

# **The Graying of American Debt - Online Appendix**

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## **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.

*Keywords:* Older adults, debt, Great Recession

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## The Graying of American Debt: Online Appendix

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Our study begins by documenting a decisive rightward expansion of the distribution of aggregate real consumer debt by single year of age between 2003 and 2017. While consumers 35 years of age and younger show approximately no change in real aggregate debt from 2003 to 2017, and the group between ages 36 and 44 experienced a modest decline in aggregate debt, the real aggregate debt held by borrowers 45 and older increases significantly and substantially at each single year of age through (at least) 80. Peak debt growth over the period occurs among 60- to 70-somethings, with 70-year-olds holding 119 percent more real debt in 2017 than did 70-year-olds in 2003.

This growth in debt is next decomposed into changes in aggregate debt arising from (i) the changing age demographics of the US population, and (ii) changes in aggregate debt arising from changing borrowing and repayment behavior. The decomposition indicates that, while most of the growth in aggregate debt by single year of age over the period for consumers in their 50s and 60s is attributable to population growth, most of the increase in debt held by consumers over age 70 is attributable to changes in borrowing and repayment choices. Older Americans are now carrying more than twice the debt into later retirement that they did in 2003. In contrast, those under 35 reduced their per capita borrowing relative to 2003.

### Motivation and Related Literature

**The growth of debt among older borrowers.** The age distribution of US consumer debt has undergone unprecedented change since the early 2000s. Appendix Figure 1 depicts aggregate consumer debt owed by credit file holders by single year of age for both 2003 and 2017. Real

aggregate balances are nearly coincident at each age from 18 to 34 in 2003 and 2017, which is to say, the total dollars of debt in the hands of younger borrowers in recent years are close to the dollars of debt held by younger consumers in the early 2000s. Moving to the right side of the chart, however, we see marked changes in aggregate debt from the age of 46 on, continuing through age 84. The largest increases, in levels, belong to Americans in their late 60s, while the largest increases in percentage terms are for those in their late 70s and 80s. Overall, debt held by Americans aged 50 to 80 increased by 87 percent from 2003 to 2017.

We report the age distribution of aggregate debt and its change to give a picture of the changing characteristics of borrowers taking on, carrying, and repaying the current \$13.54 trillion of outstanding US consumer debt.<sup>1</sup> But, of course, some part of this shifting age of debt arises from the aging of the US population. Appendix Figure 2 decomposes the overall percentage change in aggregate debt at each single year of age into the portion arising from the changing age demographics versus the changing borrowing and repayment behavior at each age. The heavy black line in Figure 2 represents the overall percentage change in aggregate debt for each single year of age. The blue bars represent the percentage change in the number of Americans of that age from 2003 to 2017, calculated using the Census projected population of individuals at each age in 2003 and 2017. The red bars, in turn, represent the percentage change in per capita debt at each age from 2003 to 2017. To generate the red bar values, we divide aggregate CCP debt at each single year of age in 2017 by the Census projected population at each age for 2017; we calculate analogous per capita debt by single year of age measures for 2003; and we depict the percentage change in this ratio from 2003 to 2017.

Appendix Figure 2 shows that the increase in the population age 18 to 37 is roughly offset by lower per capita debt at each of these ages, so that the net change in aggregate debt at each

single year of age from 18 to 37 is quite small. From 38 to 48, the reverse is true, with the debt decline arising from a modest decrease in population at each age, partly offset by an increase in per capita debt at each age, leading to a small net decline in aggregate debt at each age. Hence aggregate debt by single year of age is quite stable from 2003 to 2017 for the young and middle-aged. For people in their early 50s, however, the demographic and behavior changes begin to go in the same direction. The blue bars indicate that the growth in aggregate debt at each age in the 50s is largely the product of population growth, as the late Baby Boomers aging through their 50s in 2017 outweigh the population of 50-somethings in 2003 at each age, and, at the same time, they hold only modestly more debt per capita than their 2003 counterparts (in percentage terms). The percentage change in debt arising from changing borrowing behavior grows to match the contribution of changing demographics for people in their 60s, however, and then the overall percentage growth in debt among consumers in their 70s and 80s is dominated by changing behavior. In particular, real per capita debt at single ages in the 70s increases from 2003 to 2017 by amounts ranging from 71 to 114 percent. Overall, the increasing debt held by older consumers is explained in large part by demographic changes for those nearing retirement age, and also by increases in per capita consumer obligations in the retirement years.

Given these large changes in not only aggregate but also per capita debt by age, we seek to understand the possible sources and mechanisms of such marked changes in consumers' use of financial products. Further, we are interested in whether and how older consumers cope with greater debt obligations. The following section relates the above results and our examination of these two further questions to the state of the existing literature on debt at older ages. Following that, the next section presents more detail on the two data sources we use throughout the paper.

**Related literature.** A small, recent literature has documented and examined the recent rise in debt

among older consumers. Lusardi, Mitchell, and Oggero (2018) track the level and composition of consumer debt across three cohorts of older Americans using the Health and Retirement Study (HRS), observing debt among older Americans ages 56-61 in 1992, 2004, and 2010. They document substantial increases in consumer debt among 56- to 61-year-olds from cohort to cohort, with particularly substantial rises in home-secured debt. They detail the contribution of such housing debt to later cohorts' predicted financial fragility in retirement, and discuss challenges arising from diverging asset and debt balances in retirement as a result of the wedge between interest earned on savings and owed on outstanding debt. Brown, Lee, Scally, Strair, and van der Klaauw (2016) document the growth in debt among older consumers in the CCP through 2015, and they present details on the origins and composition of this growing debt; that Liberty Street Economics blog post serves as a predecessor to the current study. Haughwout, Lee, Scally, and van der Klaauw (2018) address recent and ongoing trends in borrowing, repayment, and bankruptcy in the CCP, emphasizing the relative financial stability of older households and their repayment reliability.

Various papers study the run-up of debt preceding the financial crisis, the subsequent deleveraging process, and heterogeneity in households' experiences of this process, particularly along the dimension of prime versus subprime credit standing. Dynan and Kohn (2007) track household indebtedness and its association with various household characteristics in the advent of the housing crisis. Mian and Sufi (2011), Adelino, Schoar, and Severino (2016), and Brown, Stein, and Zafar (2015) each compare borrowing during the mid-2000s housing boom for prime and subprime consumers, young and old borrowers, or high and low income households, in some combination, and each contribute evidence of greater home-secured borrowing leading up to the housing crisis.<sup>2</sup> Brown, Stein, and Zafar find that older, more creditworthy borrowers sustained

comparatively stable debt levels through the housing crisis and beyond, responding to the movement of home equity borrowing opportunities in response to house price growth by substituting between costly credit card debt and more favorable home equity debt. Their default rates, perhaps as a result, were also comparatively low and stable through the crisis and beyond.

### **Data Sources and Measurement**

**Administrative debt data: The FRBNY Consumer Credit Panel.** The New York Fed Consumer Credit Panel is a longitudinal dataset on consumer liabilities and repayment. The data include individual account-level information on all mortgages, home equity lines of credit, and student loans, as well as information on all credit card and auto loan debt. The panel is built from quarterly consumer credit report data collected and provided by Equifax Inc. Data have been collected quarterly since 1999Q1, and the panel is ongoing.<sup>3</sup> Sample members have Social Security numbers ending in one of five arbitrarily selected, randomly assigned pairs of digits. Hence the sample comprises five percent of US individuals with credit reports (and Social Security numbers). The CCP sample design automatically refreshes the panel by including all new reports with Social Security numbers ending in the above-mentioned digit pairs. Therefore the panel remains representative for any given quarter and includes both representative attrition, as the deceased and migrating consumers leave the sample, and representative entry of new consumers, as young borrowers and migrating consumers enter the sample.<sup>4</sup>

While the sample is representative only of those individuals with Equifax credit reports, the coverage of credit reports (that is, the share of individuals with at least one type of loan or account) is fairly complete for American adults. Aggregates extrapolated from the data match those based on the American Community Survey, Flow of Funds Accounts of the United States, and SCF well.

(See Lee and van der Klaauw (2010) and Brown et al. (2015) for details.)

**Survey-based debt data: The Survey of Consumer Finances (SCF).** The Federal Reserve Board's Survey of Consumer Finances is a triennial survey of US households, focusing primarily on household assets and liabilities. The survey was first fielded in 1983, and the present study includes the 1989, 2001, 2004, 2007, and 2016 waves. The sample size of each survey was roughly constant through 2007, followed by an increase in sample size for the later waves: in 2001 the survey included 4,442 households, in 2004 4,522 households, in 2007 4,422 households, and by 2016 6,254 households. The survey includes both a geographically-based representative sample of households and an over-sample of wealthy households. All results for the SCF reported here are weighted to be representative of the population of US households, using the Kennickell-Woodburn consistent weights provided by the survey.<sup>5</sup> Further, we rely on the survey's multiple imputation methods where relevant data are missing.<sup>6</sup> Bucks et al. (2009) provide a detailed description of the 2001, 2004, and 2007 data. Bricker et al. (2012) detail the 2007 and 2010 data, and Bricker et al. (2017) the 2013 and 2016 data.

It may aid the reader's interpretation of observed similarities and differences between the survey and administrative debt data to include a sketch of the survey process that produces the consumer-side debt measures. The SCF measures are the product of a richly designed and meticulously managed interview of relevant household members by a carefully trained interviewer. Interviews may occur in person or via phone. In 2010, for example, an unweighted 70.4 percent of the interviews were conducted in person and the balance by phone.

Interviewers are instructed to encourage respondents to rely on documentation to provide details that assist them in answering the highly specific battery of financial measures being fielded. They are also instructed to encourage the use of interview cards for keeping notes relevant to the



sequence of questions. Further, the SCF provides variables indicating whether and what type of documentation the respondents referenced during the course of the interview, along with how credible the interviewer found the responses as a whole.

**Coverage of older households.** Because we focus on older consumers' borrowing and repayment decisions, it is worth reviewing sample coverage at older ages. Appendix Table A1 reports a comparison of the age distribution of household heads in the Census, SCF, and CCP in 2007. While the Census and SCF data offer direct information on the composition of households, the age distribution for the CCP reflects an analysis of households constructed from individual CCP credit files based on shared residential addresses.<sup>7</sup> Using this method, we see that the Census projects that 16.84 percent of US households are headed by individuals ages 55 to 64. In comparison, 16.8 percent of SCF households 15.34 percent of CCP households have heads ages 55 to 64.<sup>8</sup> The Census projected share of households with heads 65 and older is 20.50 percent. The share of SCF households with heads ages 65 and over is 21.1, and the share of CCP households ages 65 and over is 16.45. The age composition of the three data sources at younger ages is similar, with a slightly greater representation of middle-aged households in the CCP relative to the Census and SCF.<sup>9</sup>

Taken together, this information suggests representative coverage of older households in the SCF, as expected, and a modest underrepresentation of older households among credit report holders and therefore in the CCP. This may be unsurprising from the perspective of the traditional life cycle model of saving and borrowing. As consumers age beyond the peak of a hump-shaped age-earnings profile, eventually the life cycle model predicts that they will have repaid all prior consumer debts and move into a period in which they dissave accumulated assets. Such consumers will age far enough beyond the borrowing phase of the life cycle that the seven- to ten-year window

of the credit report will reflect no active debts or recent history of active debts. Moreover, a rapid democratization of consumer debt in the US took place largely in the 1980s and 1990s. (See Athreya (2001) and Livshits, McGee, and Tertilt (2016). The age 75 and above group that appears to be most underrepresented in the CCP dataset (at 7.56 percent of the CCP sample versus 10.6 percent of the SCF sample) would have experienced the rapid emergence of consumer debt at or near mid-life, and therefore we might expect a larger portion of this cohort not to have established credit records at all, as compared with current younger cohorts. As conventional consumer debts such as mortgages, home equity loans, and card, auto, and student debt, each trigger credit reports, this incomplete coverage of consumers of advanced ages in the CCP likely reflects an absence of debt.

Our interests in this paper lie in the volume and size of consumer debt held by older Americans. Therefore, even at older ages, the CCP provides a viable measure of consumer debts when studied in combination with Census data. We infer that consumers represented in the Census but not in the CCP hold no conventional consumer debt, and we use the Census population to denominate our various CCP measures of per capita consumer obligations and related characteristics throughout the paper. Aggregate balances need no adjustment for the zero debt levels of consumers appearing in the Census but not the CCP; the same can be said of our CCP delinquency measures, which are reported in shares of outstanding debt.

**On the (somewhat complementary) advantages and drawbacks of administrative and survey-based consumer debt data, and, specifically, of the CCP and SCF.** To this point, we have discussed CCP findings at the level of the individual or borrower, but SCF findings at the level of the household. We will continue to take this approach. The CCP samples credit reports at the individual level, and, while it is possible to construct household-level debt aggregates using

the CCP, we believe that there is no meaningful advantage to taking this approach with the data in the study of older consumers.<sup>10</sup> Where household-level evidence is of value, it is most naturally gathered from the SCF whose primary sampling unit is that of the household.<sup>11</sup>

Further, the CCP provides debt characteristics reported for the fileholder in question by the lending institution associated with each debt. The SCF, on the other hand, presents data from a household survey reported by the household members themselves. More specifically, it provides the debt information supplied to the survey by the relevant household respondent. While Bucks and Pence (2008) demonstrate a high degree of reliability in SCF households' reports regarding home value and mortgage characteristics, Zinman (2009) finds a 50 percent underrepresentation of credit card balances in the reports of SCF households relative to administrative data; Brown, Haughwout, Lee, and van der Klaauw (2015) find a 35 to 50 percent underreporting of card debt and 25 percent underreporting of education debt in the SCF relative to the CCP.<sup>12</sup> Given this evidence, we take the approach of relying on both administrative data (the CCP) and survey data (the SCF) to provide a more comprehensive picture of debt at older ages. Administrative data are of value where a full representation of debt is required, including unsecured debt balances that may be tracked less effectively by borrowers. Survey data have the advantage where aspects of household finances not recorded by lenders or credit reports are relevant.

One example of this advantage appears in the case of distinguishing among various housing liens held by a single household. Among administrative housing data sources, the CCP stands out for its ability to track multiple loans held by a single household, as opposed to the property level employed as the unit of observation in several other administrative mortgage data sources. However, credit reports, and by extension the CCP, are less able than survey data to distinguish loans secured by the individual's primary residence from loans secured by second homes or

vacation property. This distinction becomes more difficult at older ages, as older individuals have more often fully amortized past mortgages, leading a loan secured by a second home or vacation property more often to appear as the sole mortgage on an older fileholder's credit report. Hence we rely on the CCP for a comprehensive administrative picture of the sum of residential debt held by individuals at each age under consideration, and the SCF for an informative breakdown of residential debt into debt secured by the primary residence and residential debt secured by second homes and vacation properties.

Other distinctions may be obvious, as administrative CCP data are available at quarterly frequency, describe the debts of millions of individuals, and are usually more current than SCF data, which update every three years. Further, credit reports exist in large part to represent consumers' repayment histories, and so the CCP's administrative credit report data may be particularly reliable, relative to self-report, regarding the repayment and delinquency outcomes of the consumer's various loans. SCF survey data, on the other hand, offer the advantage of including a host of other information about the household that isn't (and, presumably, should not be) available to lending institutions and credit scorers as a part of credit reports. One detail of particular relevance to the present study is the asset side of the household's balance sheet. Therefore we use information provided by the SCF to examine developments in the relationship between household assets and debts.

### **Heterogeneity in Debt and Repayment**

Part of the explanation for their success in avoiding delinquency may arise from asset and income levels that have risen in tandem with debt balances for older Americans. Appendix Figure 3 shows the ratio of self-reported monthly debt payments to monthly income from the SCF for the same

1989, 2001, 2004, 2007, and 2016 waves. The payment to income share is presented as a typical measure of repayment burden. Each point depicted in the figure represents the mean within the given age group of the ratio of self-reported monthly debt payments to monthly income. This ratio is reported in percentage terms. While there is meaningful variation in the level of mean payment to income ratios from wave to wave of the survey, with 2007 payment to income ratios consistently at or near the top of the range and 1989 and 2016 ratios consistently near the bottom, one insight relevant to the discussion in this section stands out: there is little to no age trend in the payment to income ratio evident in this chart. Payment to income ratios are fairly flat across age groups for 1989, 2007, and 2016. They decline modestly with age in 2004 and increase modestly with age in 2001. Appendix Figure 3 gives no suggestion that the repayment burdens experienced by older borrowers are any better or worse than those experienced by the young. Moreover, the evidence suggests that repayment burdens for the broader population have in fact improved over time.

Overall, the evidence on payment burden and delinquency fails to indicate a decrease in repayment demands relative to income, or an increase in delinquency, as the debt obligations of older consumers have undergone the rapid growth described in the earlier sections of this paper. One source of surprise, and perhaps concern, is the observation that older borrowers in similar payment burden situations to younger borrowers are nevertheless more likely to repay their loans. It is not clear that older borrowers have more need of clean credit histories going forward than younger borrowers do. Given similar payment burdens, then, it is noteworthy that the financial practices of older borrowers lead them to repay when their younger counterparts, in similarly challenging circumstances, would not.

Two figures provided in this 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. Each point in Appendix Figures 4 and 5 indicates the mean *change* in debt level, or mean change in the ratio of debt to assets, from 2001 to 2016.

The evidence on the evolution of debt to asset ratios across the household asset distribution also allows us to point to a region in which older households may be struggling with increasing debt burden and the types of debts most closely involved. Panel (b) in each of Appendix Figures 4 and 5 depicts the change in the ratio of debt to assets for a variety of debt types. Appendix Figure 4 describes residential debt, separating it into debt secured by the primary residence and debt secured by other residential property. Appendix Figure 5 describes the other major categories of consumer debt: auto, card, and education debt. While the dollar amounts of the increases in these various debt categories are small for the bottom half of the asset distribution relative to the dollar amounts of the residential debt increases accumulated by the top two deciles of the asset distribution, their associated debt to asset ratios may be consequential. The 2001 to 2016 increases in primary residence debt held by households in the 3rd through 7th deciles of the household asset distribution, when measured as a fraction of overall assets, are substantial. The primary residence debt grows by an amount equal to 10 percent of assets for the households in the 3rd decile of the asset distribution; the analogous figures for the 4th through 7th deciles are 7, 4, 11, and 4 percent of household assets, respectively. This increase in debt obligations attached to the primary residence for households approaching and in retirement may have a meaningful influence on financial stability in retirement.

Appendix Figures 4 and 5 allow us to dig into the contributions of the various debt types to this tripling of debt to asset ratios for the lowest decile of the SCF household asset distribution.

Our findings on this point are decisive. While the 2nd through 5th deciles of the asset distribution experienced some modest increases in the ratios of auto, card, and education debt to assets, the only particularly noteworthy change in asset ratios in this figure is the increase in the ratio of education debt to assets among households in the lowest decile of the asset distribution. We observe that the dollar amount of the rise in student debt among this group is equivalent to 55 percent of its total household assets.

Appendix Figure 6 tracks the rate of transition into severe delinquency of debt balances in the CCP over time among four groups: borrowers under age 55 in the lowest quintile of zip code incomes, borrowers over age 55 in the lowest quintile of zip code incomes, borrowers under 55 in the highest quintile of zip code incomes, and borrowers over 55 in the highest quintile of zip code incomes. Two facts stand out from this chart. First, all four groups of borrowers are experiencing historically low rates of transition into delinquency. Second, while high income borrowers of all ages experience similarly low rates of transition into delinquency, older low-income borrowers also show encouragingly low rates of transition throughout the panel, particularly in recent quarters. Where struggles with repayment do appear in this figure, they belong to the younger low-income borrowers, consistent with Haughwout, Lee, Scally, and van der Klaauw (2019), who report that auto loan delinquency among younger borrowers spiked by the end of 2018.

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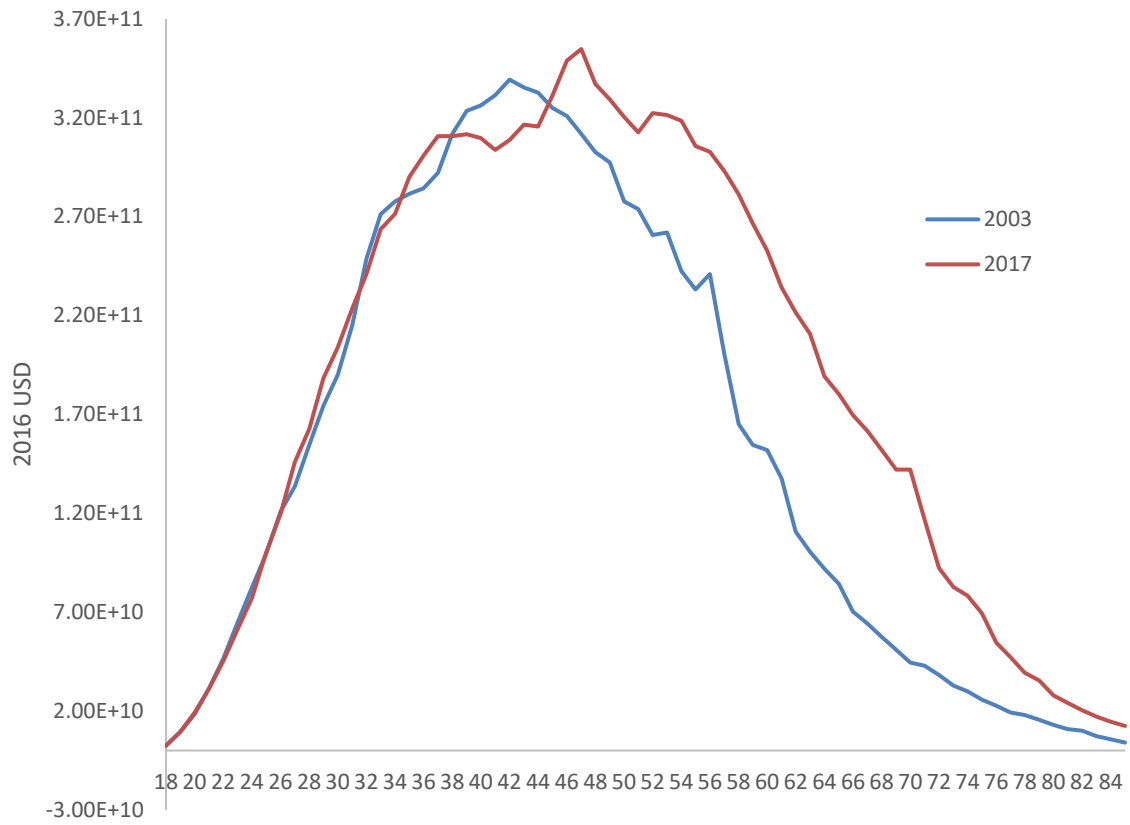
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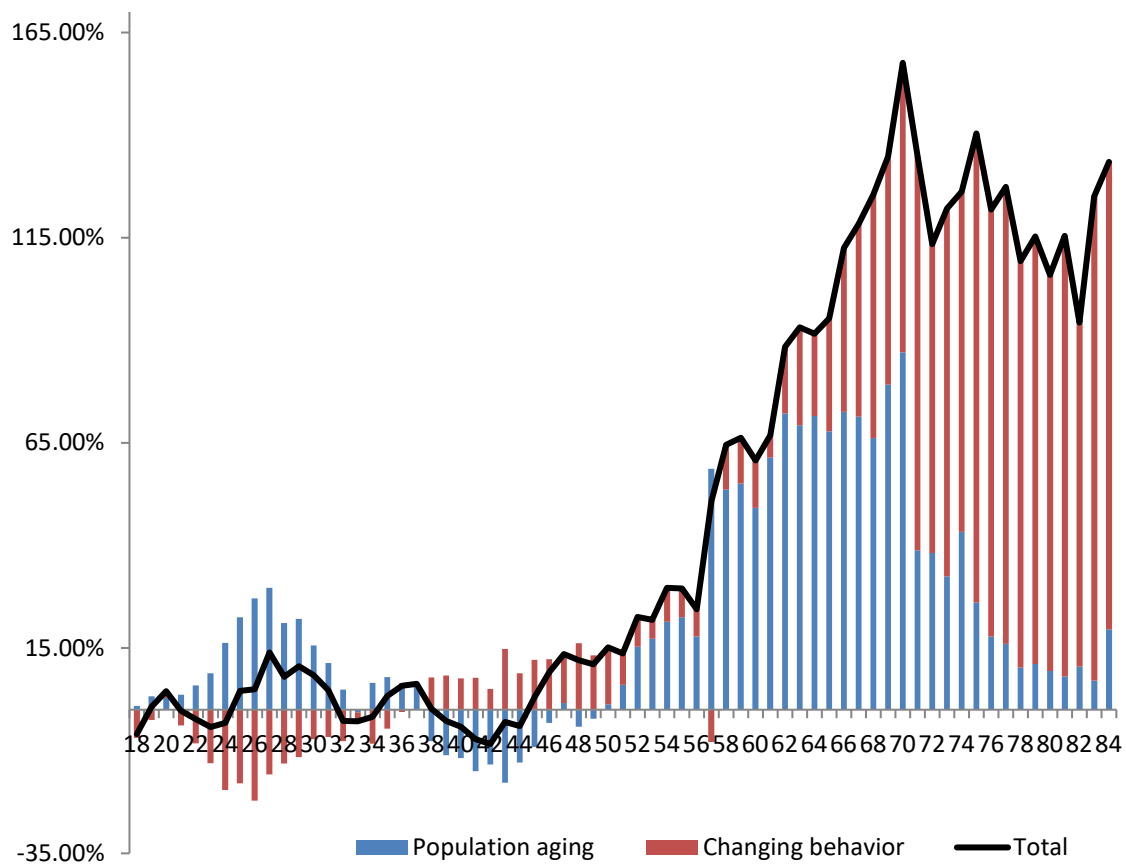
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**Appendix Figure 1: US aggregate consumer debt by single year of age, CCP 2003 v. 2017**

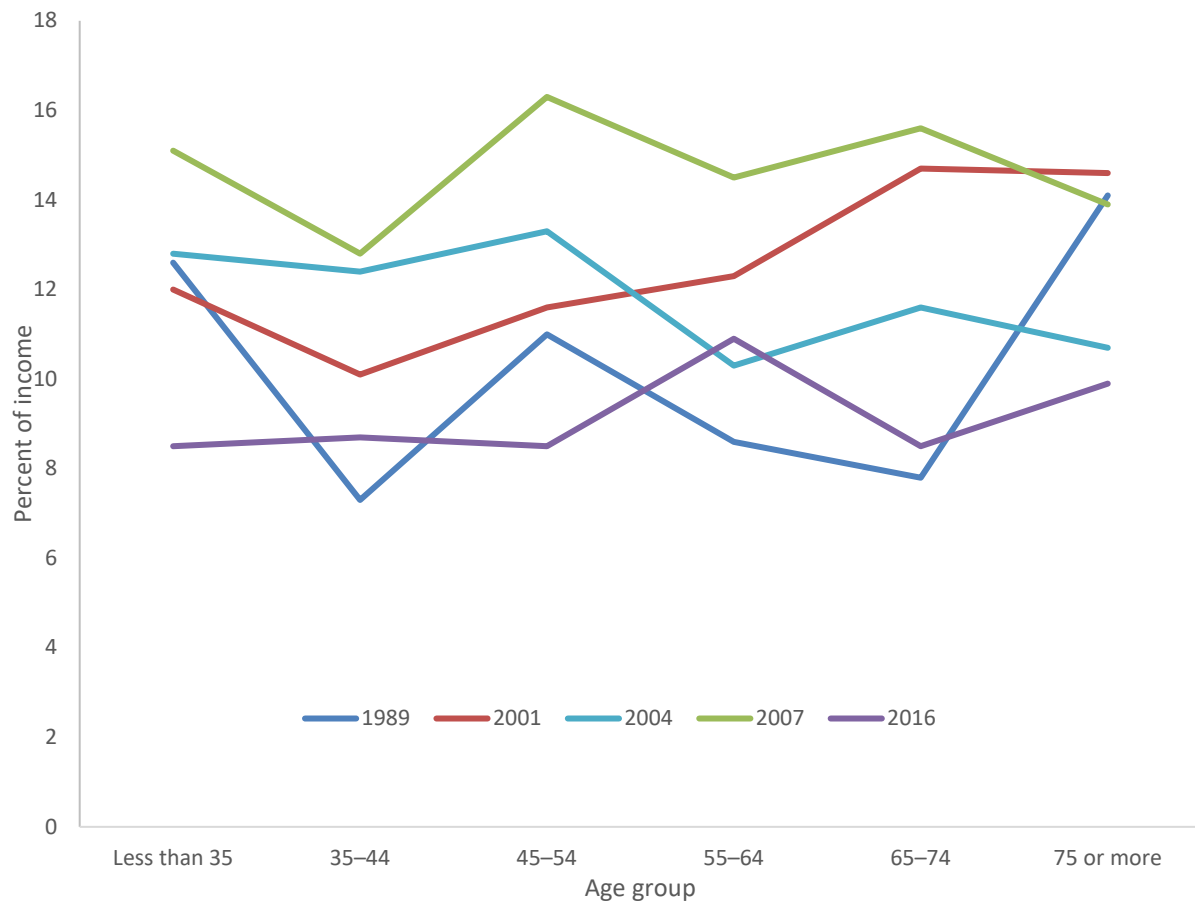
Source: New York Fed Consumer Credit Panel / Equifax

**Appendix Figure 2: Decomposition of percentage change in aggregate debt by single year of age into percentage change in population and percentage change in per capita debt, CCP**



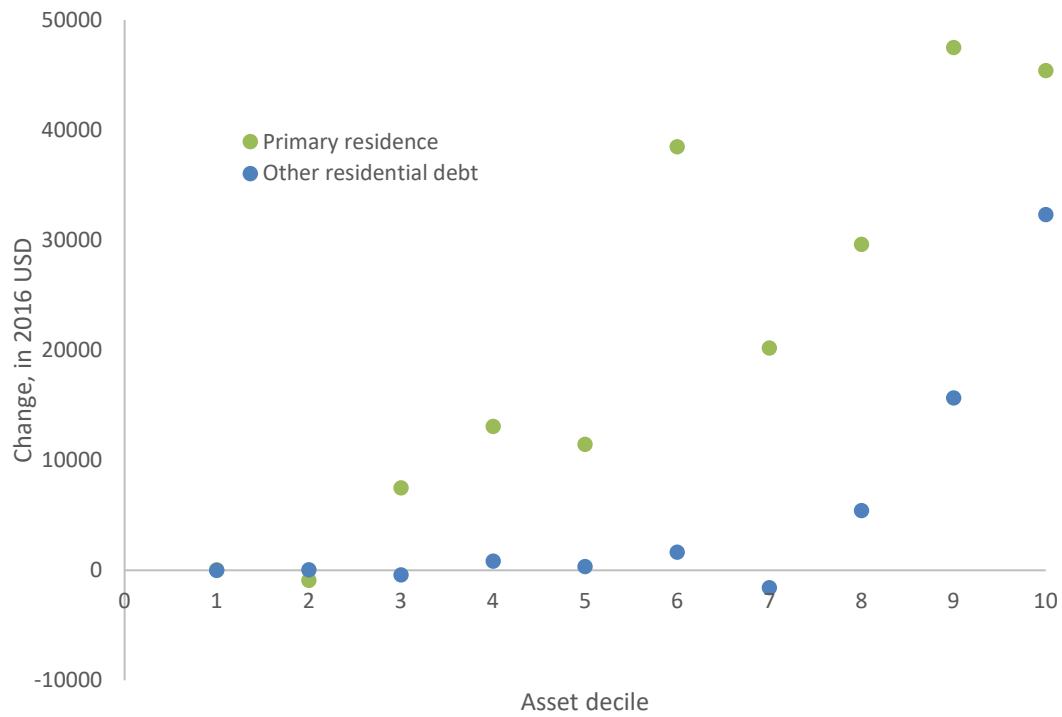
*Source: New York Fed Consumer Credit Panel / Equifax, Census*

**Appendix Figure 3: Age profile of the ratio of self-reported debt payments to income, SCF 1989, 2001, 2004, 2007, & 2016**

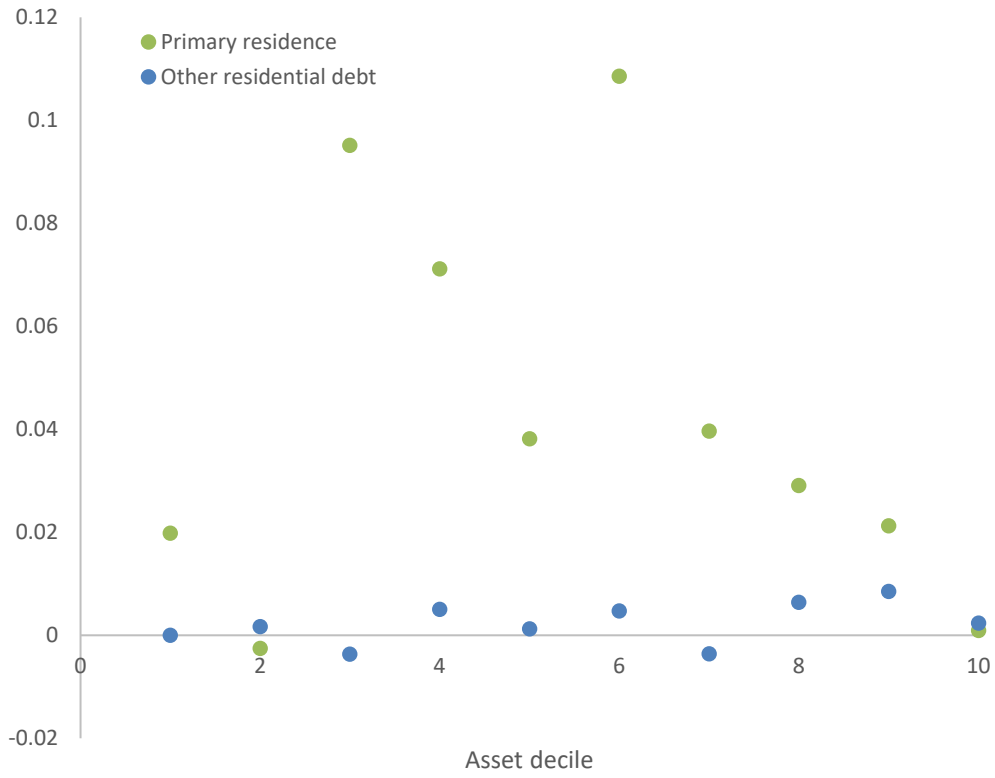


*Source: Survey of Consumer Finances*

**Appendix Figure 4a: Change in mean residential debt within asset deciles, ages 55+, SCF 2001-2016**



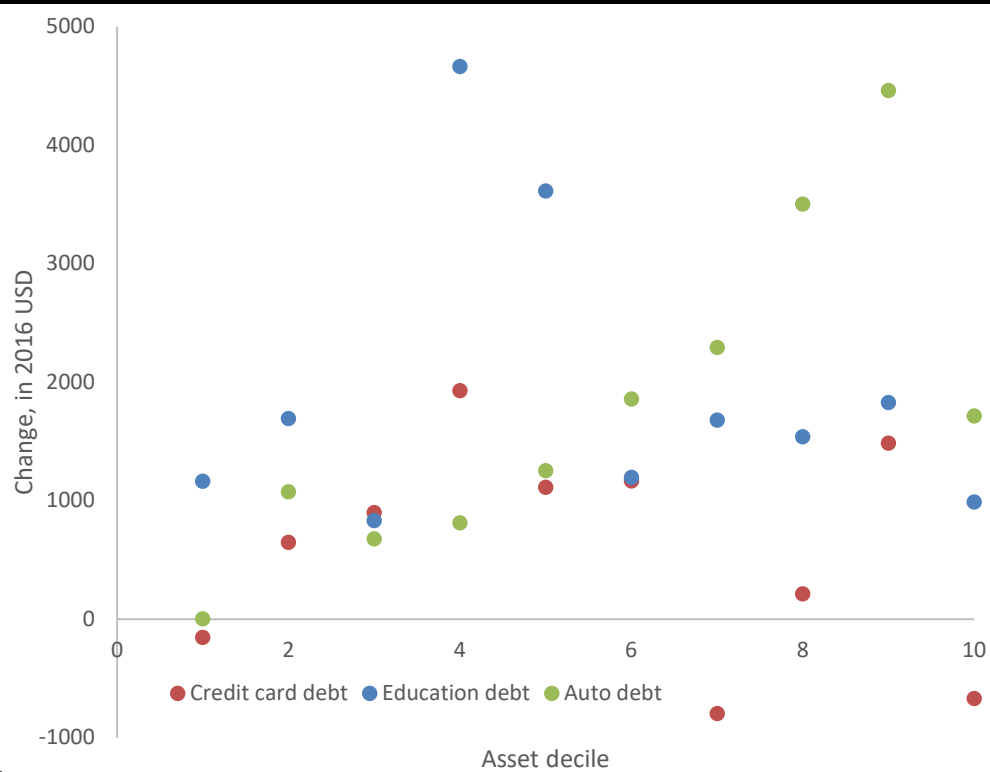
**Appendix Figure 4b: Change in mean residential debt to asset ratio, ages 55+, SCF 2001-2016**



Source: Survey of Consumer Finances

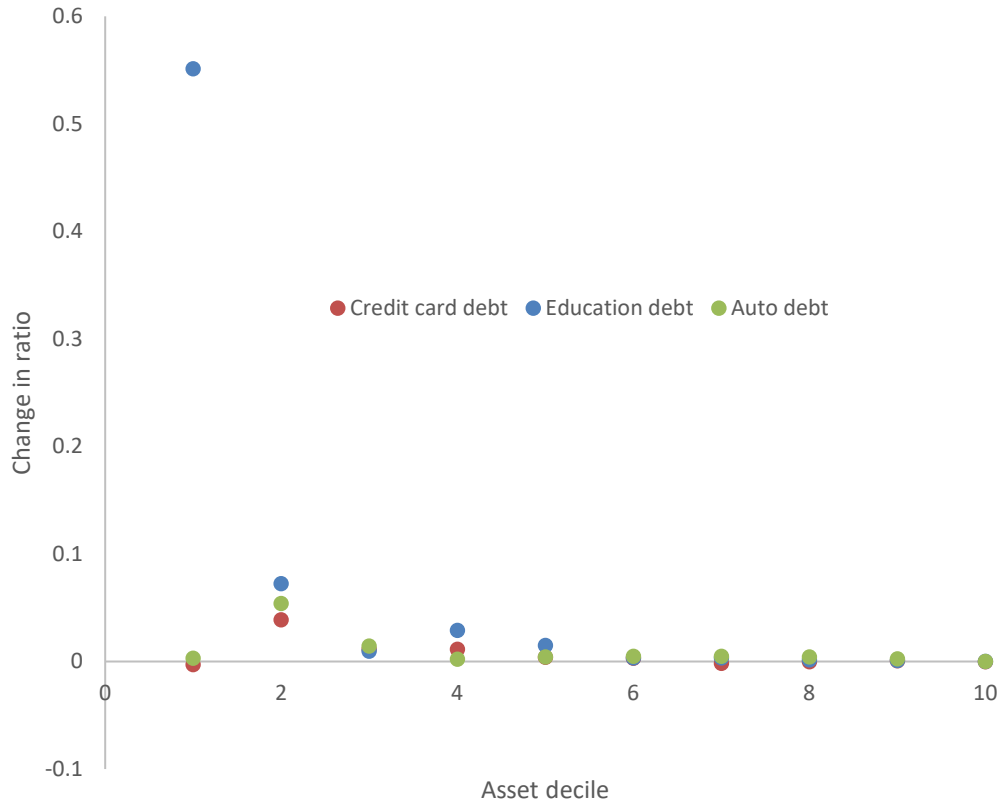
Source:

**Appendix Figure 5a: Change in mean debt by type within asset deciles, ages 55+, SCF 2001**



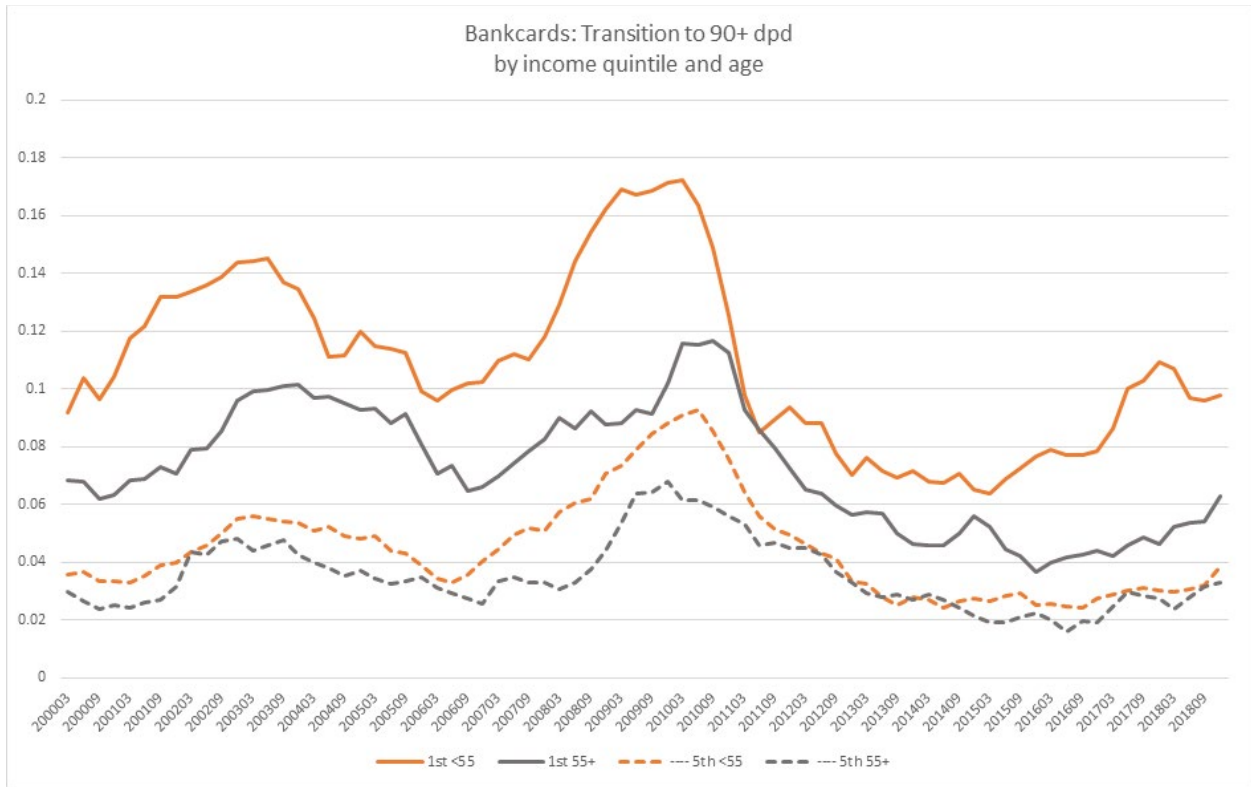
**v. 2016**

**Appendix Figure 5b: Change in mean ratio of debt to assets within asset deciles, ages 55+, SCF 2001-2016**



**Appendix Figure 6: Transition into 90+ days past due delinquency among first and fifth zip code income deciles, above and below 55 years of age, CCP**





Source: New York Fed Consumer Credit Panel / Equifax

**Appendix Table A1: Age of household head distributions in the SCF, CCP, and Census projection in 2007**

<b>Age group</b>	<b>SCF</b>	<b>CCP*</b>	<b>Census</b>	
< 35	21.7	20.64	20.70	
35-44	19.6	24.21	20.27	
45-54	20.8	21.84	21.69	
55-64	16.8	15.34	16.84	
65-74	10.5	8.89	20.50	**
75+	10.6	7.56		

\* Age of household head inferred from the median age household member.

\*\*Note that the Census projection category is 65+.

Source: Brown, Haughwout, Lee, and van der Klaauw (2015).

<sup>1</sup> New York Fed (2019). Note that we report only this financial measure in 2018 dollars, to be consistent with the figure in the most recent Quarterly Report on Household Debt and Credit.

<sup>2</sup> As we will see below, inferred creditworthiness of older borrowers is systematically greater for older borrowers, and so a distinction between prime and subprime status correlates informatively with borrower age.

<sup>3</sup> Student debt data are only available in the CCP starting in 2003.

<sup>4</sup> See Lee and van der Klaauw (2010) for details on the sample design.

<sup>5</sup> We use the revised Kennickell-Woodburn consistent weights for the more recent data.

<sup>6</sup> Kennickell (1991, 1998) describes the imputation methods used in the SCF.

<sup>7</sup> This table first appeared in Brown et al. (2015).

<sup>8</sup> This SCF share is calculated using the sample weights produced by the SCF survey administrators at the Federal Reserve Board.

<sup>9</sup> Credit report coverage of the broader US population has been studied extensively. Lee and van der Klaauw (2010) extrapolate similar populations of US residents aged 18 and over, overall and by age groups, using the CCP and the ACS, suggesting that the vast majority of US individuals at younger ages have credit reports. Jacob and Schneider (2006) find that 10 percent of US adults had no credit reports in 2006, and Brown et al. (2015b) estimate that 8.33 percent of the (representative) Survey of Consumer Finances (SCF) households in 2007 include no member with a credit report.

<sup>10</sup> No advantage, that is, other than comparison across data sources. We report detailed comparisons of the household-level debt inferred from the reports of lenders in the CCP and borrowers in the SCF in Brown, Haughwout, Lee, and van der Klaauw (2015). This type of comparison is not the objective of the current paper.

<sup>11</sup> The SCF collects data on the primary economic unit<sup>11</sup>, whose definition includes some technical refinement relative to the term “household”. By “household” in the following discussion, we in fact intend primary economic unit.

<sup>12</sup> Henriques and Hsu (2014), however, calculate a narrower gap between the credit card debt measurements in the SCF and CCP.