

Does Student Loan Debt Contribute to Racial-Wealth Gaps? A Decomposition Analysis*

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Abstract

There is evidence of a large and growing student debt burden over the last decade. Previous research has shown that the presence of student debt jeopardized the short-term financial wealth of U.S. households during the Great Recession. We examine the effects of student loan use on the wealth of U.S. households post-recession, using recent data from the 2013 and 2016 Survey of Consumer Finances. We find that mean 2016 wealth for households with no outstanding student debt is more than four times higher than households with student debt. We find that living in a household at the 15th, 30th, 50th, 70th, and 85th percentile of the wealth distribution with student debt is associated with a 80%, 49%, 37%, 35%, and 36% wealth loss compared with a similar household with no student debt. Our decomposition results suggest that student loan use can explain between 3-7% of the Black-White wealth gap across the wealth distribution but is insignificant in explaining the Hispanic-White wealth gap.

Keywords: Student loans, Consumer debt, Wealth Inequality, Racial Disparities, Educational finance

JEL classification: D14, H81, I22, I24

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1 Introduction

In the United States, the student loan system was designed to serve as an instrument for social mobility. However, over the last decade, there is evidence of a large and growing student debt burden. A record one-in-five households in the U.S. now owe student loan debt relative to one-in-ten in 1989, and forty-five percent of this debt is owed by people 35 years and younger, [Fry \(2012\)](#). Student loan debt became the largest source of non-mortgage debt owed by U.S. households in 2010, [Bricker et al. \(2017\)](#). It amounts to an overwhelming \$1.44 trillion in November 2018, almost five times the amount in 2004, [Federal Reserve Bank report \(2018\)](#).¹ During the same time, there has been a significant change in the financing of higher education—with state and local funding covering a smaller share, and students and their families bearing a greater proportion of rising college tuition costs through student loans, [College Board \(2018\)](#).²

Previous research has shown that the presence of student loan debt jeopardized the short-term financial health of U.S. households during the period of the Great Recession, 2007-09, a period of great economic hardship using data from the Survey of Consumer Finances, [Elliott and Nam \(2013b\)](#). Since the period of the Great Recession was unusual because of adverse labor market and financial market conditions, it is necessary to examine this issue in different time periods.

This paper provides a thorough analysis of the effects of student loan use on household financial health in the post-recession time period for U.S. households. Specifically, we look at three questions: (1) What are the effects student loan use on the financial health (net worth) of U.S. households during the post-recession period between 2013 and 2016? (2) What role does student loan use play in explaining the Black-White and Hispanic-White wealth gaps in the post-recession period? (3) To what extent does student loan use contribute towards explaining the racial wealth gaps across various socioeconomic groups?

To put our results into context, it is important to first understand the effects of student

¹By the time this paper is published, the student loan debt would have crossed the \$1.6 trillion dollar mark, [Student Loan Debt Clock](#).

²While Federal and State funding of higher education is contingent on tax revenues, it also competes with other forms of public spending, and within education budgets such as pre-school, elementary and secondary education spending.

loan use on wealth (net worth) during the Great Recession. Findings from [Elliott and Nam \(2013b\)](#) suggested that median 2009 net worth for households with no outstanding student loan debt was almost three times higher than for households with outstanding student loan debt. Their findings also suggest that living in a household at the 15th, 30th, and 50th percentile of net worth in 2007 with outstanding student debt was associated with a 285%, 56%, and 54% loss in 2009 net worth compared with a similar household with no student debt. This paper goes beyond the previous study by examining the role of student loan use in contributing to the racial wealth gap for different types of households across the wealth distribution using a detailed decomposition analysis.

We found that mean 2013 net worth for households with no outstanding student debt is three and a half times higher than for households with outstanding student debt, \$642,549 vs. \$184,524 while for 2016 it is more than four times higher, \$865,956 versus \$209,232.

Our results, based on the Survey of Consumer Finances (SCF) between 2013 and 2016, quantified the effects of student loan use on net worth for various wealth quintiles of U.S. population using median regression techniques. We found that living in a household at the 15th, 30th, 50th, 70th, and 85th percentile of the wealth distribution with student debt is associated with a 80%, 49%, 37%, 35%, and 36% wealth loss compared with a similar household with no student debt after we controlled for a host of demographic and employment related measures. Short-term wealth losses associated with student debt during the post-recession period are a significant proportion of the household total wealth but less than those incurred during the Great Recession. However, these losses continue to be significant and disproportionate for lower wealth quintiles as well as for Black and Hispanic households across the wealth distribution.

Further, we found that having a higher income, living in a household with a four-year college graduate, being older, being married, or having health insurance are all associated with an increase in net worth. Other explanatory variables like having technical/service related employment or not working, welfare use, and belonging to Black or Hispanic race are associated with a decrease in net worth.

Our decomposition analysis suggests that differences in student loan use account for 5% of the mean wealth gap between Black and White households. The extent to which

student loan use contributes to the Black-White wealth gaps varies considerably across the distribution with its effects being more pronounced for households at the median of the wealth distribution. We find that student loan use does not contribute to explaining the Hispanic-White wealth gap across the wealth distribution. Due to the insurmountable rise of student debt in the last decade, examining the skewed effects of student loan use across different racial and socioeconomic groups contributes to our understanding of rising wealth inequality.

The paper is organized as follows: Section 2 presents an overview of the related literature. The data used is described in Section 3, and the empirical approach is presented in Section 4. Section 5 presents empirical results and Section 6 concludes.

2 Literature Review

A few studies have evaluated various aspects of student loan use and its impact on the economic outcomes of U.S. households. These include effects of student loan debt on expected hourly wages (Minicozzi (2005), Daniels and Smythe (2019)), career choices (Rothstein and Rouse (2011)), homeownership rates (Mezza et al. (2016), Xu et al. (2015), Shand (2007)), net worth and retirement savings (Elliott and Nam (2013b), Hiltonsmith (2013), Egoian (2013), Rutledge et al. (2018)), financial distress (Bricker and Thompson (2016)), delinquencies, and repayment burdens (Akers (2014), Houle and Berger (2015)).³

The Pew Research Center has published numerous reports about the financial health of young families on a regular basis. For instance, Fry (2012) provides a comparison of younger U.S. households that owe student debt with similar households with no outstanding student loan balances. In general, a majority of young households have very modest amounts of wealth because it takes time to accumulate assets. Using 2010 SCF the study concludes that households headed by a young, college-educated adult without student debt obligations have about seven times the typical net worth of similar households with student debt.

Hiltonsmith (2013) uses 2010 SCF and other data sets to predict potential wealth loss

³For a comprehensive review of literature on the effects of student debt on financial well-being, see Elliott and Lewis (2015).

of indebted households across the lifespan. The findings suggest, that about \$53,000 in education debt leads to a lifetime wealth loss of about \$208,000 and that young indebted households have lower retirement savings along with lower home equity in comparison with debt-free households of similar age group. The author also predicts that the \$1 trillion in outstanding student loan debt will total in overall lifetime wealth loss of about \$4 trillion for households with student loan debt. [Rutledge et al. \(2018\)](#) find that graduates with student debt have much lower 401(k) assets by age 30 than those without debt.

Numerical studies conclude that student debt threatens balance sheets of households not only directly, by increasing household liabilities, but also by reducing college graduates' ability to build other assets. Some studies suggest that the value of assets may be a better gauge of overall financial health than net worth, because these focus on the results of human capital development, rather than counting student debt as a liability, as in net worth measures. [Elliott and Nam \(2013a\)](#) use the 2007-09 SCF panel to assess whether student loan debt is associated with total assets. Their findings indicate that median 2009 assets for households with no outstanding student loan debt were higher than those for households with outstanding student loan debt (\$207,000 in 2009 vs \$174,00 in 2007). Quintile estimates reveal that households at the 25th, 50th and 75th percentile with outstanding student loan debt have 20% less in assets in 2009 than in 2007 when compared to a similar household with no student loan debt.

[Bricker and Thompson \(2016\)](#) discuss trends in education debt between 1989-2010. They also use the 2007-09 SCF panel to explore causal effects of student loan debt on household financial distress. Their findings suggest that households with student debt are more likely to be late in paying bills, experience denial in credit more often, and they have high payment-to-income ratios.

According to the American Student Assistance's Life Delayed survey, see [Lammers \(2015\)](#), 62% of respondents said their student debt posed a hardship on their personal budget when combined with all other household spending. Specifically, 35% of respondents said they found it difficult to buy daily necessities because of their student loans; 52% said their debt affected their ability to make larger purchases such as a car; 62% said they have put off saving for retirement or other investments; and 55% indicated that student loan debt affected their

decision or ability to purchase a home.

Previous studies have examined factors that contribute to racial wealth gaps over the long term. [Thompson and Suarez \(2015\)](#) provide an update on racial wealth gaps. Their findings suggest that approximately most of the Hispanic-White wealth gap at the mean and median of the wealth distribution can be accounted for by differences in demographic characteristics and educational attainment. However, Black-White wealth gaps at the mean and median of the wealth distribution can be accounted for by differences in demographic characteristics and homeownership. [Zhang and Feng \(2017\)](#) also find that homeownership plays a significant role in explaining wealth disparities by race, ethnicity, and education at the mean and bottom of the wealth distribution. [Menchik and Jianakoplos \(1997\)](#) find that financial inheritances also contribute to Black-White wealth gaps. Finally, [McKernan et al. \(2014\)](#) find that young families and families of color experienced the largest percent declines in wealth as a result of the Great Recession. Our study is a first in exploring the role of student loan use in contributing to the racial wealth gaps.

3 Data

We use the Survey of Consumer Finances (SCF), a triennial cross-sectional survey conducted by the Federal Reserve Board. The surveys provide comprehensive microeconomic level data on assets and liabilities, including student loans, of a nationally representative sample of U.S. households. SCF also includes detailed income and demographic level information for these families. In the SCF, relatively wealthy families are oversampled to represent the entire wealth distribution, which is an added advantage when using the survey data. This is useful since the distribution of wealth for the U.S. is more skewed than the distribution of income or earnings. For our analysis, we use most recent data, a pooled cross-section from the 2013 and 2016 surveys, the most recent survey data available. The 2013 and 2016 SCF include approximately 6,000 and 6,500 families, respectively.

We use data from survey respondents rather than heads of households since the SCF do not provide information on the race of the head of household. The additional advantage of utilizing information from survey respondents is that the survey respondent is “the eco-

nomically dominant single individual or the financially most knowledgeable member of the economically dominant couple,” Kennickell (2010). We used the macro provided by the SCF to construct some of the variables for our analysis.

Our analysis mainly focuses on total wealth (net worth), adjusted for the level of student loan debt as the dependent variable.⁴ Since we wanted to examine the effects of student loan debt on net worth for 2013 and 2016, we added the student loan debt component to net worth, which is measured as total assets minus total liabilities. In SCF, intangible assets consist of the sum of savings, checking, money market accounts, certificates of deposit, stocks, bonds, mutual funds, 401(k) plans, pension plan balances, IRAs, the cash value of whole life insurance policies. Tangible assets include real estate and cars, as well as loans against these assets. Liabilities consist of credit card balances and other consumer loans including student loans. All dollar variables have been inflation adjusted to 2016 dollars.⁵

Net worth is transformed using the inverse hyperbolic sine (IHS), since this transformation allows us to estimate percentage change specifications for nonpositive net worth values. IHS has been used in several studies where changes in wealth are studied, Pence (2006), Elliott and Nam (2013b), Thompson and Suarez (2015), Zhang and Feng (2017).⁶ The transformation is described as follows:

$$\theta^{-1} \sinh^{-1}(\theta w) = \theta^{-1} \ln(\theta w + (\theta^2 w^2 + 1)^{1/2}) \quad (1)$$

where θ represents a scaling parameter and w represents net worth.

⁴According to Kuhn and Rios-Rull (2016), in SCF, “Wealth is the net worth of households. Our definition includes the value of financial and real assets of all kinds net of various kinds of debts. Specifically, the assets that we consider are the following: residences and other real estate; farms and all other businesses; checking accounts, certificates of deposit, and other banking accounts; IRA/Keogh accounts, money market accounts, mutual funds, bonds and stocks, cash and call money at the stock brokerage, and all annuities, trusts, and managed investment accounts; vehicles; the cash value of term life insurance policies and other policies; money owed to friends, relatives, businesses, and others; pension plans accumulated in accounts; and other assets. The debts that we consider are housing debts, such as mortgages, home equity, and HELOCs; other residential property debts, such as those derived from land contracts and vacation residences; credit card debts; installment loans; loans taken against pensions; loans taken against life insurance; margin loans and other miscellaneous debts”.

⁵Prices are adjusted using CPI for all urban consumers.

⁶See Johnson (1949) and Burbidge et al. (1988) for detailed discussions on the use of the inverse hyperbolic sine transformation.

4 Empirical Approach

4.1 Quantile Regression

We use quantile regression techniques to examine how the presence of student debt affects different quantiles of the wealth distribution, [Koenker and Bassett Jr \(1978\)](#). Generally, this technique can look at the effects on percentiles of the wealth distribution. The mean effect, while useful, may mask very different effects in different parts of the wealth distribution. We also look at the Least Absolute Deviation (LAD) estimator which estimates the median regression.

$$IHS(wealth_{it}) = \beta_0 + \beta_1 Student\ Loan\ Use_{it} + \beta_2 \mathbf{X}_{it} + \delta D16_t + u_{it} \quad (2)$$

Our dependent variable is the IHS of wealth for household i in year t . We include a number of covariates in our analysis. We include a year dummy, $D16_t$, for 2016 omitting 2013. \mathbf{X}_{it} represents the demographics of the survey respondent. We use a set of dichotomous variables indicating student loan use, whether the respondent has a four year or postgraduate degree, their marital status, welfare use, and health insurance coverage.⁷ The key variable for analysis was our dichotomous variable for student loan use which represents whether the survey respondent or anyone in their household owed any money or had any loans for educational expenses. We include real income in 2016 dollars, and categorical variables for age, occupational prestige, and race.⁸ Lastly, we include interaction terms, for select covariates.

For ease of interpretation, we converted IHS net worth back into dollar figures using the

⁷We follow the theoretical framework as specified in [Elliott and Nam \(2013a\)](#) to address our first question.

⁸According to [Kuhn and Rios-Rull \(2016\)](#), the SCF definition of income includes “both government and private transfers. Specifically, the sources of income that we consider are the following: wages and salaries; both positive and negative income from professional practices, businesses, and farm sources; interest income, dividends, gains or losses from the sale of stocks, bonds, and real estate; rent, trust income, and royalties from any other investments or business; unemployment and worker compensation; child support and alimony; Aid to Dependent Children, Aid to Families with Dependent Children, food stamps, and other forms of welfare and assistance; income from Social Security and other pensions, annuities, compensation for disabilities, and retirement programs; income from all other sources including settlements, prizes, scholarships and grants, inheritances, gifts, and so on. In other words, the notion of income that we use attempts to include all before-tax income received during the year. It approximately corresponds to the payments to the factors of production owned by the household plus transfers. However, it does not include the income imputed from the services of some assets such as owner-occupied housing”.

following transformation:

$$\frac{1}{2}(e^{\theta y} + e^{-\theta y})\beta_X, \quad (3)$$

The above represents a marginal effect of a change in independent variable X on dollars of wealth w , where $y = \theta^{-1} \sinh^{-1}(\theta w)$, θ is a scaling parameter for IHS transformation, and β_X is a coefficient for variable X .⁹ The IHS marginal effects depend on the chosen value of θ . The regression estimates in this study were based on a θ value of 0.00042, the optimal value estimated by the maximum likelihood method.

4.2 Decomposition Methods

To quantify how much do group differences in student loan use contribute to the wealth gap between racial groups, we use the standard [Oaxaca \(1973\)](#) and [Blinder \(1973\)](#) (OB) decomposition method for the mean and then use an influence function regression decomposition technique developed by [Firpo et al. \(2009\)](#) for various quantiles.¹⁰

The racial wealth gap, for instance between Black and White families, can be divided into a component that is observed by group differences in observed characteristics, $\hat{\Delta}_X^\mu$, and a component that is unexplained by these observed differences, $\hat{\Delta}_S^\mu$. The OB decomposition assumes a linear relationship between the dependent and independent variables. The contribution of differences in observed traits between groups (such as student loan use) to differences in the returns to those traits are separately identified.

The overall difference in mean wealth transformed by the IHS, $\hat{\Delta}_O^\mu = \overline{IHS}_W - \overline{IHS}_R$, can be decomposed by the following:

$$\hat{\Delta}_O^\mu = \underbrace{(\hat{\beta}_{W0} - \hat{\beta}_{R0}) + \sum_{k=1}^K \bar{X}_{Rk}(\hat{\beta}_{Wk} - \hat{\beta}_{Rk})}_{\hat{\Delta}_S^\mu \text{ (Unexplained)}} + \underbrace{\sum_{k=1}^K (\bar{X}_{Wk} - \bar{X}_{Rk})\hat{\beta}_{Wk}}_{\hat{\Delta}_X^\mu \text{ (Explained)}}$$

where W denotes the White group, R denotes the compared group, $\hat{\beta}_{g0}$ and $\hat{\beta}_{gk}$ denote the

⁹As similarly described in [Pence \(2006\)](#), $w = \theta^{-1} \sinh(\theta y) = \frac{1}{2\theta}(e^{\theta y} - e^{-\theta y})$ and $\frac{dw}{dX} = \frac{dw}{dy} \frac{dy}{dX} = \frac{1}{2}(e^{\theta y} + e^{-\theta y})\beta_X$.

¹⁰Notation for the decomposition methods follows [Fortin et al. \(2011\)](#).

estimated intercept and slope coefficients, respectively, of the regression model for group g , where g denotes white group, W , or compared group, R . The mean of observed characteristics, k , is denoted by \bar{X}_k . The first term in the equation, $\hat{\Delta}_S^\mu$, is known as the wealth structure effect and is also referred to as the “unexplained” effect. The second element, $\hat{\Delta}_X^\mu$, captures a composition effect, also referred to as the “explained” effect. In the above decomposition, the composition and structure effects (aggregate decomposition), and the contribution of each covariate to these effects (detailed decomposition) can be computed. The detailed decomposition involves subdividing both $\hat{\Delta}_S^\mu$, the wealth structure effect, and $\hat{\Delta}_X^\mu$, the composition effect, into the respective contributions of each covariate, $\hat{\Delta}_{S,k}^\mu$ and $\hat{\Delta}_{X,k}^\mu$, for $k = 1, \dots, K$.

We utilize the recentered influence function (RIF) technique developed by [Firpo et al. \(2009\)](#) to decompose the racial wealth gaps at the 15th, 30th, 50th, 70th, and 85th percentiles of the wealth distribution. The advantage of using the RIF technique is that it allows us to represent the influence of an observation on a distributional measure such as a quantile using the influence function. After the RIF regressions are estimated, the coefficients can be used to perform the detailed decomposition just like in the standard OB decomposition technique. We first estimate the RIF by computing the sample quantile, \hat{Q}_τ , and estimating the density using kernel methods.

The RIF is given as follows:

$$\mathbf{RIF}(\mathbf{IHS}; Q_\tau) = Q_\tau + \frac{\tau - \mathbb{1}\{\mathbf{IHS} \leq Q_\tau\}}{f_{\mathbf{IHS}}(Q_\tau)}$$

where Q_τ refers to the population τ -quantile of unconditional distribution of \mathbf{IHS} , $f_{\mathbf{IHS}}$ refers to the density of the marginal distribution of \mathbf{IHS} , and $\mathbb{1}\{\mathbf{IHS} \leq Q_\tau\}$ is an indicator function.

An equivalent of OB decomposition for any unconditional quantile is given as follows:

$$\hat{\Delta}_O^\tau = \underbrace{\bar{X}_R(\hat{\gamma}_{W,\tau} - \hat{\gamma}_{R,\tau})}_{\hat{\Delta}_S^\tau \text{ (Unexplained)}} + \underbrace{(\bar{X}_W - \bar{X}_R)\hat{\gamma}_{W,\tau}}_{\hat{\Delta}_X^\tau \text{ (Explained)}}$$

where

$$\hat{\gamma}_{g,\tau} = \left(\sum_{i \in G} X_i \cdot X_i^T \right)^{-1} \cdot \sum_{i \in G} \widehat{\text{RIF}}(\text{IHS}; Q_\tau) \cdot X_i, \quad g = W, R$$

5 Results

5.1 Sample Characteristics

Our sample is a pooled cross section of SCF data from 2013 and 2016, both periods showing economic expansion, especially after the Great Recession of 2007-09. Summary statistics by year are shown in Table 1. Mean education loan amount rose from \$27,548 in 2013 to \$32,797 in 2016 along with the average number of households with student loan debt, 24% in 2013 to 26% in 2016.¹¹ The median net worth also rose from \$87,300 in 2013 to \$104,470 in 2016. Further, approximately 39% percent of households had a head of household who had either a four-year college or postgraduate degree in 2013, while in 2016 this figure was a bit lower, at 34%. The median respondent’s age was approximately 51 in 2013 and 52 in 2016. The median household income was \$46,668 in 2013 and \$52,657 in 2016. The distribution with respect to occupation and marital status remained similar across both survey years.

About 79% percent of households were covered by some type of health insurance in 2013 and this increased significantly to 87% percent in 2016. This increase can be partially attributed to the Affordable Care act. Racial demographics across both years represented the U.S. population very well.

Table 2 describes attitudes towards savings by year. We observe that around 15% of households report spending more than their income, around 30% report spending the same amount as their income, and just over 50% report that they save less than their income. Survey respondents also report the primary reason for saving, the top two reasons being retirement for around 30% of households and liquidity or the future for around 35% of households. Education is the primary reason for saving for around 8% of households. Other reasons include saving for purchases, saving for a home, family, investment, etc. While 4%

¹¹We use the PLOAN6 variable from SCF which represents the Total value of aggregate loan balance by loan purpose: education and professional expenses, 2016 dollars.

of households report that they can't save in 2013, this statistic falls to 0.83% by 2016.

5.2 Sample Characteristics by Student Loan Use

Tables 3 and 5 provide summary statistics by distinguishing between households with student loans and those without student loans. Mean 2013 net worth for households with no outstanding student debt is three and a half times higher than for households with outstanding student debt, \$642,549 vs. \$184,524 while for 2016 it is more than four times higher, \$865,956 vs. \$209,232. Households with outstanding student loan debt have a higher share of head of households reporting having a four year college degree or more than households without student loan debt, 49% versus 36% in 2013 and 41% versus 32% in 2016.

The average age of respondents who live in households with student loans is 41 which is much lower than the average age of mid-50's of respondents who belong to households without student loans across both survey years. While the average household income for households with student loans is much lower than households without student loans, \$68,577 versus \$92,133 in 2013 and \$79,325 versus \$110,137 in 2016, median household income for households with student loans is higher than households without student loans, \$50,727 versus \$45,654 in 2013 and \$57,720 versus \$50,632 in 2016.

Tables 4 and 6 provide a description of attitudes towards savings by distinguishing between households with student loans and those without student loans. This disaggregated picture reveals that among households with student loans, 19% report spending more than their income and 10% cite education as the primary reason for saving in 2013, falling to 18% and 8% in 2016, respectively. Among households without student loans, 14% report spending more than their income and 8% cite education as the primary reason for saving in 2013, falling to 7% for education in 2016. These statistics indicate that education expenses play a significant role in the saving behavior of households.

Figure 1 shows student loan debt as a share of income by household income quintiles. When we consider the resources available to households to meet their liabilities or debts, the relative burden of student loans is much greater for those at the lower end of the income distribution. In 2013 outstanding student debt was 39% of the household income for households in the bottom fifth quintile of the income distribution. By contrast, for households

in the top fifth quintile of the income distribution, outstanding student debt was only 3.5% of household income. Clearly, this disaggregate statistics are masked if all households were grouped together. For for all households, outstanding student debt was 7.5% of household income. For the second, third, and fourth quintiles the student debt burden has increased, while there is a slight decrease of this burden for the top and bottom quintile of the income distribution.

5.3 Results from Median Regression

We report median regression results from the 15th, 30th, 50th, 70th, and 85th quintiles of 2013 net worth in Table 7. The presence of student loans is an important determinant of net worth after holding all other factors constant. The association between student loans and all percentiles of 2013 net worth is strong and consistently negative.

Living in a household at the 15th percentile with outstanding student debt and 2013 net worth of \$4,205 is associated with a \$3,359 decrease in net worth (80% loss) compared with a similar household with no student debt. Living in a household at the 30th percentile with outstanding student debt and 2013 net worth of \$19,700 is associated with a \$9,585 decrease net worth (49% loss) compared with a similar household with no student debt. Living in a household at the 50th percentile with outstanding student debt and 2013 net worth of \$87,300 is associated with a \$32,596 decrease (37% loss) in net worth compared with a similar household with no student debt. Living in a household at the 70th percentile with outstanding student debt and 2013 net worth of \$250,600 is associated with a \$87,619 decrease (35% loss) in net worth compared with a similar household with no student debt. Living in a household at the 85th percentile with outstanding student debt and 2013 net worth of \$624,210 is associated with a \$223,063 decrease (36% loss) in net worth compared with a similar household with no student debt.

A higher income, living in a household with a four-year college graduate, being older, being married and having health insurance are all associated with an increase in net worth. Living in a household with a four-year college graduate is associated with higher net worth of \$5,568 at the 15th percentile (132% gain), \$18,473 at the 30th percentile (94% gain); \$67,728 at the 50th percentile (78% gain); \$163,368 at the 70th percentile (65% gain); and

\$341,834 at the 85th percentile (55% gain) compared with living in a household without a four-year college graduate and similar net worth levels. Similar descriptive statistics have been mentioned by Fry (2012), where net worth for young, college educated households is analyzed.

Other explanatory variables such as having technical/service related employment or not working, welfare use, and belonging to Black or Hispanic race have a significant negative association with overall net worth.¹²

For instance, living in a household with health insurance is associated with higher net worth: \$4,215 at the 15th percentile (100% gain); \$15,943 at the 30th percentile (79% gain); \$54,140 at the 50th percentile (62% gain); \$115,567 at the 70th percentile (46% gain); and \$243,783 at the 85th percentile (39% gain) compared with living in a household without health insurance and similar net worth levels.

The contrast between racial minorities and white households is stark. Black households experience a decrease in net worth: \$3,352 at the 15th percentile (80% loss); \$15,495 at the 30th percentile (79% loss); \$60,836 at the 50th percentile (70% loss); \$174,202 at the 70th percentile (70% loss); \$395,844 at the 85th percentile (63% loss) compared with White households with similar levels of net worth.

Similarly, Hispanic households experience a decrease in net worth: \$5,675 at the 15th percentile (135% loss); \$18,526 at the 30th percentile (94% loss); \$61,207 at the 50th percentile (70% loss); \$140,619 at the 70th percentile (56% loss); \$232,732 at the 85th percentile (37% loss) compared with White households with similar levels of net worth.

We report median regression results including race and student loan use interaction terms in Table 8. The interactions are significant and reveal that the partial effect of student loan use on net worth also depends on race. In our model, the difference in net worth for Black families with student debt vs White families with student debt is negative \$549, at the 15th percentile households. Similarly, the difference in net worth for Hispanic families with student debt vs White families with student debt is negative \$1,888, at the 15th percentile households. This difference continues to persist for households in the 30th, 50th, 70th, and

¹²Welfare is an indicator variable, which takes on a value of one if anyone in the household has received income from TANF, SNAP (food stamps), or other forms of welfare or assistance such as SSI.

85th percentiles.

The difference in net worth for Black families with student debt vs White families with student debt is negative \$5,118, \$35,684, \$121,943, \$258,904 at the 30th, 50th, 70th, and 85th percentiles of households, respectively. Similarly, the difference in net worth for Hispanic families with student debt vs White families with student debt is negative \$1,505, \$16,062, \$68,515, \$148,454 at the 30th, 50th, 70th, and 85th percentiles of households, respectively.

There is however, an encouraging result with respect to student loan use within groups. For Hispanic households, student loan use is associated with positive net worth at the bottom of the wealth distribution to the median: \$306; \$7,288; \$13,386. This suggests that student loan use might be helping Hispanic families at the bottom to the median of the wealth distribution in building wealth. However, the association between student loan use and net worth becomes negative for Hispanic households with student debt at the 70th and 85th percentiles. For Black households, the association between student loan use and net worth is negative throughout the wealth distribution with the exception of households at the 30th percentile that get a \$1,074 gain in net worth, which is again encouraging. These results suggest that student loan use affects different consumer groups differently.

We provide a deeper look at the effect of student loan use on total assets across the assets distribution in Tables 9 and 10. Our results suggest that student loan use is associated with a loss in total assets across the assets distribution with its effects being asymmetric and adverse for the bottom of the asset distribution: 37% loss at the 15th percentile, 27% loss at the 30th percentile, 25% loss at the 50th percentile, 23% loss at the 70th percentile, and 21% loss at the 85th percentile. The difference in total assets for Black families with student debt vs White families with student debt is negative \$3,088; \$18,369; \$80,943; \$167,366; \$267,693 at the 15th, 30th, 50th, 70th, and 85th percentiles of households, respectively. Similarly, the difference in total assets for Hispanic families with student debt vs White families with student debt is negative \$2,694; \$14,906; \$42,623; \$61,444; \$82,133 at the 15th, 30th, 50th, 70th, and 85th percentiles of households, respectively.¹³

¹³Tables 11 and 12 also provide a negative association between student loan use and income throughout the income distribution. The results are asymmetric with the most adverse effects observed at the bottom of the income distribution.

5.4 Does Student Debt Contribute to the Racial Wealth Gap? A Decomposition Analysis

The previous section provided some evidence of the association of student debt with wealth disparities across racial groups and the wealth distribution. In this section, we quantify how student debt contributes to the racial wealth gaps using the decomposition method described in Section 4.2.

Table 13 displays the detailed decomposition of the racial wealth gap between Blacks and Whites as well as Hispanics and Whites due to the mean difference for each of the eight variables. The OB decomposition suggests that 67% of the mean Black-White wealth gap and 68% of the mean Hispanic-White wealth gap is accounted for by the variables in our regression. These results are in line with [Zhang and Feng \(2017\)](#) and [Thompson and Suarez \(2015\)](#), studies that focus on the role of homeownership and inheritances in explaining the racial wealth gap over a different time horizon, 1989-2013.

Differences in income plays a significant role, 51% in accounting for Black-White wealth gaps and 43% in accounting for Hispanic-White wealth gaps respectively. Differences in student loan use contribute to 5% of the Black-White wealth gap but does not significantly explain the Hispanic-White wealth gap. Differences in the age of the survey respondent, occupational prestige, education, use of welfare, and having health insurance contribute significantly to the racial wealth gaps. Differences in being married contribute to the Black-White wealth gap but not to the Hispanic-White wealth gap.

Tables 14 and 15 provide a detailed decomposition using [Firpo et al. \(2009\)](#) RIF regression techniques at the 15th, 30th, 50th, 70th, and 85th percentiles of the wealth distribution for Black-White and Hispanic-White wealth gaps respectively. The extent to which income, student loan use, age, and college education, marriage, welfare use explain racial wealth gaps varies significantly throughout the wealth distribution. The importance of income, student loan use, college education, age, increases in explaining the Black-White as we move from the bottom to the top of the wealth distribution. These results suggest that while student debt is contributing to the Black-White wealth gap throughout the wealth distribution, its adverse effects are magnified for households at the median and top of the

wealth distribution. However, the importance of welfare use, marriage, and having health insurance, and occupational prestige decreases in explaining the Black-White wealth gap as we move from the bottom to the top of the wealth distribution. The results for Hispanic-White wealth gaps differ from the Black-White wealth gap. Student debt and marriage do not adequately explain the Hispanic-White wealth gap. The contributions of other variables, however, remain similar to the results we obtain for explaining the Black-White wealth gap. It is also important to note that the portion of the racial wealth gaps explained is greater at the bottom of the wealth distribution, consistent with [Thompson and Suarez \(2015\)](#) and [Zhang and Feng \(2017\)](#).

6 Discussion, Conclusion, and Policy Implications

With student debt becoming the second highest category in household debt, there are concerns related to its impact on household wealth. Using the Survey of Consumer Finances, we find that the association between the presence of student loans and net worth is strong and consistently negative across the wealth distribution. Our results are in line with results of [Elliott and Nam \(2013b\)](#) who find that living in households at 15th, 30th, and 50th percentile with outstanding student loan debt and 2007 net worth is associated with significant decrease in 2009 net worth compared with similar debt-free households. Our results, however, show a relatively smaller loss in net worth associated with student loan use across the wealth distribution perhaps, due to the continued improvement in households' economic well-being in recent years relative to the years of the Great Recession of 2007-09. Nevertheless, the presence of student loan debt is also associated with a disproportionate decrease in wealth for poor households.

Policymakers have also been concerned with the growing racial wealth gap and the factors that contribute to it. This paper contributes to our understanding of the quantitative significance of student loan use in accounting for the racial wealth gaps in an empirically rigorous way. Student loan use contributes significantly in explaining the Black-White wealth gap and its adverse effects are magnified for Black households at the median, 70th, and 85th percentile of the wealth distribution. Student loan use does not contribute to the Hispanic-

White wealth gap in the time period we consider. While our detailed decomposition analysis is useful to quantify the contribution of various factors in explaining racial wealth gaps, they do not seek to recover behavioral or causal relationships. Previous studies have found that Blacks are more likely than Whites or Hispanics to have student loan debt and finance their own education, [Braga \(2016\)](#), and that debt and default among Black college students is at alarming levels. Black college graduates default at five times the rate of white BA graduates (21% versus 4%), and are more likely to default than White dropouts, [Scott-Clayton \(2018\)](#). [Grinstein-Weiss et al. \(2016\)](#) suggest that low and middle income Black and White students, who face similar liquidity constraints and borrowing risks, are at unequal risk of accumulating education debt. Further, there is evidence of a financial literacy gap with Whites having higher financial literacy scores than minorities despite financial literacy education, [Al-Bahrani et al. \(2019\)](#).

There are several mechanisms through which current and future policy can help more Americans reduce burdens associated with student debt: consumer-driven oversight of the student loan industry, financial literacy and education, transparency and full disclosure about the type of student loans, various ways of repayment, grant, merit aid, and financial aid programs, and assistance with complaints related to student loans.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Act) established a Student Loan Ombudsman within the Consumer Financial Protection Bureau (CFPB) in 2010. The ombudsman is responsible for compiling and analyzing data on student loan complaints annually and making appropriate recommendations to the Secretary of the Treasury, the Director of the Consumer Financial Protection Bureau, the Secretary of Education, and Congress. From July 2011 through August 2017, the CFPB handled over 50,700 private and federal student loan complaints, and about 9,800 debt collection complaints related to private or federal student loan debt, [Chopra \(2017\)](#). A continued consumer-driven oversight of the student loan industry by federal agencies is one significant way to inform and shape public policy.¹⁴

¹⁴For instance, CFPB sued Navient, the largest student loan servicer in the U.S. which services more than \$300 billion in federal and private student loans of more than 12 million borrowers. Navient is sued for creating obstacles to repayment by providing bad information, processing payments incorrectly, and failing to act when borrowers complained, [CFPB news 2017](#).

Under the Fair and Accurate Credit Transactions Act of 2003, the Financial Literacy and Education Commission (FLEC) was established. The commission was tasked to develop a national financial education web site, MyMoney.gov, and a national strategy on financial education. There are a numerous recent initiatives from FLEC that have resulted in useful public-private partnerships.¹⁵ The FLEC also suggests that starting financial literacy education and planning as early as kindergarten and continuing well beyond high school is useful. There are already some initiatives that help students make informed decisions about planning for, finding, and paying for college e.g. likelihood of finishing their degree and earnings in their field of study, budgeting under economic shocks etc., [Avery and Turner \(2012\)](#). However, there is a need for policymakers to examine if there is a systemic bias in the provision of financial literacy education, [Al-Bahrani et al. \(2019\)](#).

Finally, full transparency in colleges and universities about the type of student loan (federal or private), repayment amounts for each loan, repayment options, and clarification about the difference between grant aid and loans would be useful.¹⁶ There are proposals that suggest replacing the current student loan system with an income-based repayment system to address the current student loan repayment crisis, [Dynarski and Kreisman \(2013\)](#).

Our analysis provides useful indications of which factors are more important in explaining racial wealth gaps across the wealth distribution so that causal explanations or behavioral relationships can be explored in more detail. For instance, since our decomposition indicates that differences in student loan use account for a significant fraction of the Black-White wealth gap across the wealth distribution, this suggests exploring in more detail how Black and White households choose to take out debt across the wealth distribution.

There are a few limitations to our study. Similar to the previous study by [Elliott and](#)

¹⁵For instance, the Treasury and the Department of Education (ED) collaborated with H&R Block and Intuit, Inc. to incorporate federal student loan repayment plan information in tax preparation software and websites. More than 100,000 people learned about how they or their children could lower student loan payments. The Treasury also shared student loan repayment information in tax refund mailings to more than 20 million Americans. FLEC has also launched a FAFSA mobile app in 2019 which helps consolidate all information on student aid at one place and has interactive tools for parents, students, providers of student loans. The app uses “nudging” to assist in repayment and in warning when taking out more debt than necessary. It also assists in student retention in college by immediately issuing small ticket loans for emergencies.

¹⁶This is particularly important as private loans do not offer the same protections and repayment options as federal student loans.

Nam (2013b), we cannot conclude that a larger student debt necessarily causes households to have lower net worth. We tackle this issue by controlling for a host of factors considered important in predicting household net worth. Unobserved economic conditions may lead to effects on household net worth, and therefore, our findings should be treated as being suggestive of a relationship between outstanding student loan debt and net worth amount.

A second limitation is that we used a pooled cross section from SCF 2013 and 2016. This allowed us to provide comprehensive evaluation of relationship between student loan debt and U.S. households net worth for the expansionary period a few years after Great Recession for households with similar levels of net worth. Since the data are not panel, especially with sufficient time lapse between SCF surveys, we could not examine whether the same indebted households actually improved their financial situation in terms of net worth accumulation between 2013-2016 and whether the gap in net worth amounts between households with student loan debt and without increased or decreased.

Continuously increasing college costs and necessity of college education has made student loans one of the major factors affecting everyday life of many individuals and households in the U.S. Our paper underscores the growing importance of student loan debt in contributing to wealth disparities across racial groups and across the wealth distribution. Thus, this paper signals the need for elevated policy discussions on the highly complex issue of educational finance, the efficacy of various student debt relief plans as well as the effectiveness of policies that aim to reduce inequality in the context of the growing and unbearable student debt burdens faced by young households and households of color.

Compliance with Ethical Standards

Ethical approval: This article does not contain any studies with human participants performed by any of the authors.

Table 1: Summary Statistics by Year

Characteristics	2013		2016	
	No. or mean	% or median	No. or mean	% or median
Education loan use	28,799,044.00	23.50%	32,238,597	25.59%
Amount of loans for education	\$27,548.06	\$15,000.00	\$32,797.35	\$17,000.00
Net worth	\$534,896.60	\$87,300.00	\$697,901.40	\$104,470.00
Four-year college graduate	47,518,268	38.78%	42,870,686	34.03%
Age	51.16	51	51.68	52
Income	\$86,596.13	\$46,668.45	\$102,252.00	\$52,657.09
Profession				
Managerial or Professional	35,024,305	28.58%	35,732,728	28.36%
Technical services	24,869,145	20.30%	27,057,850	21.48%
Other	21,711,964	17.72%	21,472,627	17.04%
Not Working	40,924,657	33.40%	41,718,495	33.11%
Married	70,027,299	57.15%	71,452,898	58.39%
Use of welfare	17,081,664	13.94%	18,077,117	14.35%
Race				
White	85,882,792	70.09%	85,711,518	68.03%
Black	17,904,989	14.61%	19,973,733	15.85%
Hispanic	13,041,734	10.64%	14,282,169	11.34%
Other	5,700,555	4.65%	6,014,281	4.77%
Has health insurance	96,491,519	78.75%	109,675,006	87.06%
Observations	122,530,070		125,981,701	

Note: Weighted data from the SCF survey are used. Net worth is adjusted for the level of student debt. Amount of loans for education are only for those with student loans.

Table 2: Summary Statistics for Attitudes Towards Savings by Year

Characteristics	2013		2016	
	No.	%	No.	%
Savings behavior in past year [§]				
Spent more than income	18,545,778	15.14%	19,001,261	15.08%
Spent same as income	39,023,614	31.85%	37,208,200	29.53%
Spent less than income	64,960,679	53.02%	69,772,240	55.38%
Primary reason for saving [◊]				
Can't save	5,011,782	4.09%	1,043,913	0.83%
Education	10,549,491	8.61%	9,016,069	7.16%
Family	7,736,825	6.31%	8,701,062	6.91%
Home	3,775,945	3.08%	5,108,820	4.06%
Purchases	11,105,338	9.06%	15,215,163	12.08%
Retirement	37,341,347	30.48%	38,221,824	30.34%
Liquidity or the future	43,915,649	35.84%	45,632,050	36.22%
Investment	1,683,341	1.37%	2,244,805	1.78%
No particular reason	1,410,351	1.15%	797,993.49	0.63%
Observations	122,530,070		125,981,701	

Note: Weighted data from the SCF survey are used. Net worth is adjusted for the level of student debt. Amount of loans for education are only for those with student loans.

[§]Adjusted for durables purchases/investments.

[◊]Survey respondents have different reasons for saving, even though they may not be saving all of the time.

Table 3: Summary Statistics for 2013

Characteristics	2013			
	Student loans		No student loans	
	No. or mean	% or median	No. or mean	% or median
Net worth	\$184,524.10	\$40,400.00	\$642,549.30	\$114,200.00
Four-year college graduate	14,233,546	49.42%	33,284,723	35.51%
Age	40.98	39	54.29	54
Income	\$68,576.75	\$50,726.57	\$92,132.62	\$45,653.91
Profession				
Managerial or Professional	10,667,092	37.04%	24,357,212	25.99%
Technical services	7,538,297	26.18%	17,330,847	18.49%
Other	5,107,762	17.74%	16,604,202	17.71%
Not Working	5,485,892	19.05%	35,438,764	37.81%
Married	17,549,285	60.94%	52,478,014	55.99%
Use of welfare	4,802,691	16.68%	12,278,973	13.10%
Race				
White	18,655,205	64.78%	67,227,586	71.72%
Black	6,560,748	22.78%	11,344,242	12.10%
Hispanic	2,323,868	8.07%	10,717,866	11.43%
Other	1,259,223	4.37%	4,441,332	4.74%
Has health insurance	21,920,116	76.11%	74,571,402	79.56%
Observations	28,799,044		93,731,026	

Note: Weighted data from the SCF survey are used. Net worth is adjusted for the level of student debt.

Table 4: Summary Statistics for Attitudes Towards Savings for 2013

Characteristics	2013			
	Student loans		No student loans	
	No.	%	No.	%
Savings behavior in past year [§]				
Spent more than income	5,566,299	19.33%	12,979,479	13.85%
Spent same as income	8,474,006	29.42%	30,549,608	32.59%
Spent less than income	14,758,739	51.25%	50,201,940	53.56%
Primary reason for saving [◊]				
Can't save	649,316	2.25%	4,362,466	4.65%
Education	2,995,963	10.40%	7,553,528	8.06%
Family	1,900,318	6.60%	5,836,507	6.23%
Home	1,365,275	4.74%	2,410,671	2.57%
Purchases	2,585,331	8.98%	8,520,007	9.09%
Retirement	8,259,467	28.68%	29,081,880	31.03%
Liquidity or the future	10,532,977	36.57%	33,382,672	35.62%
Investment	366,035	1.27%	1,317,306	1.41%
No particular reason	144,362	0.50%	1,265,989.00	1.35%
Observations	28,799,044		93,731,026	

Note: Weighted data from the SCF survey are used. Net worth is adjusted for the level of student debt.

[§]Adjusted for durables purchases/investments.

[◊]Survey respondents have different reasons for saving, even though they may not be saving all of the time.

Table 5: Summary Statistics for 2016

Characteristics	2016			
	Student loans		No student loans	
	No. or mean	% or median	No. or mean	% or median
Net worth	\$209,232.20	\$49,120.00	\$865,956.50	\$140,210.00
Four-year college graduate	13,103,392	40.65%	29,767,294	31.75%
Age	40.94	39	55.37	56
Income	\$79,325.45	\$57,720.28	\$110,136.50	\$50,631.82
Profession				
Managerial or Professional	12,347,079	38.30%	23,385,648	24.95%
Technical services	9,340,364	28.97%	17,717,486	18.90%
Other	5,454,567	16.92%	16,018,060	17.09%
Not Working	5,096,586	15.81%	36,621,909	39.07%
Married	19,271,005	59.78%	52,181,893	55.66%
Use of welfare	5,116,492	15.87%	12,960,625	13.83%
Race				
White	20,643,609	64.03%	65,067,909	69.41%
Black	6,719,656	20.84%	13,254,076	14.14%
Hispanic	3,269,043	10.14%	11,013,126	11.75%
Other	1,606,289	4.98%	4,407,992	4.70%
Has health insurance	27,885,492	86.50%	81,789,514	87.25%
Observations	32,238,597		93,743,104	

Note: Weighted data from the SCF survey are used. Net worth is adjusted for the level of student debt.

Table 6: Summary Statistics for Attitudes Towards Savings for 2016

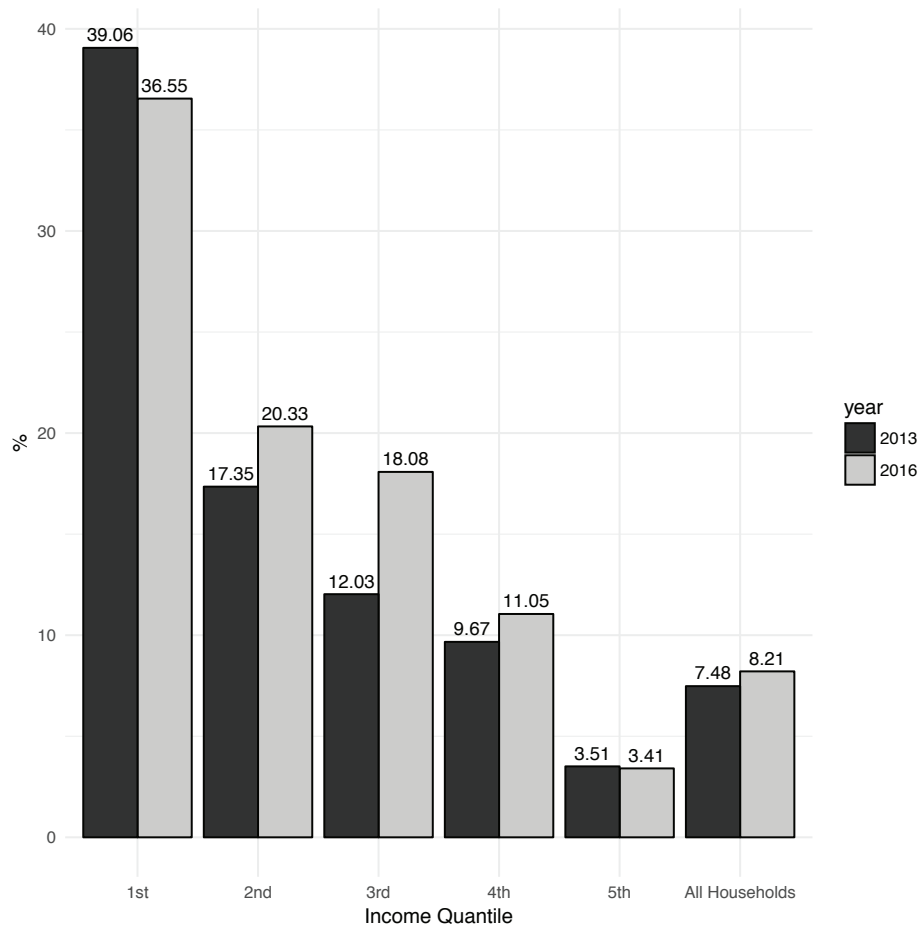
Characteristics	2016			
	Student loans		No student loans	
	No.	%	No.	%
Savings behavior in past year [§]				
Spent more than income	5,711,381	17.72%	13,289,880	14.18%
Spent same as income	9,652,656	29.94%	27,555,544	29.39%
Spent less than income	16,874,560	52.34%	52,897,680	56.43%
Primary reason for saving [◊]				
Can't save	52,131	0.16%	991,782	1.06%
Education	2,642,640	8.20%	6,373,428	6.80%
Family	2,449,135	7.60%	6,251,927	6.67%
Home	2,027,165	6.29%	3,081,655	3.29%
Purchases	3,731,411	11.57%	11,483,752	12.25%
Retirement	9,133,041	28.33%	29,088,783	31.03%
Liquidity or the future	11,592,341	35.96%	34,039,709	36.31%
Investment	548,740	1.70%	1,696,065	1.81%
No particular reason	61,991	0.19%	736,002.78	0.79%
Observations	32,238,597		93,743,104	

Note: Weighted data from the SCF survey are used. Net worth is adjusted for the level of student debt.

[§]Adjusted for durables purchases/investments.

[◊]Survey respondents have different reasons for saving, even though they may not be saving all of the time.

Figure 1: Student Loan Debt as a Share of Income by Household Income Groups



Note: Weighted data from the SCF survey are used.

Table 7: Median Regression Results for Net Worth

	15th Percentile	30th Percentile	50th Percentile	70th Percentile	85th Percentile
	\$4,205	\$19,700	\$87,300	\$250,600	\$624,210
Student loan use	-3,358.85*** (261.88)	-9,585.16*** (754.06)	-32,595.53*** (3,072.74)	-87,619.02*** (8,728.79)	-223,063.14*** (22,859.90)
Income	0.01*** (0.00)	0.04*** (0.00)	0.29*** (0.02)	1.04*** (0.06)	3.14*** (0.17)
Four-year college graduate	5,567.65*** (327.76)	18,473.37*** (745.94)	67,728.06*** (2,874.62)	163,367.79*** (7,811.10)	341,834.26*** (24,153.13)
Age (<i>Base: below 35</i>)					
35-44	2,972.37*** (299.66)	15,737.70*** (1,075.71)	64,517.28*** (4,567.14)	156,412.78*** (11,377.78)	388,646.99*** (29,905.01)
45-54	4,176.64*** (351.25)	22,884.37*** (1,090.71)	112,544.58*** (4,435.15)	302,350.73*** (12,361.58)	718,997.80*** (31,982.11)
55-64	6,176.79*** (379.02)	30,840.02*** (1,351.31)	148,319.52*** (4,309.91)	391,919.68*** (14,296.70)	967,188.25*** (34,897.55)
65-74	8,026.31*** (467.24)	41,283.04*** (1,440.78)	177,829.32*** (4,547.35)	465,649.01*** (14,225.39)	1,093,660.21*** (43,415.61)
over 75	9,530.74*** (583.59)	46,019.39*** (1,590.65)	202,401.68*** (5,642.09)	532,425.85*** (17,541.44)	1,217,426.39*** (43,884.41)
Occupational prestige (<i>Base: Managerial or Professional</i>)					
Technical/services	2,594.92*** (422.19)	-7,623.87*** (1,140.40)	-26,028.42*** (3,952.88)	-70,947.27*** (10,963.00)	-167,446.50*** (29,937.04)
Other	-2,691.70*** (449.27)	-7,201.65*** (1,418.60)	-21,637.99*** (3,899.45)	-61,875.55*** (10,151.76)	-160,605.89*** (29,214.08)
Not working	-4,245.12*** (462.41)	-13,946.98*** (1,422.44)	-46,718.42*** (3,930.90)	-113,563.94*** (12,351.19)	-200,097.96*** (36,852.16)
Married	6,783.20*** (226.88)	21,606.35*** (790.90)	70,479.94*** (3,165.00)	149,594.29*** (7,758.56)	270,375.17*** (22,047.68)
Use of welfare	-6,852.61*** (440.93)	-31,171.45*** (1,236.59)	-125,852.54*** (4,921.97)	-313,683.91*** (13,125.83)	-639,030.70*** (41,860.03)
Race (<i>Base: White</i>)					
Black	-3,351.91*** (342.12)	-15,494.96*** (1,299.69)	-60,836.42*** (3,617.16)	-174,202.01*** (10,089.55)	-395,843.53*** (43,422.88)
Hispanic	-5,675.47*** (398.05)	-18,525.84*** (1,572.56)	-61,207.42*** (5,100.59)	-140,619.03*** (11,376.32)	-232,732.01*** (43,639.25)
Other	-1,832.39*** (502.27)	-3,534.18* (1,969.30)	-430.64 (5,683.86)	26,917.07** (13,497.16)	120,440.00*** (39,027.85)
Has health insurance	4,214.79*** (310.18)	15,493.00*** (1,087.91)	54,139.50*** (4,346.46)	115,567.00*** (9,784.85)	243,782.93*** (29,781.34)
Year 2016	961.07*** (211.60)	2,536.87*** (727.67)	10,041.25*** (2,575.70)	35,881.04*** (6,560.25)	94,738.43*** (19,844.34)
Constant	2,352.35*** (515.64)	26,703.39*** (1,520.49)	192,311.82*** (6,203.10)	782,519.04*** (13,080.77)	2,357,918.13*** (45,172.95)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. Net worth is adjusted for the level of student debt. The coefficients are marginal effects evaluated at quantiles for net worth in 2013. Net worth is adjusted for the level of student debt. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: Median Regression Results for Net Worth with Interactions

	15th Percentile \$4,205	30th Percentile \$19,700	50th Percentile \$87,300	70th Percentile \$250,600	85th Percentile \$624,210
Student loan use	-4,337.73*** (330.45)	-14,533.13*** (893.02)	-46,028.98*** (3,776.33)	-114,189.47*** (9,794.10)	-254,767.53*** (26,134.54)
Income	0.01*** (0.00)	0.04*** (0.00)	0.29*** (0.02)	1.04*** (0.06)	3.11*** (0.17)
Four-year college graduate	5,506.39*** (315.12)	18,656.18*** (724.43)	68,441.42*** (2,778.43)	163,783.24*** (8,699.62)	339,523.11*** (26,064.85)
Age (<i>Base: below 35</i>)					
35-44	2,840.48*** (301.13)	15,625.72*** (1,060.78)	66,596.73*** (4,470.12)	157,040.35*** (11,995.05)	386,252.86*** (32,505.22)
45-54	4,077.59*** (316.79)	23,695.53*** (1,022.45)	113,499.37*** (4,298.16)	299,967.59*** (13,740.97)	711,177.82*** (31,230.33)
55-64	6,022.95*** (383.72)	30,800.70*** (1,333.11)	146,378.41*** (4,192.51)	391,781.60*** (15,338.55)	961,733.69*** (35,102.35)
65-74	7,983.06*** (533.85)	40,933.00*** (1,656.80)	178,230.64*** (4,640.03)	463,190.59*** (14,010.45)	1,085,084.89*** (39,561.10)
over 75	9,515.72*** (530.52)	45,714.03*** (1,866.95)	203,213.97*** (5,838.93)	531,353.23*** (17,422.95)	1,211,894.70*** (43,366.16)
Occupational prestige (<i>Base: Managerial or Professional</i>)					
Technical/services	-2,430.27*** (426.86)	-7,579.60*** (991.65)	-25,360.86*** (3,521.75)	-69,928.14*** (9,761.37)	-169,048.49*** (31,978.07)
Other	-2,684.54*** (397.31)	-7,193.79*** (1,402.96)	-22,184.75*** (3,581.70)	-59,648.47*** (10,352.92)	-150,860.95*** (32,636.18)
Not working	-4,094.48*** (458.57)	-14,106.83*** (1,463.67)	-47,045.48*** (3,736.62)	-115,107.11*** (11,906.68)	-192,318.74*** (35,117.37)
Married	6,886.96*** (256.68)	21,654.44*** (721.44)	71,146.76*** (3,012.12)	151,311.35*** (7,509.52)	274,633.20*** (21,697.49)
Use of welfare	-6,706.35*** (441.54)	-30,371.38*** (1,203.49)	-127,438.16*** (5,196.17)	-312,838.95*** (12,827.32)	-638,540.64*** (37,733.94)
Race (<i>Base: White</i>)					
Black	-4,442.64*** (420.19)	-20,725.53*** (1,406.47)	-76,681.12*** (4,470.18)	-206,261.19*** (10,942.10)	-464,927.00*** (46,808.98)
Hispanic	-6,531.60*** (491.22)	-23,325.78*** (1,623.13)	-75,477.17*** (6,456.14)	-162,616.89*** (14,215.33)	-284,523.67*** (63,157.13)
Other	-2,042.13*** (517.06)	-4,819.58** (2,250.06)	-3,735.31 (5,966.59)	20,526.69 (15,599.21)	154,973.33** (61,862.91)
Has health insurance	4,134.44*** (327.02)	14,946.20*** (1,168.07)	50,726.19*** (4,436.02)	113,275.29*** (10,260.14)	243,634.61*** (31,092.12)
Year 2016	983.28*** (240.02)	2,706.95*** (679.40)	10,997.17*** (2,605.47)	35,445.66*** (6,842.37)	90,648.87*** (19,016.13)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. Net worth is adjusted for the level of student debt. The coefficients are marginal effects evaluated at quantiles for net worth in 2013. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: Median Regression Results for Net Worth with Interactions (Continued)

	15th Percentile \$4,205	30th Percentile \$19,700	50th Percentile \$87,300	70th Percentile \$250,600	85th Percentile \$624,210
Interaction terms					
<i>(Base: White × Student loan use)</i>					
Black × Student loan use	3,893.15*** (585.66)	15,607.23*** (1,684.86)	40,997.09*** (6,178.94)	84,317.81*** (17,542.12)	206,023.12** (87,036.77)
Hispanic × Student loan use	4,643.44*** (1,751.18)	21,820.85*** (2,806.29)	59,415.04*** (11,172.49)	94,101.99** (39,424.07)	136,070.01 (84,027.90)
Other × Student loan use	696.00 (1,887.11)	5,361.42 (4,270.61)	14,586.26 (16,553.53)	27,265.81 (40,520.92)	-101,079.62 (96,081.68)
Constant	2,611.51*** (492.23)	28,243.12*** (1,724.27)	197,361.75*** (6,729.52)	790,159.52*** (15,574.69)	2,370,285.24*** (49,879.44)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. Net worth is adjusted for the level of student debt. The coefficients are marginal effects evaluated at quantiles for net worth in 2013. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 9: Median Regression Results for Total Assets

	15th Percentile \$8,800	30th Percentile \$43,110	50th Percentile \$171,100	70th Percentile \$354,800	85th Percentile \$762,000
Student loan use	-3,322.09*** (452.64)	-11,532.40*** (1,575.45)	-42,954.04*** (4,563.60)	-83,216.78*** (10,032.51)	-156,215.98*** (25,344.41)
Income	0.01*** (0.00)	0.09*** (0.01)	0.50*** (0.03)	1.44*** (0.07)	3.82*** (0.22)
Four-year college graduate	9,351.87*** (407.93)	34,693.99*** (1,516.69)	116,725.00*** (4,863.91)	195,836.14*** (9,753.02)	383,680.72*** (26,194.55)
Age (<i>Base: below 35</i>)					
35-44	8,501.54*** (520.84)	37,054.85*** (1,864.10)	136,219.15*** (6,815.55)	205,329.86*** (12,162.23)	346,143.00*** (32,697.70)
45-54	10,100.33*** (475.45)	49,543.12*** (2,008.36)	199,684.85*** (6,663.76)	342,498.62*** (15,356.83)	641,998.76*** (37,143.89)
55-64	12,175.86*** (603.87)	61,794.29*** (2,217.55)	242,798.44*** (8,211.02)	428,661.81*** (14,677.04)	854,753.11*** (41,305.84)
65-74	15,812.31*** (692.83)	80,256.16*** (2,278.24)	286,959.17*** (9,033.58)	503,753.39*** (15,483.85)	970,532.02*** (46,829.02)
over 75	16,463.19*** (744.83)	84,459.34*** (3,227.70)	317,088.64*** (11,091.24)	570,969.96*** (18,967.66)	1,091,502.09*** (52,775.62)
Occupational prestige (<i>Base: Managerial or Professional</i>)					
Technical/services	-5,224.48*** (641.67)	-17,870.69*** (2,056.03)	-57,326.66*** (5,723.18)	-89,315.57*** (10,746.22)	-167,658.56*** (33,480.28)
Other	-4,280.64*** (628.63)	-14,838.33*** (2,196.41)	-60,122.46*** (5,433.05)	-74,750.34*** (11,257.59)	-170,556.59*** (30,840.10)
Not working	-8,574.81*** (745.95)	-36,781.77*** (2,360.22)	-111,043.57*** (7,207.16)	-168,328.50*** (14,255.48)	-241,757.57*** (37,901.96)
Married	14,307.68*** (411.88)	52,072.73*** (1,452.56)	148,623.91*** (5,246.46)	198,555.68*** (8,409.70)	314,209.36*** (28,134.91)
Use of welfare	-13,906.30*** (600.76)	-74,517.46*** (2,636.15)	-283,183.19*** (10,697.08)	-495,447.76*** (16,970.57)	-760,008.91*** (45,156.83)
Race (<i>Base: White</i>)					
Black	-6,863.99*** (467.41)	-35,665.32*** (2,052.67)	-114,304.72*** (6,750.49)	-216,523.83*** (14,761.23)	-390,857.21*** (36,251.70)
Hispanic	-10,045.41*** (672.99)	-41,844.02*** (2,409.32)	-103,021.80*** (8,723.18)	-140,926.86*** (15,111.88)	-166,985.63*** (37,184.48)
Other	-4,684.12*** (691.07)	-14,334.26*** (3,352.59)	-19,140.45* (10,652.66)	37,364.05** (18,649.69)	120,424.21** (48,827.81)
Has health insurance	7,874.03*** (462.82)	32,793.47*** (1,841.20)	102,845.05*** (8,031.91)	158,555.13*** (14,705.97)	263,308.98*** (37,272.13)
Year 2016	716.27** (332.04)	1,542.13 (1,252.55)	13,756.69*** (3,467.94)	42,006.06*** (7,809.85)	87,218.78*** (19,735.36)
Constant	9,184.83*** (714.15)	87,778.35*** (3,068.38)	501,061.50*** (10,436.76)	1,351,381.06*** (22,226.57)	3,353,739.32*** (54,786.53)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. The coefficients are marginal effects evaluated at quantiles for total assets in 2013. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 10: Median Regression Results for Total Assets with Interactions

	15th Percentile \$8,800	30th Percentile \$43,110	50th Percentile \$171,100	70th Percentile \$354,800	85th Percentile \$762,000
Student loan use	-5,159.46*** (526.18)	-18,617.30*** (1,838.81)	-55,724.01*** (5,489.23)	-104,826.25*** (10,950.76)	-197,173.93*** (28,451.36)
Income	0.01*** (0.00)	0.09*** (0.01)	0.50*** (0.03)	1.44*** (0.07)	3.81*** (0.22)
Four-year college graduate	9,527.49*** (376.47)	34,460.19*** (1,572.57)	116,107.36*** (5,297.08)	192,729.76*** (10,310.42)	373,273.55*** (25,940.41)
Age (<i>Base: below 35</i>)					
35-44	8,487.11*** (532.90)	38,385.12*** (2,010.06)	139,299.25*** (7,356.03)	202,246.42*** (13,347.00)	356,354.30*** (32,477.31)
45-54	9,919.60*** (600.30)	49,926.29*** (1,677.98)	203,634.99*** (7,252.57)	342,661.57*** (14,956.00)	642,670.52*** (35,035.75)
55-64	12,263.94*** (524.03)	61,271.39*** (2,237.10)	242,525.36*** (8,531.24)	425,443.60*** (15,844.86)	854,776.25*** (39,651.91)
65-74	15,586.06*** (751.82)	78,666.09*** (2,221.11)	288,922.18*** (9,349.03)	502,119.04*** (15,249.06)	964,750.13*** (40,976.59)
over 75	16,017.94*** (627.41)	82,461.11*** (2,998.74)	317,795.22*** (11,182.21)	570,695.35*** (20,814.41)	1,085,206.53*** (48,008.98)
Occupational prestige (<i>Base: Managerial or Professional</i>)					
Technical/services	-5,078.25*** (562.05)	-17,006.24*** (1,956.83)	-57,182.64*** (6,039.34)	-88,659.75*** (10,893.00)	-168,106.39*** (31,543.83)
Other	-4,087.38*** (612.46)	-13,907.26*** (2,246.13)	-57,617.92*** (6,534.66)	-66,984.02*** (12,144.65)	-175,872.27*** (30,070.57)
Not working	-8,206.54*** (627.93)	-35,276.98*** (2,388.17)	-110,496.88*** (7,237.09)	-170,466.58*** (15,261.42)	-244,858.79*** (35,978.86)
Married	14,079.00*** (404.03)	52,538.63*** (1,418.76)	146,379.40*** (5,274.09)	201,664.28*** (9,337.95)	309,719.61*** (26,750.46)
Use of welfare	-13,492.40*** (538.78)	-75,443.02*** (2,678.12)	-279,934.11*** (10,435.66)	-497,987.08*** (18,045.18)	-750,717.92*** (44,054.68)
Race (<i>Base: White</i>)					
Black	-8,746.87*** (502.19)	-44,245.55*** (2,243.64)	-134,107.81*** (8,772.75)	-243,970.45*** (15,629.06)	-446,215.12*** (37,088.32)
Hispanic	-12,533.94*** (821.19)	-50,206.69*** (2,135.71)	-124,413.19*** (11,482.05)	-167,596.75*** (20,877.12)	-250,908.27*** (42,812.26)
Other	-5,054.76*** (792.54)	-15,911.87*** (5,029.33)	-21,109.51* (11,888.33)	30,844.81 (23,448.61)	159,921.73** (62,389.02)
Has health insurance	7,830.69*** (508.85)	32,776.00*** (2,206.39)	102,204.06*** (8,043.63)	157,387.30*** (15,636.96)	258,867.56*** (38,257.45)
Year 2016	578.69 (361.34)	1,702.68 (1,255.57)	13,015.56*** (3,656.03)	40,756.73*** (8,165.60)	88,451.39*** (19,445.59)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. The coefficients are marginal effects evaluated at quantiles for total assets in 2013. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 10: Median Regression Results for Total Assets with Interactions (Continued)

	15th Percentile \$8,800	30th Percentile \$43,110	50th Percentile \$171,100	70th Percentile \$354,800	85th Percentile \$762,000
Interaction terms					
<i>(Base: White×Student loan use)</i>					
Black×Student loan use	5,658.96*** (756.58)	25,876.24*** (4,102.51)	53,165.19*** (16,266.42)	76,604.81*** (25,618.35)	178,522.19*** (67,564.37)
Hispanic×Student loan use	9,839.07*** (1,956.52)	35,299.79*** (5,220.10)	81,790.46*** (21,597.94)	106,152.27** (42,941.12)	168,774.78** (67,183.57)
Other×Student loan use	1,287.19 (1,860.47)	2,212.82 (8,221.71)	1,503.44 (37,488.94)	28,142.64 (52,988.28)	-124,668.03 (86,414.46)
Constant	9,699.73*** (825.82)	89,018.19*** (3,282.46)	503,746.37*** (10,790.95)	1,359,047.99*** (23,554.29)	3,377,843.14*** (54,391.37)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. The coefficients are marginal effects evaluated at quantiles for total assets in 2013. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 11: Median Regression Results for Income

	15th Percentile	30th Percentile	50th Percentile	70th Percentile	85th Percentile
Student loan use	-1,298.34** (556.19)	-1,862.80*** (621.74)	-2,644.89*** (782.47)	-5,970.02*** (1,129.48)	-8,638.63*** (1,465.19)
Four-year college graduate	11,205.02*** (603.32)	16,575.47*** (716.26)	25,053.95*** (994.79)	37,528.62*** (1,814.10)	65,735.91*** (4,040.48)
Age (<i>Base: below 35</i>)					
35-44	12,577.26*** (746.80)	13,096.31*** (914.06)	13,677.77*** (1,075.44)	17,301.03*** (1,257.82)	17,906.47*** (1,880.24)
45-54	11,624.12*** (683.26)	13,689.80*** (859.04)	16,352.92*** (1,107.07)	21,124.39*** (1,450.97)	22,757.52*** (2,304.98)
55-64	10,285.89*** (777.27)	11,699.92*** (955.05)	14,943.15*** (1,091.33)	19,966.52*** (1,681.67)	26,103.53*** (2,629.86)
65-74	9,216.32*** (766.64)	9,339.20*** (1,103.52)	11,151.22*** (1,379.53)	16,942.35*** (1,869.91)	18,473.14*** (3,014.18)
over 75	6,906.72*** (944.81)	6,370.93*** (1,300.80)	6,951.51*** (1,430.47)	9,090.08*** (1,856.35)	8,429.79*** (2,677.97)
Occupational prestige (<i>Base: Managerial or Professional</i>)					
Technical/services	-9,464.50*** (757.46)	-14,066.43*** (959.34)	-19,307.40*** (1,491.87)	-30,240.69*** (2,495.12)	-51,981.80*** (4,329.70)
Other	-6,508.87*** (847.55)	-11,487.20*** (993.94)	-18,393.39*** (1,383.73)	-33,926.69*** (2,480.46)	-57,296.15*** (4,273.65)
Not working	-17,336.83*** (707.20)	-23,352.25*** (1,143.80)	-30,477.40*** (1,560.51)	-45,652.33*** (2,611.02)	-68,106.30*** (4,073.52)
Married	19,053.80*** (583.50)	25,254.34*** (610.76)	33,092.60*** (918.09)	43,771.80*** (1,151.40)	55,005.21*** (2,183.88)
Use of welfare	-9,683.36*** (564.71)	-11,240.11*** (606.01)	-13,970.92*** (787.97)	-16,209.26*** (1,180.58)	-18,678.49*** (1,442.29)
Race (<i>Base: White</i>)					
Black	-2,674.78*** (509.37)	-3,754.41*** (701.39)	-5,267.03*** (814.18)	-6,896.49*** (1,057.84)	-8,847.96*** (1,591.87)
Hispanic	-6,892.40*** (664.37)	-9,075.36*** (789.17)	-10,347.57*** (1,003.65)	-11,435.70*** (1,439.43)	-14,039.15*** (1,655.92)
Other	-4,557.22*** (820.52)	-4,956.97*** (1,359.29)	-4,529.00*** (1,710.66)	-3,144.07 (2,321.13)	-6,281.98 (4,791.87)
Has health insurance	10,667.52*** (551.55)	12,977.62*** (632.76)	15,356.11*** (773.83)	16,098.48*** (912.96)	18,422.28*** (1,096.56)
Year 2016	1,870.94*** (424.89)	3,522.11*** (443.69)	4,136.45*** (640.59)	6,446.47*** (746.45)	7,848.99*** (1,320.37)
Constant	9,867.95*** (1,094.31)	17,931.90*** (1,067.32)	28,793.32*** (1,826.35)	48,677.89*** (2,834.89)	82,491.49*** (4,343.75)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 12: Median Regression Results for Income with Interactions

	15th Percentile	30th Percentile	50th Percentile	70th Percentile	85th Percentile
Student loan use	-2,136.94*** (756.17)	-3,626.26*** (884.63)	-4,131.14*** (1,113.23)	-9,740.71*** (1,620.25)	-17,303.93*** (2,143.17)
Four-year college graduate	11,089.00*** (605.86)	16,600.36*** (726.09)	24,750.59*** (1,008.28)	37,456.47*** (1,654.51)	65,719.85*** (3,784.24)
Age (<i>Base: below 35</i>)					
35-44	12,625.00*** (824.04)	13,068.12*** (819.08)	14,022.96*** (1,046.48)	17,637.66*** (1,314.13)	17,638.38*** (2,000.67)
45-54	11,642.07*** (769.12)	13,533.69*** (740.53)	16,200.21*** (1,017.82)	21,649.04*** (1,330.66)	22,715.47*** (2,142.07)
55-64	10,338.31*** (879.14)	11,580.39*** (878.62)	14,992.51*** (1,061.69)	20,440.36*** (1,554.29)	26,178.09*** (2,658.81)
65-74	9,128.35*** (788.53)	9,074.21*** (1,069.88)	11,058.22*** (1,320.53)	16,609.38*** (1,827.12)	18,661.17*** (2,640.76)
over 75	6,873.01*** (924.19)	6,092.77*** (1,273.20)	6,773.49*** (1,457.39)	8,576.41*** (1,795.12)	8,609.26*** (2,469.87)
Occupational prestige (<i>Base: Managerial or Professional</i>)					
Technical/services	-9,370.08*** (739.96)	-14,007.10*** (964.68)	-19,177.45*** (1,461.38)	-29,921.44*** (2,459.18)	-51,492.51*** (4,382.39)
Other	-6,169.91*** (789.87)	-11,224.36*** (966.74)	-18,392.22*** (1,308.32)	-33,387.79*** (2,180.25)	-56,830.50*** (4,391.88)
Not working	-17,260.34*** (716.26)	-23,227.17*** (1,074.15)	-30,391.30*** (1,514.53)	-45,371.85*** (2,402.66)	-68,976.43*** (4,090.32)
Married	19,106.00*** (574.38)	25,183.28*** (606.83)	33,132.72*** (917.48)	43,956.12*** (1,182.11)	55,017.73*** (2,203.22)
Use of welfare	-9,864.33*** (576.44)	-11,164.38*** (616.21)	-14,090.66*** (824.65)	-15,881.13*** (1,145.86)	-17,941.55*** (1,427.31)
Race (<i>Base: White</i>)					
Black	-2,985.74*** (592.44)	-4,612.98*** (757.14)	-5,647.83*** (1,002.81)	-9,435.37*** (1,109.08)	-13,026.62*** (1,923.91)
Hispanic	-7,907.18*** (709.29)	-10,358.71*** (820.34)	-12,737.37*** (1,000.05)	-14,729.66*** (1,367.16)	-18,312.39*** (1,938.36)
Other	-4,429.15*** (899.60)	-5,153.99*** (1,312.08)	-5,062.69*** (1,723.41)	-3,496.06 (3,253.81)	-4,552.29 (6,085.72)
Has health insurance	10,770.03*** (566.65)	12,937.04*** (622.03)	15,255.90*** (705.44)	16,188.07*** (936.16)	18,775.49*** (1,241.53)
Year 2016	1,951.67*** (421.95)	3,498.82*** (446.37)	4,049.48*** (596.86)	6,704.43*** (694.76)	7,535.74*** (1,249.58)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 12: Median Regression Results for Income with Interactions (Continued)

	15th Percentile	30th Percentile	50th Percentile	70th Percentile	85th Percentile
Interaction terms					
<i>(Base: Student loan use × white)</i>					
Black × Student loan use	1,481.11 (1,161.04)	3,416.41** (1,381.85)	1,213.11 (2,180.83)	8,847.95*** (2,220.15)	14,742.08*** (2,738.68)
Hispanic × Student loan use	5,855.40*** (2,101.81)	8,779.37*** (1,997.94)	12,015.81*** (3,007.66)	15,924.46*** (4,023.90)	21,375.75*** (4,870.31)
Other × Student loan use	-687.77 (2,832.45)	1,316.69 (2,814.96)	2,510.34 (4,707.36)	2,421.54 (4,580.63)	-202.81 (8,385.94)
Constant	9,865.45*** (1,174.54)	18,293.79*** (1,142.42)	29,300.38*** (1,740.07)	48,827.52*** (2,811.26)	84,202.00*** (4,160.21)

Note: Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty. Standard errors are in parentheses. Population size in 2013 and 2016 are 122,530,070 and 125,981,701, respectively. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 13: Decomposition of Mean Wealth Differentials

Reference group: White coef.	Black/White		Hispanic/White	
		Share		Share
Unadjusted mean wealth gap	4,252.27***		4,163.31***	
$E[\text{IHS}_W] - E[\text{IHS}_R]^a$	(148.16)		(178.29)	
Total explained	2,839.98***	67%	2,827.87***	68%
	(114.69)		(117.50)	
Total unexplained	1,412.29***	33%	1,335.45***	32%
	(131.28)		(162.67)	
<i>Explained: Composition Effects Attributable to</i>				
Student loan use	150.51***	5%	-27.16	-1%
	(22.71)		(16.95)	
Income	1,445.45***	51%	1,208.65***	43%
	(74.76)		(75.39)	
Four-year college graduate	188.30***	7%	270.54***	10%
	(23.83)		(30.65)	
Age	352.62***	12%	736.00***	26%
	(47.48)		(58.14)	
Occupational prestige	32.69**	1%	135.80***	5%
	(13.51)		(30.34)	
Married	127.44***	4%	-4.22	0%
	(27.40)		(8.69)	
Use of welfare	461.84***	16%	269.67***	10%
	(49.41)		(37.88)	
Has health insurance	81.12***	3%	238.58***	8%
	(18.34)		(45.20)	

Note: Estimates are survey weighted. Net worth is adjusted for the level of student debt. Income denotes the logarithm of income and age is collapsed into 5 groups to avoid omitted group bias. Robust standard errors are in parenthesis. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

^aThe variable W denotes white and R denotes the comparison group.

Table 14: Decomposition of Wealth Differentials: Black vs. White

Percentile	15th	30th	50th	70th	85th
Reference group: White coef.	Share	Share	Share	Share	Share
Mean RIF gap	4,651*** (170.2)	5,282*** (188.6)	4,845*** (239.0)	3,982*** (186.20)	3,931*** (172.54)
$E[\text{RIF}_\tau(\text{IHS}_W)] - E[\text{RIF}_\tau(\text{IHS}_R)]^b$	5,384*** (334.1)	5,058*** (284.5)	3,561*** (163.9)	2,639*** (120.56)	2,044*** (100.65)
Total explained	-733.8** (363.4)	223.4 (301.1)	1,283*** (225.5)	1,342*** (177.08)	1,887*** (160.65)
Total unexplained					
<i>Explained: Composition Effects Attributable to</i>					
Student loan use	187.0*** (52.73)	207.1*** (44.99)	233.9*** (34.40)	168.63*** (26.69)	135.10*** (22.43)
Income	1,466*** (139.2)	1,777*** (129.6)	1,590*** (95.47)	1,664*** (102.00)	1,831*** (109.81)
Four-year college graduate	236.7*** (54.32)	287.8*** (49.80)	298.3*** (38.67)	317.46*** (36.35)	231.75*** (29.35)
Age	477.3*** (85.17)	680.2*** (105.9)	533.2*** (73.09)	369.57*** (52.52)	294.89*** (39.95)
Occupational prestige	89.37** (38.01)	102.1*** (32.70)	26.11 (22.69)	13.26 (20.27)	0.35 (18.89)
Married	611.6*** (95.19)	444.4*** (71.53)	261.1*** (49.63)	56.16 (38.80)	-93.96*** (32.82)
Use of welfare	2,064*** (231.4)	1,322*** (146.6)	485.6*** (64.64)	6.69 (33.75)	-319.78*** (37.50)
Has health insurance	251.9*** (61.75)	237.2*** (49.86)	132.9*** (28.22)	42.95*** (14.21)	-34.92*** (11.56)

Note: Standard errors are bootstrapped with 500 replications. Estimates are survey weighted. Net worth is adjusted for the level of student debt. Income denotes the logarithm of income and age is collapsed into 5 groups to avoid omitted group bias. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

^bThe variable W denotes white, R denotes the comparison group, and τ denotes the percentile.

Table 15: Decomposition of Wealth Differentials: Hispanic vs. White

Percentile	15th	30th	50th	70th	85th
Reference group: White coef.	Share	Share	Share	Share	Share
Mean RIF gap	4,490*** (243.6)	4,902*** (268.0)	4,900*** (280.1)	3,693*** (231.4)	3,739*** (193.1)
$E[\text{RIF}_\tau(\text{IHS}_W)] - E[\text{RIF}_\tau(\text{IHS}_R)]^b$					
Total explained	4,410*** (316.8)	4,947*** (262.4)	3,769*** (171.9)	2,973*** (124.09)	2,342*** (111.65)
Total unexplained	79.31 (350.2)	-44.84 (342.1)	1,131*** (290.8)	719.66*** (218.4)	1,397*** (199.1)
<i>Explained: Composition Effects Attributable to</i>					
Student loan use	-32.76 (22.66)	-35.91 (23.61)	-40.89 (25.96)	-29.99 (18.67)	-24.08 (15.11)
Income	1,226*** (128.9)	1,486*** (119.4)	1,329*** (93.45)	1,397*** (98.77)	1,536*** (111.71)
Four-year college graduate	341.3*** (75.31)	415.6*** (70.11)	430.5*** (51.06)	459.85*** (48.56)	335.73*** (39.65)
Age	980.2*** (128.0)	1,443*** (136.5)	1,145*** (99.62)	791.62*** (65.65)	601.56*** (51.23)
Occupational prestige	-27.86 (94.96)	186.2** (79.62)	241.2*** (48.87)	225.42*** (38.47)	179.16*** (34.64)
Married	-20.60 (43.90)	-15.19 (31.64)	-9.18 (18.75)	-2.21 (4.79)	3.15 (6.86)
Use of welfare	1,205*** (168.8)	771.4*** (106.0)	283.4*** (45.26)	3.98 (19.98)	-186.29*** (26.42)
Has health insurance	739.4*** (153.2)	696.2*** (116.2)	390.0*** (66.88)	127.90*** (39.25)	-103.97*** (32.33)

Note: Standard errors are bootstrapped with 500 replications. Estimates are survey weighted. Net worth is adjusted for the level of student debt. Income denotes the logarithm of income and age is collapsed into 5 groups to avoid omitted group bias. Significance levels are denoted by: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

^bThe variable W denotes white, R denotes the comparison group, and τ denotes the percentile.

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