Information Use and Attention Deferment in College Student Loan Decisions: Evidence from a Debt Letter Experiment

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Abstract: A prominent concern is that college students are harming their long-term economic prospects by making student loan decisions without full information about the implications of their choices. We designed an experiment to examine students' responses to a debt letter, an increasingly popular strategy to provide easily accessible information about student loans. The debt letters are modeled after requirements in recent state laws that attempt to encourage students to make informed borrowing decisions. Our results suggest that information alone is not sufficient to systematically change students' borrowing choices. The debt letter led to no change in the amount that students borrow or the likelihood that they will borrow. We supplement results from the experiment with semi-structured interviews to examine why the intervention did not change behavior.

Keywords: student loans, debt letter, financial literacy, college decisions

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College student borrowing has become one of the more prominent policy issues in the United States, due in part to upswings in per-student borrowing, outstanding student loan debt, and rates of costly student loan default (Baum, Ma, Pender, & Bell, 2015; Federal Reserve Bank of New York, 2016). Though student loans can improve efficiency in the economy by enabling students to borrow against post-college incomes when earnings are expected to be higher (Avery & Turner, 2012), the increased reliance on student debt has added risk to students' college decisions. It is therefore critical that students have access to information that helps them make borrowing decisions that maximize their long-term economic prospects. One strategy to disseminate information to students is for colleges to send students debt letters, which are akin to an annual financial account statement that provides students with easily accessible information about their student loans and the implications of their borrowing choices. The distribution of such information is now required by laws enacted recently in at least four states and has become an increasingly common practice among postsecondary institutions.[1] These policy and programmatic efforts are taking place, however, while we still know relatively little about how college students make judgments related to student debt and have limited inference on the role of information in student loan decisions relative to other structural supports.

We present the first experimental evidence on the effects of information provision in the form of debt letters. The setting for the study is the University of Missouri (MU), a large public flagship university in the Midwest. We randomly assigned half of all non-graduating undergraduate students who borrowed in a prior year (N = 9802) to receive individually tailored letters that included a summary of borrowing to date, an estimate of expected future monthly debt payments, and data on the typical borrowing of their peers. We compare the borrowing choices of the students with those of the control group that were not given additional

information. We supplement results from the experiment with in-depth semi-structured interviews of 27 students.

Our study contributes to the literature addressing how information and low-cost supports can affect educational decisions (e.g., Bettinger, Long, Oreopoulos, & Sanbonmatsu, 2012; Castleman & Page, 2015a, 2015b; Hoxby & Turner, 2013; Marx & Turner, 2016) and the prevalence of ill-informed or distorted student loan decisions (e.g., Barr, Bird, & Castleman, 2016; Cadena & Keys, 2013; Marx & Turner, 2015). Overall, the debt letter did not affect the amount or incidence of student loan borrowing. Further, we do not find evidence that the letter affected the borrowing of student subgroups that we would expect to be more sensitive to information based on demographics or their prior borrowing amounts. Student interviews indicate that student loan decisions are being made without full knowledge but imply that low-touch interventions, even if more engaging or frequent, will have limited potential to systematically change borrowing. Notably, students appear to be purposefully deferring attention to the implications of their student loans. This result is consistent with other studies suggesting that information alone may be unable to induce action on complex educational finance decisions without other supports (e.g., Bergman, Denning, & Manoli, 2016; Bettinger et al., 2012).

Policy interest in the potential of debt letters was catalyzed by a set of interventions including the debt letter, financial mentoring, and financial incentives to graduate faster initiated by the Indiana University (IU) system that were touted to reduce borrowing by about 16% over a two-year period (Kennedy, 2015). The letter received media headlines, but it is difficult to draw inference from observed reductions: during the same time period, national aggregate student loan borrowing declined by a similar magnitude and the letter was just one of many services that the system implemented to reduce borrowing (Baum, Ma, Pender, & Bell, 2015). Using non-

experimental data, Stoddard, Urban, and Schmeiser (2017) found no changes to students' borrowing because of a debt letter at Montana State University (MSU) that targeted students with high borrowing and was part of a set of supplementary supports that included financial incentives to individually meet with financial planners and career coaches. In a Dutch college setting, Booij, Leuven, and Oosterbeek (2012) found that student survey respondents who received information about their borrowing had higher knowledge about their loans but did not change their borrowing behavior.

This study distinguishes itself from these other contexts in important ways. First, our study is the only one of which we are aware that uses a randomized, controlled field experiment to identify the causal effect of information provision in the form of a debt letter. Furthermore, we can more confidently ascribe observed effects in our study specifically to the debt letter: the university in our study setting did not have the resources to implement additional systematic supports such as hiring certified financial planners or career coaches. These resource constraints are common to many institutions with limited capacity. Therefore, results from our study are likely to correspond to what we would expect if higher education institutions implemented informational debt letters at scale, such as what is now required by law in a number of states.

In addition, prior studies examined interventions that explicitly attempted to reduce student borrowing and targeted students judged to have high borrowing. In our study, student loan information was presented neutrally and provided to all students; this more closely mirrors polices recently enacted and being considered, and reflects current research about student loan default. Students who are most likely to default tend to have relatively low loan amounts, and college departure is predictive of student loan default (Looney & Yannelis, 2015). Therefore, forceful messages that indiscriminately urge students to borrow less could limit students'

benefits from college if such messages lead students to reduce educational consumption or threaten persistence. Neutrally presented information is more likely to lead to better decisions by some students who may need to borrow more if such borrowing allows them to finish their degrees.

Finally, our in-depth interviews allow us to explore students' borrowing thought processes, their knowledge about loans and financial aid, and their reactions to the loan letter itself. These qualitative data provide insight into the reasons why students did not respond to the low-touch information intervention. The interview responses also provide rich, although preliminary, suggestions for the type and manner of information that would be helpful for college students in future interventions.

Background

Over the last 20 years, educational loan disbursements grew from about $40 billion to a peak of $116 billion in 2010; estimated disbursements for the 2014 academic year were $95 billion (in inflation adjusted dollars; Baum et al., 2015). There are two prominent concerns related to observed increases in student borrowing. The first is that students are accruing debt they are unable to repay. Panel A of Figure 1 displays the national percentage of delinquent student loan balances, compared with other types of credit. Delinquency in all types of credit increased as the country emerged from the Great Recession, but in contrast to other debt categories, student loan debt delinquency has continued to rise since 2010. Students' default rates on federal student loan programs (which taxpayers are responsible for covering) are similarly on an upward trend, with default doubling from trough to peak. In addition to public costs, default can impair a debtor's future access to the credit market and therefore reduce opportunity to build assets. Default in the educational credit context is especially risky since student loan debt is generally nondischargeable,

which means that debtors typically retain their obligation to repay student loans even if they declare bankruptcy (Darolia & Ritter, 2015).

The second group of concerns relates to potentially onerous repayment responsibilities that could limit students' benefits from attending college. Increases in outstanding student loan debt – now estimated to exceed $1 trillion, more than double the level from a decade earlier (Federal Reserve Bank of New York, 2016) – are due in part to an expansion in college enrollment over time, particularly among students who come from households with relatively low incomes and few assets. Panel B of Figure 1 demonstrates the growth in overall borrowing from 2000 to 2012 came from increases in both the percentage of students who borrow and the average award for borrowing students. Research has demonstrated that borrowing can influence some post-college decisions, including career choices (Field, 2009; Rothstein & Rouse, 2011). Some have raised concern that repayment obligations could lead to lower consumption and delayed investment in assets such as homes, although researchers have yet to establish a causal link (e.g., Brown & Caldwell, 2013). And, while college attendance has traditionally been viewed as a way to reduce economic disparities among students from different socioeconomic backgrounds, even if financed by student debt, unequal repayment burdens can limit these equity gains (Elliott & Lewis, 2014; Ellwood & Kane, 2000).

These risks highlight the need for students to make informed and active student loan decisions. Following human capital theory, with complete information and the skills to process it, students will choose to borrow an amount that maximizes their net benefits, typically modeled as expected post-college wages less the costs of attending college including direct expenses, forgone wages, and other indirect costs (see Lochner & Monge-Naranjo, 2011 for a detailed model and description). It follows, therefore, that a lack of information and confusion about

student loans – for example, because students do not track the amount they borrow, are unaware of their interest rates, or do not know future monthly payments – can influence educational decisions. Student who underestimate borrowing costs may borrow more than they can reasonably expect to repay; alternatively, students who overestimate borrowing costs may borrow less than they need, putting their completion and persistence at risk.

Student loans are a relatively complex financial instrument and college is the first time many students will confront decisions related to debt. In limited settings, surveys have demonstrated that substantial proportions of students underestimate or do not know the amount of loans they borrow (Akers & Chingos, 2014; Andruska et al., 2014). There is also evidence that many students do not fully understand their financial aid and total costs of college, which is likely partly due to the confusing nature of the financial aid system that can heavily discount published prices but for which receipt is difficult to forecast (Bleemer & Zafar, 2015; Dynarski & Scott-Clayton, 2006). Informational deficiencies are likely to be particularly prevalent for students who come from communities without a tradition of college-going on which they can rely (Bleemer & Zafar, 2015; Dynarski & Scott-Clayton, 2013; Tierney & Venegas, 2009). Online student loan counseling is required to borrow from federal programs; however, it is generally not considered effective in its current form. Fernandez (2015, 2016) observed that students tended to skim and skip material in the counseling, since students considered it complex, tedious, and unhelpful and because they were not sufficiently concerned about the topic at time of college entry.

Beyond actual knowledge about college and loan costs, it is also likely that some students make computational mistakes when deciding whether to finance college using student debt and how much to borrow. Terms, repayment plans, and remedies for hardship vary substantially

across student loan programs increasing the complexity of estimating future payments. Furthermore, loans increase students' consumption during college, but decrease it afterwards. Therefore, students may make sub-optimal decisions because individuals are prone to mistakes when forecasting future benefits and costs, because of issues with self-control, or because future payments may not be as salient to the student as the access to current funds (Cadena & Keys, 2013; Frederick, Loewenstein, & O'Donoghue, 2002; Karlan, McConnell, Mullainathan, & Zinman, 2010). These computational challenges are particularly relevant for many college students, particularly younger students, since people tend to gain financial knowledge and skills as they get older (Lusardi & Mitchell, 2014).

Researchers employing experimental designs have shown that providing information, often accompanied by other supports, to college students can aid in decision making and help address informational deficiencies inherent in students' educational and financial aid decisions. For example, Hoxby & Turner (2013) demonstrate that reducing the complexity and cost of college applications resulted in low-income, high achieving students attending colleges with higher graduation rates using an experiment that provided students with tailored, simplified information about college options, along with application fee waivers. Castleman & Page (2015a, 2015b) show that text messaging and relationships with peer counselors can help low-income high school students attend college. Specific to financial aid, Bettinger et al., (2012) establish that targeted assistance for financial aid forms and data about the net costs of college lead to increased attendance and persistence. In some of these settings, supports that accompanied information appear to contribute to the success of the intervention. For example, in the Hoxby & Turner (2013) and Bettinger et al. (2012) studies the most positive outcomes were among the group that received additional assistance beyond just information.

The Debt Letter Intervention

We designed an experiment where randomly selected students received a debt letter that included individually tailored information about student borrowing to date. These letters were modeled after requirements in state laws being considered at the time. The messaging was not intended to increase or decrease student borrowing but rather enable them to make informed and active decisions. The letter provided a summary of annual and cumulative borrowing in total and by type of loan (e.g., subsidized federal, unsubsidized federal, private) on loans originated to the student. In addition, the letter included components that have the potential to address informational problems that lead to poor borrowing decisions. First, because research demonstrates that individuals do poorly with basic computations of future costs and benefits (e.g., Frederick, Loewenstein, & O'Donoghue, 2002), students received an estimate of their future monthly payment responsibilities based on the formula used in the U.S. Department of Education (ED) repayment plan estimator for the default ten-year period. Future payments may not be as salient to the student as the access to current funds; therefore, students who lack access to this information may make suboptimal decisions (Karlan et al., 2010). Second, we provided students with information about their peers' borrowing, specifically the median total loan debt of recent spring graduates at the university. These data are potentially beneficial because behavioral research suggests that when navigating situations with limited knowledge, individuals will be influenced by the behavior of others (e.g., Cialdini, 2008).

Beyond curing information deficiencies, the intervention has other potential benefits. It promotes active borrowing decisions by prompting the student to consider and seek information about current and future borrowing. To that end, the letter included hyperlinks to various resources to find out more about their own loans and about student loans in general.

Additionally, students were encouraged to meet with a financial aid advisor and given contact information to facilitate such outreach. We include an example of the debt letter format in Appendix Figure A1.

The debt letter was e-mailed to students from professionals in the financial aid office. The letter was also available to students through the university online portal, which is the primary interface through which students register and interact with administrative components of the university. Text messaging was not permitted in this setting. The financial aid office e-mailed letters to the treatment group at two different points. The first notice was sent in January 2015 and contained personalized data and messages related to borrowing up to and including that academic year. The second notice was sent in March 2015, purposefully around the time when students received financial aid offers for the next academic year (2015-2016) since information can be particularly powerful when it draws attention to an important issue at a salient time (Stango & Zinman, 2014). The control group received the traditional financial aid award letter with no additional mailings or information at either time point.[2]

Setting and Context

The experiment is set at the University of Missouri (MU), which is a large flagship public land-grant research university in the Midwest. In recent years, MU enrolled approximately 27,000 undergraduate students, of which approximately 45% borrowed student loans. The average total loan borrowing among recent graduates is about $22,000. In Table 1, we compare general descriptive statistics for MU with the average among four-year universities in the United States. Compared with the national average, MU has similar annual cost of attendance and proportions of students who borrow but higher graduation rates and student loan repayment rates.

MU is also larger than the average peer university, has fewer minority students, and has more full-time residential students.

The experiment included all non-graduating undergraduate students who obtained student loans in a prior year at MU (N =9802). Half of the students were randomly chosen to receive the debt letter; the other half served as the control group. We include summary statistics in Table 2 for the treatment and control groups; administrative data comes from financial aid office records. There are no statistically significant differences in observed characteristics between the treatment and control groups at the 95% confidence level.[3] About 55% of the sample identify as female. Over 80% of students identify as white, 17% identify as black, 4% as Hispanic, 3% as Asian, and 3% as another minority race/ethnicity (students can identify as multiple races/ethnicities). More than one-third of the students are the first in their families to go to college, and about 3% are considered financially independent from their parents. About 14% of students transferred to MU from another postsecondary institution.

At the bottom of the table we summarize financial measures based on the year prior to the debt letter (the 2014-2015 academic year). All aid-eligible students at MU are offered the maximum amount of federal loans for which they are eligible; this amount can vary by student and is not necessarily directly tied to calculated financial need. Students have the option to accept or decline all or a portion of the maximum amount of loans for which they are eligible. Average expected family contribution (EFC) to college expenses among borrowers is about $18,000, and about one-third of students who borrow also receive a means-tested Pell Grant.

89% of students borrowed in the prior academic year, with an average total borrowing amount of about $6,800. The remaining 11% of students did not borrow in the immediate prior year but borrowed in an earlier year at MU. There are two major broad categories of student

loans available to students and their families: federal programs and nonfederal programs. Federal loan programs typically have more favorable terms than do nonfederal loans. Federal student loans are not underwritten as long as borrowers attend an eligible institution and interest rates do not vary with expected default risk. As a result, federal loan programs are subsidized for most borrowers so credit is offered regardless of default risk and at lower rates than can generally be obtained from private lenders. Some programs have extra benefits, such as the ability to postpone payments and interest accrual during times of enrollment or hardship. At MU, nearly 10% of students borrowed from nonfederal sources, which is generally in line with the national average (Baum et al., 2015).

Effect of the Loan Letter on Borrowing

Data Analysis

To estimate whether the debt letter affected borrowing outcomes, we estimate borrowing, Y, in the year after receiving the loan letter, *t*, for student i:

$$Y_{it} = \alpha_0 + \delta N_i + \alpha_1 Y_{i,t-1} + \alpha_2 X_i + \epsilon_i.$$

N_i is the treatment variable equal to one if the student received the debt letter and equal to zero for control group members, $N_i = \mathbf{1}[ReceivedLetter]_i$. To directly estimate whether the letter changed borrowing from the prior year, we include a control for a one-year lagged dependent variable in our preferred specification (results are similar when adding quadratic or cubic functions of lagged borrowing). Therefore, our coefficient of interest—the estimated parameter on the treatment indicator, δ— represents the causal effect of the debt letter on the year-to-year change in borrowing. The idiosyncratic error term is ϵ_i. We estimate this model using ordinary least squares for continuous outcomes. For dichotomous outcomes (e.g., whether the student borrowed), we report marginal effects from a logistic regression.

In our preferred estimates, we include information about students in the X-vector, with parameter vector α_2, to improve precision in our preferred specification, though these controls are not necessary to produce unbiased estimates because of random assignment (see Table 3). Specifically, we include controls for race/ethnicity, gender, EFC, cumulative grade point average (GPA), year in school, and indicators for being a first-generation student, a transfer student, and financially independent. All controls are measured in the pretreatment period.

In addition to the effect of the letter across all students, we have an interest in understanding whether responses to the letter vary among student subgroups who have been of interest to policy and research. We examine first-generation students (i.e., students who are the first in their family to attend college) because these students are less likely to be able to rely on knowledge about college and aid from family. Pell Grant recipients have relatively fewer personal or family resources to contribute to college expenses (based on prior year Pell Grant receipt; results are similar using other ways to identify low financial resources such as having a EFC equal to zero). Students with low GPAs (less than 2.0) have GPAs that would typically put them at risk of academic probation: this negative academic feedback may lead them to expect relatively low returns to their education or to be at a relatively high risk of not completing their degree. It is also possible that a low GPA is a proxy for low financial literacy. We examine students by major groupings, since STEM and business majors could be better prepared to process the complex financial information and have relatively higher expected earnings. We also analyze students separately by class standing since students could respond differently as they learn more about financial aid and their future prospects (we were only permitted to send the letter to returning students, thus the sample does not include incoming freshmen who might be the most responsive to extra information).

In addition, we test for heterogeneous responses across the intensity with which students borrowed in the pretreatment year. Students with loan amounts of various levels could have differential responses to additional information about their debt. Uninformed students who needlessly borrowed large sums may be likely to reduce borrowing once they learn more about their future repayment responsibilities. Alternatively, students who borrowed relatively low amounts may feel empowered to increase borrowing once they receive more information, either because their expected future payment is low or because their debt lags that of their peers. Loan limits for various loan programs may also influence changes to students' debt choices. Some students may not want to exceed the subsidized student loan limit (in which case they would have to start borrowing unsubsidized loan funds), while others may not want to exceed the total federal loan program limit (in which case they would have to start borrowing from nonfederal sources that are likely to have inferior loan terms).

To examine heterogeneous responses, we group students into one of three mutually exclusive categories based on their applicable federal direct loan limits: (1) *low* borrowing includes students with no loans in the prior year or prior year loan amounts of up to and including the subsidized loan limit; (2) *moderate* borrowing includes students with prior year loan amounts greater than the subsidized loan limit, up to and including the total annual federal direct loan limit; and (3) *high* borrowing includes students with prior year loan amounts greater than the annual federal direct loan limit.[4]

Results

We report the main effects of the letter on total borrowing with and without covariates in Table 3. We do not find evidence that the information letter affected the average amount that students borrowed across all students as displayed in top panel of the table. Point estimates are

negative, but are not statistically different than zero. In models with the lagged dependent variable, coefficients of about $68 equate to effect sizes of about 1% of average pre-treatment annual borrowing, and are similar from estimates without (column 2) and with covariates (column 3). We can rule out overall effects as large as those reported in the IU setting that motivated much of the current state lawmaking. Specifically, using the preferred estimates with covariates in column 3, we can rule out an effect size on annual borrowing greater than $243, about 3.5% of the pre-treatment mean: this lower bound of the confidence interval equates to a monthly payment of only $2 based on the standard ten-year repayment plan using current interest rates.

We display a corollary result having a loan in the 2015–2016 academic year in the bottom panel. We observe a 1.2-1.3 percentage point estimated decline in the probability of having a loan, although this effect is again not statistically significant. The lower bound on the 95% confidence interval of the estimate with covariates is 2.8 percentage points. We display full output of Table 3 estimates in Appendix Table A2, with full output of other results available upon request. Of note, the coefficient on the lagged dependent variable terms indicate that borrowing decisions are rather persistent from year to year ($0.54 for borrowing dollars in columns 1 and 2 and 0.40 for having a loan in columns 3 and 4).

We analyze whether students are likely to adjust their borrowing of specific loan programs and present results in Table 4. It is possible that savvy students would attempt to adjust their borrowing of only certain loan programs in light of information about their borrowing, such as unsubsidized federal or private loans that have less favorable terms. The coefficient on federal subsidized loans is on the margin of statistical significance, but taken together results displayed this table leads to inference that is consistent with our main results: we do not find that students

meaningfully or systematically adjust their usage of specific loan programs in response to the debt letter.

We next examine the effect of the debt letter on the borrowing of key groups of interest in Table 5. For brevity, we only report results from estimates of loan amount, with estimates of having a loan available upon request. Although point estimates continue to be generally negative and for some subgroups get larger, standard errors also increase. Point estimates across first generation students, Pell Grant recipients, low GPA students, STEM/business, non-STEM, non-business students, across year in school, or by varying levels of prior year borrowing intensity are not statistically distinguishable from each other or from estimated main effects presented in Table 3. Therefore, taken together, these results do not provide evidence that the debt letter systematically changed borrowing behavior of students, even among students that theoretically could be more responsive or that are of interest to policy.

Non-Debt Outcomes

It is possible that students changed non-borrowing behavior in response to the letter. Armed with extra knowledge, instead of borrowing less, students might decide to reduce education consumption by taking fewer credits or by dropping out altogether. In Table 6, we display estimates that indicate that the letter did not lead to dropout with small and precisely estimated null effects, and do not observe that students systematically took fewer credits. We also do not observe that treatment group students were more likely to change major, such as to a field of study with a higher expected return, after receiving information about borrowing. Finally, students might decide to change the amount they work when presented with information about student loans, but we similarly do not observe changes in the amount students worked through their federal work-study job (we do not have access to data on non-work study earnings).

Although the letter did not lead to changes in borrowing, it appeared to induce information seeking from some students. Treatment group students were 2 percentage points more likely to seek a meeting with a financial aid officer, an effect size of about 5%. While the increase in contact with the financial aid office does not appear to manifest itself in large-scale systematic changes in borrowing, this information seeking should nonetheless be considered a positive outcome since it creates a stronger connection with financial aid professionals that may lead to better post-graduation repayment outcomes. For example, informed students may be more likely to actively choose an appropriate repayment plan and engage with their loan servicer, which may help students stay current on their educational debt post-college. Thus, long-term follow-up studies need to examine the potential effects of the letter on degree attainment and repayment.

Interviews

Methodology

The qualitative data for this study come from semi-structured interviews with 27 MU students. Our interest in understanding the role of the loan letter on students' decisions and behaviors led us to oversample students who were in the treatment group and who received the loan letter; we sent three invitations to treatment group students for every invitation to the control group. Additionally, we oversampled first-generation students because of our interest in the decision making of students who came from families with limited college experience. Because of the overlap between first generation status and other demographics, this also leads to an oversampling of minority and lower socioeconomic status (SES) students. Within these parameters we randomly selected six waves of students, totaling 700 invitations, which we invited via e-mail between September 2016 and February 2017.

The invitation e-mails described the study as being about how students make decisions about their financial aid packages, whether they have the information they need to make decisions about funding options, and how they balance their finances with their overall undergraduate experience. We indicated that the interview was expected to last 60 minutes and would cover questions about their borrowing, finances, spending habits, and college experience. Participants were offered a $25 Amazon e-gift card that was sent after completing the interview, and all participants were entered into a drawing for one $250 Amazon e-gift card.

Our interview sample includes 27 students who completed an online form consenting to be interviewed and for us to access their administrative financial aid records.[5] 23 of these students received a debt letter, and we also analyzed interview transcripts of four control group students because we asked broader questions about information use in student loan and financial decisions. We display summary statistics for interviewed students in Appendix Table A1. Through both intentional recruitment design and selection into the interviews, the interview sample differs from the broader borrowing population at MU. Interview participants were more likely to be black, female, and first generation; they also had higher average GPAs but came from more modest financial backgrounds (as measured by EFC and means-tested Pell Grant receipt).

At least two members of the research team recorded, transcribed, and checked for accuracy all interviews. We used an open coding strategy (Merriam, 2009) in our initial reading of the transcripts. We met as a research team to discuss and compare our codes and interpretations of the data, including major themes and patterns, and used an axial coding strategy to group codes into themes. For this paper, we focused our attention on the themes related to our primary focus of the effectiveness and influence of the debt letter.

Interview Findings: Attention Deferment and Avoidance

Although we did not design our research to systematically compare the full sample of students' knowledge of loans to their actual borrowing, the interview responses lead us to doubt that students were already making fully informed student loan decisions that would have prevented the need for extra information. Prior research demonstrates that many students are confused about how much they have borrowed or their college expenses (e.g., Akers & Chingos, 2014; Andruska et al., 2014; Bleemer & Zafar, 2015). Participants in our interviews displayed a similar lack of knowledge. About half of our participants specifically noted they did not know how much they had borrowed, or they were confused about the different types of loans that they had taken out.

Even though we did not observe that students had full knowledge of their debt, a theme that arose from the interviews was that many students purposefully deferred attention to their student debt, whether in response to the loan letter or more broadly related to college finances. This intentional inattention generally took at least one of three forms, which we categorize as: denial, depression, and resignation.[6]

Denial. Participants in denial described skimming through or outright ignoring the content of the loan letter. Parental involvement was one reason participants did not pay attention the letter. One respondent reported skimming the letter because "knowing that FAFSA like automatically deals with my parents and they just kind of go through it themselves, I just kind of look over it." Another participant noted that he thought his mom "has it all covered," and therefore didn't need to review extra information. A couple of participants admitted that they did not know whether they themselves or their parents were responsible for repaying the loans in the future.

Other students acknowledged that they were not actively engaged because they would not have to deal with their debt responsibilities until the future. For example, one participant noted, "I don't have to worry about it until I leave, so I don't really, I don't think [the letter] helps…I just don't worry about it until after I get out and I have to worry about it [then]." A student who planned to attend graduate school commented that, "I knew I was staying another year or so for graduate school so it wasn't in the front of my mind that I'd have to be paying yet" and others said they didn't pay much attention to exit loan counseling meetings because repayment would be delayed and loan amounts would increase during graduate school.

Some students revealed a sense of being overwhelmed by the financial aid process and their specific financial situation to the extent that facing the information was not an option for these participants. One contributing factor for feeling overwhelmed was that many students were frustrated about the way financial aid is allocated. One student remarked that "it's ultimately up to somebody else who decides, [someone] who hasn't met you." Another participant noted, "I never got anything because I wasn't considered financially need-based because of my parent's salary, but what's not looked at a lot is, are your parents actually helping you?" It isn't clear that more knowledge about how financial aid decisions are made would change students' borrowing behavior, but the common belief among students that aid processes are confusing or unfair likely contributed to some of their unwillingness to engage with the financial aid process.

Depression. The second kind of avoidance took the form of depression, or perhaps more accurately avoidance of anticipated depression. There was a clear desire among some students to avoid facing the content of the loan letter because of the negative emotions they associated with their current financial status. One participant, for example, thought the information was helpful in general but might spark an unintended emotional response when he noted that the letter "really

cements my student depression." Similarly, one participant said that looking at the notice "just kind of depresses me, because of how much money I have taken out…maybe I should take out less, but I don't." Another participant said the letter provided an unwanted reality check: "I guess it kind of scares me… looking at how much I owe."

The notable finding in these responses is that there was an underlying level of uncertainty about loans that troubled students, but the uncertainty was not necessarily related to the numbers behind their borrowing. In fact, many students claimed that the underlying data on borrowing was fairly accessible, but the problem was that they didn't understand how to process the data. What students wanted were more skills on how to understand and interpret key terms and concepts and how to pursue beneficial behaviors related to the financial aid process. In other words, the information by itself was not sufficient because students did not understand how to act based on the information. For example, nearly half of the participants indicated that they needed help making decisions related to different types of loan programs. The distinction between unsubsidized and subsidized loans was particularly confusing for most students, and students regularly displayed confusion about interest rate levels and deferment options. Other participants said they needed help relating their borrowing to other financial topics, including taxes, work study, changes to financial aid packages between years, and loan servicers. Many participants also described the need to improve their budgeting skills. These requests suggest the need for assistance and information that is presented in a more intensive way than in a low-touch letter.

Resignation. Finally, many participants described having to take out loans in order to go to college, so they felt resigned to that perception. These students either faced their loan information and knew how much they had borrowed, or resisted knowing the exact figures

because they felt confident that this information wouldn't change their situation. Either way, these participants reached a state of resignation about their financial situation. The resigned students didn't describe feeling overwhelmed in the ways that participants in denial did; instead they seemed to have considered their options and chose to borrow money intentionally, even if they were not fully aware of the implications of their choices. Therefore, new information or updates about their financial situation may not have a large effect on their behavior because they have resigned themselves to their perceived financial situation.

Some participants, for example, explained that they felt there was nothing they could do to change their borrowing if they wanted to finish school or enjoy the "college experience." One participant said the letter would not have any influence on his future borrowing choices, explaining, "It's just, you know, do what you've gotta do, you know, if you have to push a loan to get into school and make it through school then by golly, you gotta do it, so that's just kinda our personal philosophy as a family." Another interviewee echoed these comments, "I think 'they have to do what they have to do' is what a lot of students' mindsets are," meaning that students will take out as many loans as they have to in order to stay enrolled. A participant said that she thought the information was "nice to know," but that "there's not anything I could do about it [because] it is what it is, just because I need that money to stay here, to live and work and, you know, go to school here. So, it's like, it sucks that it's a lot but it's like there's nothing I could do about it. I mean, I can't pick up any more [work] hours than I already have without, you know, my grades failing." One student passed up a more affordable option closer to home to attend MU, noted struggling to pay for a vacation but justified the expenses: "I'm only in college once, like I'm only going to be at this point in my life once, like, let's take the trip, let's, you know, do all this kinda stuff."

About one-third of the participants we spoke with specifically noted that information would not influence their borrowing behavior because they needed the money to afford and enjoy college and saw no other way to make ends meet. For the participants in the resignation stage, their responses seemed to indicate a deeper level of reflection that led to their borrowing decisions. These participants described facing their financial realities and generally felt comfortable that their borrowing decisions were appropriate given their current financial situation and desired college experience. It could be the case that students who have reached acceptance are optimizing their borrowing behavior and are making strategic decisions that are appropriate for their financial context. Loan letter interventions would be ineffective in these situations, as more information would not change students' borrowing behaviors. It could also be the case that there are additional options that students are either unaware of or mistakenly believe would not be appropriate in their situation. In these cases, interventions could be paired with counseling that can address the unique strategies and options that the student has considered as well as any unexplored options that might be relevant.

Discussion

The interview participants fell into three patterns regarding their responses to the loan letter intervention. Those in denial found the intervention ineffective because they were not ready to face its contents. Those in depression found it ineffective because they didn't know what to do differently in response to the information they received in the letter. Those in resignation found it ineffective because students knew the information already and felt that all other options had already been explored. For this final category, students are either correct in their assumptions and the intervention is unnecessary, or they're wrong and need to be presented with alternative options. The implication for practice across these patterns is that students need

differential supports that will likely not be known without exploration of their unique situation, which lends support for the need for higher level interventions that involve more active approaches.

We asked students directly about how information in the loan letter should be communicated with students. Surprisingly, about half thought that e-mail was indeed the best approach (we note the inherent selection bias likely in these responses since these were students who signed up for the interview through an email invitation). The other half did not recommend e-mail as a delivery strategy and noted that many students ignore or skim emails. These students suggested other strategies that might be more effective including: tweets, texts, creating a song or video, offering presentations or budgeting classes, sending a letter to parents, or requiring one-on-one meetings with a financial aid or academic advisor. Some of these strategies, such as counseling, have been shown to be effective in college settings (e.g., Avery, 2010; Carrell & Sacerdote, 2013; Castleman & Goodman, forthcoming) but are also resource intensive. Other strategies may lead to challenges with privacy or engagement. For example, text messages were not allowed in this setting because university only texts students in cases of emergencies, and the financial aid office is only allowed to share financial information with parents if students provide permission.

Interview participants discussed receiving frequent documents and updates from the financial aid office each semester, so some thought this loan letter was the same information as what is typically sent out to students. For example, one participant noted the frequency of receiving letters from financial aid and said, “I think it’s every semester…they send out it’s like a little email blurb that’s like, ‘hey, this is just an update of where your loans are standing, like this is what you have left for payment,’ stuff like that.” Another student responded, “I’ve seen it

so many times." Clearly financial aid offices have the challenge of trying to capture the attention of students. However, these responses also suggest limitations to initiatives that result in students being deluged with nudges – a torrent of information has the potential to decrease students' attention to any individual message or report.

Additionally, there are also several design improvements to informational letters that could better capture attention, enhance motivation, and further ease the comprehension of complicated topics (e.g., Lamberton & Castleman, 2016). Some students commented that the letter was not particularly memorable or distinguishable in comparison with other information sent by the financial aid office or other offices around campus. Of the 23 students who received the debt letter, nine said they remembered receiving it, nine said they did not remember, and four were unsure or gave contradictory responses. Interestingly, two of the four participants who were part of the control group reported in the interview that they received the letter even though they did not. One participant remarked that he "looked over and scanned over it but it really didn't like [have] a lot of information on what I need to do." Therefore, active inducements would likely increase engagement, but would also require more investment by financial aid offices, which could prove challenging for resource-constrained institutions. Furthermore, requiring students to participate in a follow-on activity may violate the legal limits for what can be required of students to participate in federal loan programs.

Conclusion

It is well documented that going to college can lead to substantial personal benefits such as higher earnings and greater economic mobility as well as public benefits including increased workforce productivity and stronger community social outcomes (e.g., Goldin & Katz, 2008; Oreopoulos & Salvanes, 2011). Vast amounts of public dollars are used to encourage college

enrollment and persistence, but to pay for college, students are increasingly borrowing. Today, about one-third of undergraduate students obtain federal student loans (an increase of about 40% from a decade earlier), and more than half of students in public four-year colleges graduate with debt (Avery & Turner, 2012; Baum et al., 2015). There are concerns, however, that educational debt, especially if undertaken without full information about the implications of borrowing, will distort post-college labor market and social decisions, make college attendance less attractive, saddle students and the economy, and disproportionately burden low-income students (e.g., Brown & Caldwell, 2013; Elliott & Lewis, 2014; Rothstein & Rouse, 2011).

We designed an experiment to examine what happens when students are given information about the implications of their borrowing choices in a debt letter. These letters are modeled after requirements in recent state laws and a broader set of policy solutions that attempt to encourage students to make sensible borrowing and educational finance decisions. Many of these initiatives only require that colleges provide information, without recognizing the role that other structural investments may have played in borrowing decisions.

Our results suggest that information alone is not sufficient to drive systematically different borrowing choices among students. The debt letter led to no change in the amount that students borrow or the likelihood that they will borrow compared with students who did not receive the extra information. However, students who received the letter were more likely to seek a meeting with a financial aid officer, which could lead to improved outcomes in the future but needs further investigation. While the effects of the letter were modest at best, they also do not appear to cause harm to students. In particular, we did not observe that the letter induced drop out or reduced the number of credits that students pursued.

In-depth interviews revealed several key findings. First, a common theme among students was their deliberate inattention to the implications of their borrowing choices revealing a disconnect between the time student loan programs implicitly assume students should make long-term financial decisions (starting at the beginning of college) and when many students acknowledge or want to deal with their financial responsibilities. This attention deferment may be a rational decision by the student, but inhibits the efficacy of information interventions. Second, although many students demonstrated a lack of knowledge about borrowing, students referred to their lack of *understanding* – not their lack of data – as a hindrance to their decision making. Finally, students also cited the frequency of communication from university officials as one reason they ignore information from the financial aid office; therefore, strategies to reach students that entail increasing the frequency officials send materials to students may decrease students' attention to any individual message or report.

These responses suggest that other more intensive supports are likely necessary to systematically change students' decisions related to student debt. There is promising evidence on the potential for intensive, yet more costly, supports, but more work is needed to understand how to effectively encourage students to engage with and fully benefit from such services.

[1] Indiana Enrolled House Bill 1042 (enacted April 2015), Nebraska Legislative Bill 726 (enacted April 2016), Florida Senate Bill 396 (effective July 2017), and Washington Substitute Senate Bill 5022 (effective July 2017) generally mandate that postsecondary institutions annually inform students of the total amount borrowed, estimate of total payoff amounts and monthly repayment amounts, and the percentage of the borrowing limit encumbered.

[2] It would have been possible for treatment group students to reveal to control group peers that they received a letter, though interviews suggest that students typically speak in general terms about finances, but avoid detailed conversations.

[3] By chance, the treatment—control difference for first generation students is on the margin of statistical significance (statistically significant at the 90% confidence level). This is unlikely to affect our analysis, as confirmed by estimates controlling for first generation status and subgroup analyses. However, to the extent this introduces any potential bias, it would likely overestimate treatment effects since these students are likely the most sensitive to information.

[4] Maximum loan amounts are based on students' year in school and financial dependency status. Subsidized Direct Loan Program loans are available to students based on financial need, and the ED pays the interest on the loan while the student is in school, for a grace period after the student leaves school, and during periods of deferment. Unsubsidized Direct Loan Program loans are also not underwritten and are available at subsidized interest rates, but

the government does not pay interest during periods of enrollment or deferment. Federal Direct Loan program loan limits vary by year in school, financial dependency status, and financial need. During the year analyzed, the total amount of direct loans that first-year dependent students could borrow was $5,500, of which up to $3,500 could be in subsidized loans (first-year independent students could borrow up to $9,500, of which up to $3,500 could be subsidized loans). Second-year dependent student loan limits were $6,500, of which up to $4,500 could be subsidized ($10,500/$4,500 for independent students). Dependent students in their third year and beyond could borrow up to $7,500 in direct federal loans, of which up to $5,500 could be subsidized ($12,500/$5,500).

[5] There were 63 students who completed the online form initially expressing interest in the interview; 27 students then declined to be interviewed or did not respond to requests to schedule an interview, 9 scheduled an interview and then did not show, and 27 successfully scheduled and completed an interview.

[6] Though we do not draw the parallel directly, these correspond loosely to three of the five stages of grief (Kübler-Ross, 1969).

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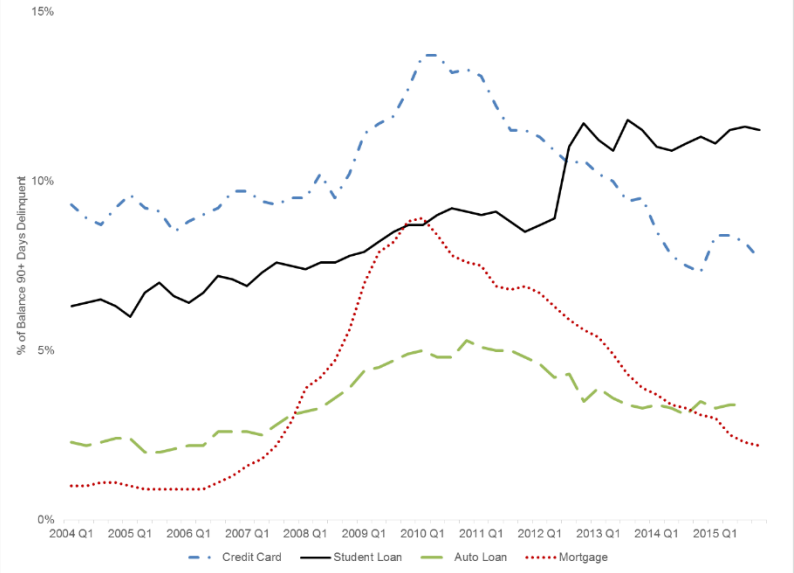
A. National Percent of Balance 90+ Days Delinquent 2004-2015



B. Per Student Undergraduate Loan Borrowing 2000-2012

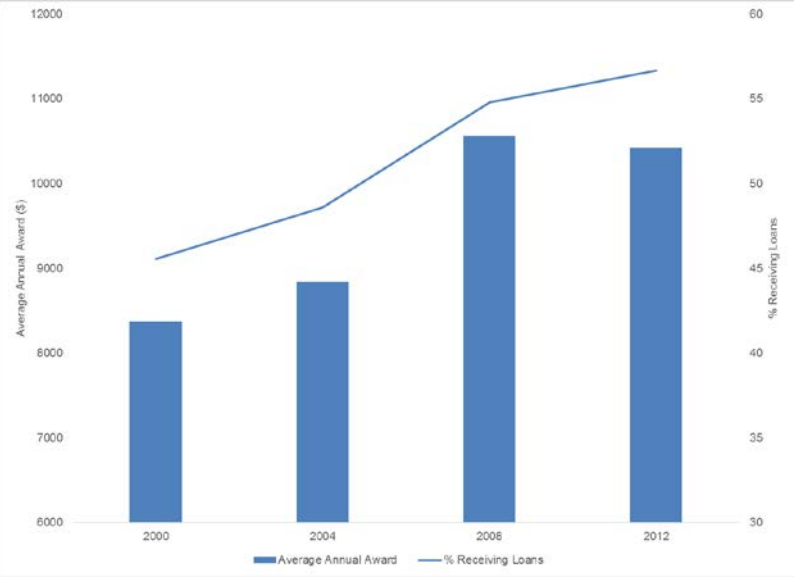


Figure 1: Student Loan Delinquency and Borrowing Trends

Source: Panel A - Federal Reserve Bank of New York Quarterly Report on Household Debt and Credit (February 2016, available at https://www.newyorkfed.org/microeconomics/hhdc.html). Panel B - Baum et al. (2015). Notes: Panel A - lines are the percentage that are at least 90 days delinquent for different segments of consumer credit. Panel B - The bars represent average annual award per borrowing undergraduate student in constant 2014 dollars for selected years (on the left y-axis). The line represents the percentage of undergraduate students who borrow in each of the years (on the right y-axis).

Table 1: Experiment Setting as Compared with National Averages

	University of Missouri-Columbia	National Average (4-Year Universities)
Undergraduate enrollment	27276	11223
% White	79%	58%
% Part-time	6%	20%
Average annual cost	$17238	$16127
% of students that borrow federal loans	47%	46%
6-year graduation rate	70%	42%
Repayment rate	70%	46%
3-year cohort default rate	4%	7%
Salary after attending	$46000	$33500

Sources: College Scorecard (https://collegescorecard.ed.gov/), Official Cohort Default Rates (https://www2.ed.gov/offices/OSFAP/defaultmanagement/cdr.html), and the Integrated Postsecondary Education Data System (https://nces.ed.gov/ipeds/).

Table 2: Pretreatment Descriptive Statistics

	Treatment		Control		
	Mean	SD	Mean	SD	p-value
Male	0.45	0.50	0.45	0.50	0.90
Female	0.55	0.50	0.55	0.50	0.90
Non-Hispanic White	0.81	0.39	0.81	0.39	0.50
Asian	0.03	0.16	0.03	0.16	0.31
Black	0.17	0.37	0.16	0.37	0.68
Hispanic	0.04	0.20	0.04	0.20	0.70
Other minority	0.03	0.17	0.03	0.16	0.24
First generation	0.36	0.48	0.34	0.48	0.06*
Financially independent	0.03	0.18	0.04	0.19	0.27
Transfer student	0.14	0.34	0.14	0.35	0.28
GPA	2.85	0.78	2.85	0.78	0.89
Credits earned	53	27	53	27	0.87
Expected family contribution ($)	17759	30742	18253	30145	0.42
Pell Grant recipient	0.34	0.47	0.33	0.47	0.32
Total loans ($)	6841	4974	6872	5152	0.76
Has a loan	0.89	0.31	0.89	0.32	0.44
Federal loans ($)	5784	2791	5730	2823	0.34
Has federal loan	0.89	0.32	0.88	0.32	0.30
Non-federal loans ($)	1058	4104	1142	4353	0.32
Has non-federal loan	0.08	0.28	0.09	0.28	0.75
Count	4900		4902		

Source: Administrative data from the 2014-2015 academic year (the pretreatment period). Notes: p-value is from a test of the equality of the treatment and control group means.
***p < 0.01, ** p < 0.05, * p < 0.10.

Table 3: Effect of the Debt Letter on Borrowing

	(1)	(2)	(3)
Loan $	-84	-68	-67
	(108)	(93)	(90)
AY15-16 Average	*6857*	*6857*	*6857*
Has a loan	-0.010	-0.013	-0.012
	(0.009)	(0.009)	(0.008)
AY15-16 Average	*0.890*	*0.890*	*0.890*
Lagged DV		X	X
Covariates			X
N	9802	9802	9802

Source: Administrative data from the 2014-2015 and 2015-2016 academic years. Notes: Each coefficient is from a different estimate. Standard errors are included in parentheses. Where indicated, controls for gender, race/ethnicity, first-generation status, EFC, GPA, year in school, transfer student status, and financial dependency (all measured in the pre-treatment period) are included but not displayed. See Appendix Table A2 for full output.
***p < 0.01, ** p < 0.05, * p < 0.10.

Table 4: Effect of the Debt Letter on Borrowing from Specific Loan Programs

	Federal Subsidized	Federal Unsubsidized	Nonfederal
Loan $	-66*	-53	62
	(40)	(48)	(60)
AY15-16 Average	*2674*	*2992*	*1100*
Has a loan	-0.012	-0.009	0.002
	(0.008)	(0.008)	(0.005)
AY15-16 Average	*0.659*	*0.788*	*0.084*
N	9802	9802	9802

Source: Administrative data from the 2014-2015 and 2015-2016 academic years. Notes: Each coefficient is from a different estimate. Standard errors are included in parentheses. Controls for the lagged dependent variable, gender, race/ethnicity, first-generation status, EFC, GPA year in school, transfer student status, and financial dependency (all measured in the pre-treatment period) included but not displayed.
***p < 0.01, ** p < 0.05, * p < 0.10.

Table 5: Effects of the Debt Letter on Amount Borrowed ($), Subgroups

	First Generation (1)	Pell Recipient (2)	GPA < 2.0 (3)	STEM/ Business Major (4)	Non-STEM/ Business Major (5)	1st Year (6)	2nd Year (7)	3rd Year (8)	Low PY Debt (9)	Moderate PY Debt (10)	High PY Debt (11)
Debt letter	-21	-121	-79	-153	2	68	-155	-88	-70	45	-177
	(152)	(141)	(235)	(131)	(124)	(156)	(154)	(156)	(158)	(114)	(201)
AY15-16 Average	*7347*	*7051*	*6516*	*6742*	*6949*	*6858*	*6716*	*6991*	*1890*	*6294*	*11190*
N	3464	3282	904	4374	5428	3477	3104	3221	2141	4608	3053

Source: Administrative data from the 2014-2015 and 2015-2016 academic years. Notes: Each coefficient is from a different estimate. Standard errors are included in parentheses. Controls for the lagged dependent variable, gender, race/ethnicity, first-generation status, EFC, GPA year in school, transfer student status, and financial dependency (all measured in the pre-treatment period) included but not displayed.

***p < 0.01, ** p < 0.05, * p < 0.10.

Table 6: Effects of the Debt Letter on Other Outcomes

	Dropout	Credits taken	Changed Major	Federal Work Study ($)	Contacted FAO
	(1)	(2)	(3)	(4)	(5)
Debt Letter	-0.000	-0.181	0.002	9	0.021**
	(0.004)	(0.175)	(0.010)	(8)	(0.010)
AY2015-2016 Average	*0.059*	*22.608*	*0.349*	*94*	*0.427*
N	9802	9802	9802	9802	9802

Source: Administrative data from the 2014-2015 and 2015-2016 academic years. Notes: Each coefficient is from a different estimate. Standard errors are included in parentheses. Controls for the lagged dependent variable, gender, race/ethnicity, first-generation status, EFC, GPA year in school, transfer student status, and financial dependency (all measured in the pre-treatment period) included but not displayed.

***p < 0.01, ** p < 0.05, * p < 0.10.

Appendix

Appendix Figure A1: Example Debt Letter Format

Dear XXXX,

The purpose of this communication is to give you a quick report on what you have borrowed to date in student loans. Keeping track of your debt will help you be prepared for your responsibilities after graduation.

Total Federal Direct Loans borrowed to date while attending MyU: $XYZ

Subsidized Direct Loan(s) with interest that starts after you are no longer enrolled at least half-time

Subsidized	$XYZ	2013-2014
Subsidized	$XYZ	2014-2015

Unsubsidized Direct Loan(s) with accruing interest while you are in school:

Unsubsidized	$XYZ	2013-2014
Unsubsidized	$XYZ	2014-2015

The average MyU undergraduate borrows **$21,761** in Federal Direct Loans by the time they receive their bachelor's degree.

Estimated monthly payment on Federal Direct Loans borrowed to date: $XYZ

The estimate is based on debt borrowed to date and a standard repayment schedule. Additional borrowing may increase your estimated monthly payment.

You may be eligible for an alternative repayment plan. For additional information about your estimated payments under alternative payment plans or for more information on accrued interest go to https://studentloans.gov/myDirectLoan/mobile/repayment/repaymentEstimator.action. For further information on your federal loan servicer go to https://www.nslds.ed.gov/nslds_SA/.

Total Other Loans borrowed to date while attending MyU: $XYZ

Loans with accruing interest while you are in school:

Bank of X	$XYZ	2013-2014

Loans with interest that starts after you are no longer enrolled at least half-time:

Perkins	$XYZ	2014-2015

Repayment information for private loans is available from your lender. Repayment information on Perkins and/or institutional loans is available from MyU Student Loan Repayment Center at <LINK>>

We invite you to drop in and discuss your current and future loan debt with a financial aid advisor. Our current location is in Room 202, Ellis Library. A copy of this email will be retained in your myZou message center.

Appendix Table A1: Interview Sample Descriptive Statistics

	Mean	SD
Male	0.33	0.48
Female	0.67	0.48
Non-Hispanic White	0.63	0.49
Asian	0.11	0.32
Black	0.37	0.49
Hispanic	0.00	0.00
Other minority	0.04	0.19
First generation	0.59	0.50
Financially dependent	0.96	0.19
State resident	0.63	0.49
Transfer student	0.07	0.27
GPA	3.05	0.62
Credits earned	48	26
Expected family contribution ($)	9958	12845
Pell Grant recipient	0.63	0.49
Total loans ($)	7597	4449
Has a loan	0.96	0.19
Federal loans ($)	6494	2323
Has federal loan	0.96	0.19
Non-federal loans ($)	1103	3278
Has non-federal loan	0.11	0.32
Count	27	

Source: Administrative data from the 2014-2015 academic year (the pretreatment period).

Appendix Table A2: Effects of the Debt Letter on Borrowing, Full Output

	Loan $			Has a Loan		
	(1)	(2)	(3)	(4)	(5)	(6)
Letter	-84.1	-67.6	-67.0	-0.010	-0.013	-0.012
	(107.8)	(92.9)	(90.0)	(0.009)	(0.009)	(0.008)
Lagged DV		0.5***	0.5***		0.403***	0.397***
		(0.0)	(0.0)		(0.011)	(0.011)
Female			-140.0			-0.032***
			(92.1)			(0.008)
Asian			588.0***			0.076***
			(125.5)			(0.012)
Black			-219.6			-0.023
			(227.1)			(0.020)
Hispanic			-66.4			-0.024
			(281.5)			(0.025)
Other minority			79.6			-0.040*
			(273.0)			(0.024)
First-generation			40.2			0.023***
			(97.7)			(0.009)
EFC ($000)			-4.3***			-0.001***
			(1.5)			(0.000)
GPA			1,433.1***			0.164***
			(60.7)			(0.005)
2nd year in school			562.0***			0.042***
			(111.7)			(0.011)
3rd year in school			-453.7***			-0.008
			(114.4)			(0.011)
Transfer student			-86.7			-0.001
			(142.1)			(0.013)
Financially independent			154.5			-0.032
			(257.2)			(0.023)
Constant	5,677.2***	1,998.4***	-2,063.7***			
	(76.3)	(91.1)	(205.6)			
N	9802	9,802	9,802	9802	9,802	9,802

Source: Administrative data from the 2014-2015 and 2015-2016 academic years. Notes: Standard errors are included in parentheses. White and 1st year in school are omitted base groups. Columns 1—3 are linear estimates of borrowing amount in dollars. Columns 4--6 are marginal effects from a logistic regression of having borrowed.

***p < 0.01, ** p < 0.05, * p < 0.10.