

SPECIAL SECTION: Indebtedness

Introduction

Student indebtedness is a topic of great import for universities, public policy officials, and of course, doctoral students and their families. This special section focuses on the indebtedness of U.S.-citizen doctorate recipients.

Less attention is paid to non-U.S.- citizen students for two reasons: (1) an overwhelming percentage of international students did not complete their undergraduate education in the United States, so they were subject to a wider variety of, and for purposes of this report largely unknown, methods of financing during those years of study, and (2) non-U.S. citizens are not eligible to participate in the most frequently utilized loan programs—Stafford (formerly known as Guaranteed Student Loans [GSL]) and Perkins (formerly National Direct Student Loans [NDSL])—for graduate and professional study in this country. Furthermore, approval of visa applications requires that international students demonstrate adequate financial resources. Loans are not an allowable source of support, and many forms of employment are denied the student, as well as the spouse. Consequently, graduate financial aid to non-U.S. citizens is far more likely to be provided through university fellowships and teaching and research assistantships than through formal loan programs.

Our knowledge about the extent of borrowing by 1998 doctorate recipients to finance their education is derived from three questions in the survey instrument (see appendix D). On two questions, respondents note whether student loans were a source of financial support during graduate school and indicate which of the various financial aid alternatives were the primary and secondary sources. The discussion on financial aid found in the main report, as well as tables 29 and 30, place student loans in context.

The descriptions and analyses in this special section focus on the responses of doctorate recipients to the third question, which concerns whether the respondent's education financing is related to borrowing. This special section includes mapping the question's one-dimensional answer to the variables of sex, broad field of study, race/ethnicity, and institution type, among others. The exact wording of the question is: "When you receive your doctoral degree, how much money will you owe that is directly related to your undergraduate and/or graduate education (tuition and fees, living expenses and supplies, transportation to and from school)?"

Of the 1998 doctoral cohort, 49.1 percent incurred some debt over the course of their undergraduate and graduate studies. The median level of indebtedness upon completion of doctoral studies for those with outstanding loans was just over \$15,000. (See the financial section in the main report and tables 29 and 30.)

This question (as asked currently and in recent years) makes no distinction between borrowing for undergraduate education as opposed to graduate studies, or even asks explicitly about borrowing to finance a doctoral program versus other graduate-level programs. Amounts that a doctoral student may have *borrowed* over the years and how much money is *still owed* are

not specifically requested; that is, no information is asked about partial repayment of existing debt due to funds being available from the student's earnings or through spousal earnings, an inheritance, or a monetary gift.

Responses may be somewhat ambiguous, depending on how respondents perceive indebtedness “*directly* related to [their] undergraduate and/or graduate education,” and how they treat borrowing from parents and/or other family members, credit card balances, and the interest due on their debt.²²

Recent Historical and Current Debt Levels

In 1998, 43.8 percent of U.S. citizens receiving research doctorates reported no outstanding indebtedness upon graduation. That aggregate percentage has not changed significantly since five years ago, when the percentage was 44.6 percent. (See table 30 and *Summary Report 1993*.²³) The percentage of respondents having educational indebtedness of less than \$5,000 has fallen since 1993 (from 13.7 percent to 10.0 percent in 1998). However, the percentage reporting at least \$30,000 in loans has steadily increased, from 6.7 percent five years ago to 13.3 percent in 1998.

By combining data for U.S. citizens, we see that in 1998, while 43.8 percent of doctorate recipients reported no outstanding loans, 27.3 percent owed \$15,000 or less and 28.9 percent owed more than \$15,000 (table 2-2).²⁴ The percentages for men and women are about the same, but as might be expected, the figures differ significantly by field of study. Those in the S&E fields have the lowest percentage of indebtedness in general and also the smallest percentage owing more than \$15,000. For the social sciences and humanities, the opposite situation holds—more doctorate recipients in these fields than any others have some amount of indebtedness and the largest percentage owes more than \$15,000 (table 2-2).

Doctorate recipients in the field of education display the highest level of being debt-free. Many education students pursue their doctorates on a part-time basis, funding their studies out of personal resources and support from their school districts. In addition, since the median age of doctorate recipients in the field of education is 45, the many years of intervening professional employment may be the primary reason those graduates show so little indebtedness. (See tables 18 and 2-2.)

²² Focus groups and cognitive interviews held to assist in possible revisions to the survey instrument revealed that respondents are likely to exclude borrowing from parents or other relatives unless a formal, explicit agreement with pre-determined payback provisions exists. Respondents do include credit card indebtedness if they consider the balances accruing as being for educational purposes. They do not think of their total loan liability as being principal plus interest, but only count the principal when describing their loans.

²³ National Research Council. 1995. *Summary Report 1993: Doctorate Recipients from United States Universities*. Washington, DC: National Academy Press.

²⁴ Overall, 50.9 percent of 1998 doctorate recipients reported no indebtedness. That figure has hovered between 50 and 53 percent for the last five years. See table 2-1 for 10-year comparisons.

The question on indebtedness was first included in the SED in 1987, and since then the wording and the response categories have remained exactly the same. *Summary Report 1988* states that of the 30,254 respondents to the debt question in 1988, over half (53 percent) reported finishing their doctoral programs free of debt related to their education and that the median level owed for those with accumulated educational debt was approximately \$7,500. Ten years later, the percentage with no debt has decreased, and the average amount owed has increased. With an adjustment for inflation (which has reduced the real value of the indebtedness at a rate of about 3 percent per year), the median level owed is about 50 percent higher. Because students are incurring an increasing amount of debt (i.e., undergraduate plus graduate loans) along the path to their doctorate degrees, postgraduate career and personal decisions (such as family formation) may be affected.

Indebtedness by Race/Ethnicity

Among U.S. racial/ethnic minorities, Asians reported the lowest indebtedness levels—47.2 percent had no loans to repay upon receipt of the doctorate. For whites the corresponding figure was 45.2 percent; for blacks, Hispanics, and American Indians, approximately 30 percent graduated with no indebtedness. Among those who did have outstanding loan balances, whites (12.6 percent) and Asians (11.4 percent) had the lowest percentages of those owing more than \$30,000; however, 22.4 percent of black doctorate recipients owed more than \$30,000. (See table 30.)

Indebtedness by Source of Support and Postdoctoral Employment Sector

In 1998 the amount of indebtedness varied by the source of support for graduate studies. Of the U.S.-citizen respondents who listed their own resources as their primary source of financial support, 46.7 percent reported that they had no outstanding debt balance upon receipt of their doctorates. This finding is very likely an effect of the education doctorate recipients funding their educations out of their own resources and therefore graduating without any debt (see table 19). Those who had been primarily supported by teaching or research assistantships, traineeships, or fellowships had fewer numbers graduating free of debt. However, 33.2 percent of the group supported by their own resources owed more than \$15,000, one of the highest proportions of those in debt. (See table 2-4.)

Variation was also seen by postdoctoral plans for the 1998 cohort. U.S.-citizen doctorate recipients who plan to work in the academic sector reported the highest percentage of debt (58.3 percent) and also the highest proportion owing more than \$15,000 (31.6 percent). Those intending to work in government had the least amount in educational loan balances outstanding and the lowest percentage of graduates owing more than \$15,000. (See table 2-5.)

Indebtedness by Institutional Type

Few, if any, differences in indebtedness were observed by institutional type and classification. The percentages of U.S.-citizen doctorate recipients in public and private universities who report no indebtedness are almost the same (44.3 percent versus 42.8 percent), and the percentages from public and private institutions owing more than \$15,000 are also about the same (28.0 percent versus 30.7 percent) (see table 2-2). This uniformity appears to hold true in a comparison by Carnegie classification, in which the percentage of new Ph.D.s having no debt ranges from 41.2 percent in Research II universities to 49.4 percent in Doctoral II institutions. (See table 2-2.)

Indebtedness by Citizenship

As shown in table 2-2 and noted above, 43.8 percent of doctorate recipients who are U.S. citizens reported no educational indebtedness; 27.3 percent expected to owe \$15,000 or less upon receipt of the Ph.D.; and 28.9 percent incurred more than \$15,000 in loans. For non-U.S. citizens—permanent residents plus those on temporary visas—the corresponding figures are 67.4 percent without education debt, 19.5 percent owing \$15,000 or less, and 13.1 percent owing more than \$15,000. (See table 2-3.) These differences hold across all seven broad fields of study and across institutional types and classifications.

The aggregate differential between U.S.-citizen and non-U.S.-citizen doctorate recipients who report being debt-free at graduation (43.8 percent versus 67.4 percent) remains approximately the same by institution type (Carnegie classification), by sex, and for five of the seven broad fields. The differential narrows only for the fields of education and professional/other. (See section in main report on Financial Resources in Support of Doctoral Programs for a discussion of possible causes of the difference in borrowing by citizenship status.)

Undergraduate versus Graduate Indebtedness

Currently the indebtedness question in the survey instrument does not differentiate between graduate and undergraduate loans.²⁵ However, one way to distinguish the different amounts is to segment the doctorate population by the type of institution—public or private—from which the Ph.D.s received their baccalaureate degrees.

U.S.-citizen doctorate recipients can be divided by baccalaureate institution into four populations: (1) those who received their B.A.s from public colleges or universities and also earned doctorates at public institutions; (2) those who were undergraduates at public institutions but earned their Ph.D.s from private universities; (3) those with B.A.s from private colleges or universities and doctorates from public institutions; and, (4) those who spent both their

²⁵ Revisions to the questionnaire for 2001 and beyond will include subparts to capture that distinction.

undergraduate and doctoral years at private institutions. Table 2-6 shows the doctorate population divided into those four mutually exclusive categories.

The data reveal that the level of indebtedness, including having no loans to repay, is independent of the type of institution that conferred the baccalaureate and doctorate. Very little variation exists across the three indebtedness levels by the four populations; regardless of enrollment pattern, approximately 42-45 percent of doctorate recipients had no outstanding loans; between 25 and 30 percent owe less than \$15,000; and 25 to 30 percent owe more than \$15,000. (See table 2-6.)

Indebtedness by Demographic Background

Borrowing by U.S.-citizen doctorate recipients appears to be independent of parents' levels of education, which serves in this analysis as a crude proxy for family income. (See table 2-7.) No discernable pattern is evident by the level of education reached by fathers, mothers, or both parents for members of the 1998 doctorate cohort having no indebtedness; the variation by parental education level is remarkably small. The same pattern holds for 1998 doctorate recipients at the other end of the spectrum—those owing more than \$15,000.

The level of indebtedness, however, is not independent of marital status and number of dependents. For U.S. citizens, more married (47.5 percent) doctorate recipients (including those in a marriage-like relationship) reported having no outstanding education debt, as compared with those widowed, separated, or divorced (36.1 percent) and those who had never been married (38.1 percent). A spouse may well represent, on average, a source of support and a net financial asset to the doctorate recipient. (See table 2-8).

The effect of dependents on indebtedness is ambiguous.²⁶ The survey instrument (see appendix D) merely asks for the total number of those who receive at least one-half of their support from the respondent—it does not distinguish between spouse/partner and children; nor provide ages for the children. Neither does this question distinguish between doctorate recipients and their spouses providing over half of the financial resources for their households. If the spouse supported the household, the respondent may have answered zero dependents even though married. A comparison of the survey responses showed 62.9 percent of all U.S.-citizen doctorate recipients were married or living in a marriage-like relationship, but 55.0 percent reported having zero dependents.²⁷ Of these respondents with no dependents, 42.1 percent reported no indebtedness, as compared with 43.2 percent of degree earners with one dependent, 47.7 percent of recipients with two dependents, and 47.9 percent of those with three or more dependents. (See table 2-8.)

²⁶ Improvements in the question wording and an additional question for the 2001 survey instrument should resolve or lessen the ambiguity on this point.

²⁷ Overall, 55.0 percent of recipients responded no dependents; 19.9 percent responded one dependent; 12.7 percent, two dependents; and 12.4 percent, three or more dependents.