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# College Costs and Financial Constraints: Students Borrowing at For- Profit Institutions

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# **Student Loans and the Dynamics of Debt**

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# 6

## College Costs and Financial Constraints

### Student Borrowing at For-Profit Institutions

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Perhaps no culprit has been more incriminated for the rising levels of student loan debt in the United States than for-profit postsecondary institutions. Two trends have drawn a great deal of attention to this sector. First, students at for-profit institutions disproportionately accrue federal student loan disbursements, leading to concern about the use of public funds and debt burden on students in the sector. Second, student loan default rates are higher at this group of institutions than other sectors on average, calling into question relative employment prospects. There is still much to learn, however, about the student context of these high-level trends, and research on student lending and the for-profit sector remains underdeveloped. Using student-level nationally representative data from the National Postsecondary Student Aid Study (NPSAS), we analyze student borrowing trends over the past decade, with a particular focus on the behavior of students in for-profit institutions compared to students in other sectors.<sup>1</sup>

An impediment to understanding relative student outcomes in the for-profit sector is the unique nature of students served. Descriptive research informs us that the sector disproportionately enrolls financially independent and low-income students (Deming, Goldin, and Katz 2012) such that credit is necessary for many of these students to invest in their

human capital. Therefore, we push further than previous research to also ask whether borrowing patterns differ by various measures of financial need and available resources. We further examine preferences for borrowing relative to other available financing options such as working, grants, and family transfers to provide a better understanding of debt behavior in the context of the financial constraints these students face.

As expected, we find that students at for-profit institutions are much more likely to borrow than students in public and nonprofit institutions. We also find that, over the past decade, the incidence of borrowing has risen more steeply than borrowing in other sectors. These high borrowing rates lead to higher average borrowing by students in for-profit institutions than students in public and nonprofit institutions. Published tuition in the for-profit sector has risen substantially over the last decade, following patterns similar to those making headlines in the public and nonprofit sectors. But unlike other sectors, grant aid has not risen with tuition in the for-profit sector, leading to increases in the net price that students pay. In particular, we observe increases in institutional aid in the private nonprofit sector that accompany tuition increases but find little evidence of this type of support in the for-profit sector. Student borrowing in the for-profit sector has risen dramatically to meet the rising net price.

Our examination of financial resources reveals that students attending for-profit institutions have the lowest available personal and family resources to contribute to higher education costs, relative to students in other sectors. Not only do they have the lowest calculated expected family contribution (EFC) according to financial aid formulas, but it is also less likely that they or their parents own a home or have substantial investment or business assets. Given their relative lack of resources, it is not surprising that these students turn to the credit market to finance their education. Students in the for-profit sector also work longer hours and are more likely to work full time than students in the public four-year or private nonprofit sectors (and at levels that are generally similar to public two-year college students). Therefore, the high borrowing rates of for-profit students do not appear to simply reflect preferences for debt over working. Rather, they both seem to be working and borrowing at relatively high rates.

Paradoxically, students in for-profit institutions are most similar to public community college students in the degrees they seek, their

demographics, and their financial resources, yet their costs and their debt burdens are on par with students in private nonprofit institutions who typically seek bachelor's degrees from institutions with long-standing reputations and higher expected postcollege incomes. Why are the most disadvantaged students attending relatively expensive for-profit institutions?

We cannot provide an answer here, but our findings highlight the policy importance of the question. An economically rational student will decide whether to attend higher education by comparing the expected benefits of school, such as higher earnings, against expected costs, including tuition and forgone earnings. The answer to the question, therefore, may be that advantages offered by for-profit colleges, such as lower opportunity costs associated with convenient class schedules and streamlined programs, make for-profit education an appropriate choice for judicious and shrewd students. This may be of little concern for policymakers. On the other hand, policymakers may be rightfully concerned if students are making choices while lacking information or being misled.

## **BACKGROUND ON FOR-PROFITS AND DEBT**

Across all sectors of higher education, student borrowing plays an important role in ensuring access to higher education for low- and middle-income students. Yet, evidence that credit constraints affect educational attainment is mixed. Ellwood and Kane (2000) and Belley and Lochner (2007) find some support that credit constraints impact college going, while Cameron and Taber (2004) and Stinebrickner and Stinebrickner (2008) find little evidence in that regard.

Whether students borrow “too much” or “too little” is subject to debate, though analyses of typical debt burdens and returns to college do not indicate that average student borrowing behavior, even at current higher levels, is a serious concern (see Avery and Turner [2012] and Baum and Schwartz [2006] for a more detailed discussion). Loans can promote access to higher education by lowering costs, and research indicates that social benefits to higher education can exceed private benefits (Wolfe and Haveman 2002). Therefore, a robust educational credit

market can have both equity and efficiency benefits. On the other hand, debt burdens can lower expected future consumption, since relatively large portions of some borrowers' incomes will be dedicated to making loan payments. Evidence also indicates that high debt can potentially alter choices about early career decisions (Field 2009; Rothstein and Rouse 2011) and other choices (Gicheva 2011).

If not properly managed, student debt can impair access to other credit markets, making it more difficult for students to borrow money to purchase assets such as houses or to guard against income or asset shocks. Debt burdens, therefore, should be considered in relation to the expected benefits associated with borrowing. For student loans, the prominent private benefit is higher expected earnings associated with completed college. For the average student, college earnings premiums have grown, even when taking into account increasing college costs (Avery and Turner 2012). Therefore, modest increases in student borrowing for the average student may not be a source of public concern.

Returns to college investments, however, are heterogeneous across student characteristics and abilities, as well as institutions. Therefore, not every student will earn the average wage premium to college, and students are not evenly stratified across school sectors and types. In fact, several recent studies on the returns to for-profit college attendance suggest that for-profit students generate earnings gains that are lower than those of students in other sectors (Cellini and Chaudhary 2012; Deming, Goldin, and Katz 2012; Turner 2012). Among associate's degree students, estimates of returns to for-profit attendance are generally in the range of 2–7 percent per year of education, compared to upward of 9 percent in the public sector (Jacobson, LaLonde, and Sullivan 2005; Jepsen, Troske, and Coomes 2014).<sup>2</sup> Assessing returns from a different angle, Cellini (2012) calculates that the earnings gains needed to offset the cost of one year of an associate's degree program in a for-profit college must be equal to or greater than 8.5 percent for students to see net benefits. Current estimates fall just short of this threshold. Still, the literature on the returns to for-profit education is quite thin. We know little about how returns have changed over time, and this has important implications for our understanding of the temporal patterns of student borrowing discussed below.

Complicating the policy discussion is that publicly subsidized federal student loans are the most common source of borrowing for col-

lege students. Federal loans include Stafford Loans, Perkins Loans, and PLUS Loans for parents. While these loan programs have been widely touted as improving access to higher education for low-income students in “traditional” nonprofit and public institutions, they have come under increasing scrutiny for their role in supporting the growth of the for-profit sector.

For-profit students receive a disproportionate share of federal aid. In recent years, for-profit students composed just over 10 percent of postsecondary enrollment but received about double that proportion of federal Pell Grant and subsidized student loan disbursements (College Board 2013). As we show below, tuition averages about \$10,000 per year, and for-profits may be raising tuition to maximize their federal aid (Cellini and Goldin forthcoming). Of course, another explanation for the high aid receipt is that for-profits tend to enroll more disadvantaged students than nonprofits. Deming, Goldin, and Katz (2012) report that among first-time college students, for-profit institutions serve a higher proportion of women, minority students, GED recipients, and single parents than other sectors. Many of these characteristics are associated with lower financial resources. We explore these patterns further using NPSAS data in the analysis that follows.

Disproportionate borrowing alone may not be a problem if disadvantaged students can easily pay back their debt after graduation. More troubling is that student loan default rates are much higher in the for-profit sector than in other sectors. Three-year cohort default rates from 2009 are over 22 percent in the for-profit sector compared to 8.4 percent for public community colleges. Two other estimates produced by the U.S. Department of Education, but not used for Title IV eligibility, yield even higher default rates for for-profit students. Estimates of “cumulative lifetime default rates” based on the number of loans, rather than borrowers, yield a rate of about 31 percent for cohorts graduating between 2005 and 2009. The highest estimate uses dollars, rather than loans or borrowers, to estimate defaults and is used in the president’s budget. By this measure, lifetime defaults are around 48 percent for two-year for-profit students (U.S. Department of Education 2011). These patterns have raised the suspicions of policymakers and led the Obama administration to propose new regulations on restricting federal student aid to for-profit institutions (see Darolia [2013b] for further discussion).



There is a small but growing literature on for-profit colleges in economics. Many studies describe student demographics and program offerings at for-profit institutions (Apling 1993; Bailey, Badway, and Gumpert 2001; Deming, Goldin, and Katz 2012; Rosenbaum, Deil-Amen, and Person 2006; Turner 2006).<sup>3</sup> Administrative licensing data has added to our knowledge of these institutions in recent years and allowed for causal studies of competition in the two-year college market (Cellini 2009) and a more accurate count of for-profit institutions (Cellini and Goldin forthcoming). And, as noted above, several authors have exploited new sources of student-level data to estimate the labor market returns to a for-profit education (Cellini and Chaudhary 2012; Deming, Goldin, and Katz 2012; Lang and Weinstein 2013; Turner 2013).

Several studies on the relationship between financial aid policy and institutional behavior are particularly relevant to this study. Cellini (2010) finds that for-profit college openings and closings correlate with the generosity of federal aid in the Pell Grant program. Cellini and Goldin (forthcoming) find that for-profit institutions participating in federal grant and loan programs charge tuition that is 78 percent higher than similar programs in institutions that are not eligible for aid. In absolute terms, they find that the dollar value of tuition difference is similar to the value of the aid the institution receives, suggesting that institutions may capture federal student aid. Turner (2013) looks more closely at the incidence of the Pell Grant program and finds that for-profit institutions behave no differently than nonselective nonprofit institutions, capturing around 20 percent of students' Pell Grant awards through reductions in institutional aid. Finally, Darolia (2013a) finds that the loss of federal aid because of high cohort default rates leads to declines in annual enrollment at for-profit colleges that exceed 16 percent. This indicates that the federal government has powerful policy levers at its disposal to determine where and if students attend college by regulating which institutions can disburse aid.

We build on this literature and focus on changes over time in student borrowing in the for-profit sector. We begin to untangle the myriad of possible explanations for the time trends we observe, bringing new data to bear on questions of student resources and work behavior. Our results have important implications for the design of federal student aid policies and the regulation of for-profit colleges.

## DATA

To examine trends in postsecondary borrowing and financing behavior of undergraduate students in the United States, we use the four most current available complete waves of the NPSAS. Coordinated by the U.S. Department of Education, NPSAS combines institutional and governmental records with student surveys to produce nationally representative repeated cross-sectional student-level data with information on how students pay for their postsecondary expenses. The advantages of these data are their relatively large sample sizes and particularly detailed information about students' financial backgrounds and college financing strategies.

We use study waves from the 1995–1996, 1999–2000, 2003–2004, and 2007–2008 school years.<sup>4</sup> Each wave contains information on between 41,000 (in 1995–1996) and 105,000 (in 2007–2008) undergraduate students surveyed at random from institutions participating in federal student aid programs under Title IV of the Higher Education Act of 1965.<sup>5</sup> For our analysis, we use measures of borrowing, aid, and other amounts for that year, with all dollars reported in constant 2008 terms. We restrict the sample to undergraduate students but consider yearly figures similarly across the year students are in school and enrollment intensity.

We group schools into four distinct types: 1) for-profit institutions, 2) public institutions that offer programs of two years or less,<sup>6</sup> 3) public institutions that offer four-year programs, and 4) private, non-profit institutions. Note that both the for-profit and nonprofit groups include all levels of institutions—less-than-two-year, two-year, and four-year—but the composition of the institutions in each sector differs substantially. In 2007–2008 almost 95 percent of private not-for-profit postsecondary institutions were four-year colleges, compared to just 47 percent of for-profit institutions (National Center for Education Statistics 2013, Table 306).<sup>7</sup> We include unweighted counts of observations by year and school sector in Table 6.1.

**Table 6.1 Sample Summary**

	For-profit (1)	Public two-year (2)	Public four-year (3)	Private nonprofit (4)
Student characteristics (2007–2008)				
Enrolled in a certificate program (%)	32	8	0	2
Enrolled in an associate's degree program (%)	40	79	4	4
Enrolled in a bachelor's degree program (%)	27	2	91	92
Coursework only (no program enrollment) (%)	1	11	2	1
Male (%)	33	44	46	43
Female (%)	67	56	54	57
Minority (%)	53	40	34	33
Age at time of survey	28.3	27.7	23.5	24.4
Age at the start of postsecondary education	22.7	21.4	19.3	19.7
Years delayed entry into postsecondary education	3.6	2.6	0.8	1.2
First-generation immigrant (%)	11	12	9	7
Second-generation immigrant (%)	14	14	13	13
Current or past military service (%)	7	5	3	4
Parent(s) completed high school or higher (%)	83	87	94	94
Parent(s) completed bachelor's degree or higher (%)	19	30	48	52
Independent (%)	76	57	33	34
Single parent (%)	30	17	7	8
Number of dependents	0.9	0.6	0.2	0.3
Risk index	2.9	2.7	1.3	1.3
Sample size (unweighted)				
1995–1996	5,380	7,190	16,070	12,890
1999–2000	4,620	8,770	20,330	11,120
2003–2004	8,900	22,830	19,230	14,200
2007–2008	14,200	31,980	36,880	21,660

NOTE: Survey weights used. Sample sizes rounded to the nearest 10.

SOURCE: NPSAS.

## STUDENT FINANCING TRENDS: SIMILARITIES AND CONTRASTS

We begin by describing borrowing behavior over time. In the sections that follow, we examine various explanations for these substantial differences in student borrowing both across sectors and over time within the for-profit sector. The relatively high sticker costs of for-profit colleges and relatively low grant aid and personal financial resources available to students who attend these schools leave a relatively large amount of unmet need for students. While for-profit students appear to be working at comparatively high rates, this behavior does not appear to prevent students from borrowing at high rates or levels.

### Borrowing

Table 6.2 presents the average borrowing behavior of students for the 2007–2008 school year. A remarkable 87 percent of for-profit students borrow money of some kind, compared to just 14 percent of public two-year students, 48 percent of public four-year students, and 60 percent of private nonprofit students.<sup>8</sup> Not surprisingly, most student borrowers obtain loans through federal programs. In the for-profit sector, 81 percent of students receive federal loans. Relative to students in other sectors, for-profit students are much more likely to supplement federal borrowing with borrowing from nonfederal sources, but just 6 percent borrowed only from nonfederal sources, as shown in the bottom part of the table.

Figure 6.1 displays the trend of percentage of students who borrow (from any source) from 1996 to 2008. While the relative position of schools in this trend stays constant, and all schools experience a positive upward trend of the percentage of students borrowing, the for-profit sector experienced a 30 percentage point increase in the proportion of students borrowing since 1996, whereas the increase for the other three sectors were all below 15 percentage points. The upward trend in borrowing is notable in the most recent period, climbing from 75 percent in 2004 to 87 percent in 2008.

In addition to the high (and climbing) proportion of students borrowing, the first row of Table 6.2 reveals that for-profit students also

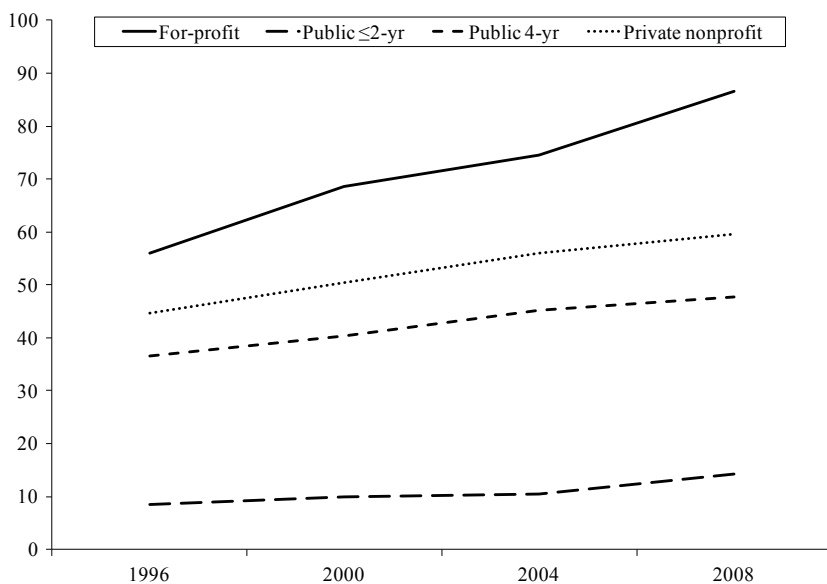
**Table 6.2 Average Per Student Borrowing (2007–2008)**

	For-profit (1)	Public two-year (2)	Public four-year (3)	Private nonprofit (4)
<b>Rates of student borrowing (%)</b>				
Borrowed any loans	87	14	48	60
Borrowed federal loans	81	11	43	56
Borrowed nonfederal loans	41	5	15	25
Borrowed both federal and nonfederal loans	36	2	10	21
Borrowed federal, but not nonfederal loans	45	9	33	34
Borrowed nonfederal, but not federal loans	6	3	5	4
<b>Average per student borrowing, including all students (\$)</b>				
Total loans	7,319	632	3,713	6,530
Federal loans	4,842	457	2,793	4,227
Subsidized federal loans	2,256	253	1,350	2,007
Parent PLUS Loans	485	23	570	1,190
Nonfederal loans	2,477	175	920	2,303
Private loans	2,423	172	856	2,210
<b>Average loan amount for those who borrow each loan type (\$)</b>				
Total loans	8,457	4,424	7,769	10,955
Federal loans	5,975	4,053	6,454	7,602
Subsidized federal loans	2,888	2,768	3,870	4,214
Parent PLUS Loans	9,099	7,073	9,558	13,657
Nonfederal loans	6,026	3,586	6,156	9,087
Private loans	5,990	3,652	6,142	9,225

NOTE: Survey weights used. Total loans include parent PLUS Loans.

SOURCE: NPSAS.

have the highest average yearly total loan amounts when considering all students (whether they borrow or not). The for-profit sample has an average debt load of over \$7,000 per year, a figure even higher than private nonprofit students, who borrow about \$6,500 per year. We display the trend of average student borrowing in Figure 6.2. Per-student borrow-

**Figure 6.1 Percentage of Students Borrowing**

NOTE: Survey weights used.

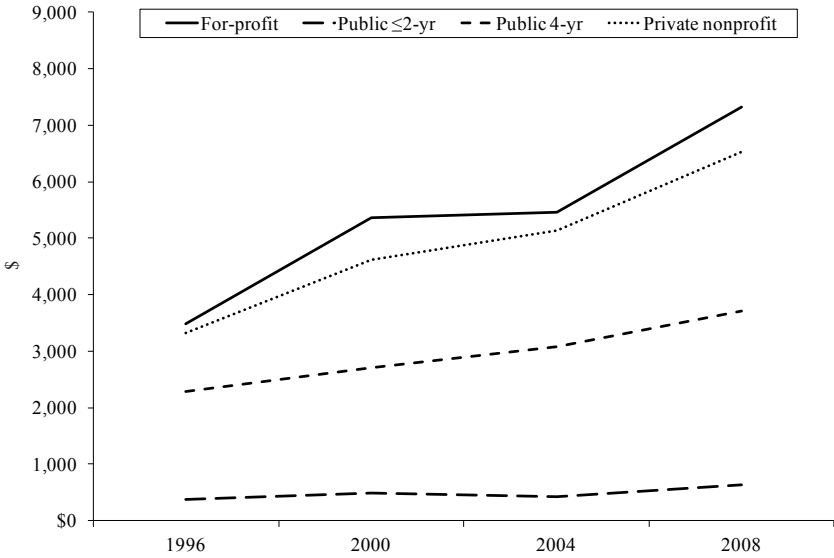
SOURCE: NPSAS.

ing is increasing in all sectors, but the rate of increase and the relative position of for-profit institutions is the highest among all sectors.

These are annual borrowing figures, such that total debt would depend on the accrual over the whole time the student is in college, and could therefore be lower for for-profit than private nonprofit students overall, as for-profit programs are generally shorter (more on this below). If we assume that the average for-profit student attends for two years and the average nonprofit student attends for four, the total amount borrowed comes to \$14,000 for for-profits and \$26,000 for nonprofits.<sup>9</sup>

Note that the average per student borrowing in Table 6.2 and Figure 6.2 display averages that are taken across all students rather than just borrowers. Averages conditional on borrowing are listed in the bottom part of Table 6.2. Averages for for-profit student borrowers increase modestly to about \$8,400, since almost all students borrow, but the figures become much higher for other sectors because of lower propor-

**Figure 6.2 Average Loan Amount**

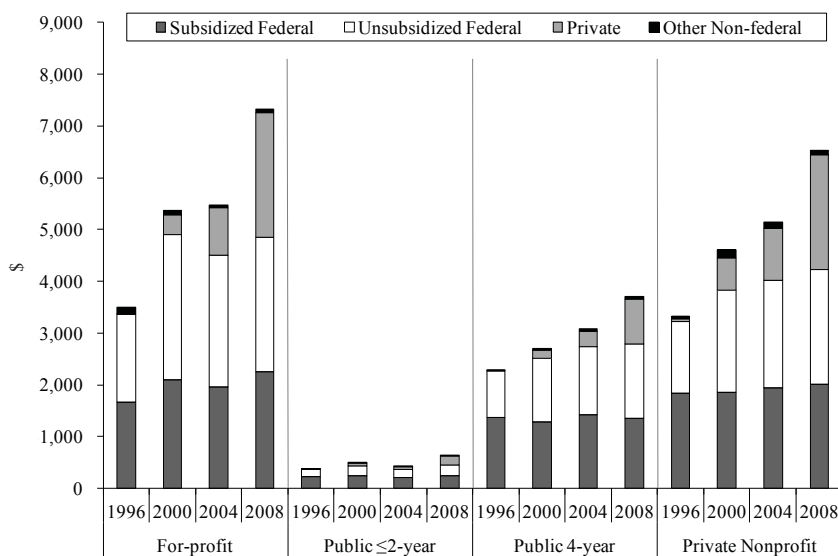


NOTE: All dollars in constant 2008 dollars. Survey weights used.  
 SOURCE: NPSAS.

tions of borrowers. Notably, when considering loan volume of only the 60 percent of students who borrow in the private nonprofit sector, average loan amounts exceed those of for-profit students, at almost \$11,000, while the average loan volume among borrowers in public two-year and four-year institutions remains below that of for-profit students.

Table 6.2 also displays the composition of loans across sectors. In dollar terms, federal loans make up the largest portion of for-profit student borrowing, and just under half of these loans are federally subsidized. About a third of for-profit student loans are from private lenders. Overall, the patterns of for-profit student borrowing look similar to private nonprofit borrowing. Figure 6.3 presents the categorization of student loan types by school sector over time. Although borrowing has increased across all sectors, the for-profit sector saw borrowing increase by the largest loan dollar amount between 1996 and 2008.

It is also worth noting that private loan dollars increased most substantially in the for-profit sector. This trend could be interpreted in a

**Figure 6.3 Average Student Loan Borrowing**

NOTE: All dollars in constant 2008 dollars. Survey weights used.

SOURCE: NPSAS.

couple of different ways. Since private lender loans often have less favorable terms than federal loans, this could be troubling given the expected debt burden on this group of students coming from relatively disadvantaged backgrounds. On the other hand, given some of the concern about public funding at some for-profit institutions, a shift toward more private loans may be welcome to those who believe subsidized public funds should not be used at for-profit institutions. These trends would need to be evaluated after the changes to the federal loan program delivery system in 2010, though more current data similar to that analyzed here is currently not available.

### Credential and Demographic Differences

Differences among student bodies present a challenge when comparing financing strategies across school types, as dissimilarities in student demographics and the credentials that students seek may both



be important drivers of borrowing behavior. Table 6.1 shows student characteristics across the sector from the 2007–2008 school year.

A number of differences are apparent across school sectors, including the credentials sought by students. About one-third of for-profit students are enrolled in certificate programs, over a third are enrolled in associate's degree programs, and less than a third are enrolled in bachelor's level programs (column 1). This is compared to about 80 percent of students at public two-years that are seeking associate's degrees, and over 90 percent of students at public four-years and private nonprofits enrolled in bachelor's degree programs. Over 10 percent of students at public two-year institutions are not enrolled in a degree or certificate program, compared to just 1–2 percent of students in the other sectors.

These differences in credentials across sectors should be considered in relation to student borrowing behavior. If, as the research described earlier suggests, short-term credentials in for-profit colleges yield lower returns than other credentials and sectors, then policymakers and students should carefully consider whether the debt burden of for-profit attendance is worthwhile. A complicating consideration is that forgone wage costs for a short-term credential could also be expected to be lower. Still, much more research on college wage premia across sectors and for various subbaccalaureate degrees, diplomas, and certificates is needed before assessing whether the debt of the average for-profit student has a reasonable chance of being repaid.

Students vary across sectors demographically, as displayed in Table 6.1. Although for-profit students' borrowing patterns are similar to private nonprofit students', their demographics are a stark contrast. For-profit students are demographically most similar to public two-year students, but even between these two sectors, many important differences remain. For-profits have the highest proportion of female and minority students, and these come from families with the lowest levels of parental education. For example, 83 percent of for-profit students in the sample have at least one parent who completed high school, compared to 94 percent of private nonprofit school students. As well, only 19 percent of for-profit students in the sample have a parent who completed at least a bachelor's degree, as compared to 30 percent of public two-year students, 48 percent of public four-year students, and 52 percent of private nonprofit school students.

Furthermore, for-profit students are, on average, the oldest students in the sample, with the highest age at the start of postsecondary education (22.7), and the longest number of years between secondary and postsecondary studies (3.6). Reflective of their older average age, most for-profit students are independent (76 percent), as compared to public two-year (57 percent), public four-year (33 percent), and private non-profit (34 percent) students. Students who attend for-profit colleges are also the most likely to be a single parent, and they have the highest average number of dependents among the sectors. Taken together, these characteristics suggest that for-profit students may most likely need to support dependents and be less likely to have access to the financial resources of parents, spouses, or other custodians. Access to credit for education may be particularly important for these students. We examine more detailed measures of need, assets, and parental support in subsequent sections.

Finally, NPSAS publishes a “risk index” for each student, which is an index of characteristics potentially related to postsecondary success: delayed enrollment into postsecondary education, enrolling part-time, being an independent student, having dependents, being a single parent, working full time while enrolled, and not having a high school diploma. This index reflects the higher average number of postsecondary risk factors belonging to for-profit students (3.0) and public two-year students (2.7) as compared to public four-year students (1.2) and the private non-profit students (1.3). As we will show in the following sections, these demographic differences are related to differences in resources and constraints of students across school sectors. Therefore, it is important to consider these differences when assessing borrowing behavior across different types of students.

## **Costs of Education**

Perhaps the most obvious explanation for disproportionate borrowing of for-profit students is simply the high cost of for-profit institutions. Table 6.3 displays measures of costs of education for the 2007–2008 school year. Although private nonprofits have average yearly gross costs over \$7,000 higher than for-profits (as displayed in column [4]), for-profits have much higher average tuition and fees than either of the public sectors. For example, compared to students at public two-

**Table 6.3 Average Per Student Costs, Grant Aid, and Institutional Aid, 2007–2008 (\$)**

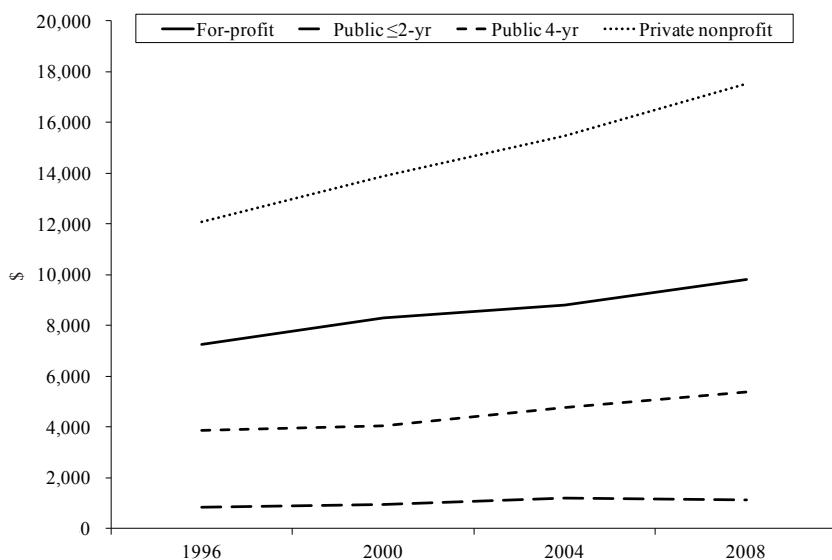
	For-profit (1)	Public two-year (2)	Public four-year (3)	Private nonprofit (4)
Gross tuition and fees	9,807	1,133	5,391	17,519
Tuition and fees minus grants	7,814	700	3,447	10,252
Total grants	2,091	878	2,733	7,629
Total federal grants	1,456	504	838	964
State grants	141	139	681	792
Institution grants	119	77	811	5,069
Outside grants (private and employer)	374	159	403	804
Merit aid	61	57	619	2,414
Veteran and Department of Defense aid	208	93	138	146
Total institutional aid	181	89	899	5,232

NOTE: Survey weights used.

SOURCE: NPSAS.

year colleges, the gross tuition and fees of for-profit students is nearly nine times higher: for-profits average \$9,807 of gross tuition and fees, compared to just \$1,133 for community colleges. The trend of gross tuition and fees for the sample is included in Figure 6.4. Here we see the highest and most rapid growth at private nonprofits, but for-profits and publics also experienced a fairly steep increase over this period, with for-profit tuition and fees growing about 35 percent for students in the sample.

Grants are perhaps the most important source of nondebt financing, since they lower the net cost of education to the student and do not need to be repaid. Grants can come from a number of different sources. For example, the federal government offers the Pell Grant for low-income students, and other grants are available to targeted groups such as teachers and children of veterans. State governments and individual institutions also make grants available to students based on income, merit, or other characteristics (e.g., sports). Finally, private employers and foundations may provide funds to students of their choosing in order to help subsidize education costs.

**Figure 6.4 Average Gross Tuition and Fees**

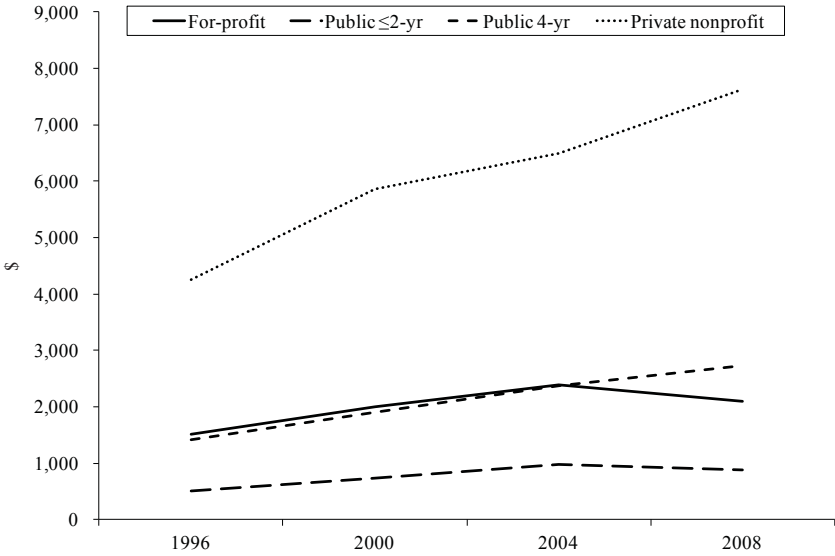
NOTE: All dollars in constant 2008 dollars. Survey weights used.

SOURCE: NPSAS.

As shown in the third row of Table 6.3, for-profit students have the second-lowest level of total grant aid, at \$2,091 per year, more than public two-year students and close to the grant aid received by public four-year students. Private nonprofit students receive by far the largest amount of grant aid, at \$7,629 annually. The trend of total grants is displayed in Figure 6.5. Given prior observed trends of increasing sticker prices in the private nonprofit sector, the increasing grant aid in this sector is consistent with a “high cost, high subsidy” strategy of college pricing.

Breaking down the sources of grant aid reveals that for-profit students have higher average levels of federal grants than all other sectors but lower levels of every other type of grant aid. For-profit students not only have higher levels of total federal grant aid (\$1,456), but they also receive slightly more grant aid through federal veterans and Department of Defense programs, such as the G.I. Bill. For-profit students

**Figure 6.5 Average Total Grants**

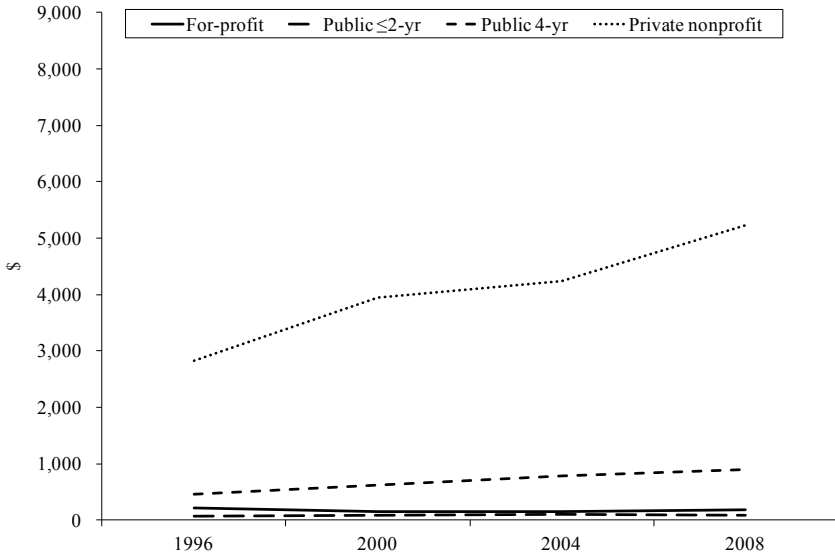


NOTE: All dollars in constant 2008 dollars. Survey weights used.  
 SOURCE: NPSAS.

receive an average of \$208 in veterans and Department of Defense grants compared to \$146 in the nonprofit sector, but in relative terms the value of military aid is quite low—just 10 percent of the value of other federal grant aid.

The biggest difference in aid across sectors in Table 6.3 appears to be funding that comes from the institution. For-profit students receive remarkably little institutional aid. Institutional grants average just \$119 in the for-profit sector. The same figure is almost 7 times higher for public four-year students and over 40 times higher for private nonprofit students, at \$5,069.

The last row of Table 6.3 shows the average of all sources of institutional aid (which can include grants, loans, work-study, and other types of aid) across sectors. Of course, grants make up the largest portion of total institutional aid across all sectors, so again we see a great disparity in the amount of institutional aid provided across sectors. We plot the trend of institutional aid in Figure 6.6. Here we see a large increase in

**Figure 6.6 Average Institutional Aid**

NOTE: All dollars in constant 2008 dollars. Survey weights used.

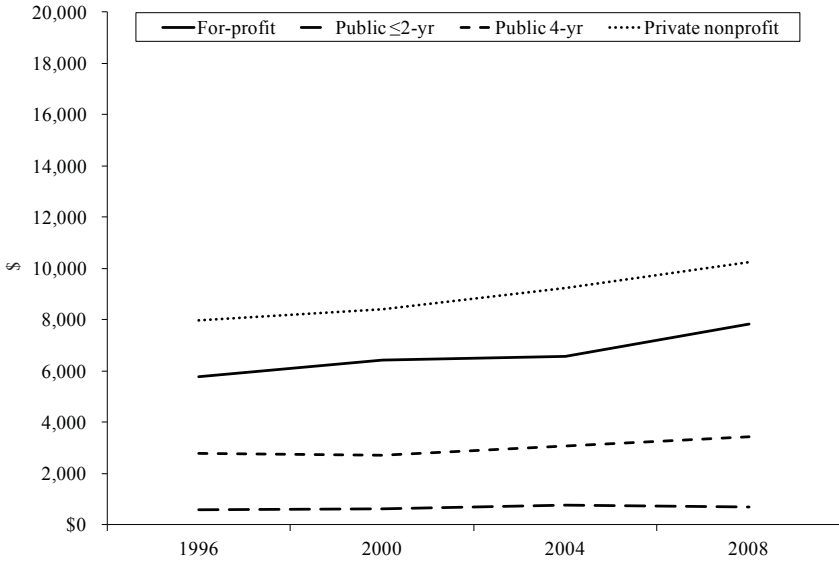
SOURCE: NPSAS.

institutional aid in the private nonprofit sector and almost no movement in institutional aid in the for-profit sector between 1996 and 2008.

Finally, when accounting for grants, education prices net of grant aid in the for-profit sector remain relatively high, as shown in the second row of Table 6.3 for the 2007–2008 school year. Moreover, the gap between the price of for-profit and public colleges has been increasing over time, as shown in Figure 6.7. Most striking, however, is that the gap between gross prices of for-profit and private nonprofit education closes substantially when taking into account grant aid.

Institutional aid, particularly institutional grants, appear to be filling the gap between cost and need in the nonprofit sector, thereby mitigating the rise in student borrowing for this group of institutions. Presenting difficulty for for-profit students, however, is that the upward trend in this sector's prices is not met by a similarly rapidly increasing trend. While institutions in the nonprofit sector appear to be trying

**Figure 6.7 Average Tuition, Net of Grants**



NOTE: All dollars in constant 2008 dollars. Survey weights used.  
 SOURCE: NPSAS.

to make tuition increases less painful for their students (or at least for some of their neediest students), for-profits have not made the same effort: over the years we observe that they appear more reliant on student debt to cover the high cost of tuition.

**Need and Available Financial Resources**

Tuition and fees can be considered endogenous if we assume that students have various education options from which to choose. This returns us to the question of why students—particularly disadvantaged students—attend for-profit colleges given their relatively high costs. Here, we examine more closely issues of student need and available financial resources that might explain the patterns of attendance and borrowing that we observe.

Consistent with the demographic patterns described earlier, we observe relatively fewer personal financial resources for students in the for-profit sector, as displayed in Table 6.4. In isolation, the lack of financial resources available to for-profit students may be sufficient to explain why borrowing is so high in the sector, but it does not appear to explain the steep increase in borrowing in the last decade. As shown in Table 6.4, based on need and resources, for-profit students are most similar, but in many ways still less affluent, than public two-year students who pay much lower costs. As noted above, for-profit students pay similar costs to private nonprofit students, but differences in the observed financial positions between for-profit and private nonprofit students are sizable.

**Table 6.4 Average Per Student Need and Resources, 2007–2008**

	For-profit (1)	Public two-year (2)	Public four-year (3)	Private nonprofit (4)
Expected family contribution (\$)	4,759	8,387	12,243	14,367
Student budget minus expected family contribution (\$)	15,822	3,423	7,480	16,678
Student budget minus expected family contribution and grants (\$)	13,782	2,681	5,188	9,865
Adjusted gross income (\$)	31,739	46,225	63,401	72,180
Percent of the poverty line (%)	198	283	350	387
Parent(s) and/or student own a home (%)	46	63	73	76
Parent(s) and/or student own > \$10,000 in investments (%)	9	18	24	27
Receive help from parents				
Tuition and fees (%)	47	51	63	74
Other educational expenses (%)	42	49	59	66
Housing (%)	75	79	71	74
Other living expenses (%)	61	61	66	73

NOTE: Survey weights used. Student budget is a measure of “total” direct educational expenses, including tuition, fees, room and board, books and supplies, transportation, and other living expenses. Investments include business and farming assets. Survey responses about help from parents was only solicited from students under 30.

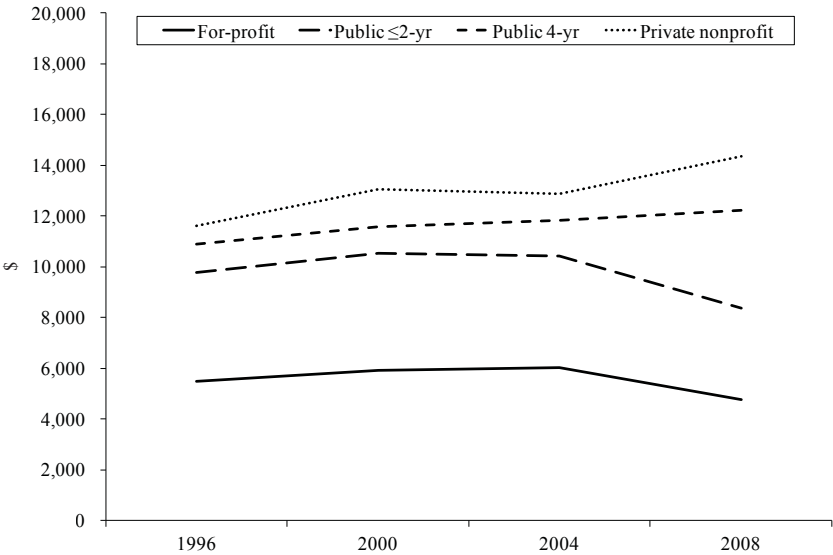
SOURCE: NPSAS.



Students and/or their families' expected family contribution (EFC) to college costs is typically calculated when applying for financial aid. Reflective of their relative lack of resources, for-profit students' average EFC is about half that of public two-year students and less than a third of that of public four-year and private nonprofit students.

We present the trend of EFC in Figure 6.8. Between 1996 and 2008, EFC increased for public four-year and private nonprofit students—perhaps mitigating the need for additional student borrowing in that sector even during times of increasing tuition. In contrast, we observe that EFC stayed effectively stagnant, and even declined, for for-profit students between 1996 and 2008. This trend indicates that the gap between resources available to for-profit students and other sectors may be growing, but it suggests that the increases in student borrowing we observe were likely not driven by the increasing enrollment of needy students in the for-profit sector.

**Figure 6.8 Average Expected Family Contribution**



NOTE: All dollars in constant 2008 dollars. Survey weights used.  
SOURCE: NPSAS.

Consider students' remaining budgets after taking into account EFC, which gives a measure of how much the typical student will need to cover after subtracting available family resources.<sup>10</sup> Here, we observe that the highest average gaps in costs versus resources (not taking into account grants or other financing strategies) are in the for-profit and private nonprofit sectors, almost five times that of public two-year students and over twice as much as public four-year students. When considering student budget minus both EFC and grants, the picture gets even bleaker, as the high grant aid in the private nonprofit sector allows the for-profit sector to stand alone with the highest average gaps between college costs and resources by some margin.

The measure of EFC described above masks some dispersion of income at the lower end of the income distribution, as students below certain income thresholds are all counted as having a zero EFC; we therefore examine other measures of available financial resources in Table 6.4. For-profit students undoubtedly have fewer assets with which to contribute, or with which to securitize other credit, for educational expenses. For-profit students have by far the lowest average annual household income, at just \$31,739, and are closest, on average, to the poverty line. Even public two-year students seem to be much better off than their for-profit counterparts, with incomes averaging \$46,225. As well, for-profit students have the lowest homeownership (46 percent vs. 63 percent for community college students) and extremely low personal or business investment rates (just 8 percent own more than \$10,000 in investments vs. 18 percent of community college students).

Table 6.4 also reports survey responses of students about the financial assistance they received from their parents. Among respondents, for-profit students are least likely to get help from parents for tuition, fees, other educational expenses, and other living expenses across the sectors. Since for-profit students are most likely to be independent, older, and come from more disadvantaged backgrounds, it is not surprising that aid from parents is relatively low. However, it reinforces the financial challenges faced by many of these students.

### **Aid Application**

Differences in ability to obtain grants, loans, or other types of financial aid can be affected by students' choices to apply for aid, as well as

their knowledge of different financing options. In Table 6.5, we provide a summary of survey responses that yield some insight into these differences. Almost all for-profit students apply for financial aid (96 percent) and federal aid specifically (91 percent). Students in the for-profit sector were also least likely to not have information about how to apply for aid or believe they were ineligible for aid.

Therefore, it appears as though for-profit students are obtaining information about aid application. The source of such information may be important, however. Interestingly, for-profit students were most likely to talk with staff about financial aid. This is perhaps not surprising, given the lack of financial resources by many students in the sector. Some have concern, however, that for-profit financial aid offices may not be protecting students' best interests in financing and enrollment decisions (Government Accountability Office 2010). Although the extent of mistreatment is unknown, it may be worth considering the types of incentives involved at for-profit institutions.

An important source of knowledge about financial aid on which many students rely is family and friends, but for-profit students appear

**Table 6.5 Financial Aid Application, 2007–2008 (%)**

	For-profit (1)	Public two-year (2)	Public four-year (3)	Private nonprofit (4)
Applied for any aid	96	59	79	87
Applied for federal aid	91	43	62	70
Talked with staff about financial aid	71	42	45	51
Discussed financing decisions with family/friends	52	54	71	70
Researched financial aid on the Internet	35	34	45	45
Compared lender options	30	14	25	30
Reason did not apply for aid				
Did not want to take on debt	39	40	42	36
Forms too much work	15	19	19	18
No information on how to apply	16	24	21	17
No need	55	48	54	62
Thought ineligible	53	60	63	64

NOTE: Survey weights used.

SOURCE: NPSAS.

to be soliciting and/or receiving less advice from this group, with about an 18 percentage point lower rate than for the public four-year and private nonprofit students. The rate of discussion of financing with family and friends, as well as researching aid on the Internet, is similar to that of public two-year students, suggesting that information on aid options may be lacking for these students (especially if one assumes college staff to not be operating in the best interests of students). Because of the high unmet need of for-profit students relative to public two-year students, however, this lack of information may be particularly harmful to the former group.

### **Work Behavior**

Working while in school may be an alternative to borrowing for some students. Consider a simple budget equation for students. The most common ways to pay for college costs are grants, savings, parental/family transfers, working, and borrowing. The economically rational student will not turn down grants, since they are relatively cost-free, and we have already shown that students' and families' assets are lower in the for-profit sector, such that these students would be expected to be able to rely less on savings and parental/family transfers than students in other sectors. Therefore, students with resource constraints may be faced with the choice of borrowing and/or working to cover college costs. Could high levels of borrowing simply reflect for-profit students' preferences for debt over working?

Working can have benefits to future labor market outcomes through the accrual of soft skills (Light 2001), although competing evidence shows there could be a penalty to grades (Stinebrickner and Stinebrickner 2003). Moreover, there is evidence that increased working may lead to less credit accrual (Darolia 2014) and therefore potentially longer time to earn a degree. Considering observed relatively high work rates for for-profit students in conjunction with high borrower rates, for-profit students may be uniquely facing challenges associated with both working and borrowing.

Table 6.6 provides average working behavior of students in the sample across the sectors. Interestingly, a similar proportion (76–83 percent) of students work at least some amount (including work-study and all types of employment) while enrolled across all sectors. Differ-

**Table 6.6 Average Per Student Employment and Work, 2007–2008**

	For-profit (1)	Public two-year (2)	Public four-year (3)	Private nonprofit (4)
Works while enrolled (%)	76	83	76	76
Works full-time while enrolled (%)	41	43	24	26
Earnings from work while enrolled (\$)	16,258	16,859	11,429	13,271
Hours worked per week while enrolled	33	33	26	26
Works off campus while enrolled (%)	71	78	64	56
Distance from school to work (miles)	20	17	20	19
Worked in summer prior (%)	80	84	86	86
Job is related to coursework or major (%)	28	31	25	27
Can afford school without working (%)	30	31	42	44
Reason for working				
Minimize debt (%)	51	48	47	44
Pay educational expenses (%)	64	72	68	66
Pay living expenses (%)	85	80	78	71
To send money home (%)	8	7	6	6
Job limits access to campus facilities (%)	35	43	38	32
Job limits class schedule (%)	42	63	53	41
Job limits number of classes (%)	34	58	45	34
Job limits choice of classes (%)	26	47	39	29

NOTE: Survey weights used. Average earnings, hours worked, and distance from school to work include only respondents with values.

SOURCE: NPSAS.

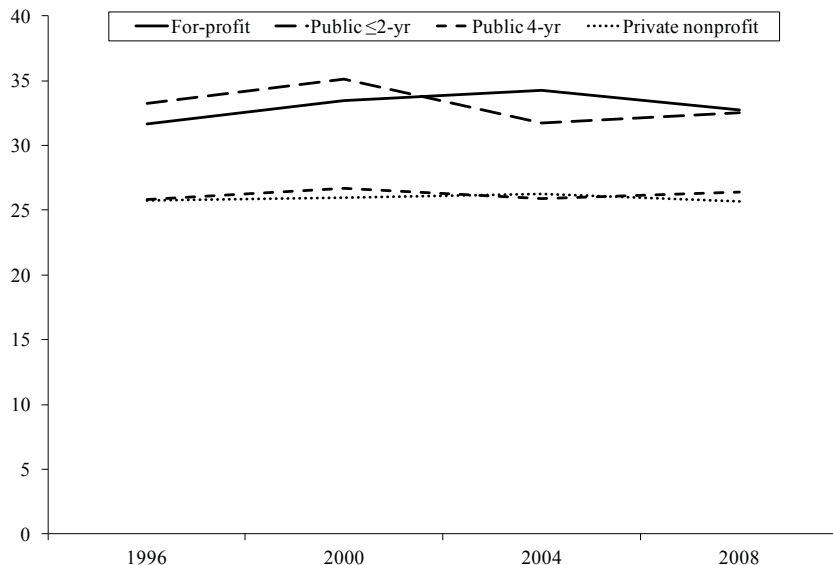
ences become more apparent when examining full-time work behavior. Only about a quarter of four-year students in public and nonprofits work full time, compared to 43 percent and 41 percent in public two-years and for-profits, respectively. As well, among students who work, for-profit and public two-year students work the most average hours per week, almost 25 percent more than their public four-year and private nonprofit counterparts. Reflective of this behavior, these two sectors have the highest earnings from work while enrolled. As shown in Fig-

ure 6.9, hours worked by students, as well as work participation rates (not shown), stay relatively flat over the time period examined among all sectors. This suggests that either these students cannot add more work in order to meet debt or that they do not use earnings to substitute for debt. For-profit and public two-year students are also most likely to have jobs off campus, which may increase commuting times and reduce campus integration.

In survey responses, less than a third of for-profit and public two-year students indicate that they can afford school without working (Table 6.6). For-profit students are also most likely to report that they work in an effort to minimize debt. Therefore, even though student loan rates and amounts are high in this sector, students are still working in an effort to lower the amount they have to borrow.

Notably, students in the for-profit sector are among the least likely to report that their job limits access to campus facilities, class schedules, the number of classes the student can take, and the choice of

**Figure 6.9 Average Hours Worked**



NOTE: Survey weights used.

SOURCE: NPSAS.

classes. These responses may reflect an advantage associated with for-profit colleges, namely, that course delivery is structured in a manner that allows working and schedule-constrained students to attend. These conveniences may be attracting students to this sector, even considering large tuition and fee costs.

## Estimations

We have shown that students in the for-profit sector have relatively higher borrowing amounts on average, and that borrowing has risen more sharply for these students in the past decade. Our descriptive analysis suggests that these patterns are driven by high (and climbing) tuition, no commensurate increase in grant aid (as in the nonprofit sector), and the fact that students in the for-profit sector have fewer financial resources than others. To give a picture of relative borrowing after controlling for available resources, we estimate regressions of the following form:

$$Debt = \alpha + \beta Sector + \eta X + \varepsilon.$$

Here, *Sector* is a vector of indicator variables for borrowing at for-profit, public four-year, or private nonprofit institutions (with public two-year colleges as the omitted base group), with parameter vector  $\beta$ ;  $X$  is a vector of covariates with parameter vector  $\eta$ ;  $\alpha$  is the intercept, and  $\varepsilon$  is the error. We make no claims to causal inference in these estimations, and indeed, we would expect many of these decisions to be endogenously determined (for example, the decision to work or borrow). Nonetheless, the results provide some measure of relative debt levels, conditional on observable college costs, financial resources, and student characteristics.

We present estimates of total debt and by federal and nonfederal loan programs in Table 6.7. Column (1) in the table displays estimates including only student characteristics as covariates. In the subsequent columns we add measures of college costs, financial resources, and financing strategies to the vector of covariates.

After accounting for just student characteristics, we observe that for-profit students have the highest levels of debt, over \$6,500 more annually than public two-year students (column [1]). When accounting

**Table 6.7 Estimations of Debt, 2007–2008**

	Total loans		Federal loans	Nonfederal loans
	(1)	(2)	(3)	(4)
For-profit	6,568*** (64)	4,118*** (68)	2,883*** (52)	1,235*** (43)
Public four-year	1,255*** (77)	985*** (74)	1,032*** (57)	-47 (47)
Private nonprofit	4,171*** (84)	890*** (91)	737*** (70)	153*** (58)
Enrolled in a certificate program	-1,533*** (216)	-699*** (207)	-735*** (160)	36 (131)
Enrolled in an associate's degree program	-1,191*** (211)	-358* (202)	-602*** (156)	243* (128)
Enrolled in a bachelor's degree program	192 (201)	645*** (192)	55 (148)	590*** (121)
Coursework only (no program enrollment)	-1,545*** (220)	-577*** (210)	-817*** (162)	240* (133)
Independent	-454*** (52)	-179*** (57)	49 (44)	-228*** (36)
Single parent	-177*** (59)	-398*** (57)	-225*** (44)	-174*** (36)
Tuition and fees (\$000s)		275*** (3)	140*** (3)	135*** (2)
Grants (\$000s)		-63*** (4)	19*** (3)	-82*** (3)
EFC (\$000s)		-23*** (1)	-17*** (1)	-6*** (1)
Parent(s) and/or student own a home		40 (41)	-8 (32)	48* (26)
Parent(s) and/or student own > \$10,000 in investments		-1,219*** (42)	-738*** (33)	-481*** (27)
Works while enrolled		355*** (43)	177*** (33)	178*** (27)
Earnings from work while enrolled (\$000s)		-8*** (1)	-7*** (1)	-1 (1)
Observations (unweighted)	84,890	84,890	84,890	84,890
Adjusted R <sup>2</sup>	0.232	0.299	0.228	0.136

NOTE: \*p < 0.10; \*\*p < 0.05; \*\*\*p < 0.01. Survey weights used. Standard errors included in parentheses. Sample size rounded to the nearest 10. All estimates include controls for credential, age, class level, race/ethnicity, gender, number of dependents, and an indicator for being a first-generation immigrant. Investments include business and farming assets.

SOURCE: NPSAS.



for college costs and financial factors in column (2), we see a decline in this marginal amount to about \$4,100. The gap between for-profits and public four-years also declines but remains over \$3,000. Accounting for these factors, however, increases the gap between for-profit and private nonprofit students. Columns (3) and (4) split estimates for federal loans and nonfederal loans, with similar apparent trends. Independent students appear to borrow fewer nonfederal loans, but a relatively similar amount of federal loans, with a possible explanation being that they have restricted access to the private educational credit market because of a lack of cosigners.

Unsurprisingly, rising tuition and fees are associated with higher borrowing amounts, while higher EFC is associated with lower borrowing amounts. Higher grants appear to be positively correlated with federal loan amounts but negatively correlated with nonfederal loan amounts, holding all else equal (column [4]). Owning substantial investment or business assets is related to lower borrowing amounts, indicating that students with more assets are unsurprisingly able to borrow less. Interestingly, working while enrolled is associated with higher borrowing, suggesting that students that lack financial resources choose to both borrow and work instead of wholly substituting one for the other. We also observe a small decrease in federal loan amounts associated with increasing earnings.

Many determinants of borrowing and college going are unobserved in the data, and therefore these results should be interpreted with caution. Nonetheless, they provide some evidence that borrowing in the for-profit sector is high relative to the other sectors, even after controlling for a set of plausible, though incomplete, set of explanatory factors, including costs and financial resources that could explain these differences. Potential unobserved explanatory factors could lead to different levels of policy concern. It should be troubling for policymakers and regulators if this higher borrowing is explained by misleading guidance or fraud from the colleges. Less worrying would occur if the unexplained borrowing is driven by preferences for borrowing or other student choices.

## DISCUSSION AND CONCLUSIONS

Drawing on data from the NPSAS, we find that for-profit students are much more likely to incur debt to finance their education than students in the public and nonprofit sectors. Nearly 90 percent of students in for-profit institutions borrow and 81 percent participate in federal loan programs. More notable is that the proportion of for-profit students borrowing increased by 30 percentage points between 1996 and 2008, compared to a growth of less than 15 percentage points among students in other sectors.

We document that the borrowing behavior, loan volume, and costs of attendance for for-profit students is most similar to that of private nonprofit students, except that borrowing for nonprofit students did not increase as steeply in the period we observe. Our descriptive analysis suggests that while both sectors experienced steep increases in tuition and fees, the private nonprofit sector mitigated their tuition hikes with increases in institutional grant aid for needy students. We observe no such increase in institutional aid among for-profits. In 2007–2008 the dollar value of institutional grant aid in nonprofit institutions was more than 40 times higher than that in for-profits. The discrepancy may be explained by the structure of the organization: since the profits of for-profit institutions are distributed to shareholders, there is little incentive to provide institutional aid to students or otherwise reinvest those profits back into the institution, as is required of nonprofit institutions.

In contrast to several similarities found between nonprofits and for-profits in college costs and borrowing, the students at for-profit colleges come from much more disadvantaged backgrounds and have fewer financial resources than students in nonprofits. We show that for-profit students appear most similar to public two-year college students in the credentials they seek, their demographics, their financial resources, and their work behavior.

Our analysis leads us to question why disadvantaged and financially constrained students are choosing expensive for-profit colleges over lower-cost community colleges. The answer is not clear.

If we assume that students have full information about their college options and the likely labor market returns to their education, then one possibility is that students choosing for-profits do so because these

institutions offer programs, courses, and schedules that better meet their needs than other sectors. Our data on working students, described above, suggest that these students may find for-profit colleges the most convenient option and may be willing to pay a higher price for that convenience. Relatedly, work by Rosenbaum, Deil-Amen, and Person (2006) finds that some top-performing for-profit colleges provide better advising and student services than public sector institutions. This kind of advising may set these colleges apart and justify the high price, at least for some students.

Another possibility is that lower-cost public institutions may be capacity constrained, especially in high-demand fields and in states or localities where public higher education budgets are tight. In this scenario, public institutions may simply not be available for students wishing to pursue certain types of training, leaving for-profit institutions as the only timely option. Indeed, Cellini (2009) finds that infrastructure investments in California community colleges drive out for-profit institutions, providing evidence that public institutions and for-profits compete for students. From a policy perspective, this evidence suggests that investments in public institutions may be worthwhile, especially if they increase capacity to allow more students to access lower-cost, high-quality public education. Without additional public funding, however, for-profit colleges may be the only option for some students in high-demand fields or in geographic areas with few public alternatives.

Still, the high default rates on student loans in the for-profit sector raise concerns that students are borrowing more than they can reasonably expect to repay given the returns to their certificate or degree program. As noted previously, Cellini's (2012) analysis of the costs of a for-profit education suggests that the returns to attendance would need to be over 8.5 percent per year of education to fully offset the cost to students. Adding taxpayer costs to the equation would require 9.8 percent returns. Literature on the returns to for-profit degrees and certificates is still underdeveloped, but recent studies suggest that returns to for-profit associate's degrees are between 2 and 8 percent per year, as of the early 2000s (Cellini and Chaudhary 2012; Turner 2012). Much more research on the returns to education and whether returns have changed over time is needed to fully understand the temporal patterns of student borrowing.

If students were aware of the costs and returns described here, then it would be surprising that so many would choose for-profit institutions. It could be that students are overly optimistic or simply believe, even with knowledge about the distribution of earnings outcomes, that they are above average. More troubling for policymakers, however, is the potential for students to be misinformed or misled about the earnings they can expect after completing their education, or about the true cost of their debt. For example, the Government Accountability Office (2010) documented conversations of for-profit staff misrepresenting starting salaries of graduates and claiming that debt did not have to be repaid. It is unclear how widespread these practices are. Still, our data on financial aid applications reveal that a much higher proportion of for-profit students talked to staff about financial aid (71 percent) than students in other sectors (42–51 percent). Even if college staff members are equally misrepresenting costs and outcomes across all sectors, for-profit students are much more likely to come into contact with them than students in other sectors.

Finally, we must consider the role of federal student aid policy in affecting both the behavior of institutions and the choices of students. Since for-profit institutions are beholden to the (profit-maximizing) interests of shareholders, there is, of course, an incentive to generate as much taxpayer support as possible. For-profit institutions receive about 74 percent of their revenue from federal student aid (Deming, Goldin, and Katz 2012) and are allowed to receive up to 90 percent, under the so-called 90-10 rule. Veterans' benefits do not count toward the 90 percent, so there is an added incentive to recruit military students to capture additional taxpayer dollars. As noted earlier, Cellini and Goldin (forthcoming) find that tuition is much higher in for-profit certificate programs that receive aid relative to those that do not, and Turner (2013) finds additional evidence of aid capture in the Pell Grant program. The patterns we document appear to be consistent with these articles in suggesting that high levels of student borrowing may support high tuition levels and the crowding-out of institutional aid in the for-profit sector.<sup>11</sup>

We suggest that policymakers look closely at student borrowing in the for-profit sector and the incentives created under the current federal student aid system. Given the large public investment in students in the for-profit sector, policymakers should make efforts to ensure that col-

leges are contributing to positive student outcomes and that students and taxpayers are protected. Recent efforts at regulation based on the “gainful employment” of graduates may be warranted.<sup>12</sup> However, policymakers should think carefully about the metrics used to measure student outcomes. Single measures, such as the amount of borrowing alone, may be too narrow of a metric on which to judge the multi-faceted goals and outcomes of education. And, as we show here, other factors that affect student borrowing behavior, such as backgrounds, resources, and constraints, are not evenly distributed across sectors. As noted previously, whether or not the level of borrowing needed to finance a for-profit college education is a worthwhile investment for the average student depends crucially on the labor market returns to for-profit degrees and certificates. Much more research remains to be done to investigate this issue and answer questions about student choice, cost, debt, and information in the for-profit sector.

## Notes

1. The NPSAS is nationally representative of students who attend postsecondary institutions eligible to disburse federal financial aid.
2. Lang and Weinstein (2013) find that for-profit certificate students have lower returns, but associate’s degree students have higher returns than students in public community colleges. They attribute the latter finding to a selection problem: students in community colleges are more likely to go on to a bachelor’s degree and are not included in their sample.
3. The Integrated Postsecondary Education Data System severely undercounts the number of two-year for-profit colleges in the United States. For many years the survey relied on snowball sampling and did not require their participation. In recent years, greater efforts have been made to track down institutions receiving federal financial aid, but many colleges remain unaccounted for in the data (Cellini and Goldin forthcoming).
4. The full 2011–2012 wave of the NPSAS was not yet available at the time of this writing. Future research will incorporate these data. It is worth noting that the higher education landscape continued to evolve post-2008, such that trends observed after the period analyzed here may lead to an update of the inferences we draw.
5. Note that many for-profit institutions (particularly those that do not offer degrees) do not participate in Title IV programs and are therefore not represented in the NPSAS. See Cellini and Goldin (forthcoming) for a discussion of these institutions.
6. We refer to these institutions in the text as public two-year colleges and community colleges for ease of exposition.

7. Adding students in two-year nonprofit institutions to the public two-year and less-than-two-year group made very little difference in the analysis. We believe that our categorization allows for the cleanest comparisons across institution types.
8. In this and all subsequent tables we use survey weights unless otherwise noted.
9. Calculations of cumulative debt are not straightforward in the NPSAS.
10. “Student budget” is a measure of “total” direct educational expenses in NPSAS, including tuition, fees, room and board, books and supplies, transportation, and other living expenses.
11. We have also considered the role of federal student loan limits in encouraging borrowing, but despite small increases in the limits for freshmen and sophomores around 2007, the aggregate limit on Stafford Loans has remained stable at \$23,000 since 1992 (<http://www.finaid.org/loans/historicallimits.phtml> (accessed April 17, 2013)).
12. See the Department of Education’s Web site for a discussion of the negotiated rulemaking process for details on the latest proposed regulations: <http://www2.ed.gov/policy/highered/reg/hearulemaking/2012/gainfulemployment.html> (accessed April 17, 2013).

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