Does Salient Financial Information Affect Academic Performance and Borrowing Behavior Among College Students?*,†

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Abstract

While rising student loan debt can plague college students future finances, few federal programs have been instituted to educate college students on the mechanics of student loan borrowing. This paper exploits a natural experiment in which some students received "Know Your Debt" letters with incentivized offers for one-on-one financial counseling. Montana State University students who reached a specific debt threshold received these letters; University of Montana students did not. We use a difference-in-difference-in-differences strategy to compare students above and below the thresholds across campuses and before and after the intervention to determine how the letters affect student behavior. Employing a rich administrative dataset on individual-level academic records and financial aid packages, we find that students receiving the letters borrow an average of $1,360, less in the subsequent semester–a reduction of one-third. This does not adversely affect their academic performance. In fact, those who receive the intervention take more credits and have higher GPAs in the subsequent semester.

Keywords: student loans; higher education; financial education; financial literacy

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1 Introduction

Deciding how to finance their college education requires young adults to face a complex set of financial aid and borrowing options. The choice to take out a student loan is very often the first borrowing decision made by young adults in America. High school seniors have generally had relatively limited exposure to the financial system and credit; for the vast majority of high school seniors, their primary experience with the financial system is through their checking or savings accounts.[1]

Even after college enrollmentt, there is typically little information provided to help these young adults navigate their choices for financing their education. The federally required entry counseling for those looking to take on student loans is provided online, and as a 2015 study by Fernandez et al. notes, "most students begin counseling eager to learn more about how to finance their education and control their borrowing, but they tend to shift from reading material slowly and carefully to skimming and skipping as they progress." The lack of patience for online education paired with the lack of experience with credit can potentially lead young borrowers to make suboptimal decisions about the type and amount of student loans they use to finance their education (Avery and Turner 2012; Lochner and Monge-Naranjo 2015). Other existing financial counseling for student loans is directed toward students close to graduation, and this information tends to focus on loan repayment options. Students early on in college are typically informed more about how much they are eligible to borrow than about the costs and benefits associated with different borrowing levels. Moreover, the academic advising typically received by college students tends to be given independently of financial considerations, in spite of the fact that the financial status of students may influence their choice of a major, the

[1]One possible way to promote improved decision-making on borrowing for postsecondary education is to provide instruction on student loans in high school financial education courses. While early research on high school financial education has reached differing conclusions about its effectiveness for improving financial behaviors and outcomes (Bernheim et al. 2001; Mandell 2009; Mandell and Schmid Klein 2009; Tennyson and Nguyen 2001; Walstad and Buckles 2008; Walstad et al. 2010; Willis 2008, 2011), recent research has shown financial education courses to be effective at improving later life financial outcomes (Brown et al. 2013), particularly when rigorously implemented (Urban et al. 2014).

time and effort they devote to studying, and their decision to remain enrolled (Deming and Dynarski 2009; Angrist et al. 2009; Castleman and Long 2013; Cohodes and Goodman 2014; DesJardins and McCall 2007).

The financial strain caused by suboptimal borrowing to finance college may reduce academic performance or delay college completion (Heckman et al. 2014). Over the longer term, graduation with a significant amount of student loan debt has been loosely associated with numerous adverse outcomes, such as delays in forming independent households and reduced homeownership (Brown et al. 2015; Dettling and Hsu 2014). Despite the importance of student loan borrowing on economic outcomes, relatively little research has focused on the decision to borrow for college and on the effect of student loan debt on academic performance while in college. Furthermore, there is little research on pre-graduation interventions to help students manage their debt load.

Given college students' lack of credit experience and lack of patience for the most common type of financial education, policymakers and universities are left pondering when and how to effectively provide these young borrowers with information that could improve their financial decision-making. With this study, we provide causal estimates of the effect of an intervention early in the students college career on subsequent academic performance and debt accumulation, yielding evidence for one intervention to improve students financial well-being.

This study analyzes a unique financial counseling and targeted debt information intervention aimed at students with debt levels–given by a specific debt and year formula based on their standing in school or college major–that suggest that they might have difficulty repaying their student debt with their prospective income. At Montana State University, the Allen Yarnell Center for Student Success sent letters to students whose loan amounts exceeded target thresholds both informing them of their debt level and warning "If you continue to accept student loans at this rate you will accrue a debt level that may become difficult to repay, which may place you at risk for defaulting on your loan." Letters also contained general academic and financial advice and information and

encouraged student to seek free one-on-one financial counseling, with a modest financial incentive for attending.

We rely on a unique administrative dataset on the Montana University System that contains detailed information on students academic backgrounds, loan packages, and academic outcomes to analyze the effect of this intervention. We utilize a difference-in-difference-in-differences (DDD) strategy to exploit three comparisons. First, we compare students who received the letters at Montana State University to those that also had loans but were below the threshold for receiving a letter. Second, we compare students who received the letters at Montana State University to those that would have received the letters at the University of Montana had the same policy been in place on that campus. Third, we compare students who received the letters to those who would have received them in the years before the policy was implemented.[2]

We find that students who receive the financial counseling letters were more likely to switch their major to one in the higher-paying fields of science, technology, engineering, and math (STEM) in the semester following the counseling than those who do not receive the letters. Counseled students also reduce their student loan borrowing in the subsequent semester. For freshmen, the results suggest that the intervention increased retention rates for the subsequent semester and year. The results also show that the intervention increased credits attained that semester, particularly for freshmen, suggesting that students completed courses from which they may have otherwise withdrawn. Students also increased their grade point average (GPA) in the semester of the intervention. These results suggest that early interventions that warn high borrowers of their debt levels and that offer financial counseling, can substantially improve student academic outcomes and financial decisions.

[2]While these data could potentially be explored with a regression discontinuity framework for students at Montana State University after the policy was implemented, in practice we do not have sufficient power for this exercise as the thresholds vary by class.

2 Background

2.1 Financing Postsecondary Education

Students can finance their postsecondary education through a combination of several different sources: existing savings, parental contributions, employment income, grants, scholarships, subsidized and unsubsidized public student loans, and private student loans. Our research focuses on the options for borrowing. The federal government offers subsidized Stafford Loans to undergraduate students based on financial need and unsubsidized Stafford Loans to undergraduate students at all income levels. The borrowing limit for subsidized Stafford loans increases with each year of college, reaching a maximum of $5,500 per year for college juniors and seniors who are still financially dependent on their parents and $12,500 per year for financially independent students.[3] As there is no underwriting done on Stafford loans, students are able to borrow for their education without consideration of their ability to repay the loan (of Education 2014). Parents can also borrow for their children's education using the Parent PLUS loan program.

In addition to the Stafford and PLUS loans, students with exceptional demonstrated financial need can borrow from the government through their college using the Perkins loan program. For the 2014-2015 academic year, Perkins loans allowed qualifying undergraduate students to borrow up to $5,500 per year to a cumulative maximum of $27,500. Students from low-income families can also receive a Pell Grant valued at up to $5,730 for the 2014-2015 academic year; this grant does not require repayment.

Students and their parents also have the option of borrowing from private financial institutions to finance their postsecondary education. Private student loans are generally more costly than federal student loans and have repayment terms that are much less flexible than those of federal loans (Lochner and Monge-Naranjo 2015). Moreover, private student loans are underwritten and therefore require a cosigner for approval unless the student has established a positive credit record. The underwriting requirements and re-

[3]The cumulative maximums are $31,000 and $57,500, respectively.

duced flexibility suggest that students should generally maximize their borrowing through the federal student loan programs before turning to private loans, although empirically this has not always been shown to be the case (Avery and Turner 2012).

2.2 Context for the Intervention

Montana State University and the University of Montana are peer institutions. Montana does not have a single state flagship campus; the two schools are complementary.[4] As described below, this setting allows us to use the University of Montana as a control institution in a natural experiment framework. Furthermore, Montana State University and the University of Montana are ideal for research into the effects of student loans on postsecondary outcomes because these institutions are comparable to many public institutions throughout the United States. Both are public universities, with student enrollment of about 15,000 undergraduate students at Montana State University and about 14,000 at the University of Montana. This number is comparable to the average enrollment at public four-year universities in the United States of about 11,000 students. Admission standards are the same at both institutions: both require an ACT score of at least 22, a 2.5 high school GPA, or graduation in the top half of a students high school class. About 60 percent of undergraduate students at both universities come from Montana. In-state tuition at the University of Montana in the 2014-15 school year was $6,330, about 15 percent lower than at Montana State ($6,800), although out-of-state tuition is about 5 percent higher at the University of Montana. Although tuition rates at these universities are below the national average, they are comparable as a fraction of state median household income. Graduation rates are also similar, with both graduating about 45 percent of students in six years. The main difference between the two is that Montana State University is the land grant institution, with larger colleges of agriculture and engineering, while the University of Montana has a larger liberal arts program.

[4]For example, by design, Montana State University has the business school for the state, while the University of Montana has the law school.

Borrowing behavior is also similar at the two schools and approximates the national average. At Montana State, 65 percent of students graduate with debt; at the University of Montana, 62 percent have student loans. The national average is similar, where 69 percent of college graduates with student loans. In 2013, the average graduate of Montana State University had about $27,000 in debt, which is slightly less than the average debt at the University of Montana ($30,000) and the national average ($28,400).[5] About half of students at both institutions receive Pell grants, higher than the US average of about 40 percent.

2.3 Student Debt Intervention at Montana State University

The intervention we study was initiated in fall 2012 by the Office of Financial Education, part of the Center for Student Success at Montana State University. During the fall semester, students who met specific debt thresholds were sent "Know Your Debt" letters. A sample letter is included in the Appendix. The threshold for receiving the letter varied by class standing and expected future salary calculated by the Center. The "Know Your Debt" letters were sent to students who met defined conditions: first-semester freshmen with more than $6,250 in loans, sophomores with more than $12,000 in debt, juniors with more than $18,750 in debt, and any student with more than $25,000 in debt. For context, these debt amounts targeted students whose annual borrowing represented about double the amount of in-state tuition; as noted previously, the average graduate at Montana State holds $27,000 in debt. These thresholds exceed the federal subsidized loan limits and the loan limits for dependent students, but are below the federal loan limits for independent students. For example, freshmen can take up to $3,500 in federal subsidized Stafford loans. Independent students can borrow an additional $6,000 in unsubsidized Stafford loans, for a total of $9,500.

A few additional letters were sent to students whose total loan amount exceeded the

[5]The Project on Student Debt (2014), Student Debt and the Class of 2013. Institute for College Access and Success. Report accessed on May 14, 2015, at `http://ticas.org/posd/home`.

median annual salary by major or whose expected monthly payments were anticipated to exceed 14 percent of monthly salary. These median salary levels come from Montana State University Career Destinations Survey of recent graduates. However, in practice very few students met this condition who did not also meet the debt threshold conditions.

Roughly 2,300 letters were sent in the first year of the intervention. The "Know Your Debt" letters provided students with information about their debt levels, and contained a highlighted statement that the debt levels were high: "If you continue to accept student loans at this rate, you will accrue a debt level that may become difficult to repay, which may place you at risk for defaulting on your loans." Letters encouraged students to learn more about how to deal with debt. They encouraged students in particular to take at least 12 credits to take advantage of constant tuition rates above this threshold. The letters also offered one-on-one financial counseling appointments with a financial coach. These appointments were incentivized with $10 gift cards in the first year and $20 gift cards in the second year, redeemable at a local grocery store and gas station. The intervention continued into the following year (2013) with the same criteria for letters and recommendations for appointments.

The counseling services included an approximately one-hour appointment with a certified financial planner (CFP) who could help with a variety of topics, including formulating a budget, mapping out course schedules for the duration of the students college career, discussing the salary potential in the students major, and talking through some costly registration "mistakes" students can make. These registration mistakes include dropping a course before or after certain dates in the semester (which can cost between 10 and 90 percent of the tuition cost, depending on the date), registering for 12 credits instead of 15 (students pay the same tuition regardless of how many credits they take beyond 12 per semester), and dropping a course in the first week of class (which results in a tuition refund of less than 100 percent).

Counseling services were not tracked consistently in connection with the letters, making it difficult to determine the take-up of these services. As a result, this study does not

attempt to distinguish between the effect of receiving a targeted debt letter, the advice in that letter, and the one-on-one counseling sessions.

Although the University of Montana also offers financial counseling to all students, there is no parallel effort to target counseling offers and no corresponding initiative to let students know about their debt status other than through the regular process of applying for financial aid. This process is the same federal process all students are required to undergo.[6] We therefore use the University of Montana as a control campus, allowing us to exploit a triple difference strategy, as explained in detail in the Methods Section. We compare outcomes at Montana State for students who received the "Know Your Debt" letters with students who did not, further compare students with similar debt loans in years before and after the intervention, and finally compare similar students in the same time period at the peer institution.

2.4 Effects of Financial Counseling

One-on-one financial counseling with a CFP or other qualified professional has been shown to be effective at improving numerous financial outcomes across a variety of settings and populations. In a recent meta-analysis of the literature, Collins and O'Rourke (2010) find financial counseling to be associated with increased financial knowledge, reductions in credit delinquency, increased savings, and improved self-assessed financial behaviors.

A relatively limited literature has focused specifically on the effects of financial counseling on college students. One reason for the lack of research on student loans and academic performance is the lack of individual-level data on this topic. The "Opening Doors" randomized trial conducted by Manpower Demonstration Research Corporation (MDRC) evaluated various interventions to improve the academic and financial outcomes of community college students at six locations across the country. These interventions at two Ohio colleges included counseling sessions for treated students. The researchers found that counseled students were more likely to remain enrolled in college and also to

[6]See Fernandez et al. (2015) for a discuss of the details of federal counseling.

enroll in and complete more credits than those students in the control group (Scrivener and Coghlan 2011; Scrivener and Au 2007).

Recent research by Schmeiser et al. (2015) demonstrates a correlation between the amount of student loan debt and academic outcomes for college students. Specifically, they found that students with a higher loan to tuition ratio have lower overall and semester GPAs, take fewer credit hours of courses, and are less likely to enroll in a STEM major. These findings are generally consistent with the Deming and Dynarski (2009) review of the literature on the link between college costs and educational attainment.

A broader literature exists on the effects of financial education on the financial well-being of college students. In general, this research has found that financial education for college students positively affects financial knowledge, behavior, and outcomes whether it is administered via a seminar (Borden et al. 2008), a high school personal finance course (Urban et al. 2014), or a college course in personal finance (Robb and Sharpe 2009). Overall, the existing counseling and financial education literature suggests that the financial counseling offered to Montana State students should improve their academic performance, career choices, and financial outcomes.

3 Data

The data for this project are administrative panel data from the Montana University System (MUS). These data include students' high school information, demographic information, the Montana postsecondary campus attended, and the degree pursued. The MUS data are novel for the detailed individual-level college funding information provided. These data identify the source of funds (such as federal, institutional, state, or other), the type and amount of award (need-based, merit-based, athletic payments, work study, loans, etc.), and the fraction of tuition covered by the loans. Our data do not include any information on private loans; however, private student loans are only a small fraction of student debt at the undergraduate level. These data also include semester-by-semester

enrollment, credits, major, GPA, courses taken, and retention. To our knowledge, we are among the first researchers to use administrative individual student loan data to examine effects of borrowing on postsecondary education outcomes.

Our data span the years 2002 through 2014, or 36 semesters of data, allowing us to follow 57,334 undergraduate students with loans for at least some portion of their time in college. The sample yields a total of 229,669 undergraduate student-semester observations with full coverage across all variables. For the purpose of this study, we limit our analysis to the two largest four-year campuses in the state of Montana: the University of Montana and Montana State University. We also limit our analysis to in-state undergraduate students to abstract away from tuition and loan differences due to the choice of an out-of-state institution. We examine the effects of the amount of tuition covered by loans, as relative tuition charges at the University of Montana and Montana State vary from year to year, with a current difference in in-state tuition of about 15 percent ($6,330 at University of Montana compared to $6,800 at Montana State). Finally, we limit our analysis to all students who have some form of public loan.

Table 1 reports summary statistics on the loan, demographic, and academic characteristics of the students we study. The average loan amount is $4,200, which covers about 94 percent of annual tuition charges. Approximately one-half of students within our sample are Pell grant recipients, meaning they come from a low-income household.[7] The average student enrolls in 12.2 credits per semester, or approximately four classes, which is less than a recommended course load of 15 credits per semester that typically would enable graduation in four years. Notably, tuition rates are constant after 12 credits.

Approximately 42 percent of students at these two universities declare a STEM major. The fraction of STEM majors may seem high at first glance, but given that Montana State is a land grant university with many agriculture-based majors, this number is not

[7]The exact income threshold for Pell Grant receipt is based on the expected family contribution relative to tuition. According to the US Department of Educations 2012-13 report, about three quarters of Pell Grant recipients have a family income of $30,000 or less (`http://www2.ed.gov/finaid/prof/resources/data/pell-2012-13/pell-eoy-2012-13.html`).

surprising. The data further contain demographic information: our sample is 87 percent white and 48 percent male. We obtain data from the American Community Survey from the Census Bureau on demographic characteristics for the student's ZIP code of high school graduation. These variables include educational attainment, racial composition, median household income, and population density of the ZIP code. Finally, we control for whether or not the student came from a metropolitan area of over 25,000 residents to proxy for urbanicity.

4 Methods

As described earlier, beginning in fall 2012, Montana State University extended warning letters and targeted offers of intensive financial counseling to all students who were at risk of graduating with high levels of debt. Letters were sent based on debt as of the fall semester relative to a threshold that depended on the students year in school. Letters were also sent to students whose total debt exceeded the median salaries for Montana State graduates in their major field.[8] The University of Montana offers financial counseling services to the student body at large, as does Montana State.

In our data, we use the information on student loan amounts to determine freshmen, sophomores, juniors, and seniors who would have received the letters based on the debt criteria established by MSU. Table 2 reports the counts of individuals assigned to the letter at Montana State and those that would have received the letter using the same criteria at the University of Montana. We only include students with loans in this set of analysis, as those without loans are systematically different from those with loans.

We examine the impact of these letters on academic outcomes by comparing University of Montana and Montana State students who received loans in fall 2012 or fall 2013 to each other and to their counterparts who had similar levels of debt in years prior to the

[8]These salaries were based on responses to MSUs Career Destinations Survey given to graduating seniors. The salary requirement is not binding for most students who receive the letter. Thus, we leave it out of the estimation strategy.

letter program. In these models, it is important to control for some measure of parental income, given its role in the determination of eligibility for grants, loans, and financial aid. The best measure we have for parental income in our data is the students Pell Grant status, a signal for having come from a very low-income family. We also control for ZIP codelevel demographics for a students home ZIP code to capture other dimensions of socio-economic status. These variables include percent non-white, median household income, educational attainment, urbanicity, and population density. We further control for students race, gender, the number of credits taken up to that semester, the number of semester the student has completed (i.e., their standing in school), the amount of non-loan aid a student receives (e.g., grants, scholarships), a campus dummy ("attends Montana State University"), the type of semester (fall, spring, or summer), and include year fixed effects. Specifically, we estimate the Equation 1 for students with loans.

$$
\begin{aligned}
Y_{i,t} &= \alpha_0 + \beta_1 \text{Letter}_{i,t} + \beta_2 \text{Montana State}_{i,t} + \beta_3 \text{Letter} \times \text{Montana State}_{i,t} \\
&+ \beta_4 \text{Letter} \times \text{Montana State} \times 2012_{i,t} + \alpha_1 \text{White}_i + \alpha_2 \text{Male}_i + \alpha_3 \text{Pell}_{i,t} \\
&+ \alpha_4 \text{Credits}_{i,t} + \alpha_5 \frac{\text{Loan}}{\text{Tuition}_{i,t}} + \alpha_6 \text{Non Loan Aid}_{i,t} + \boldsymbol{\alpha_7} \text{Zip}_{\boldsymbol{i}} + \delta_{\text{year}} \\
&+ \gamma_{\text{semester}} + \epsilon_{i,t}
\end{aligned}
$$

Note that the indicator variable Letter is equal to 1 for a student at either campus in any year whose debt levels would have qualified them for the "Know Your Debt" letters at Montana State University in 2012 or later. This varies by time because students may be letter eligible one semester and not the next. The primary parameter of interest is β_4, as it captures the difference-in-difference-in-differences (DDD) estimator of the counseling intervention.[9] This estimate should be thought of as an "intent to treat" measure, as

[9]We also estimate a difference-in-difference specification that only compares students within Montana State University before and after the intervention above and below the thresholds for the debt letters. Results remain consistent, but the standard errors are larger. We estimate an additional model that only compares the loans over the threshold to those with loan amounts equal to at least one-half of the threshold. Our results remain consistent.

it captures the effect on all students whose borrowing reaches the key thresholds, not just those who attended the one-on-one counseling sessions. The outcome $Y_{i,t}$ represents the outcome of a variety of decisions students can make in the subsequent semester after receiving the letter and, potentially, counseling. Again, we cluster standard errors at the individual student level.

In order for our DDD estimation strategy to produce causal estimates of the effect of the "Know Your Debt" letters on student outcomes several assumptions must hold. The first is the parallel trends assumption that in the absence of the treatment (letters) the trends in the various outcomes across the groups (campuses and debt thresholds) would have remained the same. The second is that there are no spillover effects from the treatment to the control group (e.g. Montana State students who receive the letters do not talk to Montana State students below the debt threshold, or call up University of Montana students and tell them about the letter content). However, if this assumption is violated it would only lead to our estimates being biased downwards since some of the control group received a weak version of the treatment.

5 Results

Table 3 reports outcomes achieved in the subsequent semester (i.e., spring), including the semester GPA, semester credits, a declared STEM major, and semester loan amount. These results are based on the sample of all students with loans in any period. Table 3, Column (1) shows that the intervention increased students semester GPAs by 0.045 points. Students increase their credits by 0.066, but this effect is not statistically different from zero. While these effects are modest, they do suggest some positive effects for students that were exposed to the intervention. The letters increased the likelihood that students would declare a STEM major by 1.9 percentage points (Column (3)). Students subject to the intervention also reduced the amount they borrowed in student loans in the semester following receipt of the letter by approximately $1,361. This represents

the average decrease, but does not speak to whether the decrease in loans concentrated among a few students whowith large changes, or many students with smaller changes. The dependent variable in Column (5) instead is a binary variable for whether or not the amount borrowed in the subsequent semester was smaller than in the semester when the letter was sent. It shows that about 18 percent of students had had lower loan amounts in the subsequent (spring) semester, indicating broad impacts across the distribution. The targeted letters and offer of one-on-one counseling appear to result in students either reducing their spending or finding alternative ways to finance their subsequent semesters in school. At a minimum, these results suggest that if students are reducing their loan amounts to work more, they are not doing so at the cost of their academic performance.It may also be that the explicit information about credit loads or the offer of Career Coaching may have had contibuted to the positive effects on choice of majors. [10]

How much are these effects driven by students who are close to graduation, for whom debt levels may be particularly salient, and how much are they driven by students early in their careers, who may be more able adjust their borrowing and academic behaviors? To identify the effects of early-targeted financial information, we replicate this exercise in Table 4 for first-semester freshmen only.[11] While we no longer see an effect statistically different from zero on GPA, the letter increases the likelihood of declaring a STEM major by 11 percentage points. This represents a 250 percent increase in the probability of declaring a STEM major among targeted students, suggesting that early financial information allows freshmen to change their academic career paths. Furthermore, freshmen decrease the amount they borrow in the semester following the counseling by an average of $1,882, a 30 percent greater effect than the average effect on subsequent borrowing across all students presented in Table 3. Recall that freshmen receiving these letters have already taken out at least $6,250 in loans. Given the magnitude of the effect on

[10]We find no change in work-study participation as a result of the intervention. We do not have any data on external employment while in college.

[11]This analysis no longer controls for standing in school or cumulative credits, as these no longer have much variation.

their borrowing, freshmen may be particularly appropriate targets for information about student loans. Furthermore, these effects appear to apply to a large fraction of the distribution: column (5) shows that 28 percent of freshmen reduced their loan amounts in the subsequent semester due to the intervention.

Because the letters were distributed in November, around the time when students make decisions about withdrawing from courses and studying for finals, we also look at performance and credits completed in the semester of the intervention. Table 5 shows that the intervention increases semester GPAs by 0.05 for all students and by 0.12 points for freshmen. Students are also more likely to complete the courses they are enrolled in, finishing the semester with 0.14 more credits for all students and 0.68 more credits for freshmen. This finding suggests that the counseling increased students attention to their current-semester courses and that early interventions for freshmen are particularly effective.

With these data, it is difficult to unambiguously identify financial "mistakes" that students make and potentially correct subsequent to the intervention. The closest approximation to potential "mistakes" we can identify relate to the number of credits taken. Students must enroll in at least 6 credit hours to be eligible for most federal and state aid (with the exception of Pell Grants), and they must be full time (12 credits or more) to receive a full Pell Grant or scholarship. Tuition and fees are constant above 12 credits, implying that the marginal financial cost for enrolling in more than 12 credits is zero. In order to complete the standard graduation credit requirements in four years, students need to enroll in 15 credits each semester. This objective implies that one potential improvement for many students would be to enroll in 15 credits instead of 12 credits, with no marginal financial cost. Students may be especially likely to enroll in more credits in the semester after they receive the letter. A second mistake would be to withdraw from classes in the current semester and jeopardize financial aid in the subsequent semester. To be eligible for aid in the subsequent semester, students must complete at least 67 percent of credits attempted. For example, a student taking 9 credits could not withdraw from

a 3-credit class without losing eligibility for aid the next semester. For students taking more than 9 credits, withdrawing from a single 3-credit class would not affect future financial aid. Indeed, the letter provides explicit information both about the need to pass 67 percent of classes and about registering for 15 or more credits a semester.

To investigate whether the effects are driven by uniformly higher credit-taking across the distribution or by larger changes from students at the margin of sub-optimal and optimal choices, we examine the effect of the letter and counseling offer across the distribution of credits. Table 6 reports the effects at two points: the effect of the intervention on the probability of taking at least 9 credits, and the probability of taking at least 15 credits. For both outcomes, we again examine the effect in the current semester and in the subsequent semester. Columns (1) and (2) show that while the letter and counseling offers increased both probabilities in the current semester, the effect is greater for the probability of taking at least 15 credits. Column (2) of Panel B reports that freshmen who receive the intervention are nearly 5 percent more likely to complete at least 15 credits in that semester.

The specifications that examine future credits in Columns (3) and (4) also condition on the number of credits taken the semester the letter was received. These specifications further help to center the analysis on potential corrections of past "mistakes." Some students likely balance other time or psychological constraints that lead them to consistently enroll in 12 credits even though the financial cost of an additional course to earn 15 credits is zero. If students were behaving optimally, the intervention would then have no effect after conditioning on the typical credit load. However, the specifications in Column (4) indicate that even conditioning on past credits, students who received the intervention were 2.5 percent more likely to enroll in 15 or more credits the following semester.[12]

Tables 3 through 6 indicate that current and subsequent semester behaviors are significantly affected by the counseling intervention in ways that appear to indicate that

[12]While the magnitude is comparable for freshmen in Panel B, it is no longer statistically different from zero.

students are correcting previous mistakes after receiving additional information. However, it may be that the letters have negative effects on academic outcomes if they cause students to become discouraged and drop out of the university. If subsequent semester outcomes are driven by the fact that some students select out of college completion, the results may overstate the positive effects on academic achievement. This does not appear to be the case. Table 7 examines the effect of the counseling intervention on student retention. This table reports retention two different ways: Columns (1) and (3) report whether the student was still enrolled and taking courses in the subsequent semester, and Columns (2) and (4) report whether the student was still enrolled and taking courses in the subsequent fall semester or one year later. The results indicate that the effects are again greatest for freshmen, for whom the counseling intervention increased the probability of retention by 3.6 percentage points in the next year. This effect is not statistically different from zero when upper-classmen are included in the analysis, showing that the information may not be as relevant for students who have already made decisions about whether to stay in college or drop out.

5.1 Heterogeneity

We next look at potentially heterogeneous effects of the intervention in Table 8. Panel A begins by replicating Table 3 for four different sub-samples: borrowers above the Stafford subsidized limit, Pell recipients, females, and non-white students. Panel B replicates Columns (1) and (2) of Table 5 and Columns (1) and (2) of Table 6 for the same subgroups.

Students that borrowed more than the subsidized Stafford limits reduce their loan amounts in the subsequent semester 9 percent more than the average effect (Column (4)) reported in Table 3. These students further responded to the intervention by increasing their average credits by 0.21 in the subsequent semester. This could be a result of the letters' specific advice about the number of credits to take: "At MSU, tuition doesn't

cost a penny more after you've registered for 12 credits in a semester. Please consider registering for more credits to graduate sooner and spend less on tuition!" These students also respond by improving their GPA by 30 percent more than the average effect, 0.065 points in the subsequent semester. This could be a direct response to the advice that "you must pass 67% of your classes each semester to meet the Satisfactory Academic Progress requirements to continue receiving student loan financing." Further, this group is more likely to respond by declaring a STEM major next semester. In unreported results, we find that the intervention reduced the probability of being over the Stafford subsidized limit in the subsequent semester by 26 percent for those that were above the Stafford subsidized limit in the given semester. This suggests that the letter makes students more cautious about excess borrowing. In the current semester (Panel B), students above the Stafford subsidized limit and exposed to the intervention finish 0.23 credits more, on average, and are 1.7 percent more likely to be retained in the next year.

The next group we study is Pell grant recipients, who come from the lowest-income households. On average, the effect sizes for this group are consistent with the average effects in Table 3 in terms of loan amounts. However, like the borrowers above Stafford limits, they are more likely to improve their academic performance, finishing more credits and with a higher GPA, in the semester following the intervention than the average effect. These students also seem to respond to the letter by focusing more on the current semester. The effect size for this group is larger for current-semester GPA and current-semester credits, meaning that these students are most likely to complete courses they would have otherwise dropped and to focus on doing well in their final exams. Pell recipients are also most likely to be retained one year after receiving the letters; they increase their probability of being in school next year by nearly 3 percentage points. Given that we find no effect of the intervention on this retention measure for the full sample, this targeted effect on a relatively high-risk group is an interesting finding.

Female students seem to respond to the letters by focusing more closely on academics, achieving higher GPAs the subsequent semester with an effect size almost double that of

the average result. However, the effect on current semester GPA for females is the same as the average effect. Females do not respond to the intervention by completing more credits in the current or subsequent semesters and are no more likely to be retained. They also do not declare STEM majors at a higher rate because of the intervention. Females do respond by taking out less debt in the next semester, reducing their loan amount by an average of $1,668. This amount is greater than the average effect, $1,361, showing that female students may either be more risk-averse or more influenced by information on their debt amount and future salary.

We find that the intervention produced no changes for non-white students in next-semester GPA, next-semester credits completed, the declaration of a STEM major, current-semester GPA, current-semester credits, or retention. However, even these students reduced their loan amounts by approximately $1,159, though this is lower than the average effect. Note that in our data, only 13 percent of the student body is non-white, and these students are disproportionately American Indian. Caution should be taken in extending these results to other groups.

5.2 Discussion

There are a few components to the experimental design that are worth mentioning. First, while we know the specific rules used to determine who would receive the letters, we do not know who exactly received the letters. In addition, the number of students who should have received letters, according to our counts, is slightly greater than the number of students to whom the Center for Student Success actually sent letters.[13]However, this slight discrepancy would lead to a downward bias in our results relative to the actual effect size, as we classify students as receiving the intervention when they did not.

Second, we do not know which students who received letters also chose the one-on-one counseling. Counseling was available for all students on both campuses, though it was not

[13]This difference could be due to refunds of student loans or a difference in the loan amounts at the given date in the data versus the loan amount on the given date for the Centers records.

incentivized for the general population (no gift card). We cannot separately identify the effects of the counseling and the letter. It could be the case that the letter, even without the counseling option, is producing the estimated effects by making students cognizant of how much they are borrowing, that their borrowing levels are determined to be risky, and by providing advice about credits, pass rates, and future repayment options. The letter may also be a signal for students to visit with their academic advisor or talk with their parents about their finances, or simply to independently change their behavior because of the way their borrowing amounts are targeted, while their friends or roommates may have not received a simialr letter.

Third, there may be spillover effects present. For example, at-risk students who received a letter may see the counseling option and tell their roommates about their financial struggles or their experience at a counseling session. Even if the at-risk student does not go to counseling, his roommate can still see a one-on-one financial counselor at no charge. If the roommate attends, this bias would understate the true effects of the intervention.

6 Conclusions

This paper contributes to a growing literature studying the potential ways to mitigate the complexity of student financial aid through financial education. Dynarski and Scott-Clayton (2006) liken the complexity of financial aid to the tax system, explaining how a simplified system would provide more aid to more individuals. Bettinger et al. (2009) find that assistance in filling out the Free Application for Federal Student Aid (FAFSA) increases aid amounts and the probability that an applicant attends college. Our study determines how financial information for at-risk students can change academic outcomes, as well as future borrowing decisions.

Our study further emphasizes the importance of high-quality administrative data for understanding student loans at the individual versus aggregate levels. The MUS data make it possible to evaluate interventions at both the university and federal levels with-

out survey or aggregated data, allowing us to precisely identify the effects of a policy that varied both within a given university and across institutions. We find that students who received targeted information about debt levels and counseling offers increased semester GPAs and credits, were more likely to switch to a STEM major, and reduced borrowing levels the subsequent semester relative to their peers. These estimates rely on comparisons with similar peers in pre-intervention periods, other borrowers with loans below the thresholds, and similar peers in the same time period at a comparable institution. Switching to a STEM major and reducing borrowing were particularly pronounced for freshman receiving the intervention, as their rate of choosing STEM majors increased by 11 percentage points and borrowing fell by about one-third. We also find that females are particularly likely to improve grades because of the intervention, while Pell grant recipients and borrowers above Stafford subsidized limits are more likely to change to a STEM major. Overall, this relatively low-cost intervention that provided financial information and offered counseling to students with potentially risky levels of debt led to large behavioral changes. However, it is not clear that a blanket policy of uniformly provided loan information to all students regardless of debt level would be as effective as this targeted intervention.

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7 Tables

Table 1: Summary Statistics

	Observations	Mean	Std. Dev.
Academic Characteristics			
Semester GPA	255,076	2.79	1.03
Semester Credits	255,076	12.23	4.44
STEM Major	255,785	0.42	0.49
Retention next semester	245,271	0.798	0.401
Retention next year	208,262	0.759	0.428
Loan Characteristics			
Loan Amount for Borrowers ($000s)	255,785	4.20	2.75
Non-loan Aid for Borrowers	255,785	1.283	2.040
Student Characteristics			
White	255,785	0.87	0.33
Male	255,785	0.48	0.50
Pell	255,785	0.50	0.50
Census Characteristics			
% Some College	254,614	30.70	3.63
% HS Education	254,614	23.10	7.70
% No HS Education	254,614	5.98	3.34
% Non-White	254,614	7.34	7.02
Median Household Income	254,614	46,218	13,460
Population Density	254,640	1,355	2,106
Urban Area	235,047	0.82	0.39
Unique Students	57,334		

Notes: Separate summary statistics for University of Montana and Montana State University pre- and post-intervention are presented in Appendix Table A1.

Table 2: Letter Descriptive Statistics

	Intended Letter		No Letter	
	Montana State	University Montana	Montana State	University Montana
Number Freshmen	1,584	967	1,863	1,373
Number Sophomores	1,204	1,110	909	882
Number Juniors	1,105	1,155	960	1,048
Number Seniors	1,369	1,473	1,159	1,228
STEM Major	3,142	1,457	2,904	1,461
Cumulative Loan amount Fall	28.9	28.9	8.7	9.0
Cumulative Loan amount Spring	33.1	34.9	11.8	12.8

Notes: Data for Fall 2012 and Fall 2013 only. Cumulative loan amounts in thousands.

Table 3: Effect of Letters on Outcomes in Next Semester

	(1) GPA	(2) Semester Credits	(3) STEM Major	(4) Loan Amount	(5) Loan Amount Fell
Letter	-0.159***	-0.433***	-0.041***	2.315***	0.026***
	(0.011)	(0.048)	(0.006)	(0.034)	(0.004)
Montana State	-0.050***	0.201***	0.159***	0.035**	0.048***
	(0.008)	(0.033)	(0.005)	(0.012)	(0.002)
Montana State × Letter	0.075***	0.218***	0.038***	-0.182***	0.039***
	(0.015)	(0.065)	(0.009)	(0.045)	(0.006)
Montana State × Letter × Post	0.045*	0.066	0.019+	-1.361***	0.178***
	(0.019)	(0.087)	(0.010)	(0.065)	(0.008)
White	0.191***	0.851***	0.016**	-0.094***	0.004+
	(0.009)	(0.038)	(0.005)	(0.016)	(0.002)
Male	-0.257***	-0.598***	0.189***	-0.010	-0.005***
	(0.006)	(0.023)	(0.003)	(0.010)	(0.002)
Pell Dummy	-0.124***	-0.943***	-0.046***	-0.152***	-0.006**
	(0.007)	(0.028)	(0.004)	(0.014)	(0.002)
Cumulativel Credits	0.009***	0.043***	0.001***	0.003***	-0.001***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Number Semesters	-0.066***	-0.462***	-0.004***	-0.080***	0.006***
	(0.002)	(0.009)	(0.001)	(0.003)	(0.000)
Loan to Tuition Ratio	-0.128***	-0.394***	-0.030***	3.345***	0.278***
	(0.006)	(0.027)	(0.003)	(0.012)	(0.002)
Non-loan Aid	0.038***	0.218***	0.006***	-0.045***	0.009***
	(0.001)	(0.006)	(0.001)	(0.002)	(0.000)
Observations	203237	203237	203984	203984	203984
Adjusted R^2	0.089	0.083	0.087	0.530	0.205

Notes: Standard errors are clustered at the individual student level and are reported in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Dependent variables are all for the subsequent (Spring) semester. Loan Amount Fell is a dummy variable equal to one if the semester loan in the Spring semester was lower than the Fall semester loan amount. Specifications condition on having loans in current semester. All models control for ZIP codelevel characteristics from the American Community Survey, including percent no high school education, percent high school education, percent some college, percent non-white, population density, and median household income. We also control for whether or not the individual is from a metropolitan statistical area (MSA) with over 25,000 residents as a proxy for urbanicity. All models include year fixed effects.

Table 4: Effect of Letters on Outcomes in Next Semester, Freshmen Only

	(1) GPA	(2) Semester Credits	(3) STEM Major	(4) Loan Amount	(5) Loan Amount Fell
Letter	-0.033	0.292*	0.014	5.169***	0.076***
	(0.032)	(0.133)	(0.014)	(0.082)	(0.012)
Montana State	0.042	0.221+	0.090***	0.246***	0.009
	(0.027)	(0.116)	(0.011)	(0.036)	(0.009)
Montana State × Letter	-0.053	-0.505**	-0.009	-0.695***	0.087***
	(0.041)	(0.180)	(0.019)	(0.109)	(0.017)
Montana State × Letter × Post	0.007	0.303	0.106***	-1.882***	0.280***
	(0.053)	(0.246)	(0.024)	(0.214)	(0.022)
White	0.257***	1.084***	0.037***	-0.063	-0.000
	(0.024)	(0.109)	(0.010)	(0.052)	(0.008)
Male	-0.270***	-0.879***	0.190***	0.037	-0.004
	(0.014)	(0.063)	(0.007)	(0.029)	(0.005)
Pell Dummy	-0.327***	-1.687***	-0.060***	-0.204***	-0.018**
	(0.017)	(0.075)	(0.008)	(0.033)	(0.006)
Loan to Tuition Ratio	-0.803***	-4.147***	-0.086***	3.904***	0.208***
	(0.039)	(0.166)	(0.019)	(0.075)	(0.017)
Non-loan Aid	0.070***	0.347***	0.017***	-0.072***	0.021***
	(0.005)	(0.021)	(0.002)	(0.010)	(0.002)
Observations	21560	21560	21562	21562	21562
Adjusted R^2	0.070	0.089	0.071	0.534	0.460

Notes: Standard errors are clustered at the individual student level and are reported in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Dependent variables are all for the subsequent (Spring) semester. Loan Amount Fell is a dummy variable equal to one if the semester loan in the Spring semester was lower than the Fall semester loan amount. Specifications condition on having loans in current semester. All models control for ZIP codelevel characteristics from the American Community Survey, including percent no high school education, percent high school education, percent some college, percent non-white, population density, and median household income. We also control for whether or not the individual is from a metropolitan statistical area (MSA) with over 25,000 residents as a proxy for urbanicity. All models include year fixed effects.

Table 5: Effect of Letters on Current Semester Outcomes, All Students and Freshmen Only

	All Students		Freshmen Only	
	(1)	(2)	(3)	(4)
	GPA	Credits	GPA	Credits
Letter	-0.013	0.117**	0.000	0.770***
	(0.010)	(0.043)	(0.028)	(0.120)
Montana State	0.089***	0.681***	0.145***	0.515***
	(0.007)	(0.030)	(0.024)	(0.097)
Montana State × Letter	0.051***	0.434***	-0.090*	-0.856***
	(0.014)	(0.056)	(0.037)	(0.157)
Montana State × Letter × Post	0.051**	0.135+	0.115*	0.680***
	(0.017)	(0.072)	(0.046)	(0.205)
White	0.212***	0.967***	0.230***	1.274***
	(0.008)	(0.034)	(0.022)	(0.092)
Male	-0.264***	-0.579***	-0.251***	-0.603***
	(0.005)	(0.021)	(0.013)	(0.053)
Pell Dummy	0.008	-0.478***	-0.300***	-1.637***
	(0.006)	(0.026)	(0.015)	(0.064)
Cumulative Credits	0.011***	0.065***		
	(0.000)	(0.001)		
Number Semesters	-0.099***	-0.675***		
	(0.002)	(0.008)		
Loan to Tuition Ratio	-0.359***	-1.256***	-1.129***	-6.392***
	(0.006)	(0.026)	(0.032)	(0.130)
Non-loan Aid	0.043***	0.249***	0.075***	0.367***
	(0.001)	(0.005)	(0.004)	(0.018)
Observations	236,200	236,200	23,993	23,993
Adjusted R^2	0.139	0.171	0.099	0.147

Notes: Standard errors are clustered at the individual student level and are reported in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Dependent variables are all for the current (Fall) semester. Specifications condition on having loans in current semester. All models control for ZIP codelevel characteristics from the American Community Survey, including percent no high school education, percent high school education, percent some college, percent non-white, population density, and median household income. We also control for whether or not the individual is from a metropolitan statistical area (MSA) with over 25,000 residents as a proxy for urbanicity. All models include year fixed effects.

Table 6: Effect of Letters on Distribution of Credits in Current and Next Semester

Panel A: All Students				
	(1)	(2)	(3)	(4)
	Current Semester		Next Semester	
	≥ 9 Credits	≥ 15 Credits	≥ 9 Credits	≥ 15 Credits
Montana State × Letter × Post	0.017*	0.023**	-0.003	0.025**
	(0.007)	(0.009)	(0.007)	(0.009)
Current Credits ≥ 9			0.411***	
			(0.005)	
Current Credits ≥ 15				0.307***
				(0.003)
Observations	122,370	122,370	107,023	107,023
Adjusted R^2	0.119	0.094	0.191	0.156
Panel B: Freshmen Students Only				
	(1)	(2)	(3)	(4)
	Current Semester		Next Semester	
	≥ 9 Credits	≥ 15 Credits	≥ 9 Credits	≥ 15 Credits
Montana State × Letter × Post	-0.013	0.047*	-0.012	0.022
	(0.015)	(0.019)	(0.019)	(0.022)
Current Credits ≥ 9			0.384***	
			(0.013)	
Current Credits ≥ 15				0.241***
				(0.009)
Observations	23,994	23,994	21,562	21,562
Adjusted R^2	0.399	0.253	0.227	0.168

Notes: Standard errors are clustered at the individual student level and are reported in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Dependent variables are all for the current (Fall) semester. Specifications condition on having loans in current semester. All models control for ZIP codelevel characteristics from the American Community Survey, including percent no high school education, percent high school education, percent some college, percent non-white, population density, and median household income. We also control for whether or not the individual is from a metropolitan statistical area (MSA) with over 25,000 residents as a proxy for urbanicity. All models include year fixed effects.

Table 7: Effect of Letters on Retention, All Students and Freshmen Only

	All Students		Freshmen Only	
	(1)	(2)	(3)	(4)
	Retained 1 Semester	Retained 1 Year	Retained 1 Semester	Retained 1 Year
Letter	0.002	0.002	0.009	0.032***
	(0.006)	(0.004)	(0.012)	(0.007)
Montana State	0.042***	0.032***	0.034**	0.028***
	(0.006)	(0.004)	(0.010)	(0.008)
Montana State × Letter	-0.020*	-0.000	-0.031+	-0.019+
	(0.008)	(0.006)	(0.017)	(0.010)
Montana State × Letter × Post	0.018+	0.011	0.045*	0.036**
	(0.009)	(0.008)	(0.019)	(0.012)
White	0.031***	0.016***	0.040***	0.021***
	(0.006)	(0.004)	(0.009)	(0.006)
Male	-0.013***	0.003	-0.033***	-0.003
	(0.003)	(0.003)	(0.006)	(0.004)
Pell Dummy	-0.049***	-0.030***	-0.077***	-0.037***
	(0.004)	(0.003)	(0.007)	(0.004)
Cumulative Credits	0.007***	0.007***		
	(0.000)	(0.000)		
Number Semesters	-0.051***	-0.063***		
	(0.002)	(0.002)		
Loan to Tuition Ratio	-0.162***	-0.137***	-0.226***	-0.147***
	(0.010)	(0.007)	(0.015)	(0.010)
Non-loan Aid	0.011***	0.011***	0.015***	0.013***
	(0.001)	(0.001)	(0.002)	(0.001)
Observations	55,127	59,914	22,057	23,845
Adjusted R^2	0.240	0.085	0.201	0.052

Notes: Standard errors are clustered at the individual student level and reported in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Retained 1 semester and Retained 1 year are dummy variables equal to one if the student continued to matriculate in the given timeframe. Specifications condition on having loans in current semester. All models control for ZIP codelevel characteristics from the American Community Survey, including percent no high school education, percent high school education, percent some college, percent non-white, population density, and median household income. We also control for whether or not the individual is from a metropolitan statistical area (MSA) with over 25,000 residents as a proxy for urbanicity. Models include year fixed effects.

Table 8: Heterogeneous Effects

Panel A: Next Semester Outcomes

	(1) GPA	(2) Credits	(3) STEM Major	(4) Loan Amount
Borrowers Above Stafford Subsidized Loan Amounts				
Montana State × Letter × Post	0.065**	0.206*	0.034**	-1.490***
	(0.021)	(0.096)	(0.011)	(0.069)
Observations	94,995	94,995	95,321	95,321
Pell Recipients				
Montana State × Letter × Post	0.061*	0.284*	0.034*	-1.359***
	(0.031)	(0.136)	(0.015)	(0.072)
Observations	54,341	54,341	54,500	54,500
Female				
Montana State × Letter × Post	0.082**	0.139	0.016	-1.668***
	(0.030)	(0.129)	(0.016)	(0.095)
Observations	56,208	56,208	56,435	56,435
Non-White				
Montana State × Letter × Post	-0.005	0.108	0.016	-1.159***
	(0.061)	(0.273)	(0.031)	(0.200)
Observations	13,275	13,275	13,313	13,313

Panel B: Current Semester Outcomes and Retention

	(1) GPA	(2) Credits	(3) Retained 1 Semester	(4) Retained 1 Year
Borrowers Above Stafford Subsidized Loan Amounts				
Montana State × Letter × Post	0.057**	0.231**	0.013	0.017+
	(0.019)	(0.079)	(0.008)	(0.009)
Observations	108,357	108,357	53,010	48,882
Pell Recipients				
Montana State × Letter × Post	0.072**	0.232*	0.007	0.028*
	(0.027)	(0.110)	(0.012)	(0.014)
Observations	63,246	63,246	29,267	26,567
Female				
Montana State × Letter × Post	0.050+	0.082	0.009	0.018
	(0.026)	(0.105)	(0.011)	(0.013)
Observations	64,311	64,311	31,191	28,734
Non-White				
Montana State × Letter × Post	0.006	0.298	0.028	0.030
	(0.055)	(0.229)	(0.023)	(0.028)
Observations	15,568	15,568	7,449	6,683

Notes: Standard errors clustered at the student level and reported in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Speicifcations condition on having loans in currents semester. All models include the same controls as Table 3.

8 Appendix

«First_Name» «Last_Name»
«Address_Line1»
«City», «State» «Zip»

Dear «First_Name»,

At Montana State University, we are serious about your education. We know higher education requires a real investment in time, energy, and financial resources, and we think you made a good choice by investing in yourself. However, we want to be sure the financial choices you make now do not negatively impact your future.

To that end, we want you to *know your debt* and be informed of important programs and options at MSU as well as Federal Student Loan terms and conditions:

- As of September 18, 2014, you have accepted $ in student loan debt at Montana State University.*
- Current federal loans for undergraduate students have interest rates as high as 6.8%.
- In order to remain in good financial aid standing, you must pass 67% of your classes each semester to meet the Satisfactory Academic Progress requirements to continue receiving student loan financing.
- When you are in the repayment period of your loans, there are multiple repayment plans available for you. For example, The Public Service Loan Forgiveness plan allows borrowers who work full-time at a qualifying public service organization to have the balance of their loans forgiven if they have made 120 on-time, full, scheduled monthly payments.
- For more information about your current loan amount, please visit www.NSLDS.ed.gov.
- At MSU, tuition doesn't cost a penny more after you've registered for 12 credits in a semester. Please consider registering for more credits to graduate sooner and spend less on tuition! Check out montana.edu/freshman15 for more information.

Again, we want you to know we think you made an excellent decision to invest in your future. Generally, college graduates earn more, have a lower unemployment rate, and live longer than those who do not have a college degree. We want to be sure you find the right balance so that student loan debt isn't going to negatively affect your financial future.

Schedule an appointment with a Financial Coach to learn more about repayment options, budgeting, and tips for managing your debt. To set up an appointment with a Financial Coach, call the Office of Financial Education at 406.994.4388 or email MakeChange@montana.edu. If you continue to accept student loans at this rate you will accrue a debt level that may become difficult to repay, which may place you at risk for defaulting on your loans.

We are so certain an appointment with a Financial Coach will be beneficial we are willing to pay you to attend. When you meet with one of the Financial Coaches in the office by DATE, you will receive a $20 gift card to help supplement grocery or gas expenditures.

We also recommend you meet with a Career Coach. Outside of earning a degree, we believe one of the most important steps you can take to secure a solid financial future is to develop an internship and career plan. Your Financial Coach will refer you to a Career Coach during your first meeting to assist with this effort.

Sincerely,

Dr. Carina N. Beck
Director, Allen Yarnell Center for Student Success

Kayla Fields
Program Manager, Office of Financial Education

*Please note, Nursing Loans, private education loans, and debt accrued at another institution are not included in this debt total. Loan balance does not reflect any payments or repayments made on the loans. To view your complete federal student loan borrowing history at all schools attended, please visit the National Student Loan Data System (NSLDS.ed.gov).

Table 9: Letter Descriptive Statistics

	Montana State		University Montana	
	Pre	Post	Pre	Post
Academic Characteristics				
Semester GPA	2.777	2.804	2.807	2.812
	(0.986)	(1.018)	(1.080)	(1.039)
Semester Credits	12.202	12.164	12.299	12.119
	(4.254)	(4.580)	(4.528)	(4.771)
STEM Major	0.506	0.558	0.331	0.298
	(0.499)	(0.497)	(0.471)	(0.457)
Retained following semester	0.827	0.636	0.821	0.658
	(0.378)	(0.481)	(0.383)	(0.474)
Retained Following Year	0.785	0.478	0.777	0.537
	(0.411)	(0.500)	(0.416)	(0.499)
Loan Characteristics				
Loan Amount for Borrowers	4.071	5.692	3.885	5.195
	(2.546)	(4.087)	(2.437)	(3.142)
Non-loan aid for borrowers	1.410	2.062	1.446	2.105
	(1.626)	(2.319)	(1.495)	(1.948)
Student Characteristics				
White	0.894	0.860	0.858	0.850
Male	0.506	0.519	0.455	0.444
Pell	0.485	0.490	0.510	0.555
Observations	107,693	19,371	109,307	19,414

Notes: Data for all periods where Pre signifies before the intervention and Post contains all years after the intervention. Means reported with standard deviations in parentheses. Loan amounts in thousands.