Student Debt, Risk Preferences, and Household Net-Worth*

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Abstract

Using household data from the Survey of Consumer Finances, we find that student debt negatively affects future household net-worth. The primary channel is through investments in high return, risky financial assets. Utilizing exogenous shocks to student loans and its bankruptcy treatment, we establish causation and show that student loans negatively impact future portfolio risk-taking by students already in four-year colleges at the time of the regulatory changes that lead to these exogenous shocks. This negative relation gets stronger for financially constrained households. Our evidence indicates that student debt reduces early investment in high return assets, negatively affecting the long-term net-worth and wealth creation of households.

JEL classification: G30, I22

Keywords: Student Debt; Portfolio Risk; Household Net Worth; Stock Market Participation

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1 Introduction

Student debt in the United States hit at a record high value of $1.52 Trillion in 2018, with 44.2 million borrowers, with an average student from the class of 2016 having $37,172 in loans.[1] Student loans are now the second highest consumer debt category, only behind mortgage debt. These loans are unique and different from other types of loans because these loans are borrowed by individuals at a relatively young age and because student loans are the only type of personal debt not dischargeable through personal bankruptcy procedures (except in very narrow conditions).

While the existing literature in economics has analyzed how student debt can impact career decisions as well as other education outcomes, no academic study has analyzed the impact of these loans on investment decisions of individual households. In particular, student loans impose downside risk on households (through significant liquidity and default costs), which in turn, can impact the choice of investment (by giving up riskier investment options) by households in their savings portfolio, thus affecting future household wealth. Since higher risk investments also generate higher returns over the long run, the impact of this effect can be non-trivial since the long-term wealth of individuals will be correlated with the extent of risk-taking in their financial portfolios. In addition, given the decreasing extent of personal portfolio risk taking over an individuals' life cycle, investments in risky securities early on in one's life-cycle will have the greatest impact on wealth. Since the burden of student loans is the largest at the start of one's career, a negative relationship between student loans and financial portfolio risk-taking of individuals early on, may suggest a hitherto unexplored long-term impact of such loans on household wealth creation.

Student loans, unlike other types of loans for personal consumption (e.g., car loans), can be less of a matter of choice for individuals seeking the long-term wealth benefits of higher education.[2] Further, unlike collateralized loans such as mortgages, which allow lenders to

[1] See recent article in Forbes, Student Loan Debt Statistics in 2018: A $1.5 Trillion Crisis, June 13, 2018. Available here.

[2] See, e.g., **autor2014 goldin-katz**

recoup at least part of their investment in the case of default, student loans do not have any hard assets backing them up. Thus, private student loans can end up being significantly more expensive for individuals and can affect their future career prospects as well as their ability to receive credit and make purchases.

Policymakers already use such arguments as a justification for important policy decisions. The executive actions by President Barack Obama to reduce student loan repayment burdens in 2011 as well as recent political campaign debates on this issue highlight the importance of this issue. Further, media reports suggest that this issue is starting to be debated by a broader audience.[3] In spite of such actions at the highest levels of government and the potential for severe long-term effects of student loans on portfolio risk taking and thus long-term household wealth, there is scant systematic evidence relating student debt to financial portfolio risk-taking and stock market participation. In this paper, we try to bridge this gap in the literature by analyzing the relation between student debt and personal financial portfolio risk-taking in stock and bond markets, and it's long term impact on household wealth.

Existing literature in this area finds a link between liquidity constraints, income risk, and portfolio choice. Various theoretical papers indicate that individuals facing certain types of risks (like income or liquidity risk) will take lower levels of risk in their personal financial investments.[4] The underlying idea in this literature is that taking on one kind of risk diminishes the appetite for taking other risks, even if they are uncorrelated.[5] Empirical research in this area seems to confirm these theoretical predictions.[6] For instance, **guiso-sapienza-zingales** find that their measures of income risk and liquidity constraints depress the willingness of households to invest in risky financial assets. These findings are consistent with the idea that when investors are confronted with uninsurable income risk or

[3]See, for instance, the *Wall Street Journal* article, "How Student Debt Harms the Economy," by Mitchell Daniels, January 27, 2014.

[4]See, e.g., **pratt-zeckhauser kimball1993 bertaut-haliassos koo elmendorf-kimball**

[5]See, **kimball1993**

[6]See, e.g., **guiso-sapienza-zingales angerer-lam**

liquidity constraints, they reduce the overall exposure to risk by holding a lower proportion of risky assets in their personal financial portfolios.

Student loans can hinder liquidity through various channels. First, the direct impact of student loan payments, particularly early in one's career, reduces disposable income, thus inducing liquidity constraints. Second, defaulting on student loans can bring about severe consequences that are almost impossible to mitigate using personal bankruptcy procedures, adding another layer of liquidity constraints through its effect on future income. Such severe consequences of potential default of student loans can include wage garnishment, garnishment of tax returns and social security payments, as well potentially expensive lawsuits by the Department of Education. Third, student loans can also affect (both current and future) income adversely as various employers use individual credit history as a signal in their hiring decisions. Thus, based on the above discussion, we expect individuals with student loans to be relatively conservative in their investment strategies, implying a negative relationship between student debt and riskiness of personal financial investments.

Our analysis uses data from the Survey of Consumer Finances (SCF), which is a cross-sectional survey commissioned by the Federal Reserve every three years. We use the SCF because it provides the two important sets of variables for the analysis we conduct, namely, student debt amount and household financial portfolio details.[7] Beyond this, the SCF provides information on how to account for imputations, sampling and survey error, and survey weights, which help us to easily incorporate this data in a regression framework.[8] Further, this survey provides additional information useful for our analyses, such as respondent age, education, gender, family income, whether or not respondent's spouse is financially dependent, and the respondent's risk preferences.

We find that household student debt (both in dollar value terms and as a proportion of household financial assets) is negatively related to the proportion of household financial assets

[7] An important limitation of the SCF is that it is at the level of a household. We discuss this and other data issues later in the paper.

[8] See **pence** who provides significant details on how to use SCF data for regression analyses.

held in risky investments. Our results are similar regardless of using stocks or stock mutual funds as our proxy for risky investments, or using stocks, stock mutual funds, corporate bonds, mixed mutual funds, and other types of risky investments as our proxy for risky investments. Student debt also has a negative effect on the intensive margin. That is, conditional on having student debt, individuals having more student debt invest less in risky financial assets. Economically, this is a large effect. A one inter-quartile range increase in student debt as a fraction of financial assets lowers risky assets as a proportion of financial assets by 20 percent.

Causal interpretations of reduced form regressions are problematic in this context. In particular, there may be unobserved characteristics such as family background and wealth that may drive our results, although we control for college and graduate education of the individual. To address such endogeneity concerns, we conduct two types of analyses: one which utilizes the change in bankruptcy law by making student debt completely non-dischargeable through personal bankruptcy, and the other which utilizes the increase in the ease of borrowing of subsidized federal Stafford loans and the introduction of non-subsidized federal Stafford loans in the U.S. through the Higher Education Amendments (HEA) of 1998 and 1992, respectively. Prior to 1998 HEA, student loans were dischargeable after a seven-year period or a demonstration of undue hardship – which is difficult to prove, and time-consuming to obtain – and requires one to make a case to a federal judge. After the HEA of 1998, the only means of discharging student loans was to show undue hardship.[9] This analysis included individuals that were enrolled prior to the year of regulation in a 4-year college, since for this group the regulatory change is clearly exogenous – in the sense that it does not drive their choices to enter college or take on student loans. The results support a causal interpretation for the relation between student debt and risky assets.

Before the 1992 HEA, only students with demonstrated financial need could obtain the federal subsidized loans. After 1992, the demonstration of financial need formula incorp o-

[9]For details, see Harvard Law Review Note titled, "Ending Student Loan Exceptionalism: The Case for Risk-Based Pricing and Dischargeability," No. 2, Vol. 126, Dec. (2012)

rated to determine eligibility excluded home equity in determining how much the family could support the students (without financial aid). This change made more students eligible for subsidized loans. Further, after 1992, students could also borrow without showing financial need through the unsubsidized Stafford loans program. These loans did not have the benefits of subsidized loans, like the government paying loan interest during the study period and a grace period after graduation. However, all government Stafford loans have much lower interest rates than private loans and, unlike private loan programs, also provide deferment and forbearance options.[10] This regulatory change led to a significant increase in the utilization of student loans.

Similar to our analysis of the 1998 HEA, our analysis here considers only individuals that were enrolled prior to the year of regulation – prior to 1992 – in a 4-year college.[11] The idea is that for the group of individuals that are already enrolled in college, the regulatory change is plausibly exogenous, and does not drive their choice to enter college.[12] For this sample, the cohort that spends the most amount of time in the new regulatory regime – those individuals graduating college in 1995 – should borrow the most in student loans, and have the lowest extent of risky personal portfolio investments compared to other cohorts. Our empirical results are consistent with this expectation.

Given that the two HEA's were not designed with household financial investments in mind, it is unlikely that this regulation affected financial investment risk through other channels, particularly for individuals that were already in college prior to this law being passed. Thus, our empirical evidence points to a causal relation between student debt levels and financial portfolio risk-taking.

We then try to understand whether individuals make less risky financial investments when

[10] **dynarski** provides a detailed description of the impact of the 1992 HEA on education loan amount borrowed and documents a significant increase in education borrowing through federal loans (both subsidized and unsubsidized) after 1992.

[11] We exclude individuals entering in 1992 to avoid getting contamination due to anticipation of the law. The first major hurdle passed by this bill, which was to get out of committee, was in October 1991. See, https://www.govtrack.us/congress/bills/102/s1150.

[12] We also restrict our sample to individuals that borrow student loans for the first time in 1995 or earlier, in order to utilize those individuals that most likely borrowed at least once for their own education.

they have student debt, partly because they are concerned with the potential for default. Consistent with this intuition, we find that the individuals holding substantial student debt and significant financial portfolio risk have a higher likelihood of falling behind on their student loan payments. Further, the predicted value of likelihood of default on student loans from this analysis is negatively related to the likelihood of investment in risky, high return asset portfolios. This result suggests that the possibility of falling behind on student payments may, in part be, driving households with student loans to take on less financial portfolio risk. Further, in unreported tests, we show the negative relation between student loans and personal financial portfolio risk-taking is stronger for households that are more financially constrained, that is, those in the lower quartiles of income and net-worth.[13] These results indicate that our primary findings are partly driven by concerns of liquidity and the ability to repay student debt.

We also find ancillary results that are consistent with student loans reducing financial portfolio risk taking. First, we find that the negative relation between student debt and financial portfolio risk taking, is significantly greater for those individuals that get a higher education, suggesting that family-based borrowing for education, while potentially having an impact, is not as large as the direct impact of individuals borrowing for their own education. Second, we control our regressions for individuals' stated preference for risk. Thus, we control for a proxy of risk aversion in our analysis. This result does not support the idea that student debt somehow alters one's risk preference (all else equal). Finally, we find that the negative relation between student debt and financial portfolio risk taking, is significantly greater for older individuals. In this case, the result imply that, as individuals become more risk averse with age (due to lower future earnings potential), they are more affected by the liquidity constraints imposed by student debt in their financial portfolio choice.

Student loans' impact on risk-taking can impact long-run net worth and wealth. This has been argued in **zhan2016** though they do not propose a specific channel for this effect.

[13]These results are reported in the online appendix to this paper.

We verify these results with our dataset. Consistent with our intuition and the latter paper's results, we find that net worth is negatively associated with student loans. Moreover, we show that the results are likely causal through our HEA analysis framework. Finally, we calculate the estimated reduction in net-worth due to student loans. Based on the estimated 20 percent reduction in the share of financial assets invested in a risky portfolio (that we find earlier), we simulate average holding period returns for various cohorts across various investment horizons. Based on comparisons of changes in holdings in the stock market, the corporate bond market, and the treasury market, we estimate an average reduction of over 10 percent in financial wealth over a 25 year period due to higher student loans.

Current evidence on the extent of student loans suggests that the mean ratio of student loan payments to income among borrowers has not really changed over time.[14] Further, **avery-turner** argue that "The claim that student borrowing is too high across the board can – with the possible exception of for-profit colleges – clearly be rejected." However, they do find a greater extent of borrowing for college (i.e., more students are borrowing, as opposed to more dollar borrowing per student). Our evidence suggests that, even conceding the point made by scholars described above on the average loan levels, the increasing extent of borrowing for higher education negatively impacts the broader economy and long-term household wealth by reducing the ability of households to take risks in their financial portfolios, that could potentially deliver higher long term risk-adjusted returns. Thus, we study a different effect of student debt than those analyzed by scholars before us. Moreover, we are the first study in the literature to establish the relationship between student loans and household financial portfolio risk.

[14] See, e.g., **baum-malley** and **baum-schwartz**

2 Related Literature

We contribute to two distinct literatures. First, our study contributes to the literature on household finance.[15] This literature has focused on issues such as portfolio decisions of households (e.g., **bertaut-haliassos annette ivkovic-sialm dimmock carlin-manso bucciol**) and mortgage and credit card debts (e.g., **bertaut-hal-reiter** and **agarwal-dris-laibson**).[16] This literature also utilizes data from the SCF to analyze household finance issues related to ownership of certain types of securities.[17]

Another strand of this literature analyzes how tax policy can impact the composition of financial assets in household portfolios (see, e.g., **poterba**). Further, there is a literature that relates entrepreneurship to personal finance. For example, **heaton-lucas** find that households with high and variable business income hold less wealth in stocks than other similarly wealthy households, although they constitute a significant fraction of the stockholding population. In a recent paper, **karthik-pinshuo** find a negative relation between household student loans and the rate of entrepreneurship. See also **guiso-sodini** for a detailed survey of this field of research. However, with a few exceptions, this strand of literature has tended to largely ignore student debt, and we contribute by relating two aspects of household finance. First, the extent of student debt held by households, and second, the risk of financial portfolios chosen by households.

Various theoretical papers indicate that individuals facing income and liquidity constraints will take lower levels of risk in their personal financial investments.[18] Empirical research in this area seems to confirm these theoretical predictions.[19] For instance, **guiso** find that their measures of income and liquidity risk (which are based on income variance) depresses the willingness of households to bear other avoidable risks. These predictions are

[15] See, e.g., **cambell**

[16] **rosen2004** find that the poor physical health is associated with a smaller share of financial wealth held in risky assets and a larger share in safe assets.

[17] See, e.g., **bergstresser-cohen**

[18] See, e.g., **pratt-zeckhauser kimball1993 bertaut-haliassos koo elmendorf-kimball**

[19] See, e.g., **guiso angerer-lam**

consistent with the idea that when investors are confronted with uninsurable income or liquidity risks, they reduce the overall exposure to risk by holding a lower proportion of risky assets in their personal financial portfolios. We are the first study to test this prediction in the context of student debt.

The paper in this literature that is the closest to our study is a paper by **becker2010** They find that households with mortgage debt are 10 percent less likely to own stocks and 37 percent less likely to own bonds compared to similar households with no outstanding mortgage debt. Unlike them, however, we analyze student loan, which because of its uniqueness as well as ubiquitousness (both described above) is an important asset category. Second, our analysis examines the extent of financial risk-taking rather than just participation, unlike in **becker2010** Finally, unlike them, we take advantage of unique natural experiments in the student loans market that allows us to demonstrate a causal relationship between student debt and household financial portfolio risk.

Second, we contribute to the extensive literature on the impact of education financing on educational enrollment, attainment and career outcomes. **ellwood-kane** and **belley-lochner** argue that family income is significantly related to college attendance rates. **stinebrickner** conclude that some college students are credit constrained, though they argue that this does not account for family income differences in college persistence. In related work, **marx-turner** find that Pell grant aid substantially reduces borrowing but has modest effect on educational attainment. Studies also find that financial aid increases student college attendance (see, e.g., **dynarski**). Several other studies have found a positive relation between state subsidies and scholarships and college attendance and enrollment.[20]

Various studies have documented a significant positive value of higher education. For instance, **goldin-katz** and **avery-turner** document that the earnings premium of a college degree relative to a high-school degree has substantially increased over time. **kangasharu-pekkala** study the role of education on self-employment in Finland. **pekkarinen-uusitalob-kerrc**

[20]See, e.g., **dynarski cornwell-mustard-sridhar kane2003**; **kane2007 abraham-clark**

study the impact of school reform and its impact on intergenerational income mobility. Others have analyzed the career effects of how higher education is financed. **rothstein** find results that are consistent with ours, namely that debt causes graduates to choose substantially higher-salary jobs and reduces the probability that students choose low-paid "public interest" jobs. They interpret their evidence as arising from credit constraints. Similarly, **minicozzi** finds that higher educational debt is associated with higher initial wage rate the year after finishing school and lower wage growth over the next four years. **dynarski-clayton** provide a detailed survey of this literature as well as institutional details of financing of higher education in the United States. We extend the above strand of literature by linking student loan financing to personal portfolio risk-taking, which can have long-term wealth effects for both individuals as well as the broader economy.

3 Data

3.1 Sample Selection and Variable Description

Out primary data source is the Survey of Consumer Finances (SCF) which is conducted on a triennial basis by the Federal Reserve Board. The SCF is a dual-frame, cross-sectional survey which is designed to measure household wealth and financial decisions. It includes extensive information on all aspects of household balance sheet, income, and demographic characteristics. In this study we deploy eight years of SCF data from 1992 to 2013. Sample weights are used to correct for survey non-response and allow to approximate a representative sample of U.S. household in each year. A multiple imputation methodology is used to decrease the sampling variance of the data.

Using the detailed information from the survey, we construct key measures of household wealth. Specifically, we define *Total Financial Assets* as the sum of total dollar value of checking accounts, money market accounts, cash or "call money" accounts, CDs, total face value of all the savings bonds, market value of all of the Mortgage-backed bonds, U.S.

Government bonds or Treasury bills, State or municipal bonds, or other tax-free bonds, Foreign bonds, Corporate bonds, total market value of stocks, total market value of all of the stock mutual funds, tax-free bond funds, government or government-backed bond funds, other bond funds, and combination funds, pension accounts, IRA and Keogh accounts, face value of all the term life policies, family's interest in annuities, trusts, or managed investment accounts in which the head of the household or his/her family have an equity interest, and any other substantial assets such as futures contracts, oil and gas leases. We define *Total Non-financial Assets* as the sum of the current value of vehicles, current value of homes, net worth of the share of business, and the total dollar value of timeshare and real estate or vacation properties owned.

Financial Liabilities are defined as the sum of the balance owed on credit card and charge accounts, real estate loans, balance on the margin loans, loans on other properties, amount borrowed for home improvement. *Non-financial Liabilities* include car loans, mortgages, any loans for the business by using personal assets as collateral, amount owed on the share of vacation homes, recreational property or other properties. Consequently, we define *Net Worth* as the sum of financial and non-financial assets minus total financial and non-financial liabilities. The household *Total Income* from all sources before taxes and other deductions is reported in the survey. Our definitions of financial variables are similar to **bertaut-mccluer**

We focus our analysis on the definition of risky assets which includes total market value of stocks, stock mutual funds, and IRA and Keogh accounts invested in stocks, and also total amount in combination and other mutual funds, mixed IRA and Keogh accounts.[21] In most of our analysis, we focus on the ratio of risky assets to total financial assets.[22] Our main explanatory variable of interest is *Share of Student Loan*, which is defined as the natural

[21]In unreported tests, we also use a purely stock and stock-like assets based risk measure to check the robustness of our results. Our results with this measure are qualitatively consistent with those reported here.

[22]We log transform 1×10^{-8} plus the ratio of risky assets and also to limit extreme values and to reduce the effect of possibly spurious outliers we winsorize this ratio at the 1st and 99th percentiles. We add a very small number to the share of risky assets to incorporate zeros and to allow us to more clearly interpret the coefficient estimates in the regressions. Our results are qualitatively similar if we add 1 to the share of risky assets instead.

logarithm of 1×10^{-8} plus the ratio of total student loan amount for a household divided total financial assets, winsorized at the first and 99th percentile.[23]

Other variables reflecting demographic, family, occupation, and risk characteristics are also included in the analysis. *Age* is a continuous variable that reflects the age of the head of household. We also construct age dummy variables. For instance, *Age17-35* is a dummy variable, which is equal to 1 if the respondent is between 17 and 35 years old, and 0 otherwise. *Gender* is a dummy variable that equals 1 if the respondent is male, and 0 otherwise. The SCF also asks the respondent the highest education level completed. We define *4-Year College* as dummy variable that is 1 if the respondent's highest level of education is 4 years of college education, and 0 otherwise; *Graduate* is a dummy variable that is 1 if the respondent's highest level of education is graduate school, and 0 otherwise. *Dependent Spouse* is a dummy variable, which is equal to 1 if the head of the household had a spouse who was financially dependent, and 0 otherwise. *Dependent Children* is number of children that are financially dependent in the household.

The SCF also has information on the amount of financial risks that the head of the household and his or her partner are willing to take when they save or make investments: those who are willing to take (1) substantial financial risks expecting to earn substantial returns, (2) above average financial risk expecting to earn above average returns, (3) average financial risks expecting to earn average returns, and those who are (4) not willing to take any financial risks. We use the latter group as a reference and include dummy variables for the first three groups – *Substantial Risk Attitude*, *Above Average Risk Attitude*, and *Average Risk Attitude*, respectively – in our analysis. We also include three variables – *S&P 500 Return*, *S&P 500 Volatility* and *AAA Diff. at Age of 22* – to control for market conditions when the respondent's age is 22 and compounded daily average S&P returns and volatility for the last four years at the age of 22, and AAA bond rate minus the 10 year treasure b ond

[23]The SCF reports information on up to six education loans per household. We cumulate all household level student loans in our analysis. We also conduct our analyses with the dollar value of household student loans.

rates at time that the respondent is 22 years old, respectively. These variables control for market conditions at the time when individuals typically graduate college. To control for cost of education, we also include *Tuition* variable which is the average tuition for a college education in a given year.

In our endogeneity correction tests, we use a variable called *Higher Education* which is a dummy variable that is 1 for individuals that have had either *4-Year College* or *Graduate* as their highest education. For these tests, we also create dummy variables to estimate college graduation year. In particular, we assume that individuals graduate four-year college at age 22, and thus, create dummy variables for the year in which they reach this age. Thus, we use these variables – namely, *Age 22 at 1993*, *Age 22 at 1994*, and *Age 22 at 1995* – to mark individuals graduating in 1993, 1994, and 1995, respectively. Similarly, to conduct our placebo tests we create dummies for graduation in 1998, 1999, and 2000, which we term as *Age 22 at 1998*, *Age 22 at 1999*, *Age 22 at 2000*, respectively.

The survey design of the SCF data requires us to consider two issues in estimations. First, there are five replicates of each observation in the SCF data. Due to missing values in the original survey data – for instance, due to non-response – the SCF applies a multiple imputation procedure giving five values for each missing value, which is used to approximate the distribution of the missing data. Second, the SCF involves stratification and clustering in the sample design. Moreover, to protect respondent's privacy, the SCF does not release information on stratification and clustering. However, to facilitate estimation, the SCF provides a bootstrapping file of replicate weights for the first implicate of each case, which we will use in the analysis. We address these two issues by running a separate regression for each replicate. The estimates reported are the average of the five sets of coefficients.[24]

[24]Following **pence** we use 500 bootstrapped draws to calculate the sampling variance. The final standard error reported is given by $\sqrt{(\frac{6}{5} \times imputation\,variance + sampling\,variance)}$, where imputation variance is the variance of the coefficient estimate across the five imputations. See, **pence** and SCF codebooks for more details on the standard error correction methodology.

3.2 Summary Statistics

Table 1 reports descriptive statistics for our data. Panels A of Table 1 reports the summary statistics for the student loan amount for households having positive student debt. Interestingly, the number of households with student debt is increasing over survey years. It is possible that these differences across years are due to changes in survey samples, but the SCF does not seem to have significant shifts in survey samples across years. This feature of the data is also consistent with the statistics reported in **avery-turner** and **wei** indicating that the number of students borrowing to obtain higher education is increasing over time.

Over the survey years, the median student loan amount per household (in real 2013 dollars) seems to have increased. This is at odds with some evidence in the prior literature on average loans per graduating student not having changed over time. This discrepancy may be attributable to increasing household size, for instance, due to younger individuals staying with their parents in more recent years. Moreover, this data includes both private and government loans. Thus, loan amounts are not restricted by the maximum borrowing amounts prescribed by federal loan programs.

Panel B of Table 1 reports descriptive statistics on the head of households in our sample. The median respondent age is 43 years, 77 percent of respondents are male, 22 percent of them have a 4-year college degree as their highest education, and 14 percent of them have additional qualifications such as a graduate degree. Panel C of Table 1 reports summary statistics for the share of risky assets and other financial variables (in real 2013 dollars). The share of risky assets seem to follow general trends in the economy, as can be seen from Figure 1, dropping after 2001 and 2007, potentially related to the internet bubble and sub-prime loan crisis. The median total income is around $59,000 which is similar to statistics reported in other datasets.[25] In addition, Panel D reports the weighted summary statistics for the share of risky assets variable for those with and without education, and also for the sample

[25] According to the U.S. Census Bureau, the average median household income in the U.S. for the survey years we use is around $54,488.

of those with education and student debt.

4 Methodology and Results

4.1 Baseline Results

We start with regression model where the dependent variable is the share of risky assets (i.e., *Share of RA*), and the main independent variable is *Share of Student Loans* by using the following specification:

$$Share\ RA_{it} = \beta_0 + \beta_1 SL_{it} + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \tag{1}$$

where, SL_{it} is *student loan amount* or *share of student loan in total financial assets* for household i in year t, $\mathbf{X_{it}}$ is a vector of controls which includes fixed effects for survey year, occupation, and race. The standard errors are obtained using a combination of bootstrapped standard errors for the first imputation, and between imputation standard errors as described in section **??**. The former adjusts for sampling errors, stratification, and clustering in the survey, whereas the latter accounts for the errors in estimates across the imputations.[26]

The results of weighted ordinary least squares (OLS) regressions are reported in Columns (1) to (4) of Panel A, Table 2, while Column (5) presents a Tobit model. The weights adjust for the sample representativeness of the SCF. Panel A reports the regression results of *Share of Risky Assets* on *Share of Student Loan*. As we include more controls, the magnitude of the coefficient of interest on the share of student loan slightly decreases, but remains significant at the 1% level. Column (4) of Panel A shows results for using dummy variables which equal 1 for positive values of dependent and independent variables of interest. Column (5) of Panel A reports result from left-censored (at zero) tobit regression model.

We find a statistically significant and negative relation between student loan and share of

[26]Our results are consistent if we use *Student Loan Amount* as the dependent variable. These results are reported in the appendix.

risky assets. The effect is also quantitatively important. A one inter-quartile range increase in student debt as a fraction of financial assets lowers risky assets as a proportion of financial assets by 20 percent. The coefficient estimates on the control variables are consistent with intuition. We find that total income and net worth both have a positive relationship with holdings of risky assets. Substantial, above average, and average risk takers have higher proportion of financial assets held in risky investments than those not willing to take any risk. The number of dependent children exerts a negative effect on investments in risky assets. Moreover, older and more educated individuals – namely, those having four-year college and graduate degrees – hold more risky assets in their financial portfolios, which is consistent with prior findings that financial literacy and awareness is affected by age and education.[27]

In Panel B of Table 2, we analyze the impact of education and age. In Column (4) from Panel A, we show that there is a significant negative impact of student loans for both 4-year college as well as graduate education. A natural question to ask is whether or not this totally negates the positive impact of education on income? A higher income eases the liquidity constraint on households allowing them to invest in high return and riskier assets in their portfolio. The total effect, as shown by the t-tests reported at the bottom of the specification is still positive but it cuts down the impact of a 4-year college education by almost 50%, which is economically a very large impact on wealth creation. Thus, while higher education is still beneficial to average household wealth creation, financing of that education through student loans cuts down the benefits to wealth creation by almost half.

In Column (2), we interact the share of student loan amount with education variables, namely *4-Year college* and *Graduate*, and estimate weighted OLS regressions. The results show that negative relation between student debt and financial portfolio risk is driven by individuals that get a higher education. This suggests that family-based borrowing (by parents or others) for education, while potentially having an impact, may not be as large an

[27]See, **king-leape bertaut1998** and **bertaut-mccluer**

effect as the direct impact of individuals borrowing for their own education.

In addition, we create dummies for three age brackets – 17-35, 36-50, and over 51 – and interact them with our variable of interest. Column (3) reports regression results which show that the negative relation between student debt and financial portfolio risk is significantly greater for older individuals. As individuals become more risk averse with age, potentially due to lower future earnings potential, they are more affected by the liquidity constraints imposed by student debt in their financial portfolio choice.

4.2 Identification: Impact of 1998 HEA on Students Already in College

The central question is whether the observed relationship between student debt and proportion of household financial wealth held in risky assets is *causal*. The estimates reported in the previous section may be confounded by potential endogeneity concerns. In particular, there may be unobserved factors like family background that can confound our results. To address such endogeneity concerns, we first utilize exogenous changes in the bankruptcy treatment of student loans through the federal government after the 1998 HEA which made student debt completely non-dischargeable through personal bankruptcy – except for certain "undue hardship" claims, which are very difficult to establish.

Since, for students that were already enrolled in college this regulatory change was exogeneous, we restrict our sample to students who became 22 years of age by 2001. We expect that the non-dischargeability of student loans implemented by the 1998 HEA increased the financial burden for individuals with greater levels of student loans, and thus, the share of risky assets in total financial assets will decline with student loans for students graduating after 1998.

For the first two columns in Panels A of Table 3, we run weighted OLS regressions with

specification (2), and in the third column we use the specification (3) shown below:

$$Share\ RA_{it} = \beta_0 + \beta_1[Age(22 \geq 1998) \times Share\ of\ SL] + \tag{2}$$
$$+ \beta_2 Age(22 \geq 1998) + \beta_3 Share\ of\ SL + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}}$$
$$Share\ RA_{it} = \beta_0 + \beta_1[Higher\ Education \times Age(22 \geq 1998) \times Share\ of\ SL] + \tag{3}$$
$$+ \beta_2(Higher\ Education \times Age(22 \geq 1998)) +$$
$$+ \beta_3(HigherEducation \times Share\ of\ SL) + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}}$$

Note that we exclude spouse and children related controls in this analysis, since at the time of this analysis, namely around graduating college, these are forward looking variables. The results from Panel A of Table 3 show that student debt had a negative impact on the share of risky assets for those individuals who graduated on or after 1998. This effect is statistically significant only for those with higher education and insignificant for those without as shown in Columns (1) and (2). Consisted with our expectations, the relationship holds true when we combine the two samples as shown in Column (3).

To check whether these results are not driven by any trend effects prior to the change in bankruptcy treatment of student debt, we also conduct similar analysis by including prior cohorts that graduated before this regulation. For this we use the following specification:

$$Share\ RA_{it} = \beta_0 + \beta_1[Higher\ Education \times Age(22 \geq 1998) \times Share\ of\ SL] + \tag{4}$$
$$+ \beta_2(Higher\ Education \times Age(22 \geq 1998)) +$$
$$+ \sum_{j=1995}^{1997} [\beta_3^j[Higher\ Education \times Age(22 = j) \times Share\ of\ SL] +$$
$$+ \sum_{k=1995}^{1997} [\beta_4^k(Higher\ Education \times Age(22 = k))] + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}}$$

Since the change of 1998 only applied to loans made after 1998, prior cohorts should not be affected by the law. As shown in Panel B and Table 3, the results indicate that there is

a negative and statistically significant relationship between share of student loans and share of risky assets only for cohorts who graduated on or after 1998. Moreover, the difference between them and prior cohorts is negative and statistically significant, highlighting the impact of the law for post 1998 cohorts. Overall, the results from this section establish a causal relationship between student debt and investment in risky assets by households.

4.3 Impact of 1992 HEA on Students Already in College

To further support the causal nature of the relationship from the previous section and address endogeneity concerns, we utilize exogenous changes in the availability of student loans through the federal government after the 1992 HEA as a second experiment.

However, utilizing this event in a reduced form or even an instrumental variable (IV) framework can be problematic if the greater availability of federal student loans spurs entry into college by individuals who would have otherwise not gone to college, and if individuals within this group are systematically less likely to invest in risky assets for other reasons. Similar to prior section, we first select a sample for whom the 1992 HEA would not affect college enrollment choice, but can have an impact on the extent to which they borrow student loans. We then restrict our sample to all individuals that were already enrolled in college prior to 1995. We also restrict our sample to individuals who have either borrowed their first student loan on or prior to 1995 or do not have student loans. This restriction allows us to focus our attention on those individuals that are more likely to have borrowed for their own higher education rather than, say, for another family member. After these restrictions are applied, we have a sample of 10,008 individuals that satisfy this criteria. For this sample, we expect that individuals that spend more time in college during the *post*-HEA regime will have more student loans, i.e., those who graduated 1 year after the law change have a lower probability of borrowing *post*-HEA, than those who graduated 3 years after the law change. Moreover, if there is a negative causal impact of student debt on risky assets, we expect that individuals that spend more time in college during the *post*-HEA regime will have a lower

proportion of financial assets held in risky investments.

In Panels A and B of Table 4, we run weighted OLS regressions with the following specifications:

$$Share\ SL_{it} = \beta_0 + \sum_{j=1990}^{1995} \beta_1^j (Age\ 22\ at\ j)_{it} + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \tag{5}$$

$$Share\ RA_{it} = \beta_0 + \sum_{j=1990}^{1995} \beta_1^j (Age\ 22\ at\ j)_{it} + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \tag{6}$$

Note that we exclude spouse and children related controls in this analysis, since at the time of this analysis, namely around graduating college, these are forward looking variables. Panels A and B of Table 4 show the results from the estimation of equations (5) and (6), respectively. We find that, in Panel A, the coefficient estimate on *Age 22 at 1990* and *Age 22 at 1991* are not statistically significant while those on *Age 22 at 1992*, *Age 22 at 1993*, *Age 22 at 1994* and *Age 22 at 1995* are significant and positive at the one percent level. This is consistent with the idea that individuals who were in college for a longer period during the *post*-HEA period had a greater proportion of student loans as a result of the greater availability of federal loans. This is also consistent with the findings of **dynarski** Additionally, the coefficient estimates on *Age 22 at 1993*, *Age 22 at 1994*, and *Age 22 at 1995* are statistically different from that on *Age 22 at 1992*, as reported in the bottom of Panel A in Table 4.

Thus, we find that students that enroll in four-year college prior to the HEA but who spend more time in college *post*-HEA have significantly more student debt. We then test whether these students also have lower proportion of their financial assets held in risky investments. Consistent with the relative impact of the HEA on student loans, we find in Panel B that individuals who reach age 22 in 1994 and 1995 have a smaller share of financial assets held in risky investments. Moreover, these individuals have significantly smaller share of risky assets relative to cohorts that reach age 22 by 1992, as reported at the bottom of the Panel B.

We also conduct a placebo analysis by moving our sample selection and regression model specifications by five years after the 1992 HEA. Thus, in the placebo sample we only keep individuals who graduated 4-year college prior to 2000. The results from this exercise are reported in Columns (2) and (4) in Panel A and Panel B of Table 4. We find that the results exhibit a different trend in these specifications. In particular, individuals reaching age 22 in 1998, 1999, and 2000 do not have statistically significantly higher student loans and less investment in risky assets relative to prior cohorts. Overall, the results in this section support our earlier results from the previous section, further supporting a *causal* relationship between student debt and investment in risky assets.

4.4 Difference-in-Differences Analysis of Impact of 1992 HEA

As a robustness check to the above identification strategy and to better control for unobserved heterogeneity, we extend our analysis further by removing the restriction on education from our sample, and thus, include those without higher education to our sample as a control group. This allows us to implement a difference-in-differences framework by using the following specifications:

$$Share\ SL_{it} = \beta_0 + \sum_{j=1987}^{1995} \beta_1^j (Higher\ Education_{it} \times (Age\ 22\ at\ j)_{it}) + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \qquad (7)$$

$$Share\ RA_{it} = \beta_0 + \sum_{j=1987}^{1995} \beta_1^j (Higher\ Education_{it} \times (Age\ 22\ at\ j)_{it}) + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \qquad (8)$$

The *Higher Education* variable represents individuals who completed four years of college and those who went to graduate school who are assumed to have completed four-year college. By including those without higher education as a control in a difference-in-differences model, any bias caused by variables common to these two groups is implicitly controlled for, even when these variables are unobserved.

Panel C of Table 4 reports the results from estimating equations (7) and (8), respectively.

From Column (1) in Panel C, we do not find any evidence of a consistent pre-trend effect based on the coefficient estimates on *pre*-HEA interaction terms. Further, the *post*-HEA terms are significant and positive at the one percent level. This confirms our earlier finding that individuals who were in college for a longer period during the *post*-HEA period had a greater extent of student loans. The coefficient estimates on interaction terms for 1993, 1994 and 1995 are statistically different from that on 1992. Similarly, we find that individuals with higher education who reach age 22 in 1993, 1994 and 1995 have a smaller share of risky assets, as reported in Column (2) of Panel C of Table 4. Moreover, they also have significantly smaller share of risky assets relative to cohorts that reach age 22 by 1992, as reported at the bottom of the Panel C.

4.5 Instrumental Variables Analysis

In this section, we conduct IV analysis based on the HEA effect as our exogenous variation and restrict our sample in a similar manner to that in section **??**. Thus, we focus on individuals that obtained a higher education and reached age 22 on or before 1995, and use *Age 22 at 1993, Age 22 at 1994*, and *Age 22 at 1995* variables as our instruments. Our first stage model is then:

$$\begin{aligned} Share\ SL_{it} = \beta_0 + \beta_1(Age\ 22\ at\ 1993)_{it} + \beta_2(Age\ 22\ at\ 1994)_{it} + \\ + \beta_3(Age\ 22\ at\ 1995)_{it} + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \end{aligned} \tag{9}$$

where $\mathbf{X_i}$ include controls for total income, net worth, gender, risk preference, market conditions, and also survey year, occupation, and race fixed effects. We then use the predicted value of student loan ($\widehat{Share}\ SL$) from the first stage in our second stage model:

$$Share\ RA_{it} = \beta_0 + \beta_1 \widehat{Share}\ SL_{it} + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \tag{10}$$

Note that our standard errors are bootstrapped, and thus account for estimation errors from the first stage. Table 5 reports the results of weighted two-stage least squares regressions. Column (1) reports the result of the first stage model. Consistent with expectations, the coefficients on age 22 terms are positive and reflects the fact that federal student loans became more accessible after this time, particularly for those individuals that are younger at the time of the federal loan changes.

The second stage results, reported in Column (2) of Table 5, are consistent with our OLS results as well as the findings in the previous two section. We find that our instrumented share of student loan variable is negatively related to proportion of household financial assets held in risky investments. In general, the results in this and the previous sections indicate that there is a *causal* negative relation between student debt and investment in risky assets.

4.6 Intensive Margin and Vintage Year Fixed Effects

We also conduct our baseline OLS regressions using the sample of households that took (non-zero) student loans and show that our results are consistent in the intensive margin as well. In addition, we control for vintage year fixed effects, which we base on the first year a household took a student loan. This allows us to control for unobserved changes in loan and sectoral characteristics across vintages. The results of this analysis, reported in Table 6, are consistent with our prior results. In particular, within the sample of individuals who take student loans, and controlling for vintage year fixed effects, we find that student loan share of assets is negatively related to share of risky investments of household financial wealth.

In addition, we create *Length* dummy variables for four time periods (i.e., 0-3, 4-6, 7-9, and over 10 years) – which correspond to number of years from the time when the first student loan was taken – and interact them with our variable of interest. Column (2) reports regression results which shows that a negative relation between student debt and financial portfolio risk persists over time.

4.7 Propensity of Default on Student Debt

In this section, we analyze a potential channel through which student debt may affect portfolio risk taking, that is, the fear of defaulting on student loans. Since defaulting on student debt is costly, falling behind on loan repayments might preclude individuals from investing in risky assets. We conduct our analysis in a two-step process by regressing the *Behind Schedule* variable – which is equal to 1 if the individual paid the student debt behind the original schedule – on the *Share of Student Loan*. We thus estimate the following specification:

$$Behind\ Schedule_{it} = \beta_0 + \beta_1 Share\ SL_{it} + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \tag{11}$$

We then use the predicted value of *Behind Schedule* in our second stage:

$$Share\ RA_{it} = \beta_0 + \beta_1 (\widehat{Behind\ Schedule_{it}}) + \gamma \mathbf{X_{it}} + \epsilon_{\mathbf{it}} \tag{12}$$

The results of weighted OLS estimations of equations (11) and (12) are shown in Table 7.[28]

Note that, in these regressions, our observations are limited to individuals who have student debt since we are analyzing the determinants of falling behind on student debt payments. From Column (1) of Table 7, we get an intuitive result that more student loans are associated with a higher propensity of falling behind on repayments. From Column (2), we find that individuals who are behind schedule on their payments have significantly smaller investments in risky assets as a fraction of their financial assets. These results therefore suggest that potential concerns about falling behind on student loan payments may be, in part, driving individuals with student loans to take on less financial portfolio risk.

[28] Since our standard errors are bootstrapped, the estimation error from the first stage is accounted for in our estimation results.

4.8 Student Loans compared to Other Loans

Student loans are taken early in life, and unlike other personal loans involving credit check or collateral – such as credit card loans, car loans, and mortgages, which allow lenders to recoup at least part of their investment in the case of default – student loans do not have any hard assets backing them up. Thus, student loans can end up being significantly more expensive for individuals and could affect their future prospects. In this section, we test whether there are similar relationships between these other types of personal loans and investment risky assets and compare the results to the previously established impact of student loans. The results, reported in Table 8 show that the relationship between portfolio risk taking and other types of personal loans (credit card loans, car loans, and mortgages), after controlling for collateral provision, is *opposite* to the one we find with student debt. Thus, while student loans reduce the proportion of investment in risky assets, other loans seem to reflect a wealth effect, that is, a higher amount of other loans is associated with a higher fraction of investments in risky assets as a proportion of total financial assets.

4.9 Student Debt and Future Household Net Worth

Our evidence thus far suggests that student debt reduces investment in risky assets and that this relationship is sticky and stronger for more financially constrained households. Since lower portfolio financial risk taking will lead to lower long-run returns on households' financial assets, student loans can affect the future net worth of households. In this section, we test to see whether there is indeed a negative relationship between higher levels of student debt and future household net worth by estimating our baseline regression (1) with net worth as a dependent variable. The results from Panel A of Table 9 indicate that there is a negative and statistically significant relationship between the two, and in addition, the results remain unchanged even after we control for vintage year fixed effects. In Column (2), within the sample of individuals who take student loans, and controlling for vintage year fixed effects, we find that share of student loan is negatively related to the future net worth of the same

households. Column (3) of Panel A reports results which show that a negative relation between student debt and net worth is increasing and is significantly greater over longer periods, i.e., the impact on household net worth, when student loans were taken more than ten years ago is significantly more negative than when taken over the last 3 years. Since we are controlling for age, household income, and vintage year fixed effects, this evidence suggests that, households and individuals who take on student debt early in their life build less long-term net worth.

To test whether this relationship is causal, we utilize the 1992 HEA as in section **??**, and report the results in Panel B of Table 9. We restrict our sample to individuals that were already enrolled in college prior to 1995 and either did not have student loans, or if they did, borrowed their first student loan on or prior to 1995. For this sample, we expect that individuals that spend more time in college during the *post*-HEA regime will have lower future net worth. We have already seen that students who enroll in four-year college prior to the HEA but who spend more time in college after this law is enacted have significantly more student debt. Consistent with this expectation, results from Panel B of Table 9 show that individuals who reach age 22 in 1993, 1994 and 1995 have households with less future net worth. Moreover, individuals who reach age 22 in 1993 and 1995 have significantly less net worth relative to cohorts that reach age 22 before 1992, as reported at the bottom of the panel. The placebo test again exhibit a different trend in these specifications with individuals reaching age 22 in 1998, 1999, and 2000 not having statistically different future household net worth relative to prior cohorts. The results in this section therefore indicate a *causal* relationship between student debt and long-term household net worth accumulation.

5 Simulated Estimation of Changes in Net Worth with Student Loans.

To further validate our hypothesis that reduction in risk-taking can lead to lower financial wealth in the long-run, we also conduct a simulation exercise. We consider cohorts that graduated in 1980, 1985, 1990, 1995, 2000, 2005 and 2010. We then assess how changes in the portfolio mix between investments in the stock index (reflected by the S&P 500), a corporate bond index (the Bank of America Merrill Lynch US Corporate Bond index), and 1 year treasuries can impact long run outcomes of investing $1000 every year for investment horizons of 5, 10, 15, and 20 years.[29] In Table 10, Panel A we consider one portfolio that is fully invested in risky assets, where risky assets are assumed to be 50% invested in the stock market index and 50% invested in the corporate bond index. We then compare it to a portfolio with 80% investment in risky investments, which is consistent withe 20% decline in risky investments due to student loans we find in our regressions. That is, the lower risk portfolio has 40% invested in the stock market index, 40% in the corporate bond index, and 20% in risk-free assets. We then report the differences in the two portfolios, which is also represented graphically, in Figure 2.

Our results of the difference in returns between the two portfolios, generally consistent across the different investment horizons, show a considerable reduction in wealth over the long run. In particular, the average 5-year investment horizon impact is negative 3.32 percent, though there is considerable variation in this result. For instance, the 2010 cohort was down by 7.29 percent in a 5 year horizon. Over a 20 year period, this impact can be significant - with an average value of 11.7 percent and as low as 24.35 percent.

Overall, the results in this section do show a substantial reduction in net financial household wealth creation for all investment horizons, when investments in riskier portfolios are a lower percentage of total financial assets. Thus, to the extent that student loans can signifi-

[29]The BofA Merrill Lynch US Corporate Index tracks the performance of US dollar denominated investment grade corporate debt publicly issued in the US domestic market.

cantly diminish risk-taking, these numbers indicate that such reduction can take a significant toll on longer-term financial wealth of households.

6 Conclusion

Using data from the Survey of Consumer Finances (SCF), we show that student debt is negatively related to the extent of future investment in risky financial assets by households. We utilize exogenous shocks due to the Higher Education Amendments of 1998 and 1992 to show that student debt negatively impacts future portfolio risk-taking. Households with significant student debt are more likely to fall behind on their student debt payments when they have significant personal financial portfolio risk. Our evidence indicates a negative relationship between student debt and future household net worth showing that reduced investment in risky assets earlier in a households lifetime affects the long-term net-worth and wealth creation of households. Our results therefore provide evidence for future policy discussions, suggesting a hitherto unexplored negative relationship between student loans and future household personal portfolio risk taking and net worth, which may also have repercussions for the broader economy.

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Table 1: Summary Statistics

This table reports weighted summary statistics for the first imputation of the SCF sample. All the variables reported in this table are for the head of the household. Panel A reports the descriptive statistics of *student loan amount* (in 2013 dollars) Winsorized at the first and 99th percentile for each year. Panel B reports statistics on other variables: *Age* is the age of the household head; *Gender* equals 1 if the person is male and 0 otherwise; *4-Year College* equals 1 if the person completed four years of college education and 0 otherwise; *Graduate* equals 1 if the person went to graduate school and 0 otherwise. Panel C reports weighted summary statistics on *share of risky assets*, *total financial assets*, *total income*, and *net worth*, all Winsorized at the first and 99th percentile, and *behind schedule* – a dummy variable which is equal to 1 if the individual paid the student debt behind the original schedule. Panel D shows the weighted summary statistics for the share of risky assets variable for different sub-samples: no education, with education, and with education and student loan.

Panel A: Student Loan Amount (in 2013 dollars)

Year	Mean	Std. Dev.	Min.	25%	Median	75%	Max.	Obs.
1992	10775.67	7655.259	332.0841	4151.051	8302.103	16438.16	25238.39	293
1995	12809.17	10463.58	152.8589	4432.909	9171.535	18343.07	35157.55	354
1998	19600.2	15711.03	428.7552	7145.92	14291.84	28583.68	50021.44	359
2001	19678.08	15278.1	657.699	6708.53	14469.38	30254.16	48669.73	386
2004	21166.34	17989.89	986.5834	6782.761	14798.75	30830.73	61661.46	469
2007	26437.56	21857	898.8319	9774.797	20223.72	34829.73	75277.17	506
2010	28137.11	26067.46	854.6685	8674.886	18161.71	37391.75	93586.2	1030
2013	32543.97	30103.07	600	11000	22000	43000	115100	978

Panel B: Age, Gender, 4-year College, Graduate School

	Obs.	Mean	Std. Dev.	Min.	25%	Median	75%	Max.
Age	27037	42.825	12.029	17	33	43	52	72
Gender	27037	0.771	0.420	0	1	1	1	1
4-Year College	27037	0.218	0.413	0	0	0	0	1
Graduate	27037	0.141	0.348	0	0	0	0	1

Panel C: Share of Risky Assets and Financial Variables (all in $ millions)

	Obs.	Mean	Std. Dev.	Min.	25%	Median	75%	Max.
Share of Risky Assets	27037	.1445467	.2681751	0	0	0	.1593626	.9908152
Total Fin. Assets ($ mm)	27037	.2453511	1.150647	0	.0033629	.0327118	.1665535	69.69373
Total Income	27037	.092275	.2276248	.0012434	.0331184	.0591929	.099	12.56363
Net Worth ($ mm)	27037	.4613651	2.261293	-.0572588	.00452	.0841531	.3245457	152.1795
Behind Schedule	4782	.0721455	.2587558	0	0	0	0	1

Panel D: Share of Risky Assets

	Obs.	Mean	Std. Dev.	Min.	25%	Median	75%	Max.
Share of Risky Assets (no education)	14378	.073	.2004	0	0	0	0	.971
Share of Risky Assets (with education)	9915	.193	.278	0	0	.017	.332	.971
Share of Risky Assets (with education and SL)	2186	.119	.228	0	0	0	.124	.971

Table 2: Student Debt and Portfolio Risk

Panel A reports the weighted OLS regression results of *Share of Risky Assets* on *Share of Student Loan Amount* with the last column reporting the weighted tobit regression results left censored at 0. Panel B reports regression results for education and age interactions. Share of risky assets (*Share of RA*) is the natural logarithm of 1×10^{-8} plus the ratio of risky assets to total financial assets of the household Winsorized at the first and 99th percentile. Share of Student Loan (*Share of SL*) is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. *D(Share of SL)* and *D(Share of RA)* are dummy variables which equal to 1 for positive values of share of student loan amount and share of risky assets, respectively, and 0 otherwise. *Age* is the age of the household head. *Gender* is a dummy and equals 1 if the person is male and 0 otherwise. *4-Year College* equals 1 if the person completed four years of college education and 0 otherwise. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Net Worth* is the natural log of 1×10^{-8} plus net worth of the household which is the sum of total financial and non-financial assets minus financial and non-financial liabilities. *Total Income* is the the natural logarithm of 1×10^{-8} plus the total income received in a given year from all sources before taxes and other deductions were made. *Dependent Children* is the number of dependent children. *Dependent Spouse* is a dummy variable, which is equal to 1 if the person had a spouse who was financially dependent and 0 otherwise. *Tuition* is the average tuition rate for college education in a given year. *Substantial Risk Taker*, *Above Average Risk Taker*, and *Average Risk Taker* are self reported financial risk that the head of the household is willing to take when he/she saves and makes investments with omitted group being the one who is not willing to take any financial risk. *S&P 500 Return at Age of 22* and *S&P 500 Volatility at Age of 22* are compounded daily average S&P returns and volatility for the last four years at the age of 22. *AAA Diff. at Age of 22* is the AAA bond rate minus the 10 year treasure bond rates at time that the respondent is 22 years old. Survey year, race, and occupation group code fixed effects are included in all regressions. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

Panel A. Share of Risky Assets on Share of Student Loan

	(1)	(2)	(3)	(4)	(5)
	Share of RA	Share of RA	Share of RA	D(Share of RA)	Share of RA (Tobit)
Share of Student Loan	-0.059***	-0.041***	-0.041***		-0.009***
	(0.006)	(0.005)	(0.005)		(0.001)
D(Share of SL)				-0.032***	
				(0.006)	
Age	0.096***	0.076***	0.079***	0.004***	0.006***
	(0.004)	(0.008)	(0.010)	(0.001)	(0.001)
Gender	2.065***	-0.061	-0.061	-0.003	-0.001
	(0.088)	(0.118)	(0.117)	(0.007)	(0.010)
4-Year College	3.400***	2.351***	2.352***	0.135***	0.135***
	(0.127)	(0.111)	(0.110)	(0.006)	(0.007)
Graduate	4.930***	3.450***	3.450***	0.196***	0.180***
	(0.132)	(0.114)	(0.114)	(0.007)	(0.008)
Net Worth		0.182***	0.182***	0.011***	0.014***
		(0.005)	(0.005)	(0.000)	(0.001)
Total Income		0.152***	0.152***	0.009***	0.008***
		(0.022)	(0.022)	(0.001)	(0.002)
Dependent Children		-0.209***	-0.207***	-0.012***	-0.023***
		(0.032)	(0.032)	(0.002)	(0.003)
Dependent Spouse		1.457***	1.460***	0.089***	0.067***
		(0.118)	(0.118)	(0.007)	(0.009)
Tuition		1.221	1.291	0.039	0.095
		(1.006)	(1.153)	(0.070)	(0.078)
Substantial Risk Attitude		4.295***	4.299***	0.251***	0.322***
		(0.212)	(0.212)	(0.012)	(0.016)
Above Average Risk Attitude		4.837***	4.836***	0.280***	0.337***
		(0.117)	(0.117)	(0.007)	(0.009)
Average Risk Attitude		3.240***	3.241***	0.190***	0.257***
		(0.090)	(0.090)	(0.005)	(0.008)
S&P 500 Return at Age of 22			-0.065	-0.005	-0.007
			(0.158)	(0.009)	(0.012)
S&P 500 Volatility at Age of 22			0.018	0.001	0.003**
			(0.019)	(0.001)	(0.002)
AAA Diff. at Age of 22			0.019	0.000	0.000
			(0.088)	(0.005)	(0.007)
Year FE	Yes	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes	Yes
R^2	0.190	0.278	0.278	0.277	0.153
Observations	26481	26481	26481	26481	26481

Panel B. Education and Age Interactions

	(1)	(2)	(3)
	Share of RA	Share of RA	Share of RA
D(Share of SL)	-0.029		
	(0.116)		
D(Share of SL)×4-Year College	-1.330***		
	(0.243)		
D(Share of SL)×Graduate	-1.248***		
	(0.265)		
Share of Student Loan		-0.008	
		(0.006)	
Share of Student Loan×4-Year College		-0.076***	
		(0.012)	
Share of Student Loan×Graduate		-0.078***	
		(0.014)	
Share of Student Loan×Age 17-35			-0.032***
			(0.006)
Share of Student Loan×Age 36-50			-0.040***
			(0.005)
Share of Student Loan×Age over 51			-0.067***
			(0.010)
Age	0.079***	0.078***	0.058***
	(0.010)	(0.010)	(0.011)
Gender	-0.053	-0.065	-0.053
	(0.118)	(0.119)	(0.116)
Tuition	1.151	1.237	0.418
	(1.152)	(1.145)	(1.180)
4-Year College	2.631***	1.266***	2.348***
	(0.127)	(0.193)	(0.106)
Graduate	3.708***	2.345***	3.444***
	(0.136)	(0.222)	(0.119)
Net Worth	0.183***	0.181***	0.183***
	(0.005)	(0.005)	(0.005)
Total Income	0.151***	0.150***	0.154***
	(0.022)	(0.022)	(0.022)
Dependent Children	-0.213***	-0.215***	-0.181***
	(0.032)	(0.033)	(0.035)
Dependent Spouse	1.441***	1.450***	1.451***
	(0.117)	(0.117)	(0.115)
Substantial Risk Attitude	4.278***	4.278***	4.298***
	(0.210)	(0.196)	(0.198)
Above Average Risk Attitude	4.807***	4.802***	4.828***
	(0.116)	(0.116)	(0.117)
Average Risk Attitude	3.216***	3.216***	3.235***
	(0.091)	(0.089)	(0.090)
S&P 500 Return at Age of 22	-0.039	-0.038	-0.058
	(0.159)	(0.159)	(0.160)
S&P 500 Volatility at Age of 22	0.017	0.018	0.016
	(0.019)	(0.020)	(0.019)
AAA Diff. at Age of 22	0.019	0.019	0.019
	(0.088)	(0.083)	(0.081)
Year FE	Yes	Yes	Yes
Race FE	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes
R^2	0.279	0.279	0.279
Observations	26481	26481	26481
D(Share of SL)×4-Year College + 4-Year College	1.3011***		
D(Share of SL)×Graduate + Graduate	2.4601***		

Table 3: Impact of 1998 Bankruptcy Treatment of Student Loans

This table shows the impact of 1998 bankruptcy treatment of student loans on risky assets. Panel A shows the impact of the bankruptcy treatment, and Panel B shows the results controlling for trend effects. The dependent variable is Share of risky assets (*Share of RA*) which is the natural logarithm of 1×10^{-8} plus the ratio of risky assets to total financial assets of the household Winsorized at the first and 99th percentile. Share of student loan (*Share of SL*) is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. *Age (22 $\geq$ 1998)* equals 1 if the person is 22 years old in or after 1998 and 0 otherwise. *Higher Education* (or *HE*) equals 1 if the person reported his highest education level was 4-year college or graduate school education, and 0 otherwise. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Gender* equals 1 if the person is male and 0 otherwise. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are reported in parentheses. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels respectively.

Panel A.

	(1)	(2)	(3)
	Share of RA	Share of RA	Share of RA
	(with Higher Education)	(without Higher Education)	
Higher Education*Age(22 $\geq$ 1998)*Share of SL			-0.101**
			(0.043)
Higher Education*Age(22 $\geq$ 1998)			-0.621
			(0.573)
Higher Education*Share of SL			0.038
			(0.041)
Age (22 $\geq$ 1998)*Share of SL	-0.124***	-0.029	-0.030
	(0.031)	(0.027)	(0.027)
Share of SL	0.090***	0.028	0.030
	(0.030)	(0.025)	(0.025)
Age (22 $\geq$ 1998)	-0.617	-0.634	-0.442
	(0.424)	(0.445)	(0.439)
4-Year College			1.358***
			(0.524)
Graduate	0.497***		2.083***
	(0.136)		(0.557)
Total Income	0.083***	0.017	0.050***
	(0.027)	(0.022)	(0.018)
Total Financial Assets	1.568***	0.905***	1.084***
	(0.028)	(0.018)	(0.014)
Gender	-0.268	0.451***	0.255***
	(0.165)	(0.114)	(0.086)
Age	0.011	0.064***	0.047***
	(0.010)	(0.007)	(0.006)
Substantial Risk Attitude	4.936***	2.491***	3.341***
	(0.321)	(0.256)	(0.201)
Above Average Risk Attitude	4.331***	3.405***	3.704***
	(0.198)	(0.177)	(0.130)
Average Risk Attitude	3.254***	2.188***	2.419***
	(0.173)	(0.119)	(0.094)
S&P 500 Return at Age of 22	0.418	-0.123	0.092
	(0.344)	(0.242)	(0.204)
S&P 500 Volatility at Age of 22	-0.089	0.049	-0.049
	(0.324)	(0.236)	(0.187)
AAA Diff. at Age of 22	0.193	0.076	0.108
	(0.152)	(0.107)	(0.088)
Year FE	Yes	Yes	Yes
Race FE	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes
R^2	0.321	0.234	0.334
Observations	11778	13373	25151

Panel B.

	(1)	(2)	(3)
	Share of RA	Share of RA with Higher Education	Share of RA with Higher Education First Loan Year $\leq$1997
Higher Education*Age (22 $\geq$ 1998)*Share of SL	-0.099***	-0.147***	-0.164***
	(0.012)	(0.036)	(0.054)
Higher Education*Age (22 $\geq$ 1998)	-1.040***	-1.062**	-1.292
	(0.373)	(0.481)	(0.806)
Higher Education*Age (22 at 1997)*Share of SL	-0.013	-0.005	-0.000
	(0.061)	(0.061)	(0.081)
Higher Education*Age (22 at 1997)	0.313	-0.122	-0.264
	(0.886)	(0.946)	(1.297)
Higher Education*Age (22 at 1996)*Share of SL	0.054	0.059	-0.028
	(0.066)	(0.065)	(0.083)
Higher Education*Age (22 at 1996)	1.315*	0.839	-0.944
	(0.783)	(0.804)	(1.149)
Higher Education*Age (22 at 1995)*Share of SL	0.076	0.088	0.040
	(0.057)	(0.056)	(0.061)
Higher Education*Age (22 at 1995)	1.417	1.165	0.192
	(0.917)	(1.063)	(1.096)
Share of SL	-0.003	0.066*	0.090*
	(0.007)	(0.035)	(0.051)
4-Year College	1.853***		
	(0.305)		
Graduate	2.950***	0.988***	1.024***
	(0.337)	(0.136)	(0.159)
Total Income	0.175***	0.260***	0.252***
	(0.024)	(0.038)	(0.039)
Net Worth	0.193***	0.280***	0.289***
	(0.005)	(0.012)	(0.014)
Gender	0.973***	0.635***	0.698***
	(0.088)	(0.177)	(0.192)
Age	0.085***	0.059***	0.057***
	(0.007)	(0.015)	(0.016)
Substantial Risk Attitude	4.280***	6.447***	6.488***
	(0.216)	(0.352)	(0.376)
Above Average Risk Attitude	4.938***	6.171***	6.159***
	(0.127)	(0.206)	(0.230)
Average Risk Attitude	3.456***	4.707***	4.774***
	(0.093)	(0.190)	(0.213)
S&P 500 Return at Age of 22	0.202	0.288	0.181
	(0.216)	(0.410)	(0.444)
S&P 500 Volatility at Age of 22	0.153	-0.169	-0.358
	(0.212)	(0.474)	(0.466)
AAA Diff. at Age of 22	0.081	0.112	0.217
	(0.092)	(0.161)	(0.164)
Year FE	Yes	Yes	Yes
Race FE	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes
HE*[Age(22$\geq$1998)-Age(22 at 1997)*Share SL	-0.086	-0.142*	-0.164*
HE*[Age(22$\geq$1998)-Age(22 at 1996)*Share SL	-0.154**	-0.206***	-0.136
HE*[Age(22$\geq$1998)-Age(22 at 1995)*Share SL	-0.175***	-0.234***	-0.204**
R^2	0.277	0.238	0.240
Observations	25151	11778	10888

Table 4: Impact of 1992 HEA on Students Already in College

Panel A shows the weighted OLS regression results of Share of student loan (*Share of SL*) on each cohorts of college students who took their first loan on or before 1992 and 1995. Panel B shows the weighted OLS regression results of Share of risky assets (*Share of RA*) on each cohorts of college students for those who took the first loan on or before 1992 and 1995. Panel C shows the weighted OLS regression results of Share of Student Loans and Share of Risky Assets on each cohorts of college students for those who took the first loan on or before 1995. In Panel A, the dependent variable for all columns is the *Share of SL* which is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. Columns (1) and (3) of Panels A and B show those students who were in college during the law change, and columns (2) and (4) of Panel A and B serve as placebo tests. *Age 22 at 1987* is a dummy variable, which is equal to 1 if the person was 22 years old at year 1987 and 0 otherwise. Similarly for the other *Age 22 at Year* variables. *Higher Education* (or *HE*) equals 1 if the person reported his highest education level was 4-year college or graduate school education, and 0 otherwise. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Total Income* is the the natural logarithm of 1×10^{-8} plus the total income received in a given year from all sources before taxes and other deductions were made. *Net Worth* is the natural log of 1×10^{-8} plus net worth of the household. *Tuition* is the average tuition rate for college education in a given year. Survey year, race, and occupation group code fixed effects are included in all regressions. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

Panel A.

	(1)	(2)	(3)	(4)
	Share of SL	Share of SL (Placebo)	Share of SL	Share of SL (Placebo)
	First Loan Year $\leq$1995	First Loan Year $\leq$2000	First Loan Year $\leq$1992	First Loan Year $\leq$1997
Age 22 at 1987	-0.664		-0.475	
	(0.454)		(0.414)	
Age 22 at 1988	-1.517***		-1.134***	
	(0.440)		(0.411)	
Age 22 at 1989	1.070		0.923	
	(0.695)		(0.688)	
Age 22 at 1990	-0.140		-0.647	
	(0.654)		(0.564)	
Age 22 at 1991	-0.349		-0.603	
	(0.684)		(0.666)	
Age 22 at 1992	1.131*	1.363**	0.387	1.466***
	(0.625)	(0.560)	(0.589)	(0.530)
Age 22 at 1993	2.886***	3.740***	2.088***	3.306***
	(0.732)	(0.709)	(0.695)	(0.674)
Age 22 at 1994	3.381***	3.847***	1.939***	3.600***
	(0.711)	(0.642)	(0.675)	(0.596)
Age 22 at 1995	4.224***	4.924***	2.018**	4.627***
	(0.811)	(0.741)	(0.817)	(0.758)
Age 22 at 1996		4.060***		3.887***
		(0.806)		(0.793)
Age 22 at 1997		3.284***		2.941***
		(0.789)		(0.812)
Age 22 at 1998		2.699***		2.281**
		(0.820)		(0.907)
Age 22 at 1999		3.093***		1.499*
		(0.979)		(0.831)
Age 22 at 2000		2.685***		1.322
		(0.853)		(0.809)
Graduate	0.761***	0.849***	0.618***	0.675***
	(0.132)	(0.129)	(0.116)	(0.133)
Total Income	-0.069***	-0.098***	-0.034	-0.090***
	(0.025)	(0.025)	(0.022)	(0.025)
Net Worth	-0.195***	-0.230***	-0.173***	-0.213***
	(0.016)	(0.015)	(0.014)	(0.015)
Gender	0.077	0.043	0.153	0.144
	(0.155)	(0.168)	(0.134)	(0.153)
Substantial Risk Attitude	0.017	0.077	-0.092	0.063
	(0.323)	(0.345)	(0.315)	(0.353)
Tuition	4.871	4.513*	2.687	4.325*
	(3.459)	(2.596)	(3.234)	(2.468)
Above Average Risk Attitude	-0.101	-0.096	0.030	-0.063
	(0.217)	(0.226)	(0.222)	(0.216)
Average Risk Attitude	0.016	-0.059	-0.064	-0.083
	(0.185)	(0.202)	(0.185)	(0.185)
S&P 500 Return at Age of 22	2.383***	2.411***	2.188***	2.260***
	(0.341)	(0.364)	(0.280)	(0.324)
S&P 500 Volatility at Age of 22	0.358***	0.347***	0.347***	0.326***
	(0.048)	(0.041)	(0.041)	(0.040)
AAA Diff. at Age of 22	-0.412***	-0.453***	-0.275**	-0.499***
	(0.149)	(0.146)	(0.136)	(0.142)
Year FE	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes
Age (22 at 1992)-(22 at 1987)	1.795***		0.862	
Age (22 at 1992)-(22 at 1988)	2.648***		1.520***	
Age (22 at 1992)-(22 at 1989)	0.061		-0.536	
Age (22 at 1992)-(22 at 1990)	1.272*		1.034*	
Age (22 at 1992)-(22 at 1991)	1.480**		0.990	
Age (22 at 1993)-(22 at 1992)	1.755**		1.701**	
Age (22 at 1994)-(22 at 1992)	2.250***		1.552***	
Age (22 at 1995)-(22 at 1992)	3.093***		1.631**	
Age (22 at 1997)-(22 at 1992)		1.920**		1.475
Age (22 at 1997)-(22 at 1993)		-0.457		-0.365
Age (22 at 1997)-(22 at 1994)		-0.563		-0.659
Age (22 at 1997)-(22 at 1995)		-1.641*		-1.686*
Age (22 at 1997)-(22 at 1996)		-0.777		-0.946
Age (22 at 1998)-(22 at 1997)		-0.585		-0.660
Age (22 at 1999)-(22 at 1997)		-0.190		-1.441
Age (22 at 2000)-(22 at 1997)		-0.599		-1.618
R^2	0.181	0.178	0.168	0.179
Observations	10008	10746	9804	10539

Panel B.

	(1)	(2)	(3)	(4)
	Share of RA	Share of RA (Placebo)	Share of RA	Share of RA (Placebo)
	First Loan Year ≤1995	First Loan Year ≤2000	First Loan Year ≤1992	First Loan Year ≤1997
Age 22 at 1987	-1.460***		-1.338***	
	(0.507)		(0.493)	
Age 22 at 1988	0.304		0.437	
	(0.586)		(0.583)	
Age 22 at 1989	-0.197		-0.127	
	(0.747)		(0.683)	
Age 22 at 1990	-0.314		-0.244	
	(0.752)		(0.714)	
Age 22 at 1991	0.506		0.760	
	(0.821)		(0.761)	
Age 22 at 1992	0.918	1.239**	0.869	1.235**
	(0.776)	(0.548)	(0.737)	(0.559)
Age 22 at 1993	-1.260*	-1.292**	-1.154*	-1.451**
	(0.746)	(0.618)	(0.697)	(0.599)
Age 22 at 1994	-2.387**	-2.031**	-2.219**	-2.213***
	(0.988)	(0.802)	(0.969)	(0.791)
Age 22 at 1995	-3.059***	-2.585***	-2.795***	-2.088***
	(1.017)	(0.736)	(0.949)	(0.755)
Age 22 at 1996		-2.881***		-2.581***
		(0.883)		(0.855)
Age 22 at 1997		-2.262**		-2.156**
		(0.908)		(0.873)
Age 22 at 1998		-2.211**		-2.001**
		(0.957)		(0.921)
Age 22 at 1999		-3.642***		-2.691***
		(1.003)		(0.960)
Age 22 at 2000		-0.765		-0.789
		(0.797)		(0.781)
Graduate	0.926***	0.983***	0.994***	1.011***
	(0.170)	(0.162)	(0.166)	(0.158)
Total Income	0.253***	0.272***	0.251***	0.277***
	(0.044)	(0.042)	(0.043)	(0.041)
Net Worth	0.318***	0.306***	0.313***	0.304***
	(0.015)	(0.014)	(0.015)	(0.014)
Gender	0.716***	0.663***	0.699***	0.685***
	(0.219)	(0.202)	(0.211)	(0.199)
Substantial Risk Attitude	6.455***	6.345***	6.441***	6.351***
	(0.385)	(0.375)	(0.408)	(0.361)
Tuition	6.746	4.583	5.648	4.361
	(4.861)	(3.279)	(4.661)	(3.272)
Above Average Risk Attitude	6.041***	6.065***	6.079***	6.097***
	(0.254)	(0.253)	(0.255)	(0.247)
Average Risk Attitude	4.760***	4.750***	4.730***	4.717***
	(0.222)	(0.227)	(0.226)	(0.220)
S&P 500 Return at Age of 22	-0.707	-1.035**	-0.832	-1.018**
	(0.544)	(0.499)	(0.526)	(0.500)
S&P 500 Volatility at Age of 22	-2.530***	-2.248***	-2.501***	-2.167***
	(0.508)	(0.445)	(0.505)	(0.451)
AAA Diff. at Age of 22	0.107	0.060	0.083	0.063
	(0.198)	(0.178)	(0.195)	(0.178)
Year FE	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes
Age (22 at 1992)-(22 at 1987)	2.378***		2.207***	
Age (22 at 1992)-(22 at 1988)	0.615		0.432	
Age (22 at 1992)-(22 at 1989)	1.116		0.996	
Age (22 at 1992)-(22 at 1990)	1.233*		1.113	
Age (22 at 1992)-(22 at 1991)	0.412		0.110	
Age (22 at 1993)-(22 at 1992)	-2.178***		-2.023***	
Age (22 at 1994)-(22 at 1992)	-3.305***		-3.089***	
Age (22 at 1995)-(22 at 1992)	-3.977***		-3.664***	
Age (22 at 1997)-(22 at 1992)		-3.501***		-3.391***
Age (22 at 1997)-(22 at 1993)		-0.970		-0.705
Age (22 at 1997)-(22 at 1994)		-0.231		0.057
Age (22 at 1997)-(22 at 1995)		0.323		-0.068
Age (22 at 1997)-(22 at 1996)		0.618		0.425
Age (22 at 1998)-(22 at 1997)		0.051		0.155
Age (22 at 1999)-(22 at 1997)		-1.380		-0.534
Age (22 at 2000)-(22 at 1997)		1.497		1.367
R^2	0.237	0.235	0.236	0.234
Observations	9804	10539	10008	10746

Panel C.

	(1)	(2)
	Share of SL	Share of RA
	First Loan Year ≤1995	First Loan Year ≤1995
Higher Education*(Age 22 at 1987)	-0.754	-1.731**
	(0.537)	(0.673)
Higher Education*(Age 22 at 1988)	-1.221**	-1.130
	(0.498)	(0.697)
Higher Education*Age (22 at 1989)	1.772**	-1.409
	(0.817)	(0.899)
Higher Education*(Age 22 at 1990)	0.337	-1.272
	(0.684)	(0.874)
Higher Education*(Age 22 at 1991)	-0.165	-0.327
	(0.765)	(0.799)
Higher Education*(Age 22 at 1992)	1.196	0.572
	(0.735)	(0.974)
Higher Education*(Age 22 at 1993)	2.798***	-1.278
	(0.841)	(0.896)
Higher Education*(Age 22 at 1994)	3.023***	-2.505**
	(0.870)	(1.187)
Higher Education*(Age 22 at 1995)	4.501***	-2.159*
	(0.872)	(1.233)
Higher Education*Tuition	1.319	13.337**
	(4.257)	(5.763)
Higher Education*Gender	-0.484***	0.430*
	(0.181)	(0.242)
Higher Education*(S&P 500 Return at Age of 22)	2.082***	-0.808
	(0.381)	(0.636)
Higher Education*(S&P 500 Volatility at Age of 22)	2.087***	0.173
	(0.376)	(0.639)
Higher Education*(AAA Diff. at Age of 22)	-0.372**	-0.217
	(0.173)	(0.227)
Age	-0.046***	0.105***
	(0.008)	(0.015)
Tuition	3.461*	-7.771**
	(1.833)	(3.079)
4-Year College	-8.599	-49.971**
	(17.096)	(23.113)
Graduate	-7.972	-48.866**
	(17.121)	(23.055)
Total Income	-0.046***	0.167***
	(0.015)	(0.027)
Net Worth	-0.077***	0.204***
	(0.006)	(0.006)
Gender	0.146	0.763***
	(0.101)	(0.122)
Substantial Risk Attitude	0.286	4.315***
	(0.180)	(0.266)
Above Average Risk Attitude	0.226**	5.059***
	(0.090)	(0.143)
Average Risk Attitude	0.200***	3.575***
	(0.070)	(0.103)
S&P 500 Return at Age of 22	-0.106	0.100
	(0.214)	(0.326)
S&P 500 Volatility at Age of 22	-0.513*	0.731
	(0.292)	(0.545)
AAA Diff. at Age of 22	0.045	0.145
	(0.097)	(0.148)
Year FE	Yes	Yes
Race FE	Yes	Yes
Occupation FE	Yes	Yes
Age 22 at 1987-1995 FE	Yes	Yes
HE*[(22 at 1992)-(22 at 1987)]	1.951***	2.303***
HE*[(22 at 1992)-(22 at 1988)]	2.417***	1.702**
HE*[(22 at 1992)-(22 at 1989)]	-0.576	1.980**
HE*[(22 at 1992)-(22 at 1990)]	0.859	1.843**
HE*[(22 at 1992)-(22 at 1991)]	1.361	0.899
HE*[(22 at 1993)-(22 at 1992)]	1.602*	-1.850**
HE*[(22 at 1994)-(22 at 1992)]	1.827**	-3.077***
HE*[(22 at 1995)-(22 at 1992)]	3.305***	-2.731***
R^2	0.116	0.280
Observations	20935	20935

Table 5: IV Model

This table reports the IV regression results of Share of risky assets (*Share of RA*) on *Share of Student Loan* (or *Share of SL*). The instrumental variables used are the person's age – *Age 22 at 1993*, *Age 22 at 1994* and *Age 22 at 1995*. *Share of Student Loan* is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. *Age 22 at 1993* is a dummy variable which equals 1 if the person was 22 years old at 1993 and 0 otherwise. Similarly for other *Age 22 at Year* variables. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Total Income* is the the natural logarithm of 1×10^{-8} plus the total income received in a given year from all sources before taxes and other deductions were made. *Net Worth* is the natural log of 1×10^{-8} plus net worth of the household. *Tuition* is the average tuition rate for college education in a given year. *Substantial Risk Taker*, *Average Risk Taker*, and *Average Risk Taker* are self reported financial risk that the head of the household is willing to take when he/she saves and makes investments with omitted group being the one who is not willing to take any financial risk. Survey year, race, and occupation group code fixed effects are included in all regressions. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	First-Stage	Second-Stage
	Share of SL	Share of RA
Share of Student Loan		-0.725***
		(0.140)
Age 22 at 1993	2.645***	
	(0.657)	
Age 22 at 1994	2.948***	
	(0.560)	
Age 22 at 1995	3.839***	
	(0.670)	
Total Income	-0.072***	0.199***
	(0.026)	(0.044)
Net Worth	-0.196***	0.169***
	(0.016)	(0.032)
Gender	0.076	0.755***
	(0.154)	(0.209)
Graduate	0.758***	1.551***
	(0.133)	(0.206)
Tuition	7.639***	11.950***
	(2.101)	(3.419)
Substantial Risk Attitude	0.028	6.458***
	(0.322)	(0.406)
Above Average Risk Attitude	-0.113	5.984***
	(0.217)	(0.255)
Average Risk Attitude	-0.011	4.712***
	(0.185)	(0.225)
S&P 500 Return at Age of 22	2.200***	0.538
	(0.313)	(0.479)
S&P 500 Volatility at Age of 22	2.706***	-0.472
	(0.322)	(0.370)
AAA Diff. at Age of 22	-0.520***	-0.179
	(0.136)	(0.180)
Year FE	Yes	Yes
Race FE	Yes	Yes
Occupation FE	Yes	Yes
R^2	0.177	0.235
Observations	10008	10008

Table 6: Length Interactions and Vintage Year Fixed Effects

Column (1) of this table reports the weighted OLS regression results of Share of risky assets (*Share of RA*) on *Share of Student Loan* (or *Share of SL*) with vintage-year fixed effects. Column (2) shows the weighted OLS regression results of *Share of Risky Assets* on *Share of Student Loan Amount* interacted with four *Length* groups. Share of risky assets (*Share of RA*) is the natural logarithm of 1×10^{-8} plus the ratio of risky assets to total financial assets of the household Winsorized at the first and 99th percentile. *Share of Student Loan* (*Share of SL*) is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. *Length(0-3)* is a dummy variable which equals to 1 if the number of years from the time when the first student loan was taken is between 0 and 3 years. Similarly for the other *Length* variables. *Age* is the age of the household head. *Net Worth* is the natural log of 1×10^{-8} plus net worth of the household. *Total Income* is the the natural logarithm of 1×10^{-8} plus the total income received in a given year from all sources before taxes and other deductions were made. Survey year, race, and occupation group code fixed effects are included in all regressions. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	Share of RA	Share of RA
Share of Student Loan	-0.653***	
	(0.053)	
Share of Student Loan×4-Year College	-0.335***	
	(0.084)	
Share of Student Loan×Graduate	-0.464***	
	(0.100)	
Share of SL×Length(0-3)		-0.838***
		(0.066)
Share of SL×Length(4-6)		-0.668***
		(0.097)
Share of SL×Length(7-9)		-0.765***
		(0.086)
Share of SL×Length(>10)		-1.008***
		(0.075)
Age	0.029	0.037
	(0.029)	(0.027)
Gender	0.199	0.213
	(0.302)	(0.308)
4-Year College	1.529***	1.476***
	(0.204)	(0.201)
Graduate	3.086***	3.135***
	(0.259)	(0.271)
Net Worth	0.061***	0.061***
	(0.011)	(0.010)
Total Income	0.164***	0.166***
	(0.033)	(0.036)
Dependent Children	-0.288***	-0.279***
	(0.075)	(0.074)
Dependent Spouse	1.149***	1.187***
	(0.276)	(0.286)
Tuition	2.708	3.177
	(2.772)	(2.680)
Substantial Risk Attitude	3.972***	3.947***
	(0.444)	(0.423)
Above Average Risk Attitude	3.826***	3.854***
	(0.250)	(0.243)
Average Risk Attitude	2.514***	2.503***
	(0.221)	(0.214)
S&P 500 Return at Age of 22	0.319	0.294
	(0.350)	(0.338)
S&P 500 Volatility at Age of 22	0.030	0.028
	(0.037)	(0.039)
AAA Diff. at Age of 22	-0.152	-0.164
	(0.159)	(0.151)
Year FE	Yes	Yes
Race FE	Yes	Yes
Vintage FE	Yes	Yes
Occupation FE	Yes	Yes
Share of SL×Length(>10) - Share of SL×Length(0-3)		-.17003*
Share of SL×Length(>10) - Share of SL×Length(4-6)		-.3405***
Share of SL×Length(>10) - Share of SL×Length(7-9)		-.2427**
R^2	0.267	0.265
Observations	4349	4349

Table 7: Propensity to Fall Behind Schedule

This table reports the IV regression results of *Share of Risky Assets* on *Student Debt Paid Behind Schedule* with vintage-year fixed effects. The variable – *Behind Schedule* – is a dummy variable which is equal to 1 if the individual paid the student debt behind the original schedule. *Share of SL* is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. Share of risky assets (*Share of RA*) is the natural logarithm of 1×10^{-8} plus the ratio of risky assets to total financial assets of the household Winsorized at the first and 99th percentile. *Age* is the age of the household head. *Gender* is a dummy and equals 1 if the person is male and 0 otherwise. *4-Year College* equals 1 if the person completed four years of college education and 0 otherwise. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Net Worth* is the natural log of 1×10^{-8} plus net worth of the household. *Total Income* is the the natural logarithm of 1×10^{-8} plus the total income received in a given year from all sources before taxes and other deductions were made. *Dependent Children* is the number of dependent children. *Dependent Spouse* is a dummy variable, which is equal to 1 if the person had a spouse who was financially dependent and 0 otherwise. *Tuition* is the average tuition rate for college education in a given year. Survey year, race, and occupation group code fixed effects are included in all regressions. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	First-Stage	Second-Stage
	Behind Schedule	Share of RA
Behind Schedule (Predicted)		-98.916***
		(5.741)
Share of SL	0.008***	
	(0.002)	
Age	-0.001	-0.023
	(0.001)	(0.029)
Gender	0.024**	2.579***
	(0.011)	(0.349)
4-Year College	-0.034***	-1.824***
	(0.007)	(0.247)
Graduate	-0.038***	-0.602*
	(0.009)	(0.334)
Total Income	-0.005**	-0.308***
	(0.002)	(0.047)
Net Worth	-0.001	0.010
	(0.000)	(0.013)
Dependent Children	0.010***	0.740***
	(0.003)	(0.096)
Dependent Spouse	-0.036***	-2.350***
	(0.010)	(0.361)
Tuition	-0.180*	-14.471***
	(0.101)	(2.805)
Substantial Risk Attitude	-0.006	3.391***
	(0.018)	(0.434)
Above Average Risk Attitude	-0.007	3.200***
	(0.010)	(0.257)
Average Risk Attitude	-0.020**	0.560**
	(0.008)	(0.261)
S&P 500 Return at Age of 22	-0.014	-1.099***
	(0.012)	(0.370)
S&P 500 Volatility at Age of 22	-0.002	-0.151***
	(0.002)	(0.039)
AAA Diff. at Age of 22	-0.002	-0.355**
	(0.006)	(0.162)
Year FE	Yes	Yes
Race FE	Yes	Yes
Vintage FE	Yes	Yes
Occupation FE	Yes	Yes
R^2	0.067	0.264
Observations	4349	4349

Table 8: Student Loan vs. Other Loans

This table reports the weighted OLS regression results of Share of risky assets (*Share of RA*) on the *Student Loan*, *Credit Card Loan*, *Car Loan* and *Mortgage* variables. *Credit Card Loan* is the natural log of 1 plus the new charges made to credit card accounts on the last bill (in 2013 dollars). *Car Loan* is the natural log of 1 plus the amount borrowed or financed (in 2013 dollars). *Mortgage* is the natural log of 1 plus the sum of mortgage on principal residence (in 2013 dollars). *Diff(Car Value - Car Loan)* is the difference between the natural logarithm of 1 plus car value and the natural logarithm of 1 plus car loan amount. *Diff(House Value - Mortgage)* is the difference between the natural logarithm of 1 plus house value and the natural logarithm of 1 plus mortgage. *D(Car)* and *D(House)* are dummy variables which equal to 1 if respondent has a car and house, respectively, and 0 otherwise. *Net Worth* is the natural log of 1 plus net worth of the household (in 2013 dollars). *Total Income* is the the natural logarithm of 1 plus the total income received in a given year from all sources (in 2013 dollars). *Age* is the age of the household head. *Gender* is a dummy and equals 1 if the person is male and 0 otherwise. *4-Year College* equals 1 if the person completed four years of college education and 0 otherwise. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Tuition* is the average tuition rate for college education in a given year. *Dependent Children* is the number of dependent children. *Dependent Spouse* is a dummy variable, which is equal to 1 if the person had a spouse who was financially dependent and 0 otherwise. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Share of RA	Share of RA	Share of RA	Share of RA
Student Loan	-0.020***			
	(0.003)			
Credit Card Loan		0.376***		
		(0.015)		
Car Loan			0.922***	
			(0.268)	
Diff(Car Value - Car Loan)			0.948***	
			(0.271)	
D(Car)			-9.246***	
			(2.662)	
Mortgage				1.486***
				(0.073)
Diff(House Value - Mortgage)				1.553***
				(0.075)
D(House)				-16.717***
				(0.869)
Age	0.076***	0.070***	0.079***	0.060***
	(0.010)	(0.009)	(0.010)	(0.010)
Gender	-0.124	-0.072	-0.099	-0.092
	(0.115)	(0.114)	(0.116)	(0.114)
4-Year College	2.194***	1.696***	2.119***	1.852***
	(0.111)	(0.111)	(0.110)	(0.110)
Graduate	3.191***	2.515***	3.097***	2.657***
	(0.116)	(0.119)	(0.113)	(0.117)
Net Worth	0.176***	0.164***	0.178***	0.138***
	(0.005)	(0.005)	(0.005)	(0.005)
Total Income	0.698***	0.533***	0.703***	0.486***
	(0.054)	(0.051)	(0.055)	(0.052)
Dependent Children	-0.230***	-0.189***	-0.235***	-0.304***
	(0.032)	(0.031)	(0.032)	(0.032)
Dependent Spouse	1.122***	0.804***	1.087***	0.777***
	(0.115)	(0.113)	(0.115)	(0.111)
Tuition	1.765	1.880*	1.593	1.558
	(1.163)	(1.140)	(1.183)	(1.183)
Substantial Risk Attitude	4.165***	3.910***	4.158***	3.992***
	(0.208)	(0.210)	(0.209)	(0.204)
Above Average Risk Attitude	4.650***	4.259***	4.631***	4.414***
	(0.118)	(0.117)	(0.119)	(0.117)
Average Risk Attitude	3.106***	2.791***	3.096***	2.945***
	(0.090)	(0.090)	(0.090)	(0.090)
S&P 500 Return at Age of 22	-0.087	-0.094	-0.078	-0.099
	(0.158)	(0.158)	(0.159)	(0.158)
S&P 500 Volatility at Age of 22	0.020	0.013	0.021	0.020
	(0.019)	(0.019)	(0.019)	(0.019)
AAA Diff. at Age of 22	0.016	0.015	0.015	0.026
	(0.087)	(0.085)	(0.087)	(0.088)
Year FE	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes
R^2	0.283	0.299	0.283	0.296
Observations	26481	26481	26481	26481

Table 9: Student Debt and Net Worth

Panel A reports the weighted OLS regression results of *Net Worth* on the *Share of Student Loan* and also on *Share of Student Loan* interacted with four *Length* groups. Panel B reports the weighted OLS regression results of *Net Worth* on each cohorts of college students who were in college during the law change of 1992. *Net Worth* is the natural log of 1×10^{-8} plus net worth of the household. *Share of Student Loan* (*Share of SL*) is the natural log of 1×10^{-8} plus the ratio of student loan amount to total financial assets (in 2013 dollars) Winsorized at the first and 99th percentile. *Length(0-3)* is a dummy variable which equals to 1 if the number of years from the time when the first student loan was taken is between 0 and 3 years. Similarly for the other *Length* variables. *Age* is the age of the household head. *Graduate* equals 1 if the person went to graduate school and 0 otherwise. *Total Income* is the the natural logarithm of 1×10^{-8} plus the total income received in a given year from all sources before taxes and other deductions were made. Standard errors are bootstrapped with 500 replications and are adjusted for imputation uncertainty. Standard errors are shown in parentheses. ***, **, and * indicate the coefficient is statistically significant at 1%, 5%, and 10% levels, respectively.

Panel A.

	(1)	(2)	(3)	(4)	(5)
	Net Worth	Net Worth	Net Worth	Net Worth	Net Worth
Share of Student Loan	-0.124***	-1.830***	-0.100***	-1.771***	
	(0.006)	(0.047)	(0.007)	(0.056)	
Share of Student Loan×4-Year College			-0.070***	-0.283***	
			(0.013)	(0.082)	
Share of Student Loan×Graduate			-0.024*	0.090	
			(0.013)	(0.111)	
Share of SL×Length(0-3)					-1.642***
					(0.057)
Share of SL×Length(4-6)					-1.842***
					(0.072)
Share of SL×Length(7-9)					-2.020***
					(0.106)
Share of SL×Length(>10)					-2.033***
					(0.095)
Age	0.145***	0.126***	0.145***	0.126***	0.130***
	(0.009)	(0.023)	(0.009)	(0.023)	(0.023)
Gender	0.697***	0.264	0.694***	0.256	0.290
	(0.127)	(0.315)	(0.127)	(0.314)	(0.311)
4-Year College	1.466***	0.610***	0.471**	0.606***	0.659***
	(0.111)	(0.224)	(0.235)	(0.223)	(0.224)
Graduate	2.295***	1.917***	1.931***	1.999***	1.931***
	(0.124)	(0.268)	(0.247)	(0.284)	(0.271)
Total Income	0.148***	-0.077***	0.147***	-0.074***	-0.079***
	(0.025)	(0.026)	(0.025)	(0.027)	(0.027)
Dependent Children	0.063*	0.065	0.058	0.064	0.084
	(0.035)	(0.083)	(0.035)	(0.083)	(0.084)
Dependent Spouse	1.068***	0.366	1.060***	0.331	0.351
	(0.126)	(0.263)	(0.126)	(0.263)	(0.263)
Tuition	-1.953*	6.568**	-1.869*	6.662***	6.472**
	(1.109)	(2.603)	(1.113)	(2.565)	(2.577)
Substantial Risk Attitude	1.635***	-0.342	1.618***	-0.396	-0.350
	(0.202)	(0.492)	(0.204)	(0.492)	(0.491)
Above Average Risk Attitude	2.550***	1.079***	2.525***	1.057***	1.054***
	(0.095)	(0.251)	(0.094)	(0.248)	(0.250)
Average Risk Attitude	1.872***	0.656***	1.851***	0.646***	0.647***
	(0.085)	(0.202)	(0.085)	(0.202)	(0.204)
S&P 500 Return at Age of 22	-0.383**	-0.129	-0.362**	-0.137	-0.130
	(0.171)	(0.354)	(0.170)	(0.352)	(0.354)
S&P 500 Volatility at Age of 22	0.056**	0.124***	0.056**	0.122***	0.123***
	(0.026)	(0.042)	(0.026)	(0.041)	(0.042)
AAA Diff. at Age of 22	-0.036	-0.270	-0.037	-0.260	-0.279
	(0.069)	(0.171)	(0.069)	(0.170)	(0.173)
Year FE	Yes	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes	Yes
Vintage FE	No	Yes	No	Yes	Yes
Share of SL×Length(>10) - Share of SL×Length(0-3)					-.3909***
Share of SL×Length(>10) - Share of SL×Length(4-6)					-.1905*
Share of SL×Length(>10) - Share of SL×Length(7-9)					-.01207
R^2	0.169	0.317	0.170	0.318	0.319
Observations	26481	4349	26481	4349	4349

Panel B. Impact of 1992 HEA

	(1)	(2)
	Net Worth	Net Worth (Placebo)
Age 22 at 1987	0.793	
	(0.483)	
Age 22 at 1988	0.800	
	(0.614)	
Age 22 at 1989	1.084	
	(0.735)	
Age 22 at 1990	0.736	
	(0.622)	
Age 22 at 1991	0.360	
	(0.713)	
Age 22 at 1992	-0.515	-1.392***
	(0.599)	(0.530)
Age 22 at 1993	-2.052***	-2.649***
	(0.694)	(0.544)
Age 22 at 1994	-1.510**	-2.165***
	(0.651)	(0.555)
Age 22 at 1995	-2.538***	-3.123***
	(0.809)	(0.661)
Age 22 at 1996		-2.234***
		(0.636)
Age 22 at 1997		-2.398***
		(0.734)
Age 22 at 1998		-1.768***
		(0.666)
Age 22 at 1999		-1.683**
		(0.718)
Age 22 at 2000		-1.999***
		(0.703)
Total Income	0.242***	0.260***
	(0.043)	(0.041)
Gender	1.506***	1.547***
	(0.188)	(0.172)
Graduate	0.862***	0.932***
	(0.135)	(0.143)
Tuition	-9.527***	-5.681**
	(3.257)	(2.387)
Substantial Risk Attitude	2.438***	2.536***
	(0.336)	(0.317)
Above Average Risk Attitude	2.771***	2.775***
	(0.219)	(0.211)
Average Risk Attitude	2.284***	2.364***
	(0.215)	(0.200)
S&P 500 Return at Age of 22	-1.012***	-0.721**
	(0.370)	(0.351)
S&P 500 Volatility at Age of 22	-0.350***	-0.310***
	(0.052)	(0.036)
AAA Diff. at Age of 22	-0.065	-0.187
	(0.128)	(0.133)
Year FE	Yes	Yes
Race FE	Yes	Yes
Occupation FE	Yes	Yes
Age (22 at 1992)-(22 at 1987)	-1.3085**	
Age (22 at 1992)-(22 at 1988)	-1.3155**	
Age (22 at 1992)-(22 at 1989)	-1.5989*	
Age (22 at 1992)-(22 at 1990)	-1.2506*	
Age (22 at 1992)-(22 at 1991)	-.87517	
Age (22 at 1993)-(22 at 1992)	-1.5371**	
Age (22 at 1994)-(22 at 1992)	-.9944699	
Age (22 at 1995)-(22 at 1992)	-2.0228***	
Age (22 at 1997)-(22 at 1992)		-1.006
Age (22 at 1997)-(22 at 1993)		.2506
Age (22 at 1997)-(22 at 1994)		-.2329
Age (22 at 1997)-(22 at 1995)		.7248
Age (22 at 1997)-(22 at 1996)		-.1643
Age (22 at 1998)-(22 at 1997)		.6304
Age (22 at 1999)-(22 at 1997)		.7146
Age (22 at 2000)-(22 at 1997)		.3994
R^2	0.171	0.171
Observations	10068	10810

Table 10: Impact of Student Loans on Net Worth

Net Worth Reduction Estimates

Without Student Debt: Invest $1000 in 50% *bond index* and 50% *stock index*

Cohort	1980	1985	1990	1995	2000	2005	2010
Investment horizon							
5	7588.85	7951.88	6279.84	8470.44	5952.57	5439.06	7073.68
10	24529.40	18306.03	24421.08	15412.81	12259.08	16215.31	
15	43379.38	56228.07	32590.31	22981.27	27523.77		
20	123051.76	66064.61	42187.00	4572220			
25	136088.83	79279.94	79276.64				

With Student Debt: Invest $1000 in 40% *bond index* and 40% *stock index* and 20% in *risk-free asset*

Cohort	1980	1985	1990	1995	2000	2005	2010
Investment horizon							
5	7601.46	7670.08	6199.26	7604.43	5844.26	5481.30	6558.08
10	23317.28	17627.83	20547.02	14974.70	12264.72	14974.79	
15	40942.48	44407.14	30514.52	22862.39	25390.93		
20	93082.57	59162.75	40899.40	41663.98			
25	117606.05	74151.28	69360.37				

Difference (%)

Cohort	1980	1985	1990	1995	2000	2005	2010	Average
Investment horizon								
5	0.17%	-3.54%	-1.28%	-10.22%	-1.82%	0.78%	-7.29%	-3.32%
10	-4.94%	-3.70%	-15.86%	-2.84%	0.05%	-7.65%		-5.83%
15	-5.62%	-21.02%	-6.37%	-0.52%	-7.75%			-8.26%
20	-24.35%	-10.45%	-3.05%	-8.88%				-11.68%
25	-13.58%	-6.47%	-12.51%					-10.85%

Figure 1: Average Share of Risky Assets in Total Financial Assets

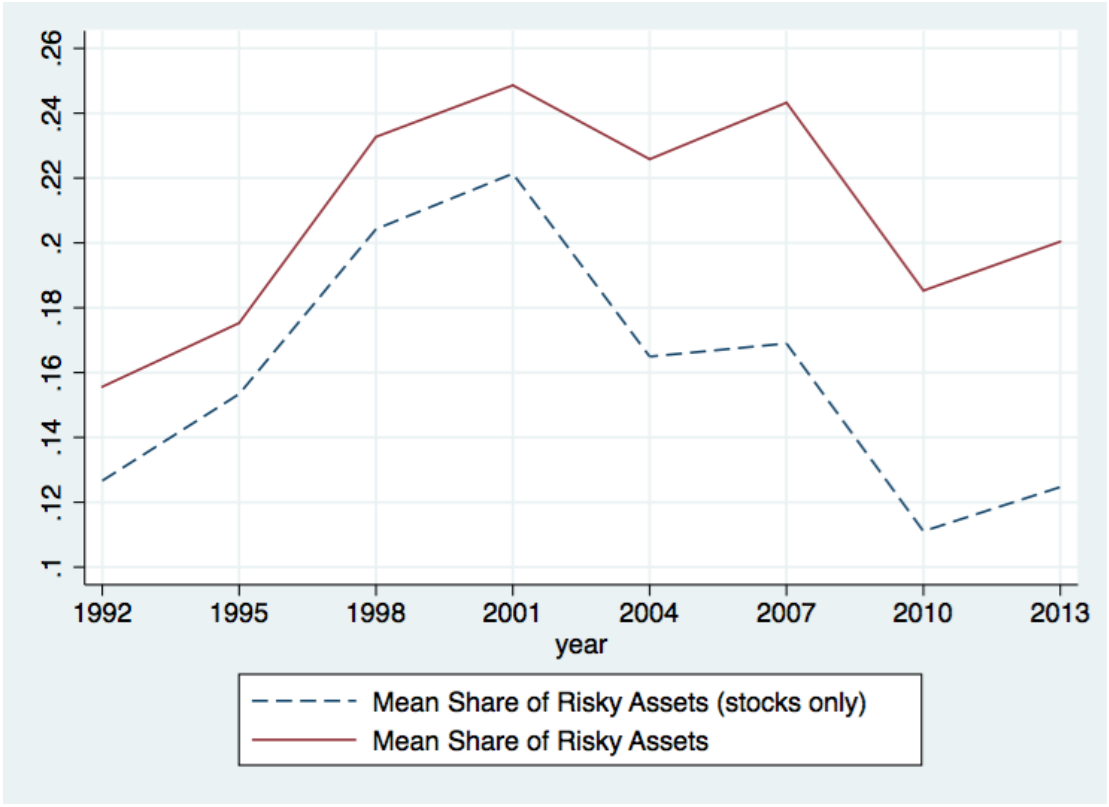

Figure 2: The Impact of Student Loans on Net Worth