

**Exploring the Relationship of Enrollment in Income-Driven Repayment
to Borrower Demographics and Financial Outcomes**

Daniel A. Collier

W. E. Upjohn Institute for Employment Research

Dan Fitzpatrick

The University of Michigan

Christopher R. Marsicano

Davidson College

Author Note: Dr. Daniel A. Collier is a Place-Based MRI Researcher at the W. E. Upjohn Institute for Employment Research. Dr. Dan Fitzpatrick is a Research and Assessment Specialist at the LSA Opportunity Hub in the College of Literature, Science, and Arts at the University of Michigan. Dr. Christopher R. Marsicano is a Visiting Assistant Professor in the Department of Educational Studies at Davidson College. Written correspondence concerning this research brief should be addressed to Daniel A. Collier, Ph.D., W. E. Upjohn Institute for Employment Research, 300 S. Westnedge Avenue, Kalamazoo, MI 49007-4686. *This manuscript is a working draft and should not be cited without permission.*

Abstract

As federal policymakers consider changes to income-driven repayment (IDR) schemes, research that examines the characteristics and financial behaviors of student loan borrowers participating in IDR is necessary. Using the nationally representative Survey of Consumer Finances, we examine demographics of IDR enrollment. Counter to expectations, low-income borrowers are less likely to enroll in IDR. Conditional on having a large amount of student loan debt, married women of color are likely to enroll in IDR programs. Research findings concerning IDR participation may be highly sensitive to how groups are defined and what covariates are in models. IDR participation does not predict engagement in other financial behaviors such as retirement savings or home-buying.

Keywords: Income-driven repayment, student debt, student loans,
higher education

JEL Codes: I22, I23, I24

Abstract

As federal policymakers consider changes to income-driven repayment (IDR) schemes, research that examines the characteristics and financial behaviors of student loan borrowers participating in IDR is necessary. Using the nationally representative Survey of Consumer Finances, we examine demographics of IDR enrollment. Counter to expectations, low-income borrowers are less likely to enroll in IDR. Conditional on having a large amount of student loan debt, married women of color are likely to enroll in IDR programs. Research findings concerning IDR participation may be highly sensitive to how groups are defined and what covariates are in models. IDR participation does not predict engagement in other financial behaviors such as retirement savings or home-buying.

Keywords: Income-driven repayment, student debt, student loans,
higher education

JEL Codes: I22, I23, I24

Exploring the Relationship of Enrollment in Income-Driven Repayment
to Borrower Demographics and Financial Outcomes

Until recently, policymakers have generally opposed economists' long-standing recommendations to link student loan repayment to income (e.g. Friedman, 1955), citing the complexity that an income-driven repayment (IDR) scheme would introduce to repayment and the concentration of IDR benefits among lower-income borrowers (Shireman, 2017). Although mortgage-like repayment plans have been the norm for decades, more recent political pressures encouraged policymakers to open access to IDR programs. IDR has become increasingly popular, as recent totals suggest that over 8 million borrowers are in an income-based repayment program (U.S. Department of Education, 2020).

Despite continued increases in IDR enrollment, we know very little about *who* enrolls in IDR and *how* enrollment in IDR may relate to financial outcomes such as homeownership. In combination Rational Choice Theory (Becker, 1962) and the Permanent Income Hypothesis (Friedman, 1957) would suggest that those with high student loan debt and/or low incomes or other financial priorities would enroll in IDR. Yet, limited publicly-available national datasets curtail researchers' ability to explore loan repayment behavior at the individual level (Hillman & Bruecker, 2018). Recently, Collier (2020) examined a non-nationally representative sample of borrowers, finding some elements of this rational choice as total student loan debt (over \$60,000) and wages (\$25,000-54,999) were

correlates to IDR enrollment. Demographically, women were also positively linked with IDR enrollment – supporting beliefs that despite several well-known systemic disadvantages (like the wage gap), women find financial safety in IDR (Miller, 2017).

With enrollment in IDR surging since 2014 (U.S. Congressional Budget Office, 2020), policymakers – led most notably by Senators Enzi (R-WY) and Alexander (R-TN) – have expressed interest in modifying IDR programs to protect the federal government. Yet, researchers have limited understanding of who has enrolled in IDR and how enrollment in these repayment schemes may correlate to various financially-related outcomes. Our study used the *Survey of Consumer Finances* (SCF) database to bolster a general understanding of who may be enrolled in IDR. The SCF database is a publicly-available nationally representative database that matches individual profiles to enrollment in an IDR program. Our approach examines the following questions in a sample with generalizability to the U.S. population:

1. *How do demographics, student loan debt, and wages correlate with enrollment in IDR?*
2. *Does IDR enrollment relate to financial outcomes such as savings and home ownership?*

Prior Literature

The limited available research provides suggestive evidence regarding who participates in IDR in terms of loan, income, and demographic characteristics, but without the generalizability provided by nationally representative data. Earlier work, for instance, suggests that IDR enrollment may consist of a higher percentage of borrowers with graduate and professional degrees (Brooks, 2018) – however, borrowers with only undergraduate degrees have recently been enrolling in IDR in higher rates (U.S. Congressional Budget Office, 2020). Related to student loan debt (SLD), borrowers with higher balances are expected to be more likely to enroll in IDR (Blagg, 2018; Collier, 2020; Frotman & Gibbs, 2017), which would make sense given that IDR theoretically exists to ease financial strain for those with elevated balances (Brooks, 2018). Regarding financial strain, IDR enrollees are seemingly low-to-moderate earners (Blagg, 2018; Collier, 2020), despite prior assertions that higher earners may be abusing the IDR-related tax benefits and promise of loan forgiveness in ways policymakers did not intend (Delisle, 2013).

We know even less about which demographic factors correlate to enrollment in IDR. Some have theorized that because female (Becker, 2017) and minority (Scott-Clayton & Li, 2016) borrowers possess higher debt loads, that IDR may be critically important to these individuals (Miller, 2017). Furthermore, mothers of color are much more likely to be breadwinners, and account for a

greater percentage of family income (Glynn, 2016). Collier's (2020) findings support the assertion for female borrowers, but the collected sample characteristics for persons of color were a limiting factor of the study. Moreover, some assume that married couples may enroll in IDR to take advantage of loopholes existing in prior IDR programs that consider only individual income and not the household (see Delisle, 2013). Prior empirical analysis did not support that hypothesis, as married couples were less likely to be enrolled in IDR, which may be due to a higher monthly federal repayment (+\$200) or to the financial comfort a couple may experience (Collier, 2020).

Research to date provides better information on financial outcomes for those with student debt but do not consider in which repayment scheme individuals may enroll, in part due to limitations in available datasets. More widely, researchers have identified that higher student loan debt loads correlate with lower savings (Grinstein-Weiss, et al., 2015), retirement (Elliot et al., 2013), and rates of homeownership for younger adults (Houle & Berger, 2015). To our knowledge, only one published study exists examining post-college financial situations of those in IDR. The study reported that when controlling for student loan debt, wages, and demographic variables, being enrolled in IDR was only significantly correlated with binary participation in savings and not tied to homeownership or participation in retirement (Collier, 2020).

As policy changes for IDR enrollment remains a federal focus (Enzi & Alexander, 2018), decisions must be based on a better understanding of the factors correlated with enrollment and the financial outcomes of enrolling in IDR. Researchers highlighting the outliers enrolled in IDR (see Delisle, 2013) can lead to a limited understanding of the *usual* borrower in IDR. Therefore, sweeping changes to IDR based on these outliers may produce profoundly negative effects to those who may need the financial safety IDR intends to provide.

Guiding Framework

Our study is conceptually guided by Rational Choice Theory and the Permanent Income Hypothesis (PIH). Rational Choice Theory is used in social science research as a framing device to understand which factors are related to making decisions (see Becker, 1962; Hether, Kanazawa, 1997; Levin & Milgrom, 2004; Perna, 2006) – in this case, the decision to enroll in IDR. Essentially, Rational Choice Theory suggests that individuals will make self-interested choices based on personally held beliefs, prior and current experiences, emotions, and restrictions in knowledge at the time of decision (Burns & Roszkowska, 2016; Hether & Kanazawa, 1997; Levin & Milgrom, 2004). Rational Choice Theory is not overly concerned with how an “individual” makes decisions, instead the focus is on the aggregate – therefore, unearthing trends in decision-making (Burns & Roszkowska, 2016; Hether & Kanazawa, 1997). Rational Choice Theory considers all decisions “rational” and encourages

researchers to explain uncovered trends (DesJardins & Toutkoushian, 2005; Hetcher & Kanazawa, 1997). Borrowers make decisions based on a state of bounded rationality – meaning borrowers do not have the sum total of all relevant information at their disposal and, therefore, make rational decisions based on the data available. In step with Collier (2020), we use Rational Choice Theory to suggest that borrowers with increased debt loads and moderate earnings would be more likely to choose enrollment in IDR due to the financial protections that IDR schemes offer – as would be borrowers who experience various socioeconomic disadvantages, such as wage discrimination for female (e.g. Miller, 2017) and minority borrowers (e.g. Scott-Clayton & Li, 2016). The promise of lower payments should entice low-income earners to select IDR repayment plans.

We also draw on the Permanent Income Hypothesis (PIH) in conjunction with Rational Choice Theory. The permanent income hypothesis suggests that consumers will spend their capital at a level consistent with the income they expect in the long term (Friedman, 1957). Consumers (or in the case of this paper borrowers) will make spending decisions not based on their current income and assets, but their projected income and assets as well. In the case of student loan borrowers, PIH would suggest that borrowers may make choices in repayment plans based on long-term projections of income, rather than their short-term economic outlook. Therefore, under PIH, a borrower with low degree of variability in his or her income would be less likely to choose an IDR scheme. In

sum, choice to enroll in an IDR repayment scheme may be a rational choice bounded by a borrower's understanding of their income, earnings-to-debt-ratio, and the variability of their income.

Analytic Strategy

Using a nationally representative sample, this study helps strengthen our baseline understandings of IDR. Our first set of regression analyses are based on the characteristics that prior research predicts would relate to IDR participation (Collier, 2020). Our second set of regression analyses is inspired by Looney & Yannelis' (2018) work examining alternative categorizations of SLD further augmented by explorations of a variety of interaction terms. Finally, we shift from IDR as an outcome variable to as a predictor of interest in regression analyses examining important financial behaviors: having a savings account, amount saved, amount in checking, home ownership, use of payday loans, saving for retirement, and amount of retirement savings (see Collier, 2020). For all analyses with a binary outcome variable, we use ordinary least squares regression (the linear probability model).

Sample Description

The analytic sample for this study was $N=1,022$ SCF respondents with student loan debt, of whom 27% ($n=276$) were enrolled in an income-driven repayment plan. The SCF survey responses do not allow for us to identify which IDR plan respondents are enrolled in – however, combining the various IDR plans

and examining enrollment and financially related outcomes is not uncommon in the limited literature base (see Blagg, 2018; Collier, 2020). Demographically, the sample was mostly male (71%), White (58%), with children (53%) and married (59%) – the average age was 37 years old. The mean student loan balance was \$40,233 and the average wages were \$62,356. Finally, related to financial behaviors, 56% of respondents had savings with the average amount at \$4,610, 38% had retirement-related savings with the average amount at \$9,387, and 48% were homeowners. Please refer to Table 1 for more sample statistics.

The Survey of Consumer Finances

This study used data from the 2016 version of the SCF, which at the time of writing this manuscript is the most recent version. As previously stated, the SCF is exceptional as a database that is publicly available and that captures individually-reported levels of student loan debt and repayment scheme type. Because of its advantages for this type of analysis and its availability, the SCF has previously been used by researchers at the Urban Institute (Blagg, 2018), the U.S. Federal Reserve (Bricker, Volz, & Llanes, 2018), and in academic settings (Frost, 2019; Looney, 2019) to explore and answer questions surrounding student loan debt.¹ Furthermore, because the SCF can be weighted to represent a national sample, these data are also widely used to understand and respond to financially-related trends and behaviors (Hanna, Kim, & Lindamood, 2018). The SCF is sponsored by the U.S. Federal Reserve Board and is a cross-sectional survey

employed every three years. The SCF collects responses based upon income and assets, debt and relative sources, household attributes, and gauges a variety of beliefs and behaviors (for example why someone may be saving or spending money). Overall, SCF is more detailed than most publicly available datasets (Bricker, Henriques, Krimmel, & Sabelhaus, 2016). This robustness in detail makes SCF valuable and well used. However, the finite details provided by the SCF makes using the data complicated and many published studies fail to clearly detail authors' decisions when manipulating the data (Hanna et al., 2018).

Using the SCF

The complex structure of the SCF (see U.S. Federal Reserve, 2018) requires accounting for both survey weights and multiple imputation. The SCF data are challenging to use; therefore, we have included guidance on how to conduct correct analyses in order to facilitate other researchers' use of these data to pursue questions in the economics of education via this valuable nationally-representative resource. Households had differing probabilities of selection for inclusion in the SCF; the U.S. Federal Reserve provides replicate weights that allow variance estimates to be correctly adjusted while also retaining respondent anonymity. Additionally, the U.S. Federal Reserve imputes five replacement values for all missing values. These five imputates need to be combined correctly in order to account for the uncertainty in the imputation process and to return the sample to its correct size - rather than inflated fivefold. Users will need to

download the main dataset, download the replicate weight dataset, merge the two files, conduct data processing, and then use one of several specialty packages that correct for both sampling and multiple imputation specific to SCF. We made use of the SCFCOMBO package for STATA (Pence, 2015) to produce both correct point estimates and correct standard errors to guide inferences. For additional guidance on using the SCFCOMBO package, please refer to Nielson (2015).

Variable Manipulation

This section details how our variables were calculated. The SCF data collection process allows for respondents to provide information about multiple responses of the same type (e.g. student loans, some public and some private, with different remaining balances). Most of our variables were calculated to sum or aggregate across a set of responses related to a variable. For transparency and replicability, we will provide to readers the exact response codes from the online code book (U.S. Federal Reserve, n.d.) used to calculate our variables. As there is a lot of information, to help readers remember our decisions and for ease of interpretation, we included similar information in table notes.

Student Loan Debt. The 2016 SCF allows respondents to report up to 6 student loans. Like Blagg (2018), student loan debt was summed across loans (X7805, X7828, X7851, X7928, X7951) that respondents reported were self or spousal debt (variables X7978, X7883, X7888, X7893, X7898, X7993). Blagg's report only tabulated federal debt; we aligned with Collier's (2020) design and

tabulated total student loan debt which significantly correlated with enrollment in IDR. Enrollment in income driven repayment was determined for each loan separately based on “1” coding for variables X9306-X9311 – which asks if payment the specific loan was conducted via enrollment in “an Income-Based Repayment Plan, Pay as you Earn Plan, or Income-Contingent Repayment Plan.”

Wages. Aligned with Blagg (2018), wage data was tabulate from reported household wages and salary only (X5702).

Savings. For this study, savings is a calculation of the amount of money respondents reported in various savings accounts (X3730, X3736, X3742, X3748, X3754, X3760). Our binary outcome of whether respondents had savings was determined if the sum of these six savings >0 .

Checking Accounts. We also separately identified whether respondents had checking accounts. First, we identified the amounts participants reported in checking-related accounts (X3506, X3510, X3514, X3518, X3522, X3526). Next, because we were interested in traditional checking accounts and not money market accounts that have some restrictions on use of debt and check-related functions, we only counted checking amount when respondents recorded a “5” response for X3507, X3511, X3515, X3519, X3523, X3527. Analogously to our process for savings, we then generated both a sum amount of money in traditional checking accounts, and a dummy variable for whether the respondent had >0 checking account balance.

Retirement Savings. For each savings account, respondents were asked to identify the most important reason for saving. We considered accounts to be retirement-related when participants answered “22 – Retirement/old age” to the following variables: X3006, X3007, X7513, X7514, X7515, X6848. The amount of money in respondents’ retirement savings was calculated by summing across the accounts (among X6551, X6559, X6552, X6560, X6553, X6561, X6554, X6562, X6756, X6757) that had been identified as for Retirement/old age. Similarly to savings, our binary outcome of whether respondents had retirement-related savings was determined by $\text{retirement} > 0$.

Loans. Payday loan usage was calculated from a response to a single question (X7063) that asks whether the respondent or any member of the household has made use of a payday loan in the last year.

Homeownership. The final variable requiring calculation was homeownership. We identified homeowners based upon whether respondents indicated a resale value for owning a home, mobile home, mobile home and land, farm, or ranch (X604, X614, X623, X716, X513, X526).

Findings

Correlates to IDR Enrollment

Replicating Collier’s Models. We conducted regression analyses based on the characteristics that prior literature indicated should predict IDR participation. We analyzed permutations of continuous and categorical

approaches to measuring the theoretically-central variables of SLD and income. Unexpectedly, Table 2 reveals that in a nationally representative sample, enrollment in IDR does not seem to be predicted by SLD load or income in continuous or categorical measures. Two exceptions were low participation in IDR among those earning <\$12,500 ($B=-.23$) and a statistically-significant but small coefficient when developing a debt-to-income ratio ($B=-.00$). Descriptive statistics in Table 1 emphasized that even though 18% of respondents have wages <\$12,500, only 6% of IDR participants have wages under \$12,500.

Unlike Collier (2020), we also found that when controlling for debt and income, the five categories of education level do not significantly link to IDR enrollment. Notably, we expected to see borrowers with graduate-level degrees more likely to enroll in IDR than those with bachelor's degrees. In part, this finding could be explained by trends illustrating an increased percentage of undergraduate borrowers enrolled in IDR starting in 2013 – which is largely attributed to changes in the income-based repayment and the PAYE plans (and for borrowers entering repayment post 2015, REPAYE; U.S. Congressional Budget Office, 2020). We considered that this finding could be the result of disaggregating graduate degrees into different bins – however, in models where we condensed all graduate degrees into a single category the findings remained null (see Appendix Tables A1 and A2). Overall, these findings complicate an understanding of who enrolls in IDR as this nationally representative data reveal

no clear, significant trends based on the two measures that prior studies suggest are most central (e.g. Blagg, 2018; Collier, 2020; Frotman & Gibbs, 2017).

Across most models, we found that women, married borrowers, and racial minorities are more likely to enroll in IDR (see Table 2). Our findings support narratives that IDR seems to be an important social safety net for female borrowers (Collier, 2020; Miller, 2017). With emergent research illustrating the elevated debt loads of minority borrowers (Scott-Clayton & Li, 2016) and the well-established systematic disadvantages these groups have long faced in the U.S., the rate and impacts of racial minority enrollment in IDR are worth further investigation. Interaction terms illustrate that married women of color show elevated likelihood of enrolling in IDR across a variety of models ($B=.60-.67$, see Appendix Table A1), but that pattern is itself dependent on other interaction terms.

IDR Enrollment, Some College, and High Debt. We conducted a second set of analyses which included some variables whose importance was confirmed in exploratory analyses (e.g. Some College) and many interaction terms assessed in sequence. We also took guidance from Looney & Yannelis' (2018) study and generated a high debt dummy variable identifying students with over \$50K in SLD. Table 3, Model 1 introduces the new terms. Based on the importance of interaction terms (observed in Table A2 and elsewhere) we introduced interactions with high debt in Model 2 and with some college (meaning either

earning an Associate's degree or attending but not completing a 4-year program) in Model 3. In Model 4, we trim back to a more parsimonious model emphasizing the cross-model importance of women in understanding IDR participation: we retain the new education and debt terms, and their interactions with female.

Table 3 shows that high debt reliably, positively correlated to IDR enrollment ($B=.10$ to $.30$) as did log income ($B=.02$). These results also again show female borrowers are more likely to enroll in IDR ($B=.09$ to $.13$), but interactions between being female and bearing high debt reliably are negative ($B=-.13$ to $-.30$). With the introduction of the high debt and some college measures, minority status is not a reliable predictor of IDR enrollment in Table 3 (as it was in Table 2). Different results in Tables 2 and 3 – despite analyzing the same outcome, on the same sample, and using the same essential covariates but with different operationalizations of those covariates – illustrate the overall complexity of IDR enrollment and emphasize that the *approach researchers take may produce different findings*.

Financial Outcomes. In our descriptive analyses, enrollment in IDR was not significantly correlated with *any* financial outcomes (Table 4). Null findings related to participation in retirement and homeownership align with Collier (2020), but null findings on participation in savings did not. Additional null findings on amount of savings, amount in checking account, and payday loan use are new. One possibility for these findings is that in the absence of IDR, high-debt

individuals would show worse financial outcomes; indicating that these statistically insignificant findings are because IDR is in fact equalizing financial outcomes. However, our initial explorations of this possibility were unable to confirm it.

Limitations and Future Research

This study is another small step towards understanding who may be enrolled in an income-driven repayment scheme. The most noticeable drawback about using the SCF 2016 dataset is that it did not include borrowers' use of the Obama-era REPAYE scheme. Since REPAYE was enacted around the time these data would have been collected, as evidenced in our data manipulation section, the survey did not list REPAYE as an option (U.S. Federal Reserve, n.d.). Since the creation of REPAYE, access to and enrollment in IDR repayment has significantly increased – notably expanding access for borrowers with graduate degrees (U.S. Congressional Budget Office, 2020).

Our analyses of IDR using the SCF can inform subsequent work in four important ways. First, we advance the analysis of IDR participation by merging the advantages of Blagg's (2018) national but simple descriptive work and Collier's (2020) regression analyses that were not representative, by conducting perhaps the first nationally representative analyses of IDR participation that correctly account for multiple characteristics. At the moment, this is simply one of a few publicly available resources that allow us to examine the questions we

presented. Second, we uncovered several trends that align with those identified in prior research that used non-representative samples – specifically that higher-balance borrowers are more likely to be enrolled, as are female borrowers, and that enrollment in IDR does not seem correlated with financially-related outcomes (which we believe is a signal of the intended financial safety net). These connections to the emergent body of literature on IDR are important moving forward and more immediately are essential considerations for policymakers currently intending to modify the terms of IDR. Third, when the SCF 2019 dataset is publicly released, this study could be used as an overall point of comparison and also a baseline to test against for the effects associated with REPAYE. Finally, we believe that transparency in how we calculated each variable and especially our guidance on how to use the complex SCF dataset will allow more researchers to test other research questions using these data.

Implications and Recommendations

To our knowledge, this study is one of the first to apply regressions to the nationally-representative SCF database (or any nationally representative data) as part of an examination of IDR enrollment. However, the models for IDR enrollment have quite low explanatory power, suggesting that either enrollment in IDR is more *chance* than we previously imagined, or that additional variables not included in our regressions (or this public dataset) could add more explanatory power, such as residency urbanicity (see Collier, 2020). Although the decision to

enroll in IDR is also driven by factors not measured in SCF, our models illustrated that borrowers over \$50K in SLD, female borrowers, and perhaps minority borrowers and those with some college are linked with increased enrollment. While our study may not bring much clarity pertaining to loan debt, wages, and IDR enrollment, our null findings themselves bring value to the conversation. First, we did not find that high-earning borrowers are driving IDR enrollment, a finding that stands opposed to prior narratives (Delisle, 2013). Next, our findings are suggestive that IDR may be helping enrollees remain statistically similar to those in traditional-based repayment regarding homeownership and multiple types of savings.

Due to our conflicting research findings concerning IDR enrollment, we urge policymakers to consider the volatility related to our findings. We also call for greater access to more public and non-public databases to help clarify who may be enrolled in these repayment schemes. Engagement with the soon to be released SCF 2019 database may bring much needed clarity to this conversation – the 2019 data will reveal any changes in IDR enrollment since 2016, as the REPAYE plan will be included.

As IDR modifications remain a focus for the Trump administration and several Senators (Enzi & Alexander, 2018), despite a lack of clarity regarding the demographics of IDR participation, we encourage policymakers to consider that any changes may most affect female borrowers – and possibly minority

borrowers. Given the breadwinner status many women (especially women of color) hold, changes in IDR could severely impact families' financial security (Glynn, 2016). We also encourage policymakers to consider how changes may relate to borrowers' abilities to save and become homeowners, as our findings generally support those in Collier (2020) and together suggest that current policies may be producing a level of equalization for those enrolled in IDR.

Finally, given the negative correlation between IDR enrollment and the lowest earners (those earning under \$12,500 are 18% of borrowers but only 6% of IDR participants), targeting IDR reforms to the borrowers who could most benefit seems a practical strategy. Potentially, outreach to or even automatic IDR enrollment for lowest earners may be particularly beneficial. However, without continued work to better understand who the *average* enrollee is and how IDR participation relates to financial outcomes, modifying IDR could have unintended consequences. In this respect, current information does not provide policymakers a sufficiently clear picture of who may be (dis)advantaged by modifications to IDR policies.

References

- Becker, G. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70(5, Part2), 9-49.
- Becker, A. (2017). *Women hold majority of college degrees and debt – and take longer to pay it off*. The American Association of University Women. Retrieved from <https://www.aauw.org/research/deeper-in-debt/>
- Blagg, K. (2018). *Who uses income-drive student loan repayment?* Urban Institute. Retrieved from <https://www.urban.org/urban-wire/who-uses-income-driven-student-loan-repayment>
- Bricker, J., Henriques, A., Krimmel, J., & Sabelhaus, J. (2016). Measuring top wealth shares estimating top income and wealth shares: Sensitivity to data and methods. *The American Economic Review*, 106(5), 641–645.
- Bricker, J., Volz, A. (2018). *Education debt owed by older families in the 2016 Survey of Consumer Finances*. Washington, DC: Board of Governors of the Federal Reserve System. Retrieved from <https://www.federalreserve.gov/econres/notes/feds-notes/education-debt-owed-by-older-families-in-the-2016-survey-of-consumer-finances-20181221.htm>

- Brooks, J.R. (2018). The case for more debt: Expanding college affordability by expanding income-driven repayment. *Utah Law Review* (Forthcoming). Retrieved from https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID3171724_code238438.pdf?abstractid=3171724&mirid=1
- Burns, T., & Roszkowska, E. (2016). Rational choice theory: Toward a psychological, social, and material contextualization of human choice behavior. *Theoretical Economics Letters*, 6(2), 195-207.
- Collier, D.A. (2020). Exploring IDR: A comparison of financial situations and behaviors between those in traditional student loan repayment and those in income driven repayment. *Journal of Student Financial Aid*, 49(2), Article 3.
- Delisle, J. (2013). *Beware savvy borrowers using income-based repayment*. New America. <https://www.newamerica.org/education-policy/edcentral/beware-savvy-borrowers-using-income-based-repayment/>
- DesJardins, S. L., & Toutkoushian, R. K. (2005). Are students really rational? The development of rational thought and its application to student choice. In *Higher education: Handbook of theory and research* (pp. 191-240). Springer, Dordrecht.

- Elliott, W., Grinstein-Weiss, M., & Nam, I. (2013). *Student debt and declining retirement savings*. Washington University in St. Louis. Retrieved from <https://csd.wustl.edu/publications/documents/wp13-34.pdf>
- Enzi, M.B., & Alexander, L. (2018, July 11). *CBO letter IDR and forgiveness*. <https://www.budget.senate.gov/imo/media/doc/CBO%20letter%20IDR%20and%20Forgiveness.pdf>
- Friedman, M. (1955). The role of government in public education. In Robert A. Solo (Ed.) *Economics and the Public Interest*. New Brunswick, NJ: Rutgers University Press.
- Frotman, S., & Gibbs, C. (2017). *Too many student loan borrowers struggling, not enough benefiting from affordable repayment options*. Consumer Financial Protection Bureau. Retrieved from <https://www.consumerfinance.gov/about-us/blog/too-many-student-loan-borrowers-struggling-not-enough-benefiting-affordable-repayment-options/>
- Frost, R. (2019). *Piling ever higher: The continued growth of student loans*. Cambridge, MA: Joint Center for Housing Studies of Harvard University. Retrieved from <https://www.jchs.harvard.edu/sites/default/files/JCHS-Research-Brief-Piling-Ever-Higher-Frost-2019.pdf>

- Glynn, S.J. (2016). *Breadwinning mothers are increasingly the U.S. norm*. Center for American Progress. Retrieved from <https://www.americanprogress.org/issues/women/reports/2016/12/19/295203/breadwinning-mothers-are-increasingly-the-u-s-norm/>
- Grinstein-Weiss, M., Oliphant, J., Russell, B.D., & Boshara, R. (2015). *Does unsecured debt decrease savings? Evidence from the refund to saving initiative*. Washington University in St. Louis. Retrieved from <https://csd.wustl.edu/Publications/Documents/RB15-16.pdf>
- Hanna, S.D., Kim, K.T., & Lindamood, S. (2018). Behind the numbers: Understanding the survey of consumer finances. *Journal of Financial counseling and Planning*, 29(2), 410-419.
- Hechter, M., & Kanazawa, S. (1997). Sociological rational choice theory. *Annual Review of Sociology*, 23(1), 191-214. doi:10.1146/annurev.soc.23.1.191
- Hillman, N. & Bruecker, E. (2019). *Finding and using student loan data*. State Higher Education Executive Officers. Retrieved from <https://postsecondarydata.sheeo.org/finding-and-using-student-loan-data/>
- Houle, J.N., & Berger, L. (2015). Is student loan debt discouraging homeownership among young adults? *Social Service Review*, 89(4), 589-621. doi:10.1086/684587
- Lachenbruch, P.A. (2010). Stata tip 89: Estimating means and percentiles following multiple imputation. *The Stata Journal*, 10(3), 469-499.

- Levin, J., & Milgrom, P. (2004). *Introduction to Choice Theory*. Stanford, CA: Stanford University Press.
- Looney, A. (2019). *Who owes the most student debt?* Washington, DC: Brookings. Retrieved from <https://www.brookings.edu/contact-brookings/>
- Looney, A., & Yannelis, C. (2018). *Borrowers with large balances: Rising student debt and failing repayment rates*. Brookings Institute. Retrieved from https://www.brookings.edu/wp-content/uploads/2018/02/es_20180216_looneylargebalances.pdf
- Miller, K. (2017). Student debt through the gender lens. *Outlook* (Summer). Retrieved from <https://www.aauw.org/2017/09/01/student-debt-through-the-gender-lens/>
- Nielsen, R. B. (2015). *SCF complex sample specification for Stata. Technical note*. Department of Financial Planning Housing and Consumer Economics, University of Georgia, Athens, GA. doi: 10.13140/RG.2.1.4126.8240
- Pence, K. (2015). *SCFCOMBO: Stata module to estimate errors using the Survey of Consumer Finances*. Retrieved from <https://econpapers.repec.org/software/bocbocode/s458017.htm>

- Perna, L. W. (2006). Studying college access and choice: A proposed conceptual model. In *Higher Education: Handbook of Theory and Research* (pp. 99-157). Springer, Dordrecht.
- Scott-Clayton, J. & Li, J. (2016). Black-white disparity in student loan debt more than triples after graduation. *Brookings*. Retrieved from <https://www.brookings.edu/research/black-white-disparity-in-student-loan-debt-more-than-triples-after-graduation/>
- Shireman, R. (2017). Learn now, pay later: A history of income-contingent student loans in the United States. *The Annals of the American Academy*, 671, 184-201. doi:10.1177/0002716217701673
- U.S. Congressional Budget Office. (2020, Feb). *Income-driven repayment plans for student loans: Budgetary costs and policy options*. <https://www.cbo.gov/system/files/2020-02/55968-CBO-IDRP.pdf>
- U.S. Department of Education. (2020, Jan 3). *Federal student aid posts new reports to FSA data center*. Retrieved from <https://ifap.ed.gov/electronic-announcements/010320FSAPostsNewReportstoFSADataCenter>
- U.S. Federal Reserve Board. (2018). *Survey of consumer finances (SCF)*. Washington, DC. Retrieved from <https://www.federalreserve.gov/econres/scfindex.htm>

U.S. Federal Reserve Board. (n.d.). *Codebook for 2016 survey of consumer finances*. Retrieved from <https://www.federalreserve.gov/econres/files/codebk2016.txt>

Notes

¹ We have also been working with representatives from Pew Charitable Trusts to share our processes and enhance their ability to use this database.

Tables

Table 1. Sample Descriptive Table

| | Respondents in IDR ^a | Respondents in Traditional Repayment | All Respondents with Debt |
|---|------------------------------------|--|---------------------------------|
| <i>Demographics</i> | | | |
| Female | 29% | 29% | 29% |
| Age | 37.7 | 38.0 | 36.9 |
| Racial Minority | 46% | 40% | 42% |
| No children | 46% | 47% | 47% |
| Not married or cohabiting | 40% | 42% | 41% |
| Wage Income | \$62,303 | \$62,376 | \$62,356 |
| <i>Loan Characteristics</i> | | | |
| SLD | \$43,106 | \$39,206 | \$40,233 |
| Has private debt | 15% | 17% | 16% |
| In IDR | 100% | 0% | 27% |
| <i>Educational Attainment</i> | | | |
| Less than HS Degree | 18% | 19% | 19% |
| Some College | 19% | 19% | 19% |
| Associates | 19% | 18% | 18% |
| Bachelors | 26% | 28% | 27% |
| Masters | 14% | 13% | 13% |
| Professional Degree or PhD | 5% | 3% | 4% |
| <i>Financial Outcome Measures</i> | | | |
| Has Savings | 56% | 56% | 56% |
| Average amount in savings (among those with any) | \$4,599 | \$4,614 | \$4,610 |
| Average amount in checking | \$4,194 | \$3,697 | \$3,832 |
| Home Ownership | 45% | 48% | 48% |
| Uses payday loans | 6% | 5% | 5% |
| Saves for retirement | 38% | 38% | 38% |
| Amount saved for retirement | \$7,883 | \$9,940 | \$9,387 |
| <i>Categorical Measures</i> | | | |
| Loan Amount | | | |
| Under \$20K | 37% | 39% | 38% |
| \$20K-40K | 25% | 29% | 28% |
| \$40K-60K | 12% | 12% | 12% |
| \$60K-75K | 9% | 7% | 8% |
| \$75K-100K | 7% | 5% | 6% |
| \$100,000+ | 11% | 8% | 9% |
| Loan Less than \$30K | 51% | 55% | 54% |
| Loan Over \$50K | 33% | 24% | 26% |
| Wage income: | | | |
| <\$12,500 | 6% | 22% | 17% |

| | | | |
|-----------------|-----|-----|-------|
| \$12,500-24,999 | 9% | 7% | 8% |
| \$25,000-39,999 | 20% | 15% | 17% |
| \$40,000-54,999 | 16% | 12% | 13% |
| \$55,000-74,999 | 16% | 12% | 13% |
| \$75,000-99,999 | 16% | 12% | 13% |
| \$100,000+ | 15% | 19% | 18% |
| <i>N</i> | 276 | 746 | 1,022 |

Table 2. Enrollment in IDR, Collier Inspired Analyses (Linear Probability Models)

| | (1) | (2) | (3) | (4) | (5) |
|-----------------------------------|-------|-------|--------|---------|--------|
| Demographics | | | | | |
| Female | 0.07* | 0.07* | 0.08* | 0.08* | 0.07* |
| Age (centered) | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Racial Minority | 0.05* | 0.05* | 0.05* | 0.05** | 0.05* |
| No children | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 |
| Not married or cohabiting | -0.02 | -0.03 | -0.08* | -0.09** | -0.07* |
| Loan Characteristics | | | | | |
| SLD (centered) | | 0.00 | 0.00 | | |
| Has private debt | | -0.03 | -0.03 | -0.03 | -0.04 |
| Loan Amount, reference is <\$20K | | | | | |
| \$20K-40K | -0.04 | | | | -0.02 |
| \$40K-60K | -0.01 | | | | 0.00 |
| \$60K-75K | 0.05 | | | | 0.07+ |
| \$75K-100K | 0.06 | | | | 0.06 |
| \$100,000+ | 0.05 | | | | 0.07 |
| Education, Reference is BA | | | | | |
| Less than HS Degree | 0.01 | 0.01 | 0.00 | -0.01 | 0.01 |
| Some College | 0.02 | 0.03 | 0.01 | 0.00 | 0.01 |
| Associates Degree | 0.05 | 0.04 | 0.03 | 0.03 | 0.04 |
| Masters | 0.02 | 0.04 | 0.03 | 0.04 | 0.01 |
| Professional Degree or PhD | 0.07 | 0.10 | 0.11 | 0.12+ | 0.08 |
| Income | | | | | |
| Wage Income | | | 0.00 | | 0.00 |
| Income Squared | | | -0.00 | | -0.00 |

| Wage income, reference is | | | | | |
|--------------------------------|----------|----------|-------|---------|-------|
| \$40,000-54,999 | | | | | |
| <\$12,500 | -0.23*** | -0.23*** | | | |
| \$12,500-24,999 | -0.02 | -0.02 | | | |
| \$25,000-39,999 | 0.01 | 0.01 | | | |
| \$55,000-74,999 | 0.03 | 0.03 | | | |
| \$75,000-99,999 | 0.03 | 0.03 | | | |
| \$100,000+ | -0.08 | -0.08 | | | |
| Debt to Income Ratio | | | | | |
| | | | | -0.00** | |
| <i>N</i> | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| <i>Adjusted R</i> ² | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 |

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Data from public-use 2016 SCF file. The SCF is a self-reported survey and is subject to respondents incorrectly estimating salary and income.

Table 3. Enrollment in IDR, Looney & Yannelis Inspired and Exploratory Analyses
(Linear Probability Models with Interaction Terms)

| | (1) Alternative Debt and Education Coding | (2) Interactions with High Debt | (3) Adding Interaction with Some College | (4) Promising Model |
|---------------------------------|---|---------------------------------------|--|---------------------------|
| Demographics | | | | |
| Female | 0.03 | 0.09 ⁺ | 0.13 [*] | 0.09 [*] |
| Racial Minority | 0.02 | 0.06 | -0.02 | 0.02 |
| Married | -0.02 | -0.00 | -0.00 | -0.02 |
| Interaction Terms | | | | |
| Minority X Female | 0.00 | -0.04 | 0.01 | 0.00 |
| Married X Female | 0.08 | 0.17 | 0.13 | 0.06 |
| Minority X Married | 0.02 | 0.03 | 0.10 | 0.02 |
| F X Min. X Married | 0.33 | 0.33 | 0.31 | 0.36 |
| Income and Debt Measures | | | | |
| Log Income | 0.02 ^{***} | 0.02 ^{***} | 0.02 ^{***} | 0.02 ^{***} |
| Debt to Income Ratio | 0.00 | 0.00 | 0.00 | 0.00 |
| SLD <\$30K | 0.04 | 0.03 | 0.04 | 0.04 |
| SLD >\$50K | 0.10 ^{**} | 0.30 ^{**} | 0.30 ^{**} | 0.14 ^{***} |
| Private SLD | -0.03 | -0.03 | -0.03 | -0.03 |
| Educational Attainment | | | | |
| No College | 0.03 | 0.02 | 0.02 | 0.03 |
| Some College | 0.05 ⁺ | 0.05 ⁺ | 0.04 | 0.10 ^{**} |
| Graduate Degree | 0.02 | 0.02 | 0.03 | 0.03 |
| Exploratory Interactions | | | | |
| F High debt | | -0.27 [*] | -0.30 [*] | -0.13 [*] |
| Min High debt | | -0.18 | -0.16 | |
| Marr High debt | | -0.14 | -0.13 | |
| F x Min High debt | | 0.20 | 0.20 | |
| F x Marr High debt | | -0.38 | -0.35 | |
| Min x Marr High debt | | 0.03 | 0.01 | |

| | | | | | |
|--------------------------|-------|-------|-------|-------------------|---------|
| FRM High debt | | | | 0.13 | |
| F Some College | | 0.25 | | -0.15 | |
| Min Some College | | | | 0.26 ⁺ | -0.16** |
| Marr Some College | | | | 0.02 | |
| F x Min Some College | | | | -0.16 | |
| F x Marr Some College | | | | -0.39 | |
| Min x Marr Some College | | | | -0.22 | |
| FRM Some College | | | | -0.25 | |
| Some College x High Debt | | | | 0.02 | |
| FRM x Some College x | | | | 1.28* | |
| High Debt | | | | | |
| <i>N</i> | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| <i>Adj R²</i> | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note. F = Female, Min. = Minority, Marr = Married, FRM = Female, Racial minority, Married

Table 4. Financial Outcomes: Savings, Homeownership, and Retirement

| | (1) Have Savings, (Y/N) ^a | (2) Savings Amount ^b | (3) Checking Amount | (4) Home Owner | (6) Payday Loan Use | (7) Saving for retirement (Y/N) ^f | (8) Retirement Savings Amount ^g |
|-------------------------------------|---|---------------------------------------|---------------------------|----------------------|---------------------------|---|---|
| <i>Student Loan Characteristics</i> | | | | | | | |
| In IDR | -0.01 | 250 | 454 | -0.04 | 0.01 | 0.01 | -5,960 |
| SLD (centered) | -0.00 | -0.01 | 0.01 | -0.00 | -0.00 | 0.00 | 0.01 |
| Has private debt | -0.05 | 2,862 | 437 | 0.01 | 0.02 | -0.00 | -3,076 |
| <i>Demographics</i> | | | | | | | |
| Female | 0.04 | -2,217 | -541 ⁺ | 0.06* | 0.01 | -0.11** | -2819 |
| Age (centered) | -0.00*** | 199* | 77* | 0.01*** | 0.00 | 0.01*** | 1531** |
| Racial Minority | -0.01 | -1,148 | -807 ⁺ | -0.11*** | 0.04 | -0.14*** | -16862*** |
| Not married or cohabiting | -0.07 ⁺ | 2,200 | -403 | -0.19*** | 0.03 ⁺ | 0.03 | -781 |
| No children | 0.03 | 1,663 | 926 | -0.05* | -0.01 | 0.05* | 15,757 |
| <i>Education, Reference is BA</i> | | | | | | | |
| Less than HS Degree | -0.13*** | 1,849 | -2,497** | -0.01 | 0.02 ⁺ | -0.08 ⁺ | -11,730 ⁺ |
| Some College | -0.04 | -2,412* | -2,277*** | -0.08** | 0.06*** | -0.10** | -8,878 |
| Associates Degree | -0.07 ⁺ | -2,166 ⁺ | -2,642*** | 0.01 | 0.06 | -0.08* | -17,236** |
| Masters | 0.02 | 2,001 | -1,546 | 0.04 | 0.00 | 0.10** | 11,476 |
| Professional Degree or PhD | -0.04 | 5,023 | 355 | -0.06 | 0.01 | 0.04 | -924 |
| <i>Wage Income Measures</i> | | | | | | | |
| Wage Income | 0.00*** | 0.10* | 0.06*** | 0.00*** | 0.00 | 0.00*** | 0.33* |
| Income Squared | -0.00 ⁺ | 0.00 | -0.00 | -0.00 ⁺ | -0.00 | -0.00* | -0.00 |
| <i>N</i> | 1,022 | 562 | 1,022 | 1,022 | 1,022 | 389 | 1,022 |
| <i>Adj R²</i> | 0.03 | 0.12 | 0.07 | 0.28 | 0.02 | 0.15 | 0.06 |

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Data from public-use 2016 SCF file. To improve readability, coefficients over 1 in columns 2, 3, and 8 were rounded.

^a Have Savings was coded as 1 if our calculation of Savings Amount > 0; Saving for Retirement was coded as 1 if our calculation of Retirement

- Savings>0.
- b. Savings was tabulated by summing X3730, X3736, X3742, X3748, X3754, X3760
 - c. Checking: sum of (X3506 if X3507=5) (X3510 if X3511=5) (X3514 if X3515=5) (X3518 if X3519=5) (X3522 if X3523=5) (X3526 if X3527=5)
 - d. Home Ownership was set equal to one if the respondent indicated a positive resale value for property they owned (X604, X614, X623, X716, X513, X526)
 - e. Payday loan use is via a question specific to that topic: X7063.
 - f. Whether the respondent saves for retirement is based on values of 22 for X3006, X3007, X7513, X7514, X7515, X6848
 - g. Retirement savings amount calculated as a sum of X6551, X6559, X6552, X6560, X6553, X6561, X6554, X6562, X6756, X6757

Appendices

Appendix Table A1.

Showing “Female X Married X Racial Minority?” Interaction Term is Significant, But Contingent on “Has Children”

| Interaction Terms | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------------------------------|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|--------------------|-------------|
| Demographics | | | | | | | | |
| Female | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 |
| Racial Minority | -0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.03 | 0.04 |
| Married | 0.05 | 0.04 | 0.01 | -0.00 | -0.00 | 0.04 | 0.04 | 0.01 |
| Has Kids | 0.02 | 0.03 | 0.07 | 0.06 | 0.06 | 0.02 | 0.10 | 0.13 |
| Interaction Terms | | | | | | | | |
| Minority X Female | 0.06 | 0.05 | 0.06 | 0.06 | 0.07 | 0.06 | 0.00 | -0.00 |
| Married X Female | -0.28 | -0.30 ⁺ | -0.29 ⁺ | -0.28 | -0.28 | -0.28 | 0.12 | 0.07 |
| Minority X Married | 0.06 | 0.06 | 0.04 | 0.04 | 0.05 | 0.06 | 0.03 | 0.04 |
| Female X Kids | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | -0.07 | -0.07 |
| Minority X Kids | 0.44 | 0.45 | 0.35 | 0.35 | 0.35 | 0.45 | -0.02 | -0.03 |
| Married X Kids | -0.04 | -0.05 | -0.10 | -0.08 | -0.08 | -0.04 | -0.11 | -0.14 |
| F X Min. X Married | 0.62^{**} | 0.64^{**} | 0.67^{***} | 0.64^{***} | 0.63^{**} | 0.60^{**} | 0.26 | 0.36 |
| F X Minority X Kids | -0.51 ⁺ | -0.51 ⁺ | -0.45 | -0.45 | -0.45 | -0.52 ⁺ | - | - |
| Minority X Married X Kids | -0.45 | -0.46 | -0.36 | -0.35 | -0.35 | -0.47 ⁺ | - | - |
| F X Kids X Married | 0.67 ⁺ | 0.68 ⁺ | 0.68 ⁺ | 0.71 ⁺ | 0.74 ⁺ | 0.73 ⁺ | - | - |
| F X Married X Min. X Kids | -0.22 | -0.23 | -0.26 | -0.28 | -0.32 | -0.26 | - | - |
| Income and Debt Measures | | | | | | | | |
| Log SLD | | 0.02 ⁺ | 0.01 | | | | | -0.02 |
| Wage Income | | | | | | -0.00 | -0.00 | |
| Log Wage Income | | | 0.02 ^{***} | | | | | -0.01 |
| SLD < \$30,000 | | | | 0.03 | 0.03 | 0.02 | 0.02 | |
| High Debt (>\$50,000) | | | | 0.03 | 0.03 | 0.10 ^{**} | 0.10 ^{**} | |
| Log Inc X Log SLD | | | | 0.11 ^{**} | 0.11 ^{**} | | | |
| Educational Attainment, | | | | -0.00 | -0.00 | | | 0.00 |

| | | | | | | | | |
|---------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| | Reference is 4-Year Degree | | | | | | | |
| | No College | | | | | | | |
| | Some College or Associates | | | | | | | |
| | Graduate Degree | | | | | | | |
| <i>N</i> | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| <i>Adj R</i> ² | 0.00 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.02 |

Note: Data from public-use 2016 SCF file
⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table A2. Alternative Approaches to High Levels of Debt

| DV IDR Enrollment | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Demographics | | | | | | |
| Female | 0.09 ⁺ | 0.09 ⁺ | 0.09 ⁺ | 0.13 ^{***} | 0.09 ⁺ | 0.13 ^{***} |
| Racial Minority | 0.01 | 0.01 | 0.01 | 0.05 [*] | 0.02 | 0.05 [*] |
| Married | -0.04 | -0.03 | -0.03 | 0.02 | -0.03 | 0.02 |
| Debt/Income Chars | | | | | | |
| Has private debt | -0.04 | -0.04 | -0.04 | -0.04 | -0.03 | -0.03 |
| LogInc2 | 0.03 ^{***} | 0.03 ^{***} | 0.03 ^{***} | 0.03 ^{***} | 0.03 ^{***} | 0.03 ^{***} |
| DebtToInc2 | 0.00 ⁺ | 0.00 ⁺ | 0.00 ⁺ | 0.00 ⁺ | 0.00 | 0.00 ⁺ |
| SLD Magnitude | | | | | | |
| SLD_Under_30 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| \$50-80k | 0.14 ^{**} | 0.14 ^{**} | 0.14 ^{**} | 0.14 ^{***} | | |
| \$80-90k | -0.02 | -0.03 | -0.02 | -0.03 | | |
| \$90-120k | 0.25 ^{***} | 0.25 ^{***} | 0.25 ^{***} | 0.24 ^{***} | | |
| \$120-140k | 0.00 | 0.00 | 0.00 | -0.01 | | |
| \$140-160k | 0.29 [*] | 0.29 [*] | 0.29 [*] | 0.29 [*] | | |
| \$160-180k | -0.05 | | | | | |
| \$180-200k | -0.21 [*] | | | | | |
| \$200-250k | -0.07 | | | | | |
| \$250-300k | 0.16 | | | | | |
| SLD Over \$300k | -0.02 | | | | | |
| Over \$160 | | -0.06 | -0.14 ⁺ | -0.15 [*] | -0.05 | -0.14 ⁺ |
| Bin \$50-160k | | | | | 0.15 ^{***} | 0.15 ^{***} |
| Educational Attainment | | | | | | |
| No College | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| Some College or Associates | 0.10 ^{**} | 0.10 ^{**} | 0.10 ^{**} | 0.10 ^{**} | 0.10 ^{**} | 0.10 ^{**} |
| Graduate Degree | 0.04 | 0.04 | 0.03 | 0.04 | 0.04 | 0.03 |

| Interaction Terms | | | | | | | |
|-----------------------|---------|--------------------|--------------------|--------------------|---------|---------|-------|
| Min x Fem | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | |
| Marr x Fem | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | |
| Min x Marr | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | |
| F x Marr x Min | 0.35 | 0.35 | 0.35 | 0.35 | 0.36 | 0.36 | |
| High x Female | -0.11* | -0.11 ⁺ | -0.11 ⁺ | -0.10 ⁺ | -0.13* | -0.12* | |
| F x Some Coll | -0.16** | -0.16** | -0.16** | -0.17** | -0.16** | -0.17** | |
| High Ed X \$160k Debt | | | 0.11 | 0.12 | | 0.13 | |
| N | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| Adj R ² | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 |

Note: Data from public-use 2016 SCF file
⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$