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Does Outstanding Student Debt Reduce Asset Accumulation?

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Does Outstanding Student Debt Reduce Asset Accumulation?

In this study, the authors use the Survey of Consumer Finances (SCF) to assess whether student loan debt is associated with total assets. They find that median 2009 assets for households with no outstanding student loan debt ($207,000) are higher than they are for households with outstanding student loan debt ($174,000). Multivariate statistics indicate that a household with a four-year college graduate, outstanding student loan debt, and median assets ($451,520) in 2007 had $136,673 (36%) less home equity in 2009 than a household with a similar household with no outstanding student loan debt. The main policy implication of this study is that outstanding student debt may reduce asset accumulation in the short term, which suggests an important rationale for exploring alternative financial aid structures.

Keywords: *Higher education, student loans, survey of consumer finances, asset accumulation*

Introduction

In Michael Sherraden's (1991) seminal book, *Assets and the Poor*, he distinguished assets from income in terms of their impact on well-being, introducing the concept of asset-based social welfare policies. The consumption-based notion of welfare for the poor traditionally has been defined in America as "the level of money, goods, and services received as income" (Sherraden, 1990, p. 580). However, Sherraden (1990, 1991) challenged this assumption by positing that household welfare is derived in part from the accumulation of assets. Assets represent an accumulated stock of resources kept through time, whereas income is a flow of resources used for current consumption (Sherraden, 1991). A growing body of evidence supports the contention that assets and income are distinct concepts (Lerman & Mikesell, 1988; McKernan & Sherraden, 2008; Oliver & Shapiro, 2006; Sherraden, 1991).

A consumption-based model of financial aid

Followers of the consumption-based model of social welfare believe that education in America, especially higher education, is primarily a commodity "purchased" by individual students, who then reap its rewards (Baum 1996; Heller & Rogers, 2006). Part of the reason for the commodification of higher education is the increasing cost of college, which policymakers have dealt with by increasing access to student loans and the amount of debt students are allowed to incur.

Researchers who take a consumption-based approach to financial aid argue for continuing to increase student loan use because college graduates with student loans have similar earning capacities as those without student loans. For example, Rothstein and Rouse (2011) calculate that $10,000 in student debt represents less than 1% of the present value of the average college graduate's potential lifetime earnings and that taking out student loans to finance college does little harm overall. However, Minicozzi (2005) finds that college graduates with student debt earn more the first year out of college than those without student loan debt but less five years later. Similarly, Hiltonsmith (2013) finds that while households with college graduates and student debt have higher earnings right after leaving college, their income falls behind households with college graduates and no student debt by the time they reach their 40s. Whether those who have student loan debt earn less

than, as much as, or more than those without student loan debt, the question is whether they derive the same level of financial well-being from their college degree and subsequent earnings. The consumption perspective of financial aid largely ignores the important role that assets play in financial well-being.

Assets differ from income in an important way: they reflect ownership power and control over resources used for human development, social mobility, and intergenerational transmission of wealth and advantage. In contrast, income is the flow of cash on a family's balance sheet and represents resources earned over a week or month. A household's ability to leverage income for wealth creation differs according to its access to institutional supports that cultivate relative advantage (Sherraden, 1991). For example, Shapiro, Meschede, and Osoro (2013) find that a $1 increase in income translates to a $5 increase in wealth for Whites but only a $0.70 increase for Blacks. Even if incomes are equal, some people receive greater financial benefits from their income than others.

Student loan debt might affect accumulation of assets similarly. In other words, students who leave college with debt may not be able to gain as much wealth from each dollar earned because they borrowed against those earnings while in college. Students who graduate with no student loan debt can put more of their income toward accumulating assets.

Review of Research on Postcollege Effects of Student Loans

In this paper, our primary focus is on students' postcollege outcomes. Evidence suggests that outstanding student loan debt may have lasting effects on graduates' economic security. For example, Gicheva (2011) finds that an additional $10,000 in student loan debt reduces the long-term likelihood of marriage, perhaps by affecting students' economic well-being after graduation. In one of the few studies to examine the potential negative effects of student loan debt on college attendees' ability to accumulate wealth, Shand (2007) uses cross-sectional data from the 2003 Survey of Consumer Finance (SCF) to find that student debt has a negative effect on homeownership rates. However, she finds little evidence to suggest that this is the result of credit constraints. That is, the presence of student loan debt on a household's balance sheet does not render a household unable to obtain a mortgage. Instead, households with outstanding student loan debt might be averse to taking out a mortgage.

Elliott and Nam (2013) examine the effects of student loans on net worth (i.e., total assets minus total liabilities) and find that living in a household with a four-year college graduate, median 2007 net worth, and outstanding student loan debt is associated with having about $185,996 less net worth in 2009 than a household with a four-year college graduate, median 2007 net worth, and no outstanding student loan debt. They use longitudinal data from the SCF that follows the same households from 2007 to 2009.

Similar to Elliott and Nam (2013), Hiltonsmith (2013) finds that a dual-headed household with bachelors' degrees from four-year universities and an average student debt burden generates nearly $208,000 less wealth than a similar household with no student loan debt. Further, he finds that a large portion of this amount ($134,000) comes from having less retirement savings and home equity ($70,000). Hiltonsmith (2013) uses 2010 SCF data to project potential wealth losses across the life course.

This paper focuses on the possible effects of student loans on asset accumulation. A limitation of the aforementioned Elliott and Nam (2013) paper is the short timeframe under investigation, 2007 to 2009, which makes it hard to fully account for the human capital created by student loan debt. We

build on Elliott and Nam (2013) by estimating a model using assets only. The assets variable does not include debt, so the problem of including debt but not human capital is removed.

Research Questions

In this study, we examine the effects of student loan debt on college attendees' ability to accumulate assets. More specifically, we explore three research questions:

1. Is having outstanding student loan debt associated with total assets?
2. Is the amount of outstanding student loan debt associated with total assets?
3. Do households with a college graduate and outstanding student loan debt have less in total assets than households with a college graduate and no outstanding student loan debt?

Methods

Data

We used panel data from the 2007–2009 SCF, sponsored by the Federal Reserve Board. The data include observations on 3,857 families in the US who responded in 2007 and 2009. Instead of the usual cross-sectional SCF data, these panel data are longitudinal, which provides an opportunity for researchers to avoid causality issues.

We analyzed data on survey respondents instead of household heads because the SCF does not provide information on key variables (e.g., race) for the household head. The respondent in a household is defined as, "the economically dominant single individual or the financially most knowledgeable member of the economically dominant couple" (Kennickell, 2010, p. 4). Survey questions focus on the primary economic unit, which "includes the core individual or couple and any other people in the household or away at school who were financially interdependent with that person or couple" (Kennickell, 2010, p. 4).

The aggregate sample for this study consists of all 3,857 households in the SCF, from which we created two subsamples. We restricted the sample to respondents who graduated from a four-year college (n = 2,385) to test whether the effects of student loan debt on financial well-being are mitigated by college completion. We then restricted the sample to all respondents with outstanding student loan debt (n = 543) to determine if amount of student loan debt affects household asset amounts.

Measures

We used the macro created for use with the 2007–2009 SCF[1] panel.

Dependent variables

Assets are the sum of savings, checking, and money market accounts; certificates of deposit (CDs), stocks, bonds, mutual funds, 401(k)s, plan balances, IRAs, the cash value of whole life insurance policies, and tangible assets (i.e., real estate and cars). This variable also was derived from the SCF 2007–2009 macro. For a more detailed explanation of how SCF calculated assets, see Bucks, Kennickell, Mach, & Moore (2009). We transformed assets using the inverse hyperbolic sine (IHS) (see Pence, 2006), in part for comparison purposes with previous studies (e.g., Elliott & Nam, 2013).

[1] The macro can be found at http://www.federalreserve.gov/econresdata/scf/files/fedstables.macro.txt.

The transformation can be expressed as:

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

in which θ is a scaling parameter and a is assets. To make interpretation of results easier, we converted IHS assets values back into dollar amounts. The conversion can be expressed as:

$$\frac{1}{2}\left(e^{\theta y} + e^{-\theta y}\right)\beta_X$$

and can be considered as a marginal effect of a change in independent variable X on dollars of assets w, where $y = \sinh^{-1}(a)$, θ was a scaling parameter for IHS transformation, and β_X was a coefficient for variable X. The IHS marginal effects depend on the chosen value of θ. Regression estimates in this study are based on a θ value of 0.0003, the optimal value as estimated by the maximum likelihood method.[2]

Covariates

We include eight covariates in our analyses: (a) respondent's income, (b) four-year college or postgraduate degree of any household member, (c) respondent's occupational prestige, (d) respondents' age (e) respondent's marital status, (f) household's use of welfare programs, (g) respondent's race, and (h) respondent's health insurance coverage.[3]

Income is a continuous variable. Respondents were asked how much total income they received from all sources before taxes and other deductions in 2007. We determined four-year college graduate status—a dichotomous variable—using the respondent's answer to the survey question about the highest grade of school or year of college attained by any member of the household. We measured occupational prestige using the SCF's classifications of respondents' job titles: professional, technical/service, other, and not working. Age is a continuous variable. The SCF measured marital status by asking respondents if they are married, living with a partner, separated, divorced, widowed, or never married, which we coded as married = 1 and all others = 0. The survey measured the use of welfare programs by asking respondents if they or anyone else in the household receives income from Temporary Assistance for Needy Families (TANF), the Supplemental Nutrition Assistance Program (SNAP), or other forms of welfare or assistance, such as Social Security Insurance (SSI). Respondents described themselves as White, Black, Hispanic, or Asian. The survey measured whether or not respondents had health insurance coverage or not.

We include two variables of interest: (a) total assets (see description above) and (b) outstanding student loan debt amount. The SCF asked respondents if they or anyone in the household owes money or has outstanding student loan debt. We drew all controls from the 2007 wave of the SCF using the provided macro.

[2] To calculate the optimal values we used a macro created by Pence (2006) that can be found at http://works.bepress.com/karen_pence/16/.

[3] The SCF measured unemployment by asking respondents whether they were unemployed and looking for work at any time during the past twelve months. We did not use the unemployment variable in the main models but used it to replace occupational prestige in supplemental models not presented here. Findings are consistent with models that used occupational prestige and are available upon request.

Analysis

Median regression

We used Stata (version 12) and median regression to analyze data. According to Pence (2006), median regression offers two advantages over ordinary least squares regression. First, median regression can handle extreme values in data without a major distortion in estimation because it is affected by the order of the data only. Second, the difference-in-difference estimator by median regression is an unbiased estimator of percentage change (Wooldridge, 2002). Using a series of median regression analyses, we estimate the effect of outstanding 2007 student loan debt on 2009 net worth with three different sample groups: an aggregate sample, a sample of four-year college graduates, and a sample of respondents between the ages of 30 and 60. We used 60 years as the cutoff because retirement options might affect savings decisions for those older than 60 (Pence, 2006).

Missing data and adjustment of standard errors

Because many respondents in the dataset were reluctant to reveal the values of their assets (Kennickell, 1998), imputation for unbiased model estimation was inevitable. This introduces uncertainty into the process. Additionally, median regression standard errors and median regression standard errors potentially are inaccurate because of the heteroscedasticity. Finally, standard errors should be adjusted because of the complex stratification and clustering in the SCF sample design. The SCF data do not provide information on respondent confidentiality.

We used the same methods Pence (2006) used in her study with tools provided by the SCF to adjust standard errors for heteroscedasticity, survey design, and imputation uncertainty. The first method we used was bootstrapping, using 999 bootstrapped sample weight replicates provided by the SCF (Kennickell, 1998, 2010; Pence, 2006). We also used the repeated-imputation inference technique to adjust the standard errors for imputation uncertainty (Pence, 2002, 2006).

Sensitivity analysis

We estimated models restricting the sample by (a) whether an individual with a four-year college degree or postgraduate degree lives in the household and (b) the respondent's age. In the main models, we control for four-year college graduation, but by restricting the sample to households in which a member has a four-year or postgraduate degree, we are able to better account for differences that might result from having a four-year degree (see Table 6). We restricted our sample to those ages 30 to 60 years. Results are similar to those of the aggregate sample (see the Appendix).

Results

Sample characteristics

The SCF panel data cover the period of the Great Recession, and 2007 median assets of $225,036 declined to $197,000 in 2009. Approximately 36% of households have a family member with a four-year college degree or higher level of education. About 18% of all households have outstanding student loan debt and owe about $26,018 on average. The average respondent's age is approximately 51. The minimum age is 19, and the maximum age is 95. Median 2007 income is $50,054, and about 12% of households use welfare programs (Table 1).

Table 1. Sample Characteristics (N = 113,178,790)

	Number or mean	% or median
Student loan use	19,891,202	18%
Amount of student loan debt (student loan users only)	$26,018	$15,000
2009 assets	$581,387	$197,000
2007 assets	$695,765	$225,035
Four-year college graduate	41,136,768	36%
Age	52	50
Income	$88,972	$50,054
Occupational prestige		
Professional	32,674,464	29%
Technical services	24,703,413	22%
Other	23,807,313	21%
Not working	31,993,600	28%
Married	67,511,805	60%
Uses welfare	13,226,579	12%
Race		
White	83,313,885	74%
Black	14,911,713	13%
Hispanic	10,160,730	9%
Asian	4,792,463	4%
Has health insurance	104,111,747	92%

Note: Weighted data are from the SCF 2007–2009. All percentages are rounded to the nearest whole.

Sample characteristics by student loan use

Table 2 provides information on who uses student loans. Among respondents with a four-year college degree, about 24% live in households with outstanding student loan debt. The average age of respondents who live in households with student loan debt is 41. In contrast, 76% of respondents who are four-year college graduates live in households with no outstanding loan debt, and the median age of respondents living in households without student loan debt is 52. Median household income is $57,509 for households with student loan debt and $47,923 for households without student loan debt.[4] A higher percentage of Black households (28%) has loans than Hispanic households (14%) (see Table 2).

[4] All households with student loan debt have a member with at least has some college experience, while households without student loan debt may or may not have a member with college experience. This might explain income differences.

Table 2. Sample Characteristics by Student Loan Use (*N* = 113,178,790)

	Has student loan debt		Does not have student loan debt	
	Number or mean	% or median	Number or mean	% or median
Income	$75,443	$57,509	$91,856	$47,923
Four-year college graduate	9,819,552	24%	31,065,119	76%
Not a four-year college graduate	10,071,649	14%	62,222,470	86%
Age	41	39	54	52
Occupational prestige				
Professional	7,587,411	23%	25,087,053	77%
Technical services	5,459,732	22%	19,243,681	78%
Other	4,402,555	18%	19,404,758	82%
Not working	2,441,503	8%	29,552,097	92%
Married	13,035,998	19%	54,475,807	81%
Not married	6,855,204	15%	38,811,782	85%
Uses welfare	2,289,349	99%	10,937.230	<1%
Does not use welfare	17,601,853	18%	82,350,359	83%
Race				
White	13,241,607	16%	70,072,278	84%
Black	4,167,678	28%	10,744,035	72%
Hispanic	1,426,037	14%	8,734,693	86%
Asian	1,055,880	22%	3,736,582	78%
Has health insurance	18,600,050	18%	85,511,697	82%
Does not have health insurance	1,291,151	14%	7,775,892	86%

Note: Weighted data are from the SCF 2007–2009. All percentages are rounded to the nearest whole.

Assets by student loan use

Table 3 provides information on assets by student loan use. Median asset holding in 2009 is higher for households without outstanding student loan debt ($207,000) than for households with outstanding student loan debt ($174,000). This pattern holds true on a smaller scale for 2007 asset holding data as well: $237,773 for households without student loan debt vs. $176,342 for household with student loan debt. Households with no outstanding student loan debt had a bigger decrease in median assets from 2007 to 2009 (-$11,509) than households with outstanding student loan debt (-$6,103).

Table 3. Assets by Student Loan Use (*N* = 113,178,790)

	Has student loan debt		Does not have student loan debt	
Variables	Number or mean	% or median	Number or mean	% or median
2009 assets	$321,857	$174,000	$636,725	$207,000
2007 assets	$391,238	$176,342	$760,698	$237,773
Change in assets	-$69,381	-$6,103	-$123,973	-$11,509
Change in assets/2009 assets (%)	22%	4%	19%	6%

Note: Weighted data are from the SCF 2007–2009.

Predicting 2009 assets by percentiles (25th, 50th, and 75th) of 2007 assets

In the next series of analyses, we evaluate the marginal effects of coefficients at the 25th, 50th, and 75th percentiles. With regard to our variable of interest, having student loan debt is an important predictor of asset amounts after holding all other factors constant. The association between student loan debt and 2009 assets is negative (Table 4). A household at the 25th percentile with outstanding student loan debt and assets worth $36,456 in 2007 had $7,265 (20%) less in assets in 2009 than a similar household with no student loan debt. A household at the 50th percentile with outstanding student loan debt and assets worth $225,035 in 2007 had $44,661 (20%) less in assets in 2009 than a similar household with no student loan debt. A household at the 75th percentile with outstanding student loan debt and assets worth $536,439 in 2007 had $106,454 (20%) less in assets in 2009 than a similar household with no student loan debt.

Lower occupational prestige of the respondent, the household's use of welfare programs, and the respondent's being of Black or Hispanic ethnicity have significant negative associations with 2009 asset amounts. A household that uses welfare programs had assets worth less in 2009 (-$85,006 at the 25th percentile, -$522,599 at the 50th percentile, and -$1,245,661 at the 75th percentile; a loss of 132% at each percentile) than households with similar asset amounts in 2007 that do not use welfare programs. Further, Black respondents' households have assets worth less in 2009 (-$16,306 at the 25th percentile, -$100,248 at the 50th percentile, and -$238,949 at the 75th percentile; a loss of 45% at each percentile) than White households with similar asset amounts in 2007. Hispanic respondents' households also had assets worth less in 2009 (-$21,774 at the 25th percentile, -$133,860 at the 50th percentile, and -$319,067 at the 75th percentile; a loss of 59% at each percentile) than White households with similar asset amounts in 2007.

In contrast, households with higher incomes in 2007, more assets in 2007, and a four-year college graduate and respondents who are older, married, Asian and have health insurance have increased asset amounts in 2009. In particular, four of these covariates are especially influential: households' having a four-year college graduate, respondents' having health insurance, respondents' being older, and respondents' being married. A household with a four-year college graduate had assets worth more in 2009 ($20,661 at the 25th percentile, $127,017 at the 50th percentile, and $302,757 at the 75th percentile) than a household that had similar asset amounts in 2007 but no four-year college graduate. A household with an older respondent had assets worth more in 2009 ($983 at the 25th percentile, $6,045 at the 50th percentile, and $14,409 at the 75th percentile) than a household with similar asset amounts in 2007 but a younger respondent. A household with a married respondent had assets worth more in 2009 ($28,041 at the 25th percentile, $172,392 at the 50th percentile, and $410,910 at the 75th percentile) than a household with similar asset amounts in 2007 whose respondent is not married. A household whose respondent has health insurance had assets worth more in 2009 ($41,183 at the 25th percentile, $253,184 at the 50th percentile, and $603,485 at the 75th percentile) than a household with similar asset amounts in 2007 whose respondent does not have health insurance.

Table 4. Median Regression Results Predicting 2009 Asset Amounts using 2007 Asset Percentiles

	25th ($36,456)		50th ($225,035)		75th ($536,439)	
	Coefficients	SE	Coefficients	SE	Coefficients	SE
Student loan use	-$7,265***	1,634	-$44,661***	10,048	-$106,454***	23951
Income	$0.02*	0.010	$0.13*	0.064	$0.31*	0.152
2007 assets	$0.01***	0.001	$0.07***	0.005	$0.16***	0.013
Four-year college graduate	$20,661***	2,123	$127,017***	13,053	$302,757***	31,113
Age	$983***	64	$6,045***	394	$14,409***	940
Occupational prestige (reference is professional)						
Technical/services	-$8,201***	1,888	-$50,423***	11,610	-$120,187***	27,673
Other	-$11,471***	2,483	-$70,518***	15,267	-$168,087***	36,391
Not working	-$30,202***	3,064	-$185,677***	18,837	-$442,577***	44,900
Married	$28,041***	2,209	$172,392***	13,581	$410,910***	32,371
Use welfare	-$85,006***	4,091	-$522,599***	25,148	-$1,245,661***	59,942
Race (reference is White)						
Black	-$16,306***	2,554	-$100,248***	15,702	-$238,949***	37,426
Hispanic	-$21,774***	4,207	-$133,860***	25,863	-$319,067***	61,646
Asian	$1,313	3,257	$8,074	20,024	$19,245	47,729
Has health insurance	$41,183***	6,379	$253,184***	39,217	$603,485***	93,477

Note: Weighted data are from the SCF 2007–2009. All percentages are rounded to the nearest whole, unless it is less than 1.
SE, standard error. Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty (Pence, 2002, 2006). Coefficients are marginal effects evaluated at the median asset amount in 2007. Assets in 2009 are transformed using the IHS transformation (Pence, 2006).
**p<.01; ***p<.001.

Predicting 2009 assets among households with outstanding student loan debt

Among households with outstanding student loan debt, the debt amount does not have a significant negative association with asset amounts in 2009 (Table 5). However, the respondent's occupational prestige, the household's use of welfare programs, and the respondent's race are significant negative predictors of assets. Black respondents' households with median assets in 2007 had $86,472 (22%) less in assets in 2009 than White respondents' households. A household that uses welfare programs and had median assets in 2007 had $313,168.90 (43%) less in assets in 2009 than households with median assets in 2007 that do not use welfare programs.

Households with more assets in 2007, households with a four-year college graduate, respondents who are older, respondents who are married, and respondents who have health insurance have a significant positive association with asset amounts in 2009. Households with a four-year college graduate and assets at the 50th percentile in 2007 had $52,538 (30%) more in assets in 2009 than households with similar assets in 2007 but no four-year college graduate.

Table 5. Median Regression Results Predicting 2009 Asset Amounts among Those with Outstanding Student Loan Debt

	Coefficients	SE
Student loan amount	$0.17	0.24
Income	$0.41	0.25
2007 assets	$0.12***	0.03
Four-year college graduate	$52,538*	22,600
Age	$4,884***	814
Occupational prestige (reference is professional)		
Technical/services	-$35,420*	16,110
Other	$138	27,426
Not working	-$106,086**	34,430
Married	$208,977***	33,062
Uses welfare	-$313,169***	73,819
Race (reference is White)		
Black	-$86,472*	35,988
Hispanic	-$37,817	24,583
Asian	-$25,475	40,673
Has health insurance	$155,758*	60,595

Note: Weighted data are from the SCF 2007–2009. *IHS,* inverse hyperbolic sine; *SE*, standard error. Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty (Pence, 2002, 2006). Coefficients are marginal effects evaluated at the median asset amount in 2007: $274,754. Assets in 2009 are transformed using the IHS transformation (Pence, 2006).
*p<.05; **p<.01; ***p<.001.

Predicting 2009 assets among households with four-year college graduates

Student loan debt is significantly associated with 2009 asset amounts when the sample is restricted to households with a college graduate (Table 6). Households with student loan debt and assets of $451,520 (50th percentile) have $163,637 (36%) less in assets in 2009 than households without student loan debt. Other factors that contribute to having lower assets are respondent's occupational prestige, household's use of welfare programs, and respondents' being Black or Hispanic.

Respondents' being older, household's 2007 asset amounts, and respondents' being married are significantly related to increases in assets in 2009. A household with a married respondent and median assets in 2007 had $314,637 (70%) more in assets in 2009 than a household in which the respondent is not married.

Table 6. Median Regression Results Predicting 2009 Asset Amounts Using Median Assets in 2007 ($451,520) among Four-Year College Graduates

	Coefficients	SE
Student loan use	-$163,637***	24,902
Income	$0.18	0.094
2007 assets	$0.11***	0.009
Age	$10,929***	1,176
Occupation prestige (reference is professional)		
Technical/services	-$79,329**	29,273
Other	-$261,919***	54,479
Not working	-$235,967***	48,275
Married	$314,637***	40,773
Uses welfare	-$877,874***	238,507
Race (reference is White)		
Black	-$295,234***	60,129
Hispanic	-$145,657*	74,077
Asian	$3,842	44,871
Has health insurance	$486,155**	149,352

Note: Weighted data are from the SCF 2007–2009. *IHS,* inverse hyperbolic sine; *SE*, standard error. Standard errors are bootstrapped with 999 replications and adjusted for imputation uncertainty (Pence, 2002, 2006). Coefficients are marginal effects evaluated at the median 2007 asset amount among four-year college graduates: $451,520. Assets in 2009 are transformed using the IHS transformation (Pence, 2006). *p<.05; **p<.01; ***p<.001.

Discussion

In our sample, about 18% of all households have outstanding student debt, and the average student loan debt was about $26,018 in 2007. To combat rising college costs and expand access to college, policymakers have continued to increase availability of student loans and increase the amount of debt students are allowed to accrue. However, we suggest that viewing financial aid from the viewpoint of access only is short sighted. Instead, we suggest that financial aid policy should be based on how it affects outcomes before, during, and after college graduation, not only at enrollment.

In this paper, we examine how student debt affects college attendees' postcollege financial outcomes. More specifically, the first research question is whether having student loan debt is associated with households' total asset amounts. We find that the median asset amount for a household with no outstanding student loan debt ($207,000) is higher than that of a household with outstanding student loan debt ($174,000). After controlling for demographic factors, we find the pattern suggested by the descriptive data remains: outstanding student loan debt is associated with having lower assets. A hypothetical household with exactly the median 2007 asset amount of $225,035 and outstanding student loan debt had $44,661 (41%) less in assets in 2009 than a similar household with no student loan debt. The finding that having student loan debt is associated with having fewer assets is consistent with other research (Hiltonsmith, 2013). More generally, the idea that student loan debt might negatively affect adults' postgraduation outcomes is consistent with previous research. For example, findings suggest that students who graduate from a four-year college delay purchasing major assets (e.g., a car or a home) (Shand, 2007; Stone, Van Horn, & Zukin, 2012), delay marriage (Gicheva, 2011), and have less net worth (Elliott & Nam, 2013; Hiltonsmith, 2013).

The second research question is whether the amount of outstanding student loan debt is associated with asset amounts. We find that having higher amounts of debt may not result in greater asset losses, which suggests that simply having student loan debt—at any amount—might lead to owning fewer assets. This should be taken as a preliminary finding that needs further investigation, but it does suggest that people should not assume that student loan debt up to a certain amount is safe in terms of its potential effects on households' financial well-being. Future research using more detailed data could control for number of years out of college since people more recently out of college may have less retirement savings accumulated.

The third research question is whether student loan debt is associated with asset amounts among four-year college graduates. We find that a household with median asset amounts, a four-year college graduate, and outstanding student loan debt had about $163,637 (52%) less in assets in 2009 than a similar household without outstanding student loan debt. This is consistent with past research on student loan debt and assets (Hiltonsmith, 2013).

It is important to highlight the finding that households with a four-year college graduate have more assets than households without a four-year college graduate, while controlling for student loan debt. This suggests that a college degree is a worthwhile investment, even if the payoff is less for those with outstanding student loan debt.

Limitations

We cannot rule out the possibility that student loan debt may be a marker for larger, unobserved household economic challenges. In other words, student loan debt may not cause the decline in asset amounts. We can mitigate this somewhat by controlling for a number of factors believed to be important for predicting household assets. Moreover, the consistency of our findings with previous research (e.g., Hiltonsmith, 2013) reinforces our findings. However, findings from this study can be interpreted only as suggesting that there might be an association between student loan debt and asset amounts. Moreover, the period between 2007 and 2009 was unique, and our findings may speak more to the potential vulnerability of households with student loan debt during periods of recession.

Policy implications

The main policy implication of this study is that outstanding student loan debt may reduce asset amounts among households in the short term, which calls into question the advisability of continued dependence on borrowing as our primary financial aid tool. However, findings should be viewed as preliminary, and more research is required to refute or substantiate these findings. Policy issues are complex and must be considered within the broader context of educational finance.

Conclusion

Findings suggest that a four-year college graduate with outstanding student loan debt has fewer total assets than a four-year college graduate with no outstanding student loan debt. However, this does not mean that a college degree is no longer a sound investment. In fact, evidence suggests that households with a four-year college graduate have more total assets than households without a four-year college graduate, even while controlling for student loan debt. According to the ethos of the American Dream, people with the same level of ability who have expended similar effort should have comparable financial outcomes. It is not enough that the college graduate who takes out student loans to pay for college is better off than not having graduated from college at all. The graduate also should have an equal chance to achieve a similar level of financial health as the college

graduate who does not take out student loans. Given this, our findings raise questions about the increasing reliance on student loans for financing college.

Appendix. Median Regression Results Predicting 2009 Asset Amounts Using Median 2007 Asset Amounts ($274,754) Among Household Heads Ages 30 to 60

	Coefficients	SE
Student loan debt	-$64,941***	16,258
Income	$0.16*	0.084
2007 assets	$0.094***	0.011
Four-year college graduate	$105,302***	15,463
Age	$6,870***	788
Occupational prestige (reference is professional)		
Technical/services	-$53,655***	13,158
Other	-$105,386***	16,137
Not working	-$185,207***	38,414
Married	$196,979***	15,598
Use welfare	-$761,426***	40,190
Race (reference is White)		
Black	-$132,561***	28,966
Hispanic	-$124,944***	35,248
Asian	$24,715	31,247
Has health insurance	$244,260***	41,942

Note: Weighted data are from the SCF 2007–2009. *IHS,* inverse hyperbolic sine; *SE,* standard error. Standard errors are bootstrapped with 999 replications and are adjusted for imputation uncertainty (Pence, 2002, 2006). Coefficients are marginal effects evaluated at the median asset amount in 2007: $274,754. Assets in 2009 are transformed using the IHS transformation (Pence, 2006).
*p < .05; **p < .01; ***p < .001.

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