

Default and Repayment among Baccalaureate Degree Earners*

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Abstract

Lenders are interested in the expected return on their loans. In this paper, we go beyond an analysis of student loan default to consider a number of other measures of repayment and non-payment that are likely to be of greater interest to lenders. Using data from the Baccalaureate and Beyond Survey (B&B), we document repayment and non-payment outcomes ten years after graduation for American students receiving a BA/BS in 1993. We estimate differences in these outcomes across individual/family background characteristics, college major, type of institution, the amount borrowed, and post-school income. A key contribution is our analysis of the following outcomes in addition to student loan default rates: the fraction of the original undergraduate loan amount repaid as of 2003, non-payment rates (including deferment and forbearance as well as default), and the fraction of original undergraduate loan amounts that borrowers defaulted on or are currently not repaying.

Keywords: Student Loans, Default, Forbearance and Deferment, Labor Market Outcomes, Return to Lenders.

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1 Introduction

More and more American students are borrowing thousands of dollars from public and private lenders to finance their higher education with growing numbers of them defaulting on their obligations. Over the past decade, the total number of Stafford Loan borrowers has nearly doubled to 10.4 million recipients in 2011-12. Undergraduates borrowed more than \$70 billion annually in federal student loans in each of the past few years. More ominously, student loan default rates have risen continuously since 2005 after falling for more than a decade. Three-year cohort default rates stand at 13.4% for students entering repayment in 2009. Among students from private for-profit institutions, three year default rates exceed 20%.¹ Against this backdrop, there is growing concern that many students are borrowing too much, especially in the wake of the Great Recession. These developments have led to renewed interest in the design of federal student loan programs, including a re-evaluation of student borrowing limits, interest rates, and income-contingent repayment schemes. Unfortunately, much of this discussion is occurring with very little systematic evidence on the determinants of student loan repayment and default, especially for recent cohorts.

Dynarski (1994), Flint (1997) and Volkwein, et al. (1998) study the determinants of student loan default using nationally representative data from the 1987 National Postsecondary Aid Study that surveyed borrowers leaving school in the late 1970s and 1980s. Other empirical studies have generally examined default behavior at specific institutions or in individual states in the U.S.² Gross, et al. (2009) provide a recent review of this literature, concluding that factors like race, socioeconomic background, educational attainment, type of post-secondary institution, student debt levels, and post-school earnings are important determinants of default. Minorities, students from low-income families, and college dropouts all tend to have higher default rates, as do students attending two-year and for-profit private institutions. Default is also more likely for those with high debt levels and low post-school earnings.

¹See College Board (2012) for these and related statistics.

²See Schwartz and Finnie (2002) and Lochner, et al. (2013) for empirical analyses of student loan repayment, delinquency and default in Canada.

We go beyond previous analyses of default to consider other important measures of student loan repayment and non-payment that are likely to be of greater interest to potential lenders (public or private). Most lenders are concerned with the expected return on their investments; although, government lenders may have other objectives. While default is a key factor affecting the expected returns on student loans, other factors can also be important. For example, government student loans offer opportunities for loan deferment or forbearance, which temporarily suspend payments.³ The timing of default and deferment/forbearance can also influence returns to lenders. From the lenders point of view, it matters if a borrower defaults (without re-entering repayment) immediately after leaving school or after five years of standard payments. The discounted value of payments from the former is much lower than from the latter. Similarly, the discounted present value of payments is much lower for borrowers who defer payments for extended periods of time than for those who do not. These simple examples suggest that the creditworthiness of different types of borrowers (based on their background or their schooling choices) depends on the expected payment streams and not just whether they had ever entered default or are currently in default at some arbitrary survey date.

Unfortunately, an analysis of expected returns across different types of borrowers is impossible given current data sources, since it requires data on potential determinants of repayment and access to full repayment histories. As far as we know, these data are not available. In this paper, we use data from the Baccalaureate and Beyond Surveys (B&B) to analyze a number of different repayment and non-payment measures that provide useful information about expected returns on student loans. Discussed further in Section 2, the B&B follows a random sample of 1992-93 American college graduates for ten years and contains rich information about the individual and family background of respondents, choice of college major and institution, student borrowing levels, post-graduate earnings in a few years, and loan repayment status (including

³Expected returns on income-contingent lending programs, like the new Pay As You Earn student loan repayment program in the U.S., can lead to full or partial loan forgiveness for borrowers experiencing low income levels for extended periods of time. This clearly lowers the expected returns on the loans. Furthermore, the timing of payments can affect expected returns if lenders have different discount rates from the nominal interest rates charged on the loans.

outstanding balances) five and ten years after graduation. We use the student loan records to compute five different measures related to repayment and non-payment of student loans ten years after graduation: the fraction of initial student debt still outstanding, an indicator for default status, an indicator for non-payment status (includes default, deferment and forbearance), the fraction of initial debt that is in default, and the fraction of initial debt that is in non-payment. We then study the determinants of all of these repayment/non-payment measures in Section 3, focusing on the roles of individual and family background factors, college major, post-secondary institution characteristics, student debt levels, and post-school earnings. We find that many of the factors identified in earlier studies are important for our more recent sample of borrowers; however, the importance of some factors depends on the measure of repayment or non-payment under consideration.

We summarize our key findings and conclude in Section 4.

2 Data: The Baccalaureate and Beyond Surveys

We use the Baccalaureate and Beyond Surveys (B&B) to analyze patterns in student loan repayment and default for college graduates up to ten years after graduating. The B&B was initially drawn as a subsample from the 1993 National Postsecondary Student Aid Study (NPSAS), a nationally representative random sample of all postsecondary students in the U.S.⁴ More specifically, the B&B has followed the roughly 16,000 respondents who received their baccalaureate degree in the 1992-93 academic year through 2003. The B&B utilizes data from three basic sources: survey data in 1993, 1994, 1997, and 2003; institutional records on college costs and financial aid; and snapshots from student loan administrative records in 1998 and 2003. With extensive information about family background and demographic characteristics, student achievement as measured by SAT/ACT scores, college-related outcomes (e.g. undergraduate major, institution attended, graduate school attendance, and post-graduate degrees), labor market outcomes every few years, and

⁴All averages in the following tables use the B&B panel weights to account for the sampling scheme of the original NPSAS survey and attrition in subsequent surveys.

student loan balances and repayment status five and ten years after graduation, the B&B offers a unique opportunity for studying student loan repayment and default behavior in the U.S.

The B&B sample is relatively homogeneous in its educational attainment – all students have at least a BA/BS. The lack of college dropouts and students with less than four-year degrees is unfortunate, since previous research shows that repayment problems are most common among these individuals.⁵ Still, we find that many students graduating from college in 1992-93 have experienced problems repaying their loans.

To focus on a typical American college student, we exclude non-citizens, the disabled, and individuals receiving their BA/BS at age 30 or later (less than 14% received their BA/BS at later ages). Because individuals continuing on to graduate school are eligible for automatic loan deferments when they are enrolled, they will have spent less time in repayment. This directly reduces their opportunities for both repayment and default within any given time frame, making it difficult to compare their repayment/default outcomes with those of students who have not participated in post-graduate studies. Our main analysis, therefore, excludes respondents who attended 12 or more months of graduate school as of 1997, received any post-graduate degrees by 2003, or that are currently enrolled in school in 2003.⁶ Altogether, this leaves us with 4,304 American citizens who received their baccalaureate degree in 1992-93 but participated in little schooling thereafter. Roughly half of these graduates report having borrowed money for their undergraduate schooling as of 2003. Our analysis of repayment and default focuses on these 2,183 borrowers.

The B&B contains standard demographic characteristics such as gender and race/ethnicity (asian, black, hispanic, white). We also use measures of maternal education, categorizing students based on whether their mothers never attended college, attended but did not receive a BA/BS,

⁵See Gross, et al. (2009) for a recent survey of the literature on student loan default.

⁶To understand the implications of these restrictions, we have performed an analogous analysis without imposing the restrictions on months of post-graduate study and degrees. In regressions using this broader sample (analogous to those used in Tables 5-10), we also included indicator variables for the following graduate degrees: Masters level, professional degree, and doctoral degree. These results are qualitatively similar to those reported in the text, with a few exceptions that are specifically noted below.

or completed their BA/BS. Dependency status (for financial aid purposes) is also available for students, along with parental income in 1991 for those that are dependents. The B&B also contains data on student SAT and ACT scores. We categorize individuals into quartiles based on their SAT score if it is available. If an individual did not report an SAT score, we use the corresponding ACT quartile.⁷ The data also include information about the major course of undergraduate study and the type of institution from which individuals graduated (public, private non-profit, private for-profit, historically black college/university). We use the undergraduate institution from which individuals graduate to merge in a measure of the selectivity of the institution as determined by Barron's 1992 Admissions Competitiveness Index. We consider the following three competitiveness categories: most competitive and highly competitive, very competitive and competitive, and all others. Sample averages for all of these variables are reported for our sample of borrowers and non-borrowers, as well as borrowers only, in appendix Table A1.

Our main focus is on student borrowing, repayment and default measured ten years after graduation. As noted earlier, roughly half of our sample had borrowed for their undergraduate studies. Among those that borrowed, the average amount of undergraduate loans amounted to \$9,300. On average, another \$600 was borrowed for graduate studies. The latter is small, since our sample restrictions ensure that students in our sample spent very little (or no) time in graduate school. Ten years after graduation, on average, borrowers still owed nearly \$2,600 on their undergraduate student loans with two-thirds having repaid in full.

Table 1 reports repayment status for borrowers as of 1998 and 2003. In both years, 92% were repaying their loans or had fully repaid their loans already. The fraction of borrowers receiving a deferment or forbearance declined from 3.8% in 1998 to 2.5% in 2003, while the share of borrowers in default rose from 4.2% to 5.8% over this period.⁸ These figures suggest that deferment and

⁷These quartiles are based on the test score distributions for the full population rather than our restricted sample.

⁸Our repayment measures are based on individual loan records from the National Student Loan Data System, accessed in both 1998 and 2003. Loan status (for both dates) is determined from the most recent available status date at the time records were accessed. Our measures of default include borrowers who had defaulted or had expunged their student debt through bankruptcy. Since borrowers may have more than one loan in the system, we cycle through all government student loans in a borrower's records and set the default indicator to one if any of the

forbearance are an important form of non-payment with a diminishing role over time: they make up nearly half of all non-payments five years after school, falling to just under one-third five years later.

Table 2 reports transition rates for these repayment states from 1998 to 2003. The rows in the table report the probabilities of being in repayment (including those who fully repaid), receiving a deferment or forbearance, or in default ten years after school (in 2003) conditional on each of those repayment states five years earlier in 1998. 94% of borrowers in repayment (including those who had fully repaid) in 1998 were also making their payments or had fully repaid their loans by 2003. 4.0% of borrowers who were in repayment (or fully repaid) in 1998 were in default five years later. Only 75% of borrowers in deferment/forbearance in 1998 were in repayment (or fully repaid) five years later, while 16.5% were still in deferment/forbearance and 8.5% were in default. Among those in default in 1998, 54% had returned to repayment (or fully repaid) five years later while 42% remained in default. Although there is considerable persistence in these repayment states, many borrowers that were not making payments five years after school (i.e. in deferment/forbearance or default) were making payments (or had fully repaid their loans) five years later. Not surprisingly, deferment/forbearance is the least persistent state, since it is designed to temporarily help borrowers in need. Indeed, borrowers cannot typically receive a deferment or forbearance indefinitely. In the end, most borrowers receiving this form of assistance return to repayment; however, one-in-six end up defaulting.

Finally, the B&B asked respondents about their earnings in the 1997 and 2003 surveys, which we also utilize. The 1997 survey asked respondents about their annual salary for the job they were working in during April of that year, while the 2003 survey asked respondents about their total income from work earned in 2002. Based on these questions, respondents in our sample (borrowers and non-borrowers alike) reported average earnings of roughly \$30,000 in 1997 and \$50,000 in 2002.

loans are determined to be in default (or expunged through bankruptcy). Similarly, if any loans are in deferment or forbearance, we set the indicator for deferment/forbearance equal to one.

3 Determinants of Student Borrowing and Repayment/Non-Payment

In this section, we study the determinants of undergraduate borrowing and repayment behavior measured in 2003, roughly ten years after graduation. Since the standard repayment plan for Stafford loans is based on a ten-year repayment period, students who were always in good standing and making the standard payment should have paid down most if not all of their loans. As we show, many did not. In addition to studying the fraction of debt students have repaid within the first ten years after school, we also examine the traditional metric used to study student loan repayment behavior: default.⁹ We then go beyond this by examining a broader measure of non-payment that includes borrowers in deferment or forbearance, and report on the fraction of undergraduate debts remaining for borrowers that have defaulted or are in non-payment more generally.

We begin with an analysis of average post-school earnings, undergraduate borrowing and repayment/non-payment rates by student characteristics. We then explore differences in these outcomes based on the type of institutions from which students graduated. Finally, we use standard multivariate regression methods to examine the importance of individual/family and institutional factors, along with college major, student borrowing and post-school earnings levels in determining student loan repayment, default and other measures of non-payment. This enables us to sort out which factors are most important while simultaneously controlling for other potentially important factors.

3.1 Differences by Borrower Characteristics

In Table 3, we study student labor market, borrowing, and repayment outcomes across different types of students as defined by gender, race/ethnicity, SAT/ACT quartiles and maternal education. Because we are primarily interested in repayment/non-payment, this table focuses on our sample

⁹Default is defined as 270 days (9 months) of missed payments (excluding borrowers in formal programs designed to reduce payment like deferment or forbearance).

of borrowers only. Before discussing repayment, we briefly comment on differences in earnings and undergraduate borrowing across groups as reported in columns 2 and 3.

Column 2 reveals a large difference in earnings (including incomes of zero for the non-employed) between men and women, while differences by race/ethnicity, student aptitude and family background are more modest. Male college graduates earn about 70% more than female graduates ten years after finishing school. Blacks earn about 15% less than whites while Asians earn about 15% more. Hispanics had similar earnings to whites in our sample of borrowers. Earnings are increasing in SAT/ACT over quartiles 1-3; however, earnings for the top quartile are very similar to those in the second quartile (nearly 20% less than the third quartile). This seemingly perverse pattern at the top is largely due to our sample selection criteria, which excludes those who attended 12 or more months of graduate school (by 1997) or received a graduate degree. This restriction disproportionately impacts the top aptitude quartile, and removing it yields very similar average income levels for the top two quartiles (see appendix Table A2). Differences in earnings based on maternal education are relatively modest, although those with mothers that received a BA/BS earned almost \$9,000 more than those whose mothers did not attend college.

Column 3 of Table 3 reveals very small differences in average undergraduate loan amounts when comparing across gender and SAT/ACT quartiles. Differences by race/ethnicity and maternal background are more pronounced though still modest. When looking at race/ethnicity, hispanics borrowed the least at \$8,100, while whites borrowed the most at about \$1,300 more. Students whose mothers finished college borrowed nearly \$1,200 more than students whose mothers did not go beyond high school. These two patterns suggest that whites and borrowers from higher socioeconomic families are attending more expensive institutions, on average.

The remaining columns of Table 3 focus on repayment and non-payment of student loans. Column 4 reports the average fraction of undergraduate loan amounts still outstanding in 2003. This provides a useful measure of returns to lenders within the first ten years. As noted earlier, borrowers making standard payments every month should owe very little to nothing on their undergraduate loans by this time. A high value here indicates low payment levels or periods

of non-payment. The first row of Table 3 shows that of the \$9,300 initially borrowed, students still owed 19% of that amount, on average, ten years later. Column 5 reports the fraction of borrowers in default, while column 6 reports a broader measure of non-payment that includes borrowers in deferment, forbearance or default. In our sample, 5.8% of all borrowers were in default ten years after finishing college, while 8.3% were not making payments for various reasons (i.e. in deferment, forbearance or default). Finally, columns 7 and 8 report the average share of undergraduate loan amounts currently in default (column 7) or currently not being repaid due to a deferment, forbearance or default.¹⁰ If borrowers in default or non-payment ten years after leaving school are very unlikely to return to good standing, these figures suggest that the expected loan loss rate (for a typical borrower) faced by lenders is around 2.8% (based on defaults), or as high as 5.2% (based on any non-payment). These amounts are notably lower than default/non-payment rates themselves (columns 5 and 6), because many defaulters (non-payers) repay some of their student debts before entering default (non-payment).

Now, consider differences in repayment and non-payment patterns by gender as reported in Table 3. Consistent with significantly lower post-school earnings, women owe more on their loans ten years out of school (22% vs. 15%) and have higher rates of non-payment (9.5% vs. 6.7%) compared to men. The fraction of debt in non-payment was also 2.5 times higher for women than for men. Yet, these differences are not apparent when looking at default rates, which are nearly identical for men and women. Even with similar default rates, women have defaulted on 80% more debt than have men. These figures highlight the value of considering alternative measures of repayment and non-payment beyond traditionally used default rates. Despite very similar default rates between male and female student borrowers, lenders can expect faster payments and a higher recovery rate from male students.

Differences in repayment behavior are much more pronounced by race/ethnicity than by gender, with particularly stark differences between blacks and whites. On average, black borrowers still owe 51% of their student loans ten years after school, while white borrowers only owe 16%. Hispanics

¹⁰Column 7 (8) reports the sample average of the share of unpaid undergraduate loans multiplied by the default (non-payment) indicator.

and Asians owe 22% and 24%, respectively. Black borrowers have defaulted on 16% of their undergraduate debt and are in non-payment on 21%. By contrast, the next highest rates of non-payment are for hispanics, who have only defaulted on 3.1% of their debt and are in non-payment on 4.8%. Given these dramatic differences, it is interesting to note that default rates are quite similar for all three minority groups (13% for blacks, 11% for hispanics and Asians), while they are much lower for whites (less than 5%). Larger differences between blacks and the other minority groups are visible for non-payment rates that include deferment and forbearance (18% for blacks vs. 13% for hispanics and Asians). Once again, important differences in repayment and expected loan losses by lenders are obscured by focusing exclusively on default rates. It is also worth noting that the racial/ethnic differences in repayment/non-payment outcomes are unlikely to be driven by differences in borrowing or post-school earnings, which are quite modest. We explore this further below.

The share of undergraduate debt remaining ten years after graduation is highest for students with the lowest SAT/ACT scores (24% for the lowest quartile and 14-18% for all other quartiles). All default and non-payment outcomes show an interesting U-shaped pattern in achievement that is roughly consistent with the inverted U-shaped pattern for earnings. Default and non-payment rates are as high as 6% and 10%, respectively, for the lowest SAT/ACT group, then fall to around 5% for the second or third quartiles before returning to higher levels for the top ability group. A similar, though weaker, pattern is evident for the share of debt in default or non-payment. Unlike with earnings, the surprising non-monotonic relationship between achievement and default/non-payment is not a consequence of our sample restriction that excludes those with graduate degrees or 12+ months of graduate school – a similar pattern arises even when we do not impose this restriction. Indeed, default and non-payment rates are actually highest for the top SAT/ACT quartile in the unrestricted sample. See appendix Table A2.

The bottom of Table 3 shows that socioeconomic status, as measured by maternal education, is only weakly and statistically insignificantly related to default and non-payment.¹¹ By contrast,

¹¹Throughout the paper, we refer to results as statistically significant based on a 0.05 significance level.

the fraction of debt repaid after ten years is significantly higher for borrowers whose mothers attended college. Students from higher socioeconomic backgrounds appear to pay their loans down more quickly; however, they do not appear to be any less likely to enter default, deferment or forbearance.

3.2 Differences by Institutional Characteristics

We next explore differences in borrowing and repayment/non-payment patterns, categorizing individuals based on the type of institution from which they graduated. In Table 4, we examine differences by institutional control (public, private not-for-profit, and private for-profit) and by college selectivity as determined by Barron's. Given the high non-payment rates for black college graduates reported in Table 3, we also examine outcomes for blacks graduating from historically black colleges and universities (HBCU) vs. those from traditional non-HBCU institutions. As in Table 3, Table 4 is based on our sample of borrowers.

There is considerable interest today in the high default rates at private for-profit institutions. There is also concern about the high debt levels associated with attendance at private institutions more generally. The first few rows of Table 4 offer more detailed evidence on these issues from 1992-93 graduates ten years after school. Post-school earnings are quite similar across graduates from public and private for-profit (FP) and not-for-profit (NFP) institutions; however, student debt levels are highest for graduates of NFP institutions (\$11,200), followed by FP institutions (\$9,700) and public institutions (\$8,400). Unfortunately, the sample size for FP institutions is quite small (33) making it difficult to draw strong conclusions about borrowing and repayment/non-payment rates for this group – note the large standard errors across the table for this institution type. On average, the fraction of debt still owed is slightly lower for public school graduates, but the differences across institution types are statistically insignificant. Default and non-payment rates are very similar for public school graduates and NFP graduates, but they are 3-4 times higher (18% and 26%, respectively) for FP graduates. Unfortunately, due to small sample sizes, we cannot statistically distinguish across the groups. The extremely high default/non-payment rates for FP

graduates do not appear to translate into much higher shares of debt in default/non-payment as observed in the last two columns.

Our next set of results compare students based on the Barron's rankings of institutional selectivity. Earnings and debt levels are both notably higher among students from the most competitive institutions. Differences in repayment, default and non-payment measures across school selectivity are quite modest and generally not statistically significant. As one might expect, default and non-payment rates are generally lowest for graduates of the most competitive institutions; however, they do not have the lowest share of debts still owed. In general, these differences are not statistically significant. There is little evidence to suggest that institutional selectivity is a particularly important determinant of repayment and non-payment; however, we examine below whether important differences are confounded by other systematic differences in the characteristics and choices of individuals attending these institutions.

Finally, the bottom of Table 4 compares the outcomes for blacks attending HBCU and non-HBCU institutions. Small sample sizes are a problem here as with FP institutions, yet a few patterns are worth noting. While HBCU graduates have similar earnings to black graduates from non-HBCUs, they leave school with significantly lower debts. The most notable differences between HBCU and non-HBCU graduates, however, are for default and non-payment. Blacks from HBCUs have default (non-payment) rates of 8% (12%) compared to roughly twice those rates for non-HBCU graduates. Despite these sizeable differences, the fraction of debt in default or non-payment is remarkably similar (16% and 20-21%, respectively).

3.3 A Multivariate Analysis of Student Loan Repayment, Default, and Non-Payment

As Tables 3 and 4 show, there are many important dimensions of heterogeneity across college graduates that may impact repayment behavior. It is, therefore, important to simultaneously account for all of these factors before drawing strong conclusions about which are most important and why. We use standard multivariate regression methods to do this. These methods can be

helpful in sorting out such questions as: Are default rates so high among blacks because they attend different types of schools from whites or because their SAT/ACT scores are lower or because their mother's are less educated? Do differences in repayment or non-payment across institution types simply reflect the students they attract?

Before exploring repayment and non-payment outcomes, we begin by examining which factors determine how much a student borrows (based on our full sample of borrowers and non-borrowers). Table 5 reports OLS regression estimates for total undergraduate loan amounts (in \$1,000s) as a function of (i) individual characteristics, (ii) college major, (iii) institutional characteristics, and (iv) state fixed effects based on the institutions from which students graduated.¹² Column 1 only includes demographic characteristics: gender, race/ethnicity, SAT/ACT quartile, maternal education, dependency status (for financial aid purposes), and parental income (in \$1,000s) interacted with dependency status.¹³ This specification is useful for measuring the full impacts of these individual/family characteristics on borrowing (and repayment/non-payment outcomes examined in subsequent tables) and incorporates any effects that may be influenced by choice of major or institution of attendance. Column 2 controls for the same background characteristics as well as college major (all 'other' majors not specifically listed reflect the omitted category), while column 3 includes controls for background characteristics and institution characteristics (e.g. type of control, and Barron's selectivity). Column 4 includes all three types of variables: background, college major and institutional characteristics. Comparing estimated effects of background characteristics across columns 1 and 2-4 is informative about the extent to which individual characteristics affect borrowing through the choice of college major or institution. The final column adds state fixed effects to the specification in column 4, accounting for any unobserved differences in policies, educational institutions, and labor markets that vary across states. Similar specifications will be used to study repayment, default and more general measures of non-payment below.

A number of individual and family characteristics are important determinants of borrowing.

¹²Tobit estimates generally yield similar conclusions about which variables are important and their relative magnitudes/signs.

¹³Unfortunately, parental income is unknown for students classified as independent.

Blacks borrow significantly more than all other racial/ethnic groups. Columns 1 and 2 suggest that black graduates borrow nearly \$2,000 more than whites. Accounting for choice of major, this difference grows even larger suggesting that blacks tend to choose majors that are not typically associated with a lot of borrowing. We also estimate higher levels of borrowing for students with better SAT/ACT scores. Comparing columns 1 and 4 suggests that much of this difference is explained by choice of major and institution: higher scoring students tend to attend schools and to choose majors associated with greater borrowing. Table 3 shows that youth with more educated mothers tend to borrow more. Regression results in Table 5 show that the opposite is true once we account for other personal differences, especially race, achievement and parental income. Accounting for these other factors, students whose mothers received their BA/BS borrow roughly \$1,500 less than those whose mothers did not attend college. The estimates also suggest that a \$10,000 increase in parental earnings is associated with about \$250 less in borrowing. We find no evidence to suggest that differences in borrowing by maternal education or parental income are due to differential choices regarding major and institution.

Some majors appear to be associated with greater borrowing: engineering, health-related majors, history, and especially biology. Some of these majors are not typically associated with high-paying professions. Institutional characteristics also appear to be important determinants of borrowing. Students graduating from private (FP or NFP) institutions tend to borrow about \$3,000 more than those attending public institutions, all else equal. Blacks attending HBCUs tend to borrow \$1,500-2,000 less than blacks attending other institutions. Less competitive institutions are associated with about \$600-700 less in borrowing; although, these differences are not statistically significant at the 0.05 level.

Altogether, many factors affect undergraduate borrowing; however, differences across individuals, college majors and institutions are generally modest. In Tables 6-10, we examine the extent to which these same factors affect repayment and non-payment behavior for our sample of borrowers only. All of these tables have the same structure, which is very similar to that of Table 5. Indeed, the specifications in columns 1-4 are the same as in Table 5. These specifications are

informative about the importance of characteristics and choices known *ex ante* (i.e. when lenders decide how much to lend to students). It is also useful to consider the extent to which *ex post* borrowing and earnings levels affect repayment/non-payment outcomes conditional on these other factors as well as the extent to which background, college major, and institutional characteristics affect repayment/non-payment through borrowing and earnings levels. To explore these issues, Column 5 adds measures of earnings in 1997, earnings in 2002, and the total amount borrowed for undergraduate schooling (all in \$1,000s) to the background, college major, and institutional characteristics of column 4. Column 6 also includes state fixed effects.

In Table 6, we consider the share of undergraduate debt still owed ten years after graduation. These OLS regressions produce a number of interesting results. First, column 1 shows that, conditional on other background characteristics, the share of debt owed by men was almost 5 percentage points less than the share owed by women. While part of this difference is explained by choice of college major (see column 2), accounting for differences in earnings in column 5 eliminates the gap entirely (recall that initial borrowing amounts were the same for men and women as shown in Table 5). Most strikingly, the share of debt still owed was 22-27 percentage points higher for blacks than for whites. While this gap is smaller than the unconditional gap in Table 3, it is still statistically and economically quite significant. Comparing columns 1-5 suggests that very little of this gap is explained by choice of major, institution, loan amounts, or post-school earnings. Hispanics owe a slightly larger share of their debt than do whites; however, half of the effect disappears when accounting for state fixed effects. Accounting for other individual characteristics eliminates the raw differences by SAT/ACT scores in the fraction of debt still owed. We also observe no differences by dependency status or parental income. Students with more college-educated mothers owe 4-7 percentage points less as a fraction of their initial loan when compared to students whose mothers never attended college.

Students majoring in engineering pay down more of their loans within the first ten years after graduating, owing 10 percentage points less as a share of their initial loan (compared to ‘other’ majors). Column 5 suggests that this is not explained by differences in borrowing or post-school

earnings. Accounting for earnings and borrowing levels (and state fixed effects), social science and humanities majors appear to owe about 8 percentage points more (than ‘other’ majors) as a share of their original loan amounts. Institutional characteristics do not play an important role in determining repayment rates after accounting for loan amounts and post-school earnings.

As one might expect, both earnings and loan levels are important determinants of the share of debt repaid. Students with higher earnings in 1997 had repaid a greater fraction of their debt (roughly 1.2 percentage points for every \$10,000 in earnings), while those with higher student debt levels had repaid a lower fraction (roughly 1.3 percentage points for every additional \$1,000 in debt). It is also worth noting that the R-squared coefficient, reported at the bottom of the table, suggests that debt levels and post-school earnings account for about 7% of the variation in the share of debt owed, as much as individual background characteristics, college major, and institutional characteristics combined (compare columns 4 and 5).

We now turn to measures of non-payment. Tables 7 and 8 report average marginal effects from probit specifications for default and our broader measure of non-payment that also includes deferment/forbearance. There is considerable agreement for both of these outcomes, so we discuss them together. Both blacks and Asians have significantly higher default and non-payment rates than whites (differences are about 6-9 percentage points), with slightly greater differences observed for the broader measure of non-payment.¹⁴ Default/non-payment rates are quite similar for whites and hispanics. The estimated effects of race/ethnicity are similar across all specifications suggesting that racial and ethnic differences in default and non-payment rates are not driven by differences in choice of major or institution, student debt levels, or even post-school earnings realizations. Parental income for dependent students reduces default and non-payment, but the effects are small in magnitude (e.g. an additional \$10,000 in income lowers the probability of default by less than 0.01) and drop by half when accounting for borrowing and post-school income levels. Before accounting for loan amounts and post-school income (column 4), we see that business majors are significantly less likely to experience default/non-payment, while history

¹⁴When we do not exclude borrowers with longer periods of post-graduate studies or graduate degrees from our sample, Asians have similar default/non-payment rates as whites and hispanics.

and math/science majors are more likely to experience these problems. Perhaps surprisingly, the estimated effects of college major are not much different after accounting for student borrowing and post-school earnings (compare columns 5 and 6). None of the institutional characteristics appear to influence default/non-payment once individual background characteristics are accounted for. Finally, we observe sizeable and statistically significant effects of student borrowing levels and post-school earnings. An extra \$10,000 in earnings in 2002 is associated with a roughly 0.8 (1.2) percentage point drop in the probability of default (non-payment), while an additional \$1,000 in student loans increases the likelihood of default (non-payment) by 0.3 (0.4) percentage points.

Finally, we consider the extent to which these factors affect the share of undergraduate debts that borrowers have defaulted on or are not currently paying (10 years after graduating). Tables 9 and 10 report results from OLS regressions for these two dependent variables. Here, we find that compared to whites, blacks default on 11-13% more of their debts and are in non-payment on about 13-16% more of their debt. Despite similarly high default and non-payment rates for Asians and blacks (Tables 7 and 8), Asians do not default on nor are they in non-payment on a larger fraction of their debts relative to whites and hispanics. These findings suggest that blacks enter non-payment relatively early in the repayment process, while Asians enter relatively late after much of their debt has been paid down. The effects of race/ethnicity on the share of debts in default/non-payment are not driven by major or institution choices or differences in debt levels or post-school earnings. The final two rows of Table 10 suggest that after accounting for earnings and borrowing differences, students from the top SAT/ACT quartile are in non-payment on a greater fraction of their undergraduate debt (about 4 percentage points more) than all other achievement groups. Other individual/family characteristics have little impact on the fraction of debt in default/non-payment. Choice of college major also appears to have only minor (and generally statistically insignificant at the .05 level) effects on the share of debt in default/non-payment; although, the estimates in the final two columns suggest that health majors default on a significantly smaller fraction, while humanities majors are in non-payment on a significantly higher fraction. Institution control and college selectivity are unrelated to the share of debts in

default/non-payment; however, blacks borrowers attending HBCUs appear to stop paying and default on a significantly lower fraction of their debt than otherwise similar blacks attending non-HBCUs. As with the probability of default and non-payment, higher earnings reduces the share of debt individuals default on or stop paying, while higher debt levels increase the share. Unlike with default and non-payment, it is earnings in 1997 (a few years after graduation) rather than in 2003 that is most important here. This is not surprising, since most individuals enter default/non-payment in the first few years after leaving school. An extra \$10,000 in 1997 earnings reduces the fraction of debt in non-payment by about 0.4 percentage points, while an additional \$1,000 in undergraduate debt reduces this fraction by just over 0.3 percentage points.

4 Summary and Conclusions

To the extent that lenders care primarily about the expected returns on student loans they distribute, we show that analyses of default rates alone offer an incomplete picture. Lenders also care about the timing of payments and the amount that will ultimately be repaid. We, therefore, consider the determinants of other useful measures of repayment and non-payment ten years after school that better reflect the expected returns to lenders. Using data from the B&B, we consider a number of multivariate specifications to identify the importance of individual and family background characteristics, choice of college major and institution, student debt levels, and post-school earnings.

Among the individual and family background characteristics, only race is consistently important for all measures of repayment/non-payment. Ten years after graduation, black student borrowers owe 22-27% more on their loans, are 6-9 percentage points more likely to be in default or non-payment, have defaulted on 11% more and are in non-payment on roughly 16% more of their undergraduate debts compared to white borrowers. These striking differences are largely unaffected by controls for choice of college major or institution, or even student debt levels and post-school earnings. By contrast, hispanics have very similar repayment and non-payment patterns to whites. Asians show high default/non-payment rates (similar to blacks), but do not have

significantly different shares of debt still owed or debt in default/non-payments from whites. This suggests that many Asians entering default/non-payment do so after repaying much of their student loan. Maternal college attendance is associated with a greater share of debt repaid after ten years, while dependency status and parental income are not very important for repayment/non-payment after controlling for other factors.

The B&B data suggest some variation in repayment/non-payment across college major choices; however, which majors are most ‘successful’ in repaying their debts depends on the measure. Engineering majors owe a significantly smaller share of their debts (than ‘other’ majors) after ten years, while social science and humanities owe a larger share. Humanities majors are also in non-payment on the greatest share of debt. Default rates are lowest for business majors, whereas health majors default on the lowest fraction of their debts (these are the only significantly different coefficients). Differences in these repayment measures across majors are typically modest compared to differences between blacks and whites.

Differences in repayment/non-payment across the type of institutional control or selectivity are always small and generally statistically insignificant for our sample of 1992-93 graduates. Of course, greater differences might arise if college dropouts were also included in the analysis, since private FP schools tend to have higher dropout rates (Deming, Goldin and Katz 2012). Among black borrowers, those attending HBCUs tend to be in non-payment on significantly less debt (roughly 12% less); however, other repayment/non-payment measures show no statistically significant effects of an HBCU. Unfortunately, low sample sizes and correspondingly high standard errors limit the conclusions we are able to draw from our analysis of HBCUs.

Student debt levels and post-school income levels are both statistically significant determinants of all measures of repayment and non-payment; although, the estimated effects are modest (e.g. an extra \$10,000 in 2002 earnings reduces the probability of non-payment by 1.2 percentage points and \$1,000 in additional student debt raises the probability of non-payment by 0.4 percentage points). For measures related to the fraction of student debt outstanding, earnings a few years after school is more important than earnings ten years later when we measure repayment/non-payment. The

opposite is true when considering simple default/non-payment rates.

Lastly, we note that accounting for choice of major and institution does not generally alter the estimated impacts of individual and family background characteristics. Accounting for student borrowing levels and post-school income also has little effect on the estimated importance of family background; however, it sometimes has modest effects on the estimated differences across college majors and type of institution (sometimes dampening and other times exacerbating differences). These findings suggest that differences in repayment patterns across different demographic groups (or, to a lesser extent, across areas of study) cannot be easily attributed to differences in post-school labor market success.

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Table 1: Repayment Status for Undergraduate Borrowers Five and Ten Years after Graduation

	1998	2003
Fully Repaid	.269 (.013)	.639 (.013)
Repaying or Fully Paid	.920 (.008)	.917 (.007)
Defer/Forbear	.038 (.006)	.025 (.004)
Default	.042 (.006)	.058 (.005)

Table reports means (standard errors) for repayment status indicators based on B&B sample of borrowers.

Table 2: Repayment Status Transition Probabilities

Repayment Status in 1998	Repayment Status in 2003		
	Repaying/Fully Paid	Defer/Forbear	Default
Repaying or Fully Paid	.939 (.006)	.020 (.004)	.040 (.005)
Deferment or Forbearance	.749 (.063)	.165 (.057)	.085 (.032)
Default	.544 (.070)	.038 (.020)	.418 (.068)

Table reports probability of each status in 2003 conditional on status in 1998. Estimates based on B&B sample of borrowers. Standard errors in parentheses.

Table 3: Average Earnings, Undergraduate Borrowing, and Repayment/Non-Payment Measures in 2003
by Individual Characteristics

	N	Earnings (in \$1,000)	Total UG Loan Amt. (in \$1,000)	Share of UG Debt Still Owed	Fraction in Default	Fraction Not Paying	Default \times Share of Debt Still Owed	Not Paying \times Share of Debt Still Owed
Full Sample	2,116	49.629 (1.3)	9.336 (.179)	.188 (.012)	.058 (.005)	.083 (.007)	.028 (.005)	.052 (.007)
Males	904	64.199 (2.426)	9.646 (.304)	.146 (.014)	.057 (.008)	.067 (.008)	.019 (.005)	.028 (.006)
Females	1,212	37.705 (1.097)	9.091 (.212)	.221 (.018)	.059 (.008)	.095 (.01)	.034 (.008)	.071 (.013)
Asians	51	58.085 (3.975)	8.706 (1.039)	.236 (.075)	.112 (.043)	.13 (.047)	.02 (.013)	.026 (.015)
Blacks	147	42.123 (2.513)	9.165 (.522)	.506 (.064)	.132 (.029)	.18 (.032)	.156 (.057)	.208 (.06)
Hispanics	126	47.235 (3.115)	8.127 (.786)	.216 (.054)	.113 (.038)	.134 (.041)	.031 (.011)	.048 (.02)
Whites	1,778	49.965 (1.483)	9.441 (.197)	.158 (.012)	.047 (.005)	.07 (.007)	.017 (.003)	.04 (.007)
SAT/ACT Q1	513	41.641 (1.641)	9.466 (.46)	.236 (.025)	.061 (.01)	.097 (.014)	.032 (.008)	.059 (.011)
SAT/ACT Q2	503	50.197 (2.164)	9.153 (.319)	.141 (.015)	.048 (.01)	.054 (.01)	.022 (.007)	.025 (.007)
SAT/ACT Q3	476	60.087 (3.914)	9.673 (.371)	.175 (.031)	.047 (.009)	.076 (.014)	.01 (.004)	.026 (.007)
SAT/ACT Q4	369	50.54 (2.508)	9.131 (.378)	.151 (.022)	.061 (.012)	.084 (.014)	.027 (.009)	.052 (.014)
Mom No Coll.	920	48.168 (1.726)	8.911 (.24)	.223 (.021)	.06 (.008)	.088 (.011)	.027 (.005)	.058 (.012)
Mom Some Coll.	608	44.452 (1.96)	9.184 (.297)	.14 (.014)	.055 (.01)	.069 (.011)	.028 (.008)	.039 (.009)
Mom BA+	581	56.838 (3.177)	10.161 (.416)	.18 (.021)	.058 (.01)	.089 (.014)	.028 (.013)	.055 (.016)

Table reports sample means (standard errors) based on B&B sample of borrowers.

Table 4: Average Earnings, Undergraduate Borrowing, and Repayment/Non-Payment Measures in 2003
by Type of Institution Attended

	N	Earnings (in \$1,000)	Total UG Loan Amt. (in \$1,000)	Share of UG Debt Still Owed	Fraction in Default	Fraction Not Paying	Default \times Share of Debt Still Owed	Not Paying \times Share of Debt Still Owed
Public	1,348	49.458 (1.63)	8.407 (.224)	.174 (.015)	.056 (.006)	.076 (.008)	.025 (.004)	.047 (.009)
Private NFP	721	49.827 (2.268)	11.207 (.297)	.213 (.021)	.054 (.009)	.086 (.012)	.032 (.012)	.061 (.014)
Private FP	33	51.434 (7.896)	9.738 (1.263)	.199 (.073)	.182 (.091)	.264 (.108)	.059 (.042)	.087 (.047)
Most Competitive	153	61.583 (4.663)	11.453 (.65)	.202 (.034)	.043 (.016)	.087 (.022)	.009 (.005)	.043 (.014)
Competitive	1,303	49.99 (1.558)	9.471 (.235)	.168 (.013)	.054 (.007)	.075 (.008)	.026 (.005)	.041 (.006)
Non-competitive	619	46.041 (2.696)	8.668 (.308)	.23 (.026)	.065 (.011)	.096 (.015)	.034 (.012)	.076 (.021)
Black, Not HBCU	98	44.421 (3.088)	10.085 (.667)	.448 (.054)	.17 (.042)	.223 (.045)	.157 (.045)	.203 (.048)
Black, HBCU	49	38.85 (4.075)	7.855 (.837)	.589 (.132)	.078 (.033)	.119 (.041)	.155 (.124)	.215 (.129)

Table reports sample means (standard errors) based on B&B sample of borrowers.

Table 5: Explaining Total Undergraduate Student Loan Amounts

Variable	(1)	(2)	(3)	(4)	(5)
male	0.0858 (0.211)	0.0462 (0.222)	0.192 (0.208)	0.139 (0.218)	0.0958 (0.215)
black	1.875*** (0.486)	1.843*** (0.486)	2.559*** (0.559)	2.460*** (0.557)	2.803*** (0.549)
hispanic	0.670 (0.523)	0.744 (0.521)	0.695 (0.520)	0.733 (0.518)	1.561*** (0.551)
asian	-0.626 (0.609)	-0.767 (0.609)	-0.499 (0.600)	-0.673 (0.600)	-0.0788 (0.616)
SAT/ACT Q2	0.254 (0.282)	0.110 (0.282)	0.215 (0.278)	0.0887 (0.278)	0.139 (0.273)
SAT/ACT Q3	0.723** (0.293)	0.545* (0.296)	0.588** (0.291)	0.413 (0.294)	0.348 (0.290)
SAT/ACT Q4	1.076*** (0.318)	0.749** (0.325)	0.639** (0.322)	0.312 (0.328)	0.195 (0.324)
mom some college	-0.641** (0.263)	-0.608** (0.262)	-0.625** (0.259)	-0.580** (0.257)	-0.310 (0.254)
mom BA+	-1.447*** (0.247)	-1.402*** (0.246)	-1.607*** (0.244)	-1.525*** (0.243)	-1.445*** (0.240)
dependent	-0.131 (0.270)	-0.0409 (0.269)	-0.376 (0.266)	-0.291 (0.265)	-0.643** (0.265)
parental income × dependent	-0.025*** (0.002)	-0.025*** (0.002)	-0.026*** (0.002)	-0.026*** (0.002)	-0.023*** (0.002)
business		0.004 (0.374)		-0.075 (0.368)	-0.184 (0.360)
education		0.436 (0.375)		0.306 (0.368)	0.215 (0.363)
engineering		1.263*** (0.467)		1.445*** (0.460)	1.228*** (0.453)
health		1.904*** (0.459)		1.953*** (0.451)	1.755*** (0.447)
public affairs		-0.402 (0.603)		-0.588 (0.592)	-0.893 (0.584)
biology		3.189*** (0.532)		2.897*** (0.527)	2.951*** (0.523)
math science		0.318 (0.488)		0.321 (0.482)	0.447 (0.476)
social science		0.453 (0.407)		0.340 (0.400)	0.112 (0.395)
history		1.618** (0.797)		1.008 (0.779)	1.195 (0.767)
humanities		0.440 (0.408)		0.0125 (0.403)	-0.0314 (0.396)
psychology		-0.0720 (0.609)		0.122 (0.596)	0.330 (0.588)
private FP			2.798*** (1.045)	3.049*** (1.039)	3.036*** (1.023)
private NFP			3.075*** (0.226)	3.089*** (0.225)	2.656*** (0.235)
HBCU			-2.128** (0.909)	-1.945** (0.907)	-1.552* (0.906)
competitive			-0.657* (0.385)	-0.565 (0.384)	-0.675* (0.397)
non-competitive			-0.651 (0.427)	-0.567 (0.426)	-0.720 (0.440)
State Fixed Effects	no	no	no	no	yes
<i>N</i>	3752	3749	3697	3694	3694
<i>R</i> ²	0.0618	0.0769	0.113	0.128	0.183

Estimates (standard errors) based on sample of B&B borrowers and non-borrowers.

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

Table 6: Explaining Fraction of Undergraduate Student Debt Still Owed Ten Years After Graduation

Variable	(1)	(2)	(3)	(4)	(5)	(6)
male	-0.0467*** (0.0168)	-0.0341* (0.0177)	-0.0471*** (0.0169)	-0.0344* (0.0178)	-0.0170 (0.0189)	-0.0194 (0.0190)
black	0.271*** (0.0329)	0.272*** (0.0332)	0.256*** (0.0391)	0.251*** (0.0393)	0.244*** (0.0390)	0.216*** (0.0396)
hispanic	0.0610* (0.0358)	0.0602* (0.0360)	0.0681* (0.0366)	0.0669* (0.0367)	0.0675* (0.0369)	0.0347 (0.0411)
asian	0.0697 (0.0547)	0.0621 (0.0546)	0.0659 (0.0555)	0.0598 (0.0554)	0.0616 (0.0594)	0.107* (0.0615)
SAT/ACT Q2	-0.0000169 (0.0225)	0.00129 (0.0225)	0.00174 (0.0228)	0.00316 (0.0228)	0.00883 (0.0236)	0.00562 (0.0236)
SAT/ACT Q3	0.00455 (0.0233)	0.0112 (0.0238)	0.00555 (0.0238)	0.0129 (0.0242)	0.0179 (0.0249)	0.0235 (0.0252)
SAT/ACT Q4	0.0143 (0.0252)	0.0187 (0.0260)	0.00925 (0.0259)	0.0146 (0.0266)	0.0228 (0.0272)	0.0289 (0.0276)
mom some college	-0.0556*** (0.0197)	-0.0573*** (0.0197)	-0.0557*** (0.0199)	-0.0573*** (0.0199)	-0.0449** (0.0204)	-0.0467** (0.0205)
mom BA+	-0.0596*** (0.0201)	-0.0659*** (0.0202)	-0.0655*** (0.0204)	-0.0724*** (0.0205)	-0.0550*** (0.0210)	-0.0616*** (0.0213)
dependent	-0.00729 (0.0221)	-0.00790 (0.0223)	-0.0129 (0.0224)	-0.0132 (0.0226)	-0.0190 (0.0230)	-0.00942 (0.0237)
parental income × dependent	0.000245 (0.000329)	0.000166 (0.000332)	0.000213 (0.000331)	0.000146 (0.000334)	0.000371 (0.000329)	0.000423 (0.000330)
business		-0.0475 (0.0314)		-0.0488 (0.0317)	-0.0199 (0.0321)	-0.0200 (0.0320)
education		-0.0333 (0.0304)		-0.0356 (0.0306)	-0.0437 (0.0317)	-0.0411 (0.0320)
engineering		-0.104*** (0.0359)		-0.109*** (0.0365)	-0.0856** (0.0375)	-0.0896** (0.0378)
health		-0.0127 (0.0363)		-0.0167 (0.0365)	-0.00396 (0.0376)	-0.00729 (0.0380)
public affairs		-0.0368 (0.0504)		-0.0404 (0.0507)	-0.0165 (0.0507)	0.00215 (0.0509)
biology		0.00524 (0.0402)		0.00357 (0.0407)	-0.0225 (0.0407)	-0.0502 (0.0420)
math science		-0.0259 (0.0380)		-0.0254 (0.0387)	-0.0189 (0.0403)	-0.0589 (0.0409)
social science		0.0390 (0.0336)		0.0397 (0.0340)	0.0577* (0.0345)	0.0783** (0.0351)
history		0.0216 (0.0606)		0.0119 (0.0607)	0.0186 (0.0604)	0.0236 (0.0610)
humanities		0.0559* (0.0336)		0.0600* (0.0342)	0.0742** (0.0352)	0.0826** (0.0353)
psychology		0.0482 (0.0484)		0.0494 (0.0486)	0.0666 (0.0512)	0.0610 (0.0514)
private FP			-0.0411 (0.0781)	-0.0491 (0.0780)	-0.0832 (0.0888)	-0.0656 (0.0890)
private NFP			0.0520*** (0.0178)	0.0474*** (0.0178)	-0.00000676 (0.0187)	0.00444 (0.0197)
HBCU			0.0416 (0.0649)	0.0611 (0.0653)	0.0488 (0.0665)	0.0409 (0.0686)
competitive			-0.0115 (0.0320)	-0.00897 (0.0322)	0.0111 (0.0327)	-0.0126 (0.0344)
non-competitive			-0.00457 (0.0350)	-0.000329 (0.0353)	0.0203 (0.0359)	-0.0118 (0.0378)
1997 earnings (in \$1,000s)					-0.00122** (0.000532)	-0.00105** (0.000535)
2002 earnings (in \$1,000s)					-0.000422 (0.000265)	-0.000415 (0.000265)
UG loan amount (in \$1,000s)					0.0130*** (0.0012)	0.0133*** (0.0012)
State Fixed Effects	no	no	no	no	no	yes
<i>N</i>	1850	1847	1823	1820	1614	1614
<i>R</i> ²	0.0507	0.0653	0.0562	0.0717	0.141	0.191

Table reports coefficient estimates (standard errors) based on OLS regressions for the fraction of student loan debt still owed in 2003. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Explaining Default Ten Years After Graduation

Variable	(1)	(2)	(3)	(4)	(5)	(6)
male	-0.00229 (0.0118)	-0.00577 (0.0124)	-0.00581 (0.0119)	-0.00888 (0.0125)	-0.000141 (0.0137)	0.000536 (0.0137)
black	0.0733*** (0.0190)	0.0687*** (0.0189)	0.0804*** (0.0219)	0.0732*** (0.0217)	0.0665*** (0.0223)	0.0554** (0.0222)
hispanic	0.0194 (0.0232)	0.0184 (0.0232)	0.0216 (0.0232)	0.0191 (0.0232)	0.0317 (0.0232)	0.0267 (0.0233)
asian	0.0709** (0.0293)	0.0704** (0.0292)	0.0750** (0.0295)	0.0745** (0.0292)	0.0734** (0.0323)	0.0718** (0.0326)
SAT/ACT Q2	-0.00404 (0.0157)	-0.0125 (0.0157)	-0.00706 (0.0159)	-0.0163 (0.0159)	-0.00711 (0.0165)	-0.00868 (0.0165)
SAT/ACT Q3	-0.00787 (0.0167)	-0.0146 (0.0169)	-0.00736 (0.0169)	-0.0133 (0.0169)	-0.0175 (0.0180)	-0.0150 (0.0179)
SAT/ACT Q4	0.0185 (0.0171)	0.00519 (0.0175)	0.0206 (0.0173)	0.00732 (0.0176)	0.00563 (0.0184)	0.00606 (0.0184)
mom some college	0.0104 (0.0139)	0.0119 (0.0138)	0.0126 (0.0139)	0.0143 (0.0138)	0.0177 (0.0142)	0.0225 (0.0142)
mom BA+	0.0182 (0.0140)	0.0149 (0.0138)	0.0180 (0.0142)	0.0139 (0.0141)	0.00642 (0.0151)	0.00289 (0.0151)
dependent	-0.00404 (0.0182)	-0.0132 (0.0185)	-0.00116 (0.0184)	-0.0122 (0.0186)	-0.0152 (0.0191)	-0.0170 (0.0191)
parental income × dependent	-0.000998** (0.000392)	-0.000773** (0.000388)	-0.00104*** (0.000396)	-0.000783** (0.000391)	-0.000451 (0.000385)	-0.000410 (0.000384)
business		-0.0765*** (0.0281)		-0.0748*** (0.0279)	-0.0831*** (0.0310)	-0.0810*** (0.0310)
education		-0.0239 (0.0212)		-0.0240 (0.0210)	-0.0321 (0.0213)	-0.0256 (0.0212)
engineering		-0.0224 (0.0257)		-0.0369 (0.0275)	-0.0226 (0.0291)	-0.0177 (0.0289)
health		-0.0183 (0.0250)		-0.0254 (0.0253)	-0.0376 (0.0267)	-0.0475* (0.0268)
public affairs		-0.0127 (0.0339)		-0.0137 (0.0336)	-0.0168 (0.0328)	-0.0171 (0.0328)
biology		0.0125 (0.0249)		0.0140 (0.0249)	0.00624 (0.0246)	0.00889 (0.0245)
math science		0.0451** (0.0225)		0.0478** (0.0225)	0.0380 (0.0240)	0.0329 (0.0241)
social science		-0.0310 (0.0242)		-0.0288 (0.0240)	-0.0321 (0.0244)	-0.0221 (0.0241)
history		0.0681** (0.0329)		0.0678** (0.0325)	0.0491 (0.0329)	0.0501 (0.0329)
humanities		-0.000989 (0.0225)		-0.000766 (0.0224)	-0.00307 (0.0228)	0.000766 (0.0226)
psychology		0.000106 (0.0318)		-0.00160 (0.0315)	-0.0673 (0.0430)	-0.0657 (0.0435)
private FP			-0.0110 (0.0590)	-0.0156 (0.0607)		
private NFP			0.00852 (0.0125)	0.00685 (0.0124)	-0.00876 (0.0131)	-0.00564 (0.0133)
HBCU			-0.0331 (0.0373)	-0.0281 (0.0373)	-0.00985 (0.0371)	-0.00488 (0.0376)
competitive			0.0158 (0.0240)	0.0145 (0.0234)	0.0138 (0.0251)	0.0117 (0.0249)
non-competitive			0.0167 (0.0259)	0.0164 (0.0254)	0.0274 (0.0268)	0.0181 (0.0269)
1997 earnings (in \$1,000s)					-0.000320 (0.000415)	-0.000114 (0.000399)
2002 earnings (in \$1,000s)					-0.000802*** (0.000282)	-0.000835*** (0.000278)
UG loan amount (in \$1,000s)					0.00273*** (0.000781)	0.00282*** (0.000786)
Division Fixed Effects	no	no	no	no	no	yes
N	1871	1868	1842	1839	1614	1614
log likelihood	-436.7	-421.4	-426.4	-410.0	-337.9	-328.0

Table reports average marginal effects (standard errors) based on probit specifications for default in 2003.

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

Table 8: Explaining Non-Payment (Default, Deferment, or Forbearance) Ten Years After Graduation

Variable	(1)	(2)	(3)	(4)	(5)	(6)
male	-0.0170 (0.0139)	-0.0197 (0.0145)	-0.0212 (0.0140)	-0.0235 (0.0146)	-0.00487 (0.0155)	-0.00273 (0.0155)
black	0.0900*** (0.0224)	0.0855*** (0.0224)	0.0999*** (0.0259)	0.0906*** (0.0257)	0.0905*** (0.0246)	0.0853*** (0.0247)
hispanic	0.00700 (0.0281)	0.00454 (0.0281)	0.0108 (0.0282)	0.00689 (0.0282)	0.0269 (0.0266)	0.0286 (0.0269)
asian	0.0790** (0.0364)	0.0768** (0.0362)	0.0826** (0.0368)	0.0810** (0.0364)	0.0885** (0.0372)	0.0888** (0.0377)
SAT/ACT Q2	-0.0178 (0.0184)	-0.0249 (0.0183)	-0.0210 (0.0187)	-0.0287 (0.0186)	-0.0257 (0.0187)	-0.0265 (0.0187)
SAT/ACT Q3	-0.0150 (0.0194)	-0.0189 (0.0195)	-0.0157 (0.0196)	-0.0188 (0.0197)	-0.0191 (0.0197)	-0.0182 (0.0197)
SAT/ACT Q4	0.0268 (0.0196)	0.0114 (0.0202)	0.0257 (0.0200)	0.0106 (0.0205)	0.00813 (0.0203)	0.00617 (0.0202)
mom some college	-0.00251 (0.0160)	-0.000863 (0.0160)	-0.000359 (0.0161)	0.00170 (0.0160)	0.000840 (0.0159)	0.00761 (0.0159)
mom BA+	0.00140 (0.0164)	-0.00364 (0.0163)	-0.000625 (0.0167)	-0.00691 (0.0166)	-0.00547 (0.0167)	-0.00678 (0.0168)
dependent	0.0324 (0.0210)	0.0256 (0.0212)	0.0340 (0.0211)	0.0251 (0.0213)	0.0126 (0.0210)	0.0112 (0.0210)
parental income × dependent	-0.00143*** (0.000439)	-0.00127*** (0.000438)	-0.00150*** (0.000442)	-0.00130*** (0.000441)	-0.000758* (0.000421)	-0.000703* (0.000421)
business		-0.0709** (0.0292)		-0.0702** (0.0293)	-0.0522* (0.0294)	-0.0507* (0.0294)
education		-0.0411 (0.0254)		-0.0415 (0.0253)	-0.0478* (0.0252)	-0.0421* (0.0252)
engineering		-0.0315 (0.0310)		-0.0480 (0.0329)	-0.0262 (0.0349)	-0.0211 (0.0348)
health		-0.00398 (0.0285)		-0.0113 (0.0288)	-0.0120 (0.0286)	-0.0195 (0.0287)
public affairs		-0.0159 (0.0398)		-0.0167 (0.0397)	-0.00186 (0.0367)	-0.00501 (0.0367)
biology		0.00728 (0.0304)		0.00599 (0.0305)	-0.000436 (0.0292)	-0.00135 (0.0293)
math science		0.0555** (0.0272)		0.0587** (0.0273)	0.0538* (0.0281)	0.0480* (0.0283)
social science		-0.0302 (0.0280)		-0.0282 (0.0279)	-0.0252 (0.0275)	-0.0136 (0.0273)
history		0.0868** (0.0402)		0.0847** (0.0400)	0.0653* (0.0382)	0.0658* (0.0383)
humanities		0.0141 (0.0258)		0.0139 (0.0258)	0.0184 (0.0254)	0.0231 (0.0252)
psychology		0.0416 (0.0344)		0.0404 (0.0344)	0.00965 (0.0363)	0.0120 (0.0365)
private FP			0.0116 (0.0620)	0.0154 (0.0611)		
private NFP			0.0201 (0.0143)	0.0167 (0.0142)	-0.00363 (0.0144)	-0.0000764 (0.0146)
HBCU			-0.0465 (0.0445)	-0.0322 (0.0442)	-0.0438 (0.0434)	-0.0399 (0.0443)
competitive			-0.00997 (0.0255)	-0.0129 (0.0251)	0.00332 (0.0265)	-0.00204 (0.0265)
non-competitive			-0.00706 (0.0279)	-0.00937 (0.0277)	0.0171 (0.0286)	0.00428 (0.0289)
1997 earnings (in \$1,000s)					-0.000529 (0.000484)	-0.000347 (0.000471)
2002 earnings (in \$1,000s)					-0.00121*** (0.000317)	-0.00121*** (0.000314)
UG loan amount (in \$1,000s)					0.00397*** (0.000851)	0.00394*** (0.000849)
Division Fixed Effects	no	no	no	no	no	yes
N	1871	1868	1842	1839	1614	1614
log likelihood	-555.1	-538.4	-543.4	-525.9	-404.7	-396.1

Table reports average marginal effects (standard errors) based on probit specifications for non-payment in 2003.

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

Table 9: Explaining Fraction of Student Loan Debt in Default Ten Years After Graduation

Variable	(1)	(2)	(3)	(4)	(5)	(6)
male	-0.0107 (0.00831)	-0.0105 (0.00876)	-0.0117 (0.00842)	-0.0124 (0.00887)	-0.00603 (0.00996)	-0.00581 (0.0102)
black	0.106*** (0.0163)	0.105*** (0.0165)	0.130*** (0.0195)	0.129*** (0.0196)	0.116*** (0.0205)	0.108*** (0.0212)
hispanic	0.0248 (0.0177)	0.0249 (0.0178)	0.0262 (0.0181)	0.0257 (0.0182)	0.0297 (0.0193)	0.0164 (0.0219)
asian	0.00687 (0.0273)	0.00279 (0.0273)	0.00773 (0.0278)	0.00387 (0.0277)	0.00422 (0.0315)	0.00305 (0.0330)
SAT/ACT Q2	0.00688 (0.0111)	0.00524 (0.0112)	0.00377 (0.0113)	0.00180 (0.0114)	0.00595 (0.0125)	0.00857 (0.0126)
SAT/ACT Q3	0.00260 (0.0116)	0.000769 (0.0118)	0.00252 (0.0118)	0.000373 (0.0120)	0.00334 (0.0132)	0.00623 (0.0135)
SAT/ACT Q4	0.0213* (0.0124)	0.0163 (0.0129)	0.0215* (0.0128)	0.0157 (0.0132)	0.0192 (0.0142)	0.0216 (0.0147)
mom some college	-0.00162 (0.00978)	-0.00257 (0.00979)	-0.00144 (0.00991)	-0.00239 (0.00992)	0.00109 (0.0107)	0.000894 (0.0110)
mom BA+	-0.0156 (0.00998)	-0.0186* (0.00999)	-0.0143 (0.0102)	-0.0176* (0.0102)	-0.0152 (0.0111)	-0.0185 (0.0114)
dependent	-0.00808 (0.0110)	-0.0130 (0.0111)	-0.00641 (0.0112)	-0.0116 (0.0113)	-0.0111 (0.0122)	-0.0118 (0.0127)
parental income × dependent	-0.000211 (0.000164)	-0.000167 (0.000165)	-0.000208 (0.000165)	-0.000150 (0.000167)	-0.000111 (0.000174)	-0.0000602 (0.000177)
business		-0.0333** (0.0156)		-0.0315** (0.0158)	-0.0266 (0.0169)	-0.0235 (0.0171)
education		-0.0229 (0.0150)		-0.0213 (0.0152)	-0.0317* (0.0166)	-0.0323* (0.0171)
engineering		-0.0328* (0.0179)		-0.0297 (0.0182)	-0.0210 (0.0198)	-0.0159 (0.0202)
health		-0.0291 (0.0180)		-0.0337* (0.0181)	-0.0394** (0.0198)	-0.0424** (0.0203)
public affairs		-0.0115 (0.0251)		-0.00849 (0.0253)	-0.00620 (0.0268)	-0.00579 (0.0273)
biology		-0.0155 (0.0198)		-0.0147 (0.0202)	-0.0214 (0.0214)	-0.0199 (0.0224)
math science		0.0226 (0.0189)		0.0283 (0.0193)	0.0404* (0.0213)	0.0375* (0.0219)
social science		-0.0162 (0.0166)		-0.0128 (0.0168)	-0.0133 (0.0182)	-0.00806 (0.0187)
history		0.0208 (0.0295)		0.0235 (0.0297)	0.0179 (0.0312)	0.0103 (0.0320)
humanities		0.0269 (0.0167)		0.0301* (0.0170)	0.0277 (0.0185)	0.0305 (0.0188)
psychology		-0.0212 (0.0241)		-0.0232 (0.0242)	-0.0367 (0.0271)	-0.0397 (0.0276)
private FP			-0.0208 (0.0382)	-0.0272 (0.0381)	-0.0420 (0.0456)	-0.0310 (0.0463)
private NFP			-0.00383 (0.00885)	-0.00568 (0.00887)	-0.0200** (0.00983)	-0.0117 (0.0105)
HBCU			-0.0805** (0.0322)	-0.0803** (0.0324)	-0.0644* (0.0349)	-0.0604* (0.0366)
competitive			0.0187 (0.0160)	0.0197 (0.0161)	0.0214 (0.0173)	0.0120 (0.0185)
non-competitive			0.00794 (0.0174)	0.00978 (0.0176)	0.0130 (0.0190)	-0.00497 (0.0203)
1997 earnings (in \$1,000s)					-0.000632** (0.000280)	-0.000539* (0.000286)
2002 earnings (in \$1,000s)					-0.000116 (0.000140)	-0.000124 (0.000142)
UG loan amount (in \$1,000s)					0.00259*** (0.000645)	0.00294*** (0.000661)
State Fixed Effects	no	no	no	no	no	yes
<i>N</i>	1871	1868	1842	1839	1630	1630
<i>R</i> ²	0.0302	0.0434	0.0341	0.0483	0.0634	0.0911

Table reports coefficient estimates (standard errors) based on OLS regressions for the fraction of student loan debt in default in 2003. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Explaining Fraction of Student Loan Debt in Non-Payment Ten Years After Graduation

Variable	(1)	(2)	(3)	(4)	(5)	(6)
male	-0.0191 (0.0132)	-0.0163 (0.0139)	-0.0196 (0.0134)	-0.0180 (0.0142)	-0.0148 (0.0137)	-0.0140 (0.0139)
black	0.134*** (0.0259)	0.135*** (0.0262)	0.159*** (0.0311)	0.156*** (0.0313)	0.159*** (0.0282)	0.158*** (0.0290)
hispanic	0.00911 (0.0282)	0.0111 (0.0283)	0.0109 (0.0289)	0.0121 (0.0290)	0.0244 (0.0265)	0.0214 (0.0300)
asian	-0.00332 (0.0434)	-0.0100 (0.0434)	-0.000559 (0.0443)	-0.00667 (0.0443)	0.00332 (0.0432)	0.00834 (0.0453)
SAT/ACT Q2	-0.0184 (0.0177)	-0.0190 (0.0178)	-0.0197 (0.0181)	-0.0207 (0.0181)	-0.00522 (0.0171)	0.00172 (0.0173)
SAT/ACT Q3	-0.0177 (0.0184)	-0.0178 (0.0188)	-0.0161 (0.0189)	-0.0169 (0.0192)	0.00276 (0.0181)	0.00229 (0.0185)
SAT/ACT Q4	0.0266 (0.0198)	0.0206 (0.0205)	0.0275 (0.0204)	0.0204 (0.0211)	0.0394** (0.0196)	0.0411** (0.0202)
mom some college	-0.00611 (0.0156)	-0.00886 (0.0156)	-0.00610 (0.0158)	-0.00896 (0.0158)	-0.0152 (0.0148)	-0.0140 (0.0151)
mom BA+	-0.0222 (0.0159)	-0.0267* (0.0159)	-0.0211 (0.0162)	-0.0263 (0.0162)	-0.0157 (0.0152)	-0.0132 (0.0156)
dependent	-0.00143 (0.0174)	-0.00541 (0.0177)	0.000148 (0.0178)	-0.00409 (0.0180)	0.00192 (0.0167)	-0.00148 (0.0174)
parental income × dependent	-0.000195 (0.000261)	-0.000179 (0.000263)	-0.000204 (0.000264)	-0.000172 (0.000267)	-0.0000796 (0.000239)	0.0000116 (0.000243)
business		-0.0358 (0.0248)		-0.0345 (0.0252)	-0.0112 (0.0232)	-0.0101 (0.0235)
education		-0.0371 (0.0239)		-0.0363 (0.0242)	-0.0361 (0.0228)	-0.0424* (0.0234)
engineering		-0.0300 (0.0284)		-0.0258 (0.0291)	-0.0171 (0.0272)	-0.00840 (0.0277)
health		0.0150 (0.0286)		0.0100 (0.0290)	-0.0216 (0.0272)	-0.0266 (0.0279)
public affairs		0.00621 (0.0399)		0.00663 (0.0404)	0.0328 (0.0367)	0.0233 (0.0374)
biology		-0.0255 (0.0315)		-0.0260 (0.0323)	-0.0275 (0.0294)	-0.0280 (0.0307)
math science		0.00988 (0.0301)		0.0152 (0.0308)	0.0413 (0.0292)	0.0330 (0.0300)
social science		-0.00983 (0.0264)		-0.00561 (0.0269)	0.00623 (0.0249)	0.00782 (0.0256)
history		0.0444 (0.0470)		0.0451 (0.0474)	0.0486 (0.0429)	0.0359 (0.0438)
humanities		0.0678** (0.0266)		0.0724*** (0.0271)	0.0853*** (0.0254)	0.0809*** (0.0258)
psychology		0.00580 (0.0384)		0.00375 (0.0387)	0.0110 (0.0372)	-0.000219 (0.0378)
private FP			-0.0337 (0.0609)	-0.0420 (0.0609)	-0.0733 (0.0625)	-0.0590 (0.0635)
private NFP			0.00908 (0.0141)	0.00640 (0.0142)	-0.0140 (0.0135)	-0.000595 (0.0145)
HBCU			-0.0864* (0.0513)	-0.0758 (0.0517)	-0.127*** (0.0479)	-0.117** (0.0501)
competitive			0.0163 (0.0255)	0.0167 (0.0257)	0.0235 (0.0238)	0.0106 (0.0253)
non-competitive			0.0197 (0.0278)	0.0200 (0.0281)	0.0193 (0.0261)	-0.00482 (0.0278)
1997 earnings (in \$1,000s)					-0.000526 (0.000385)	-0.000423 (0.000392)
2002 earnings (in \$1,000s)					-0.000401** (0.000192)	-0.000410** (0.000195)
UG loan amount (in \$1,000s)					0.00328*** (0.000886)	0.00343*** (0.000906)
State Fixed Effects	no	no	no	no	no	yes
N	1871	1868	1842	1839	1630	1630
R ²	0.0228	0.0355	0.0241	0.0368	0.0655	0.0960

Table reports coefficient estimates (standard errors) based on OLS regressions for the fraction of student loan debt in non-payment in 2003. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A1: Sample Means (Standard Errors) for Full Sample and Borrowers Only

	Full Sample	Borrowers Only
Male	.442 (.013)	.444 (.01)
Asian	.025 (.004)	.031 (.004)
Black	.067 (.006)	.049 (.004)
Hispanic	.06 (.007)	.043 (.004)
White	.844 (.01)	.873 (.007)
Mom No Coll.	.442 (.013)	.369 (.009)
Mom Some Coll.	.28 (.012)	.263 (.009)
Mom BA+	.278 (.012)	.368 (.009)
Dependent	.576 (.013)	.671 (.009)
Parental Income × Dependent	25.453 (.856)	41.417 (1.151)
SAT/ACT Q1	.286 (.013)	.272 (.009)
SAT/ACT Q2	.282 (.013)	.29 (.009)
SAT/ACT Q3	.247 (.012)	.259 (.009)
SAT/ACT Q4	.185 (.011)	.179 (.007)
Business	.24 (.014)	.254 (.01)
Education	.132 (.009)	.117 (.006)
Engineering	.073 (.006)	.062 (.004)
Health	.067 (.006)	.06 (.004)
Public Affairs	.038 (.005)	.038 (.004)
Biology	.047 (.005)	.037 (.003)
Math Science	.054 (.005)	.052 (.004)
Social Science	.082 (.006)	.09 (.005)
History	.018 (.004)	.015 (.003)
Humanities	.079 (.006)	.087 (.005)
Psychology	.033 (.004)	.032 (.003)
Private FP	.022 (.005)	.016 (.003)
Private NFP	.322 (.013)	.283 (.009)
HBCU	.029 (.005)	.02 (.003)
Most Competitive	.063 (.006)	.074 (.005)
Competitive	.633 (.013)	.649 (.009)
Non-Competitive	.304 (.013)	.278 (.009)

Table A2: Average Earnings, Undergraduate Borrowing, and Repayment/Non-Payment Measures in 2003 by Individual Characteristics (Sample without Graduate School Attendance/Degree Restrictions)

	N	Earnings (in \$1,000)	Total UG Loan Amt. (in \$1,000)	Share of UG Debt Still Owed	Fraction in Default	Fraction Not Paying	Default × Share of Debt Still Owed	Not Paying × Share of Debt Still Owed
full sample	3790	51.063 (.864)	9.287 (.133)	.233 (.009)	.05 (.004)	.092 (.005)	.029 (.005)	.066 (.007)
Males	1617	64.951 (1.595)	9.426 (.216)	.206 (.012)	.05 (.006)	.091 (.008)	.029 (.009)	.06 (.01)
Females	2173	39.755 (.757)	9.176 (.165)	.254 (.013)	.049 (.005)	.092 (.007)	.029 (.005)	.071 (.009)
Asians	116	62.395 (3.15)	8.856 (.604)	.286 (.063)	.05 (.02)	.071 (.023)	.009 (.006)	.033 (.017)
Blacks	263	44.91 (1.861)	9.464 (.394)	.523 (.045)	.098 (.019)	.207 (.026)	.11 (.036)	.243 (.044)
Hispanics	226	48.86 (2.4)	7.823 (.552)	.198 (.035)	.07 (.022)	.122 (.027)	.017 (.006)	.055 (.016)
Whites	3153	51.032 (.988)	9.356 (.147)	.21 (.009)	.045 (.004)	.082 (.006)	.025 (.005)	.055 (.007)
SAT/ACT Q1	816	42.424 (1.211)	9.565 (.354)	.261 (.023)	.057 (.008)	.107 (.011)	.025 (.005)	.073 (.01)
SAT/ACT Q2	897	49.344 (1.447)	9.129 (.238)	.229 (.016)	.041 (.007)	.067 (.009)	.015 (.004)	.041 (.008)
SAT/ACT Q3	880	56.85 (2.274)	9.132 (.251)	.189 (.019)	.038 (.006)	.082 (.011)	.02 (.006)	.044 (.008)
SAT/ACT Q4	833	57.154 (1.739)	9.486 (.291)	.23 (.016)	.057 (.01)	.106 (.012)	.051 (.019)	.094 (.021)
Mom No Coll.	1491	50.677 (1.254)	8.732 (.181)	.243 (.016)	.055 (.006)	.089 (.008)	.023 (.004)	.058 (.009)
Mom Some Coll.	1089	48.534 (1.339)	9.226 (.226)	.202 (.013)	.049 (.008)	.095 (.01)	.046 (.014)	.085 (.016)
Mom BA+	1200	53.796 (1.891)	10.051 (.283)	.249 (.017)	.043 (.006)	.092 (.01)	.021 (.007)	.06 (.01)

Table reports sample means (standard errors) based on sample of borrowers without restrictions on graduate school participation/degrees.