004 data. Because 2003 was a boom year for mortgage refinancing, as a result of falling mortgage interest rates, the level of mortgage originations was artificially elevated in 2003. As we examine the extent to which mortgage originations dropped overall from the early 2000s to the more recent CCP waves, the refi boom might lead us to conclude, spuriously, that the aging of mortgage holders over the period arose from a stark slowdown in across-the-board mortgage lending. In order to avoid such false inferences, we look instead at mortgage originations in 2004, when much of the refinancing spike had passed. Our qualitative findings, however, change little when we use 2003 mortgage originations.

<sup>10</sup> We observe the same pattern when plotting per capita mortgage origination dollars by age.

<sup>11</sup> Transition into severe delinquency is calculated as the share of outstanding debt that transitions into a state of severe delinquency, measured as a status of 120 days or more past due, over the course of the calendar year, divided by total outstanding debt.

<sup>12</sup> As noted by Drozd and Serrano-Padial (2013), the majority of default on unsecured credit in the US is informal.

<sup>13</sup> Note that this measure differs from an average taken across the individual debt to asset ratios of the sample households. Patterns reported in the lower panel of each of figures 13, 14, and 15 are similar using the mean across individual households' debt to asset ratios, with the exception of the

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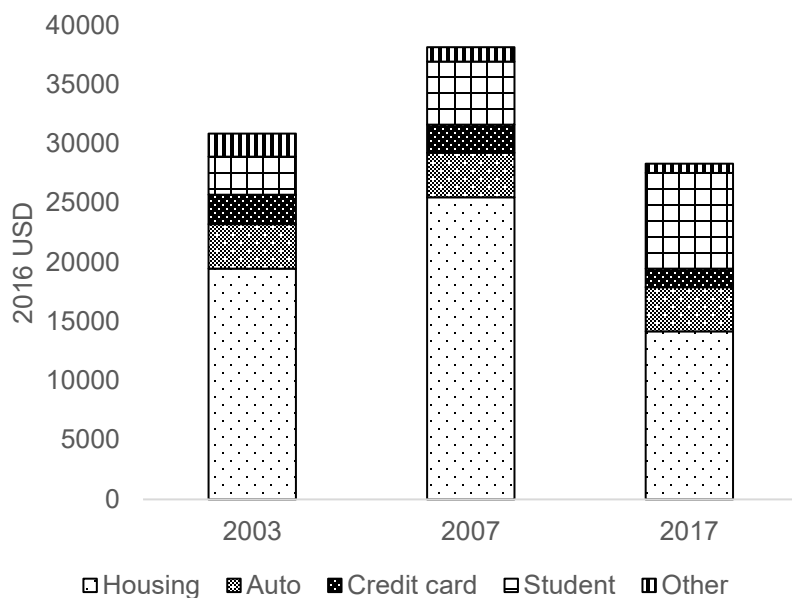
first decile, in which 22 (5) percent of households in the first asset decile in 2001 (2016) hold zero assets.

<sup>14</sup> Two figures provided in the online appendix are constructed similarly, but reflect the growth in debt within each asset decile broken into the standard consumer debt categories. These figures allow us to locate the debt categories most closely associated with the growth in debt dollars among older consumers, and the categories most closely associated with burdensome debt to asset ratios.

<sup>15</sup> Detailed findings on housing debt across the SCF asset distribution appear in the online appendix.

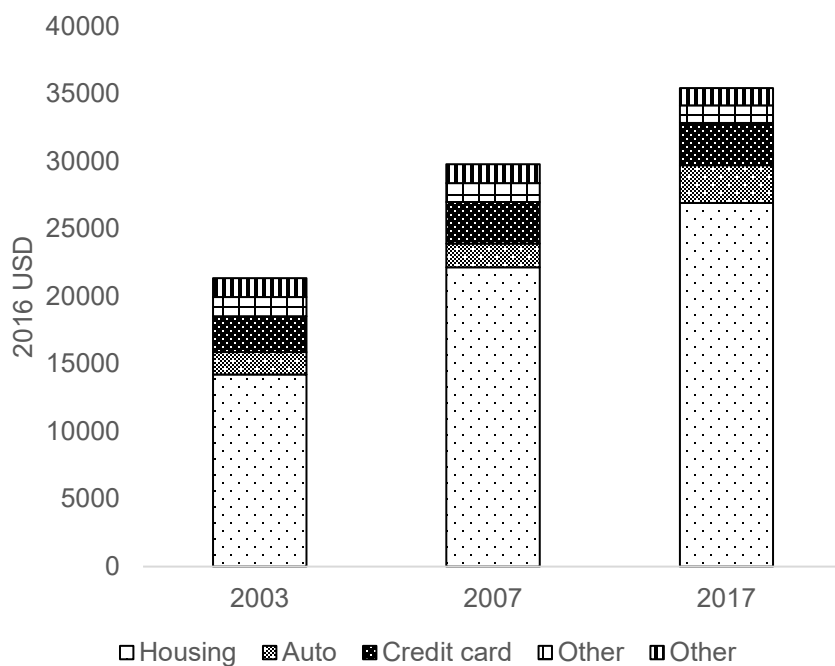
<sup>16</sup> Home equity reached record highs in recent years. See, for example, Haughwout et al. (2018).

<sup>17</sup> These findings are consistent with recent evidence that home equity in the US has reached all-time highs in recent years. See Haughwout et al. (2018).



**Figure 1a.** Composition of per capita consumer debt at ages 18 to 34, CCP

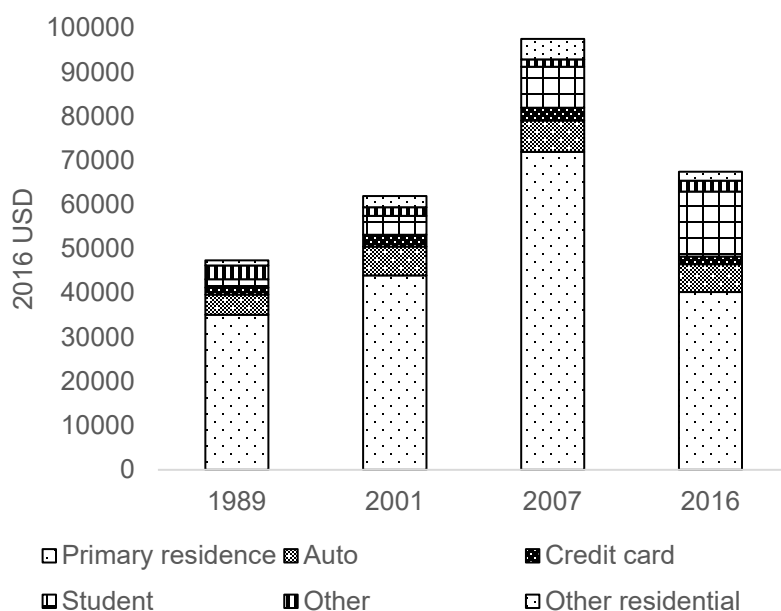
*Source:* Authors' Calculations



**Figure 1b.** Composition of per capita consumer debt at ages 65 and above, CCP

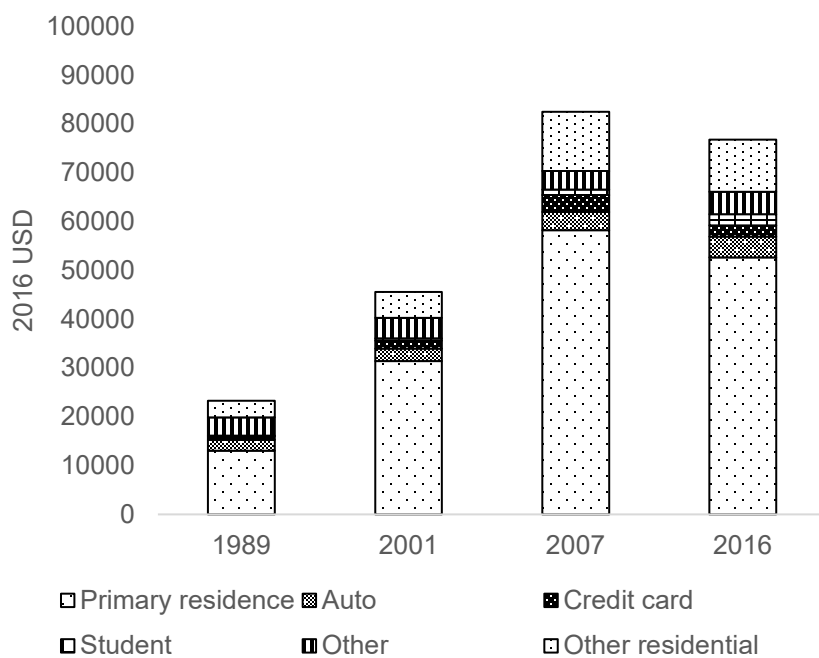
*Source:* Authors' Calculations using New York Fed Consumer Credit Panel / Equifax, Census, years indicated





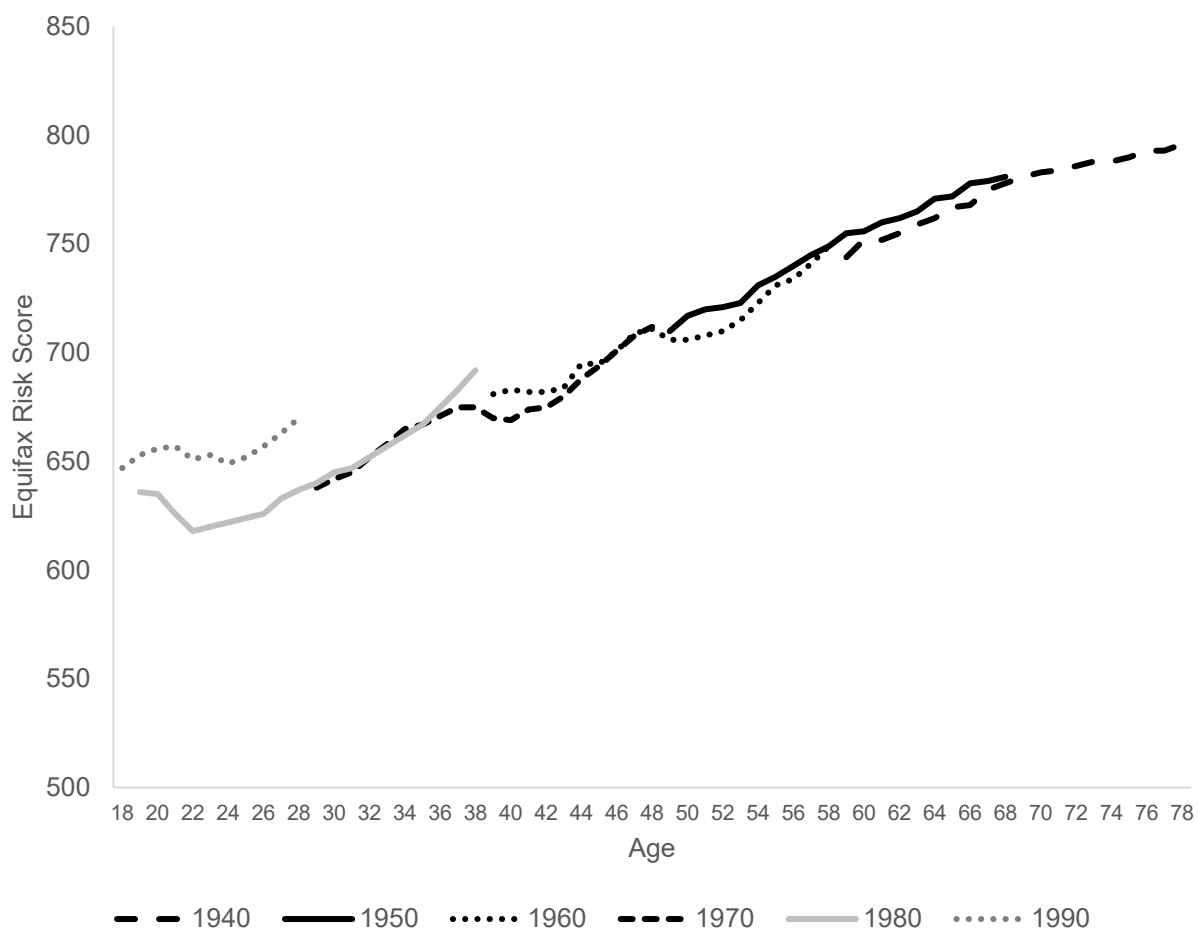
**Figure 2a.** Composition of per household consumer debt at ages 18 to 34, SCF

*Source:* Authors' Calculations



**Figure 2b.** Composition of per household consumer debt at ages 55 and above, SCF

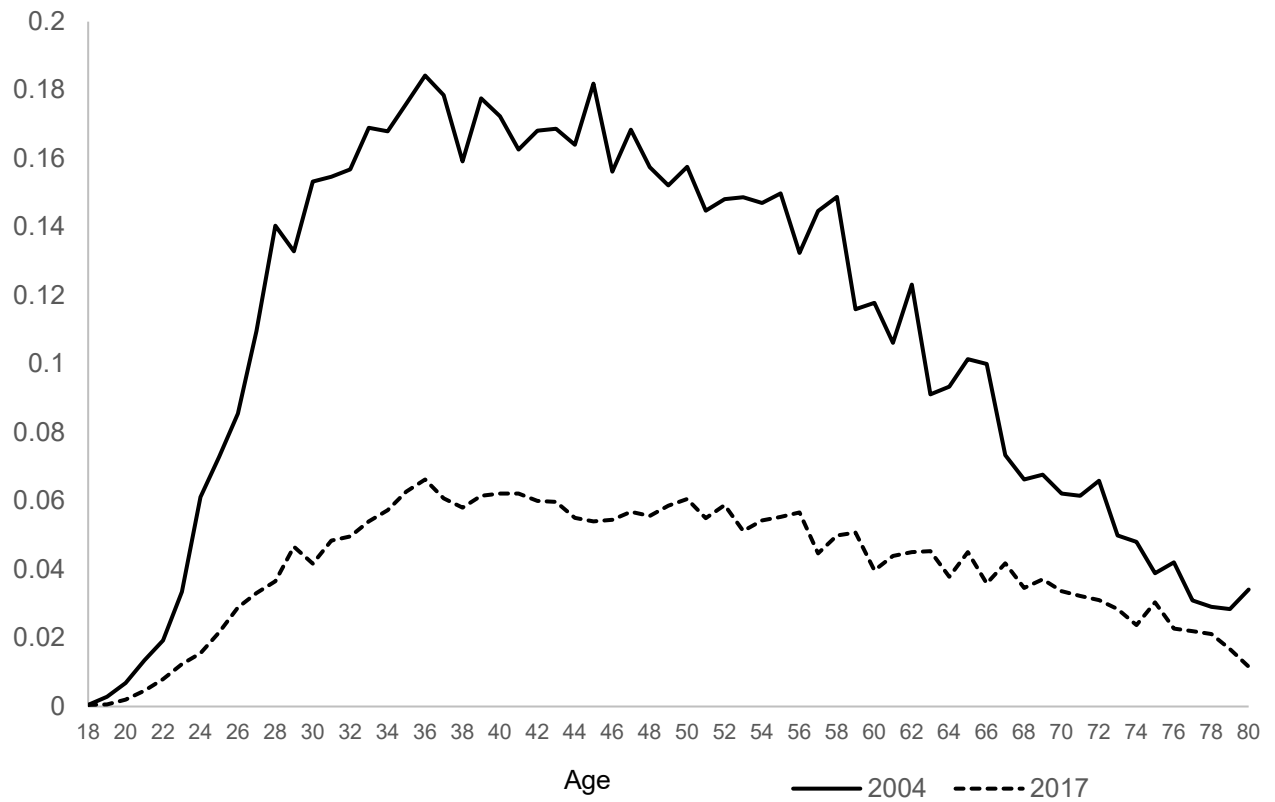
*Source:* Survey of Consumer Finances, years indicated



**Figure 3.** Median Equifax Risk Score by single year of age for five decennial birth cohorts, 1999-2018 CCP

*Source:* New York Fed Consumer Credit Panel / Equifax, years indicated

**Figure 4a.** Mortgage originations per capita by single year of age, 2004 v. 2017, CCP

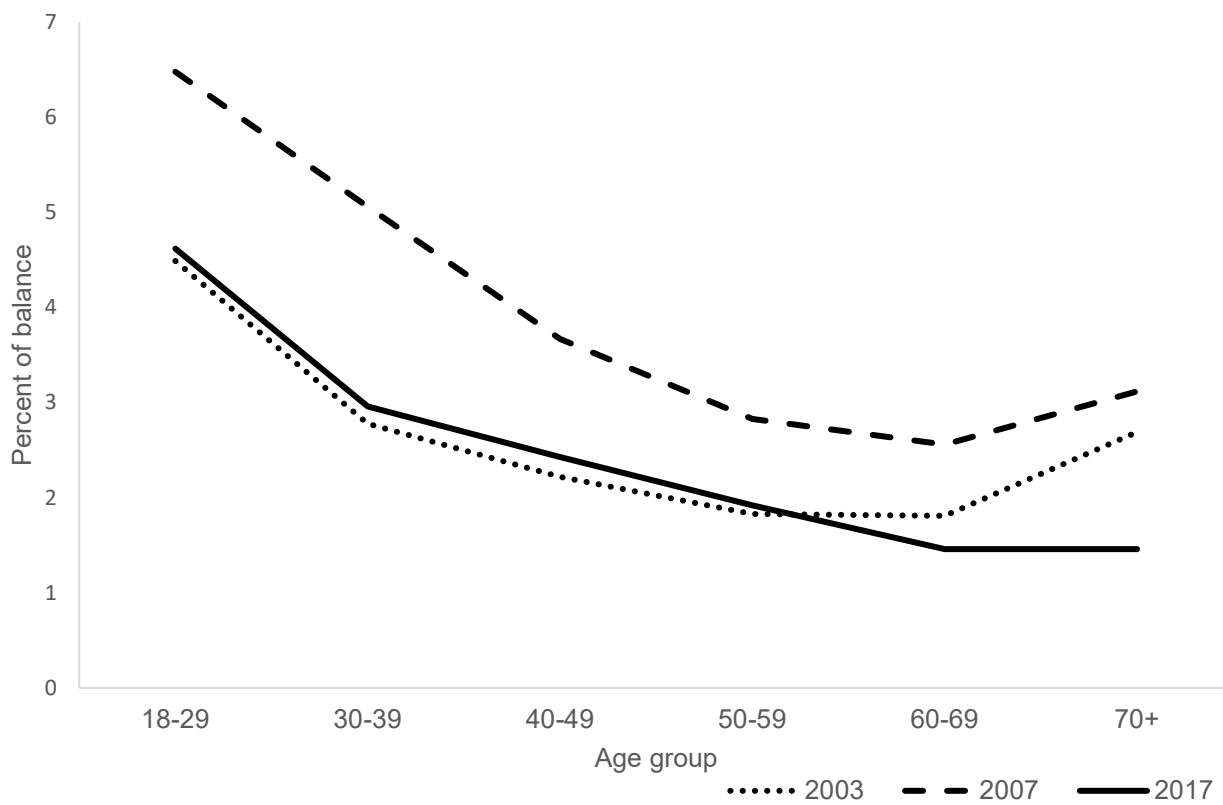


Source: Authors' calculations.



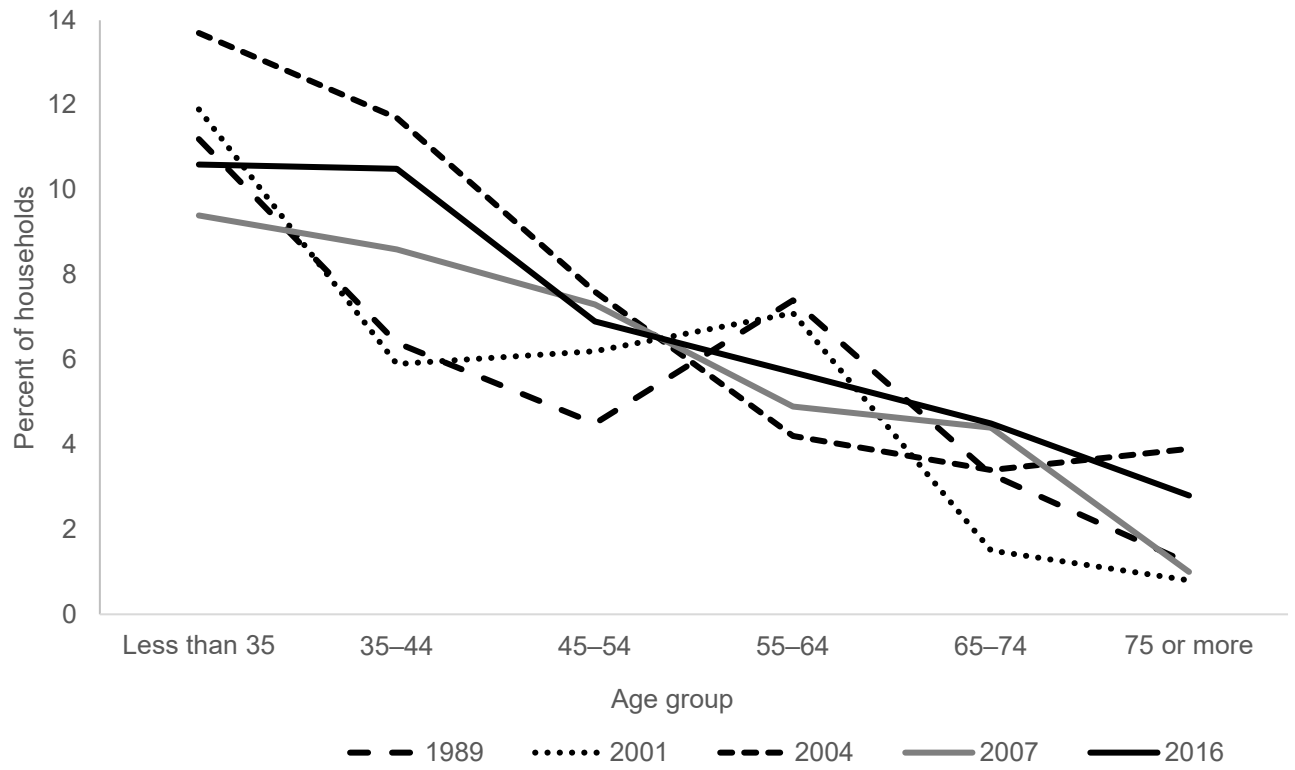
**Figure 4b.** Auto loan originations per capita by single year of age, 2003 v. 2017, CCP

*Source:* New York Fed Consumer Credit Panel / Equifax, Census, years indicated



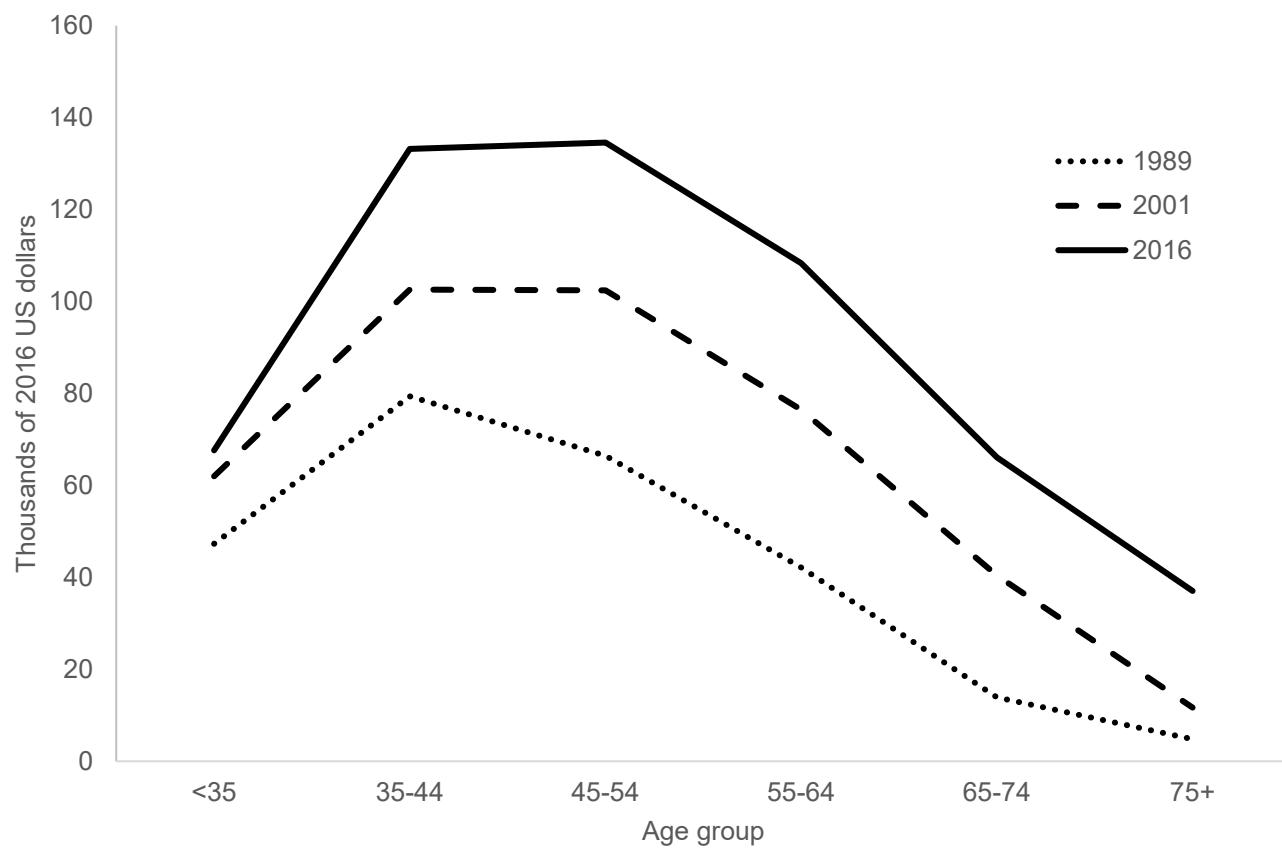
**Figure 5a:** Age profile of transition into severe delinquency, CCP 2003, 2007, & 2017

*Source:* New York Fed Consumer Credit Panel / Equifax, years indicated



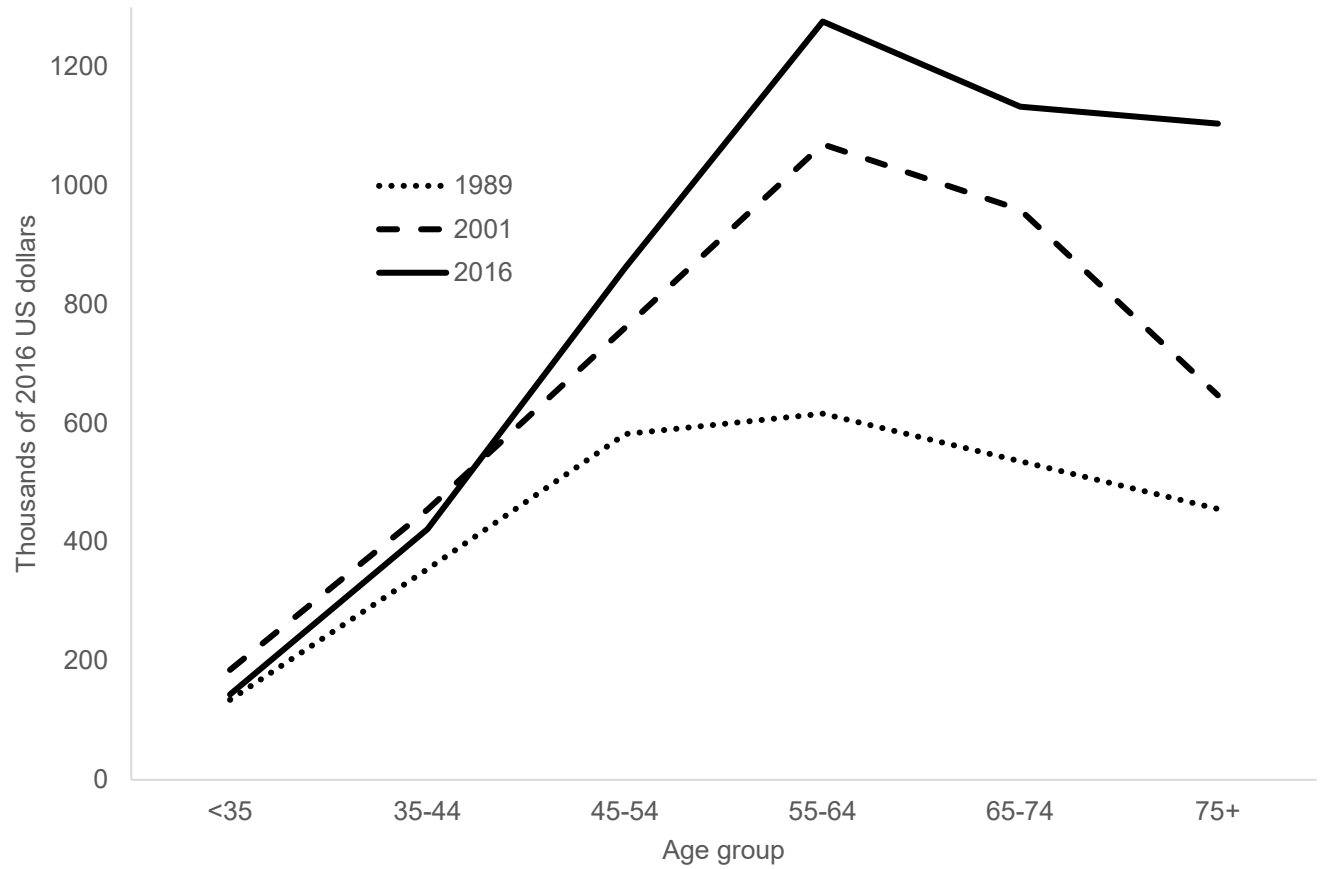
**Figure 5b.** Age profile of the share of households 60+ days past due on any consumer debt, SCF

*Source:* Survey of Consumer Finances, years indicated



**Figure 6a.** Mean household debt by age of household head, SCF 1989, 2001, & 2016

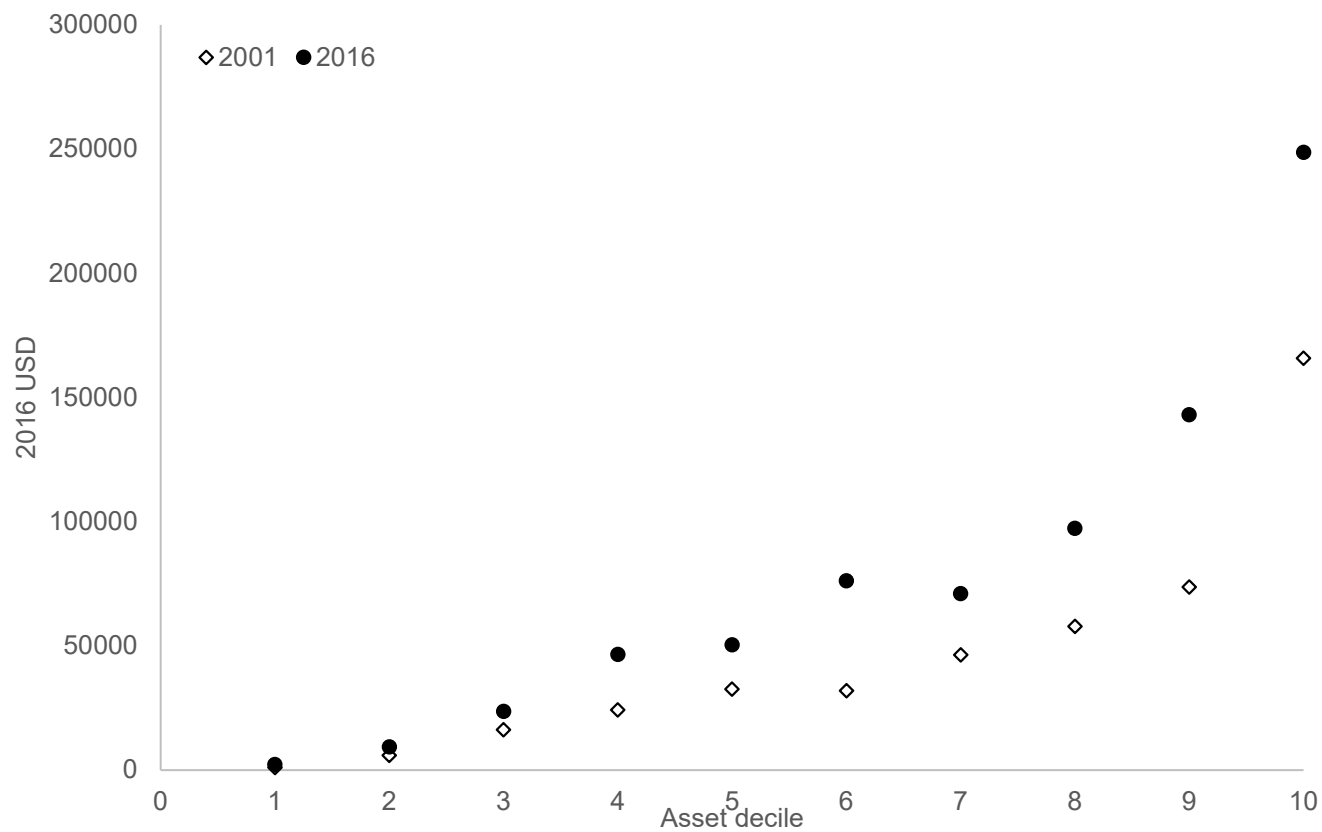
*Source:* Authors' calculations.



**Figure 6b.** Mean net worth by age of household head, SCF 1989, 2001, & 2016

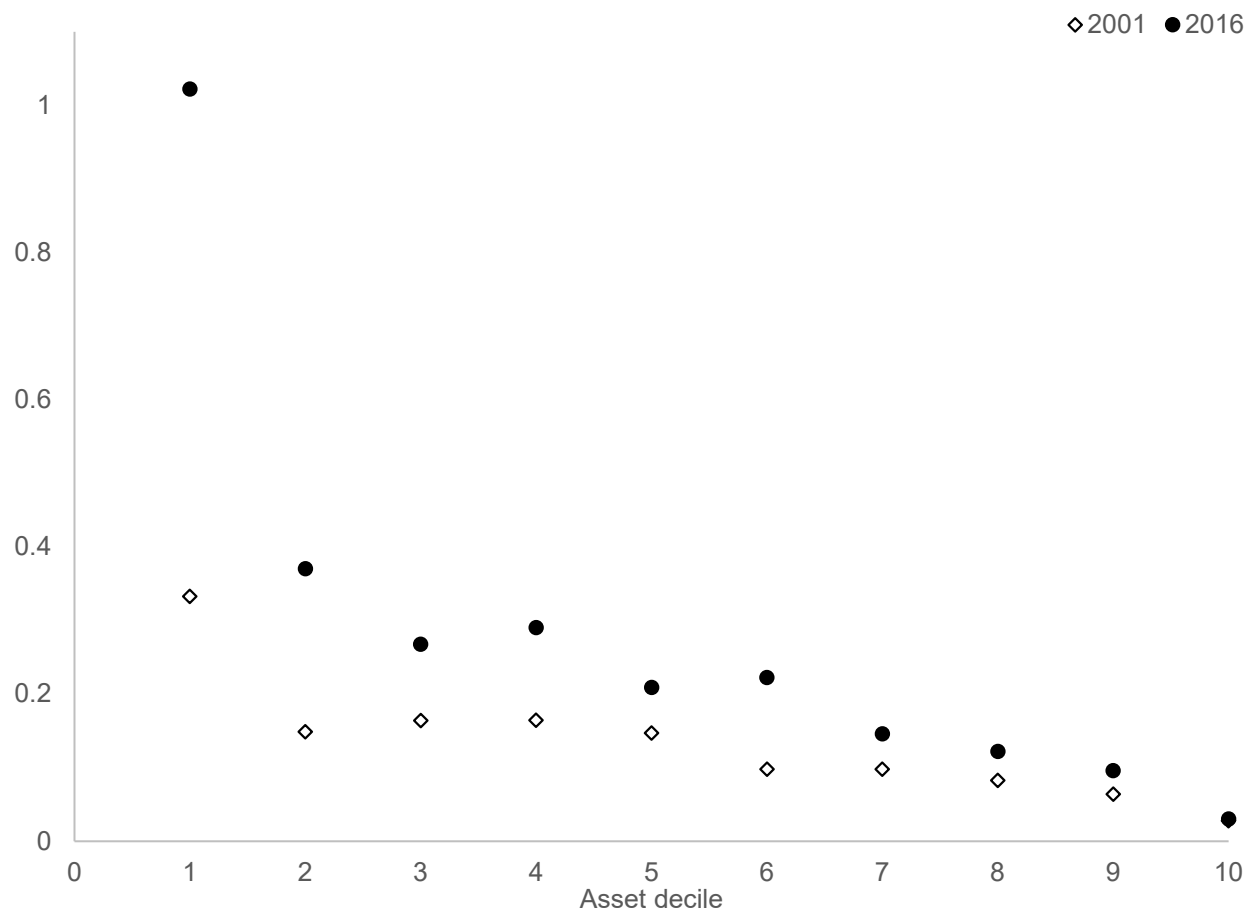
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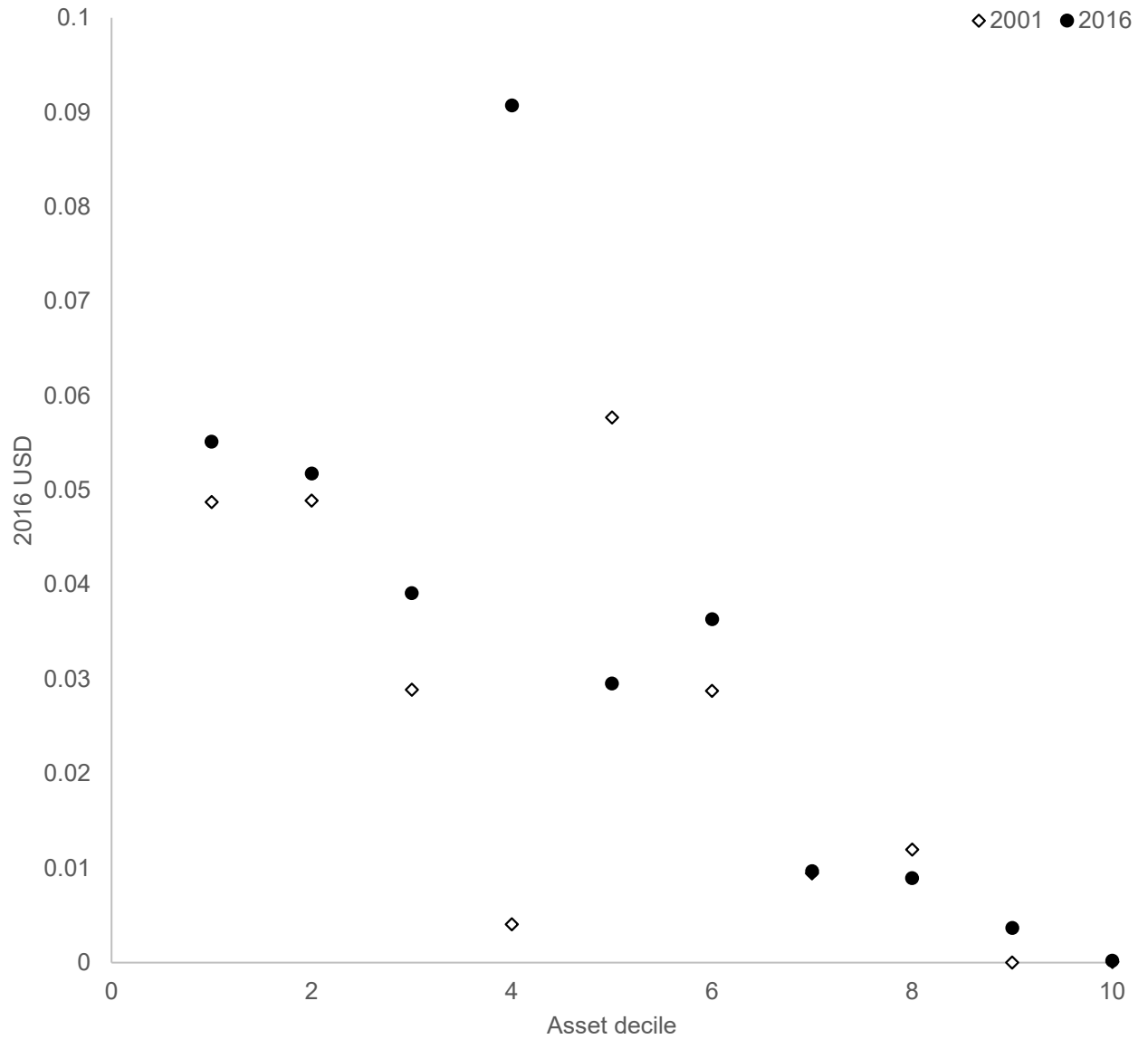
**Figure 7a.** Mean total debt within asset deciles, ages 55+, SCF 2001 v. 2016

*Source:* Authors' calculations



**Figure 7b.** Ratio of mean total debt to mean assets within asset deciles, ages 55+, SCF 2001 v. 2016

*Source:* Survey of Consumer Finances, years indicated.



**Figure 8.** Share of households 60+ days past due on any consumer debt, household head 55 and over, SCF 2001 v. 2016

*Source:* Survey of Consumer Finances, years indicated