

# What Matters in Student Loan Default: A Review of the Research Literature

by Jacob P. K. Gross, Osman Cekic, Don Hossler, and Nick Hillman

Jacob P. K. Gross is Associate Director for Research for the Indiana University Project on Academic Success.

Osman Cekic is a post-doctoral researcher at Purdue University.

Don Hossler is Executive Associate Dean for the School of Education at Indiana University Bloomington.

Nick Hillman is a doctoral student at the Indiana University School of Education.

*Federal higher education policy has shifted over the past few decades from grants to loans as the primary means for providing access to postsecondary education for low- and moderate-income families. With this shift, policy makers have begun tracking student loan default rates as a key indicator of the efficacy of student loan programs. This effort requires a closer examination of how to define default and what default signifies: What is an acceptable rate of default? What factors contribute to default? Should default rates be used as indicators of institutional quality or loan program efficacy. These questions lead to further investigation of factors influencing default, such as whether default is a function of the characteristics of students or of the institutions they attend, and whether the types of loans borrowed influence the probabilities of default. To help answer these and related questions, this study reviewed the literature of research on student loan default conducted between 1978 and 2007, and identified 41 of the higher quality studies, the findings of which are summarized here.*

As early as the mid-1970s, the emphasis in federal higher education policy began to shift from grants to loans as the means for providing financial assistance to low- and moderate-income families for postsecondary education. The shift continued with the fiscal policies of the Reagan administration and the 1980 reauthorization of the Higher Education Act (HEA), which introduced Parent Loans for Undergraduate Students (PLUS) loans and a shift in emphasis from grants to loans as the primary vehicle for providing access to postsecondary education for middle- and low-income families. With so significant a shift, it was inevitable that policy makers would begin to measure the efficacy of student loan programs by rates of default on student loans.

Student loan default, as well as institutional and federal loan practices, was a key discussion topic during the 1986 HEA reauthorization process, and three years later Congress passed the first federal legislation imposing penalties on institutions with high default rates. Then, in 1992, the HEA reauthorization broadened eligibility for subsidized loans, increased loan limits, and opened the unsubsidized loan program to all students. Concerns about student loan default grew, however. Discussions for the 1998 reauthorization noted a possible link between default rates and the quality of higher education institutions—a link suggested in high student loan default rates at some community colleges, historically Black colleges and universities, proprietary institutions, and urban institutions. The 1998 HEA reauthorization altered the cohort default rate calculation by extending—from 180 to 270 days—the period of payment delinquency after which the federal government would deem a borrower to be in default. This along with other changes in the student loan default policies in the 1998 reauthorization is widely regarded as having affected the financial aid practices of many nonprofit and for-profit postsecondary institutions.

Congress' 2008 reauthorization of the HEA revisited the question of loan default when Representatives Timothy Bishop (D-NY) and Raul Grijalva (D-AZ) introduced an amendment to extend the default calculation window to three years, prompting a federal study of default rates and focusing the

attention of policy makers on the formula for calculating cohort default rates. Using four years rather than the more common 12 to 24 months as the time frame, Choy and Li (2006) showed that default rates increased by as much as 6 percent among some groups of students and by as much as 60 percent among some types of institutions (Lederman, 2008). It is not surprising that federal policy makers looking at these numbers were asking again how much default is acceptable and what factors contribute to it. Their efforts to define default and to decide if default rates should be used as indicators of institutional quality or loan program efficacy raise complicating questions. Is default a function of the characteristics of students or of the institutions they attend? Do the types of loans influence the probabilities of default? Do life circumstances—like the types of jobs and income levels of students after they graduate—have an impact on default rates? To help policy makers and practitioners answer these and other questions surrounding the reauthorization process, we offer this review of the research literature on the predictors of student loan default.

## Method

Our literature search for studies of student loan default targeted peer-reviewed journals in the fields of higher education as well as economics, sociology, and finance. We also used a variety of databases—such as EBSCO, Lexis-Nexis Academic, and JSTOR—to identify relevant reports or articles that may not have been published in journals. Using a template to systematically note key themes and important features of the reviewed studies—such as the study's quality and scope and the database the researchers used—we identified, reviewed, and summarized 41 studies of student loan default conducted between 1978 and 2007, most of which were done after 1991.

While writing each summary, we used qualitative data analysis software (ATLAS.ti 5.2) to flag key findings and significant points with predetermined codes such as race/ethnicity or institutional type as well as emergent codes. These 45 codes were then grouped into thematic areas, forming the basis for the synthesis below. Although some research in this area has treated race, gender, and loan default separately, they are manifestly entangled. Using qualitative data analysis software enabled us to see the overlapping and intersecting themes across the literature on student loan default and to develop a systematic, comprehensive map of this complex terrain.

Empirical research employing multivariate statistical techniques that controlled for multiple complicating factors received the most attention in our review. While descriptive studies often make for simple and interesting trend analyses, they do not reveal underlying interactions between student characteristics and other factors—such as choice of major, type of institution, type of student loan, graduation status, postcollege employment and income, and student loan repayment status. Only the studies that simultaneously controlled for a range of variables could identify the predictors of student loan default. In addition, we focused more on studies that used national databases and that had larger samples.

Among the studies we reviewed, the chief limitation was that the research that was most robust in scope and methodology was conducted during the late 1980s and, especially, in the mid to late 1990s. Because few multivariate studies using national databases have been undertaken in the last seven years, much of the best research on this topic was conducted a decade or more ago—during a different historical context. It is possible that some patterns or trends have changed since the late 1990s. For example, Baum and O'Malley (2003a, 2003b) reported a fall in the debt levels of African American students between 1997 and

2002. Did these lower debt levels reduce the odds of defaulting among African American students during that time? The research is lacking to tell us whether concurrent policies, such as the 1998 HEA reauthorization, might have had an impact on student loan default rates.

### **Findings from the Literature: What Matters?**

Research on student loan default has considered (a) the characteristics of students as they begin college (e.g., family income, race/ethnicity); (b) students' college experiences (e.g., type of institution, field of study, educational outcomes); (c) students' financial aid and the amount of debt they incur; and (d) students' employment and income after college as well as their overall debt (including loans and other forms of consumer debt). Vis-à-vis the evidence on these factors, we summarize the research on student loan default—with an eye on this broad question: *What matters?*

First, we present the findings related to factors on which the literature is inconclusive or points to no relationship regarding predictors of default. Then, we discuss in more detail the set of factors that have been found to influence student default rates.

#### ***Institutional Characteristics***

Descriptive analysis suggests that students who attend less-than-two-year, proprietary, or community colleges have higher default rates than their peers at four-year or more selective institutions (Podgursky, Ehlert, Monroe, Watson, & Wittstruck, 2002; Woo, 2002a, 2002b), even when the time horizon for considering default is extended to eight years (Kesterman, 2005). Once borrowing behaviors, student background characteristics, and institutional resources are considered, however, these differences largely disappear (Emmert, 1978; Flint, 1997; Knapp & Seaks, 1992; Volkwein & Cabrera, 1998; Volkwein, Szelest, Cabrera, & Napierski-Prancl, 1998; Wilms, Moore, & Bolus, 1987). Students who attend proprietary or less-than-four-year institutions tend to borrow more, to come from lower-income families, and to belong to a racial or ethnic minority group—characteristics associated with increased likelihood of default (Gladieux & Perna, 2005; Goodwin, 1991).

Moreover, greater institutional investment and instructional support is associated with decreased likelihood of default (Volkwein & Szelest, 1995). Generally, the wealthier the institution attended and the greater the student's access to social and economic capital the less likely the student is to default. In addition, some evidence suggests that students who attend less-than-four-year institutions may be more likely to carry more credit card debt compared to their peers at traditional institutions (Pinto & Mansfield, 2006). Finally, a descriptive analysis of default rates and institutional characteristics found that California students who attended publicly traded corporations were less likely to default than students attending other vocational schools (Woo, 2002a, 2002b).

#### ***Student Characteristics and Background***

*Race/ethnicity.* Differences among racial and ethnic groups in the likelihood of default are perhaps the most studied topic in the loan default literature.

Researchers have been remarkably consistent in their conclusions on this point—finding students of color more likely to default than their Caucasian peers (Christman, 2000; Harrast, 2004; Volkwein & Cabrera, 1998; Volkwein & Szelest, 1995; Woo, 2002a, 2002b) and African Americans at the greatest risk of defaulting (Greene, 1989; Herr & Burt, 2005; Knapp & Seaks, 1992; Podgursky et al., 2002; Steiner & Teszler, 2003; Wilms et al., 1987) even after controlling for postgraduation earnings (Boyd, 1997; Lochner & Monge-Naranjo, 2004). In

fact, race/ethnicity emerges as one of the strongest predictors of default (Harrast, 2004). For example, one study conducted at a traditional four-year public institution found that race/ethnicity explained about 20 percent of the variance in loan default, second only to degree completion (26%) (Herr & Burt, 2005). The relationship between race/ethnicity and likelihood of default holds regardless of the institutional type (Dynarski, 1994). Finally, in addition to being more likely to default on student loans, it appears African American students may be less likely to resume repayment after defaulting compared to their Caucasian and Asian American counterparts (Volkwein et al., 1998).

Despite much evidence suggesting students of color are more likely to default than their Caucasian peers, relatively little is known about the constellation of factors that likely contribute to this difference. To begin, students of color are more likely to borrow during school because of personal, family, employment, or institutional finances and can incur greater debt loads by the time they graduate (Harrast, 2004; Wilms et al., 1987). After graduation, moreover, students of color are more likely to be unemployed and less likely to be satisfied with their educational experiences (Volkwein et al., 1998), possibly leading to diminished capacity to repay loans—although as mentioned above the reasons for default extend beyond the ability to pay. For example, Boyd (1997) suggests that student loan default may be linked to discrimination in housing markets. Facing discrimination in the housing market regardless of one's earned degree or one's credit worthiness could reduce the incentive to protect credit scores by repaying loans.

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**Age.** Nearly all studies that considered the age of the student—either while enrolled in school or at the start of the loan repayment period—concluded that as age increases so does the likelihood of loan default, even after controlling for other important factors such as income (Christman, 2000; Flint, 1997; Harrast, 2004; Herr & Burt, 2005; Podgursky et al., 2002; Steiner & Teszler, 2005; Woo, 2002a, 2002b). Just one study—of a single traditional four-year public institution (Steiner & Teszler, 2003)—had contrasting results, finding younger students three times more likely to default than older students. A later study by the same researchers at the same institution, however, did not reproduce this finding.

Several explanations for this negative relationship between age and student loan repayment emerge from the research literature. Herr and Burt (2005) suggest that older students likely have greater financial obligations—such as families to support—that may compete with or prohibit loan repayment, while younger students have relatively fewer financial commitments. A second explanation pertains to the overall debt burden a student faces once repayments start. Harrast (2004) found that on average each year of age added \$312 to the student's cumulative debt load. Other research suggests the likelihood of default increases along with the total amount owed (Choy & Li, 2006). In sum, older students may be more likely to default because they owe more than their younger counterparts and because they may have relatively less in available resources to repay the loans.

**Gender.** The relationship between gender and loan default is much less clear in the literature. Several studies we reviewed found no significant difference in the likelihood of default between men and women (Harrast, 2004; Volkwein & Szelest, 1995; Wilms et al., 1987), even after considering women's comparatively lower average earnings and greater repayment problems (Schwartz & Finnie, 2002). More recent work suggests women take longer to repay loans (Choy & Li, 2006), and a number of studies found evidence that men are more likely than women to default on loans (Flint, 1997; Podgursky et al., 2002; Woo, 2002a, 2002b).



### *Socioeconomic Contexts*

Student loan default occurs across the range of students' socioeconomic contexts. The family structure, the parents' education, the parents' marital status, and the family's eligibility for federal assistance such as Aid to Families with Dependent Children are all proxies for the social and economic capital students can "cash in" to attend college and then later to repay loans. We discuss next the effects of family structure, parental education, and family income on student loan default as reported in the studies we reviewed.

*Family structure.* Family structure affects in a number of ways the likelihood of defaulting on loans. First, the greater the number of dependents claimed by a student, the greater the likelihood of loan default (Dynarski, 1994; Volkwein & Szelest, 1995; Woo, 2002). Volkwein and Szelest (1995) found that the probability of default increased 4.5 percent per dependent child. As common sense suggests and research has corroborated, more children require a greater share of one's finite supply of resources, thereby decreasing the ability of a student with dependent children to repay loans (Herr & Burt, 2005). Indeed, having dependent children was found in one study to have a greater effect on the likelihood of loan default than the type of institution attended, parent's income, and even the student's annual earnings (Volkwein et al., 1998). Being a single parent was also associated with a greater risk of loan default (Volkwein et al., 1998). Being separated, divorced, or widowed was found to increase the probability of defaulting by more than 7 percent (Volkwein & Szelest, 1995). One final way family can affect loan default is by providing a safety net. Students who could count on support from their families, including parents, were less likely to default than those who had no family support (Volkwein et al., 1998; Woo, 2002a, 2002b).

*Parental Education.* Not surprisingly—given the positive relationship between education and socioeconomic status—students whose parents had higher levels of formal education were less likely to default than first-generation college students (Choy & Li, 2006; Volkwein et al., 1998; Volkwein & Szelest, 1995). This is true in relation to the mother's as well as the father's level of education (Steiner & Teszler, 2003, 2005).

*Income.* As we would expect, students from low-income families tend to incur more debt during school than their wealthier peers (Herr & Burt, 2005; Steiner & Teszler, 2005; Volkwein & Szelest, 1995). Low-income students also report feeling more burdened once their loan repayments begin, and some evidence suggests this reaction is intensifying (Baum & O'Malley, 2003b). Generally, the higher the family income the lower the likelihood the student will default (Knapp & Seaks, 1992; Wilms et al., 1987; Woo, 2002a, 2002b). Families with more money are able to provide a financial safety net unavailable to students from lower-income families, who are more likely to need such a resource given their greater levels of debt. This safety net also helps students to meet their loan obligations through fluctuations in personal income.

Most students who default do so because their personal income is inadequate to keep up with their payments (Flint, 1994; Woo 2002a, 2002b). As postgraduation or departure earnings increase, the likelihood of default decreases (Boyd, 1997; Choy & Li, 2006; Dynarski, 1994; Lochner & Monge-Naranjo, 2004; Volkwein et al., 1998; Woo, 2002a, 2002b). Unemployment, in contrast, increases the likelihood of default, making success in the job market critical to repaying student loans (California Postsecondary, 2006; Dynarski, 1994; Monteverde, 2000). Illustrating one of several possible explanations for the greater likelihood of default among racial/ethnic minorities, Lochner and

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Monge-Naranjo (2004) point out that the post-college earnings of African Americans is lower than that of all other racial/ethnic groups. Institutional type may also be a factor, as defaulters who attended proprietary institutions cited unemployment as the cause for default (83%) in higher proportion than defaulters who attended other types of institutions (Dynarski, 1994).

*Debt burden.* Research suggests that as debt burden increases so does the likelihood of default. In other words, although the average debt burden may differ by the type of institution attended, whatever the type of institution, the more a student borrows the greater the chance of default (Choy & Li, 2006; Dynarski, 1994; Lochner & Monge-Naranjo, 2004). Students who attended two-year and proprietary institutions in 2003-2004 owed over \$38,000 on average compared to \$36,000 among those who attended private four-year schools (California Postsecondary, 2006). A national study, similarly, found that students who attended proprietary schools spent a higher proportion of their monthly income (around 8%) on loan repayments compared to students who attended four-year schools (about 6%) (Dynarski, 1994).

Manageability of monthly payments is highly correlated with default (Dynarski, 1994). Students who owed more money reported more difficulties repaying loans, regardless of default status (Schwartz & Finnie, 2002). Currently, if monthly debt burden exceeds 8 percent of income, the debt is considered unmanageable. Choy and Li (2006) noted that 11 percent of borrowers reported unmanageable debt levels by 2003, with more than 20 percent of these students eventually defaulting. One exception emerged regarding high debt and likelihood of default: Students who incurred high levels of debt by attending graduate school were actually less likely on average to default (Volkwein et al., 1998; Woo, 2002a, 2002b).

### ***College Experiences***

*Academic enrollment and intensity.* Markers of students' academic experiences in postsecondary education—credits attempted, credits completed, credit hours failed, grades, transfer patterns, enrollment patterns, and time to degree/certificate—emerge as the strongest predictors of loan default. Students who enroll continuously, enroll in more rather than fewer credit hours, complete their attempted courses (i.e., do not receive incompletes), and graduate within eight semesters are less prone to default on average (Christman, 2000; Harrast, 2004; Steiner & Teszler, 2005). Evidence suggests that the odds of defaulting increase the longer it takes a student to get through school, although enrolling continuously may have a stronger positive relationship with not defaulting than taking longer than eight semesters to graduate (Podgursky et al., 2002).

Findings regarding academic mobility—reflected in transfer behaviors—and the likelihood of default in the studies we reviewed were mixed. Woo (2002a, 2002b) found that students who attended more than one institution were less likely to default than students who remained enrolled at the same institution, although the study included graduate students, who are generally less likely to default and often attend multiple institutions. Volkwein and colleagues (1998) found a positive relationship between receiving transfer credits and not defaulting, although in a single institutional study Herr and Burt (2005) found that students who transferred credits were more likely to default.

The relationship between academic trajectories and loan default is complicated, although at least two clear linkages emerge. First, students who take longer to

get through school often incur more debt. Harrast (2004) found that average debt load increased \$418 per each semester a student is enrolled beyond the first year and that the median debt load of a student who takes five or more years to graduate is 58 percent higher than that of a student who graduates in four years or less. Second, as discussed in more detail in the next section, common markers of lower levels of academic enrollment and intensity—such as noncontinuous enrollment and low academic performance—are all associated with a decreased likelihood of earning a degree, which is also a strong predictor of default.

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*Educational attainment.* Attainment at both the secondary and tertiary levels of education is perhaps the strongest predictor of loan default. Students who dropped out of high school or earned a GED were more likely to default than students who had earned a regular diploma (Dynarski, 1994; Wilms et al., 1987). The majority of the research we reviewed suggested that completing a postsecondary program is the strongest single predictor of not defaulting regardless of institution type (California Postsecondary, 2006; Dynarski, 1994; Greene, 1989; Knapp & Seaks, 1992; Volkwein et al., 1998; Woo, 2002). Steiner and Teszler (2005) estimated that students who graduated had a 2 percent chance of defaulting compared to 14 percent for those who did not graduate. Interestingly, progress toward degree also reduced likelihood of default. At the start of repayment students who had earned sufficient credits to be classified as seniors were less likely to default than those who progressed to junior status, and so on (Herr & Burt, 2005). The relationship between attainment and default may reflect student sorting, with students who are more prone to default also being more likely to depart postsecondary education prior to finishing a degree (Podgursky et al., 2002).

*Academic preparation.* Given the relationship between degree completion and likelihood of default, it is not surprising that academic preparation—as measured by high school rank, high school GPA, and standardized test scores—is also strongly related to default. Generally, students who are better prepared academically according to these traditional measures are less likely to default on their loans. As high school rank, standardized test scores, and high school GPA increased in the studies we reviewed, the likelihood of default generally decreased (Christman, 2000; Podgursky et al., 2002; Steiner & Teszler, 2003; Woo, 2002), although one study found a “U-shaped” relationship between performance on standardized tests and default (Lochner & Monge-Naranjo, 2004). Low-scoring and high-scoring students were more likely to default than students with mid-range scores. Finally, Herr and Burt (2005) found that systematic differences by high school emerged in relation to likelihood of default, although the authors do not offer a detailed explanation of these differences.

*Program of study.* What students study in school appears to affect likelihood of default in at least two ways, according to the studies we reviewed—in amount of debt incurred and in postgraduation earnings. Harrast (2004) found that studying special education, computer engineering, sociology, art history, or risk management and insurance was associated with higher levels of debt relative to other fields. This study focused on one institution, however, and the author was unsure why major affected subsequent debt burden. More evidence exists to suggest that postgraduation earnings related to field of study affect personal income and, therefore, one’s ability to repay loans (Flint, 1997; Herr & Burt, 2005; Steiner & Teszler, 2005; Volkwein & Szelest, 1995). Lochner and Monge-Naranjo (2004) found the effects of major choice disappeared after controlling for total debt and postcollege earnings. In contrast, Schwartz and Finnie (2002)

found that Canadian graduates in fields with lower expected future earnings had a higher probability of experiencing repayment problems, even after controlling for total debt and amount earned.

#### ***Financial Aid and Education Debt***

The evidence regarding the relationship between financial aid and default is mixed at best. The amount of education debt faced by students has generally been on the rise since at least 1997, with the greatest increases among low-income students—although debt among African American students seems to have actually decreased slightly between 1997 and 2002 (Baum & O'Malley, 2003a, 2003b). This suggests that, given the positive relationship between debt burden and default, a decrease in grants and scholarships may promote an increase in likelihood of default. Indeed, Greene (1989) found that grants and scholarships reduced the probability of default, at least at one traditional four-year institution. Another study found, however, that the amount of aid, the types and number of loans, and loan consolidation had no effect on default at another four-year institution (Steiner & Tetzler, 2003).

#### ***Attitudes and Awareness Regarding Education Debt***

Relatively few studies have explored the relationship between students' attitudes about debt and the likelihood of default. One study concluded from interviews that student attitudes—including ignorance about the borrowing process—were related to default (Christman, 2000). A more robust analysis of a national sample of students found, however, that not knowing a loan had to be repaid did not predict likelihood of loan default (Volkwein et al., 1998). While two-thirds of students in one national survey said loans were very important to their being able to attend postsecondary education, differences in attitudes toward debt by race/ethnicity and income emerged (Baum & O'Malley, 2003a). African American borrowers participating in that survey reported feeling more burdened by their debt and less satisfied that the benefits of borrowing outweighed the costs. Low-income students who had received Pell grants similarly reported feeling more burdened by debt, and this perception appears to be increasing. Generally, as the ratio of monthly income to debt payment increased so too did the negative perception of debt (Baum & O'Malley, 2003b).

A study of the relationship between education and other forms of debt found that students with high levels of loan debt were also likely to carry significant credit card debt (Pinto & Mansfield, 2006). Moreover, students were more likely to prioritize the repayment of credit card debt over that of student loan debt.

Finally, several researchers have explored the effects of loan counseling or consumer education programs and have found they appear to be related to lower rates of default (Podgursky et al., 2002; Seifert & Worden, 2004; Steiner & Tetzler, 2005; Wilms et al., 1987). Whether this is a function of self-selection or program efficacy is unclear, however, as students who participate in such programs may be less likely to default anyway. However, students who complete a postsecondary credential, as we discuss above, are less likely to default regardless of whether they participate in a loan counseling program.



## Conclusion

In sum, the empirical evidence suggests that default rates are not good vehicles for assessing the quality of institutions or of various types of loans. Nor is it a simple matter to identify which students are likely to default so that they could simply be declared ineligible for student loans. The causes of loan default are rooted more deeply in the ever-present tensions around federal financial aid policy. Since 1965 the federal government has made access to postsecondary education for all students, regardless of income, a cornerstone of federal higher education policy. Over the years, because of fiscal constraints, Congress has moved from grants to loans as the primary vehicle for ensuring such access. It is axiomatic that there is greater risk of default in providing loans to low- and moderate-income students—who often come from families with weak credit histories and who may be at greater risk of not graduating or of ending up in jobs with lower incomes. Absent greater federal emphasis on grants, it is hard to imagine a scenario in which access to postsecondary education via loans will not also result in higher default rates among some student populations than policy makers would like. One alternative is to stop admitting or providing loans to students who are at greater risk of defaulting. This, of course, would turn a blind eye to the tens of thousands of students who triumph over their circumstances, repay their loans, and go on to lead responsible, productive lives—and would undercut the very purposes of the student loan program.

Studying the effects of financial aid policy has always meant aiming at a moving target. As federal, state, and institutional policies have changed around both pricing and financial aid, the impact of financial assistance, including student loans, has also changed. Given this shifting context, we are struck by the relative dearth of recent research on student loan default using large national data sets and rigorous statistical methods. While other areas of financial aid policy such as student debt or the impact of financial aid on persistence have received substantial research attention, a series of studies on student loan default has not been undertaken for more than a decade. The time has come to fill the gap.

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