For-Profit Student Heterogeneity

Chung, Anna

University of Michigan (Ann Arbor)

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Anna S. Chung †

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Abstract

In this study, I use three data sets collected by the US Department of Education, National Center for Education Statistics (NCES): National Postsecondary Student Aid Studies of 1996, 2000 and 2004 (NPSAS:96, NPSAS:2000, and NPSAS:04) to derive the characteristics of the students in the US for-profit postsecondary educational sector and to identify the trends in these characteristics. I generate a collection of complex survey means and ratios and perform a series of t-tests to produce two sets of comparisons. First, I compare the for-profit students to the students in 2-year (and less-than-2-year) and 4-year non-profit schools. Second, I compare the students in less-than-2-year, 2-year, and 4-year for-profit colleges. These two different comparisons lead to three main conclusions. First, for-profit students are systematically and significantly different from their counterparts in non-profit 2-year and 4-year schools. Second, for-profit students are a very heterogeneous body. Students at less-than-2-year for-profit schools are different from the students in 2-year for-profit schools, and there is even a starker difference between the students in for-profit 4-year schools and the rest of the for-profit students. Finally, the increasing student population in for-profit 4-year schools drives the contemporary trends in proprietary student characteristics.

† Office of Financial Aid, University of Michigan, 515 E. Jefferson St., Ann Arbor, MI 48109.
Please, send your comments to astchung@umich.edu.

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Motivation

For-profit, proprietary[1], or career schools have been "in business" in the United States since the 18th century.[2] Having started as private resident schools devoted to business programs and trades such as carpentry, surveying, and bookkeeping, proprietary schools entered an era of better-acknowledged public existence when the national associations for proprietary schools were formed before World War I and through the 1970s.[3] Following the passage of the GI Bill after World War II, rapid proprietary sector growth paralleled that in the public colleges. The 1972 Higher Education Act Amendments recognized for-profit schools as eligible institutions for federal aid programs, making for-profit post-secondary training a feasible alternative to public colleges. Although corporations have owned for-profit schools since at least the 1930s, it was not until the 1970s that public corporate ownership became a significant share of the for-profit sector.[4] 1991 marked the rise of the first public shareholder for-profit institutions when DeVry University (owned by Bell & Howell) made its initial public offering. Today, the thirteen diverse publicly traded corporations graduate over 37% of all graduates in the for-profit higher education sector (Kinser, 2007).[5]

The key distinctions between for-profit schools and their non-profit counterparts[6] lay in for-profit institutions' governance and ownership structure. For-profit schools are governed and operated by individual owners or an owner-hired managerial board. They are competitive businesses that may issue stock, may derive profit, and are taxed as such. Unlike public institutions, for-profit schools are free of political pressures and are not agents of the state. Subject to federal and state regulations, for-profit colleges are nevertheless free to establish their own curriculum and operating standards, which is a matter of endless controversy among the critics of for-profit education.

Having evolved into an effective competitor to the traditional non-profit education providers, the for-profit educational sector has grown at a spectacular pace. The enrollment share of all students

[1] In what follows, I use "for-profit" and "proprietary" as synonyms. There has been little work done in the field to identify any distinctions in these terms.

[2] For a brief historical overview of proprietary educational sector, see Lee & Merisotis (1990).

[3] These associations are: the Association of Independent Colleges and Schools (AICS) – founded in 1912; the national Accrediting Commission of Cosmetology Arts and Sciences (NACCAS) – founded in 1924; the National Association of Trade and Technical Schools (NATTS) – founded in 1965.

[4] See Kinser (2006) for more detail on the history of corporate ownership in for-profit higher education in the US.

[5] These corporations include Apollo Group (owner of the University of Phoenix), Career Education Corporation (owner of the Le Cordon Bleu Schools), Concorde Career Colleges, Corinthian Colleges, DeVry University, Education Management Corporation (owner of Argosy University and the Art Institutes International), EVCI Career Colleges Group (owner of Technical Career Institutes), ITT Educational Services (owner of ITT Technical Institutes), Kaplan Higher Education (owner of Kaplan University and Concord Law School), Laureate Education (owner of Walden University), Lincoln Educational Services (owner of Lincoln Technical Institutes) , Strayer University, and Universal Technical Institutes.

[6] Non-profit institutions can be either public or private.

at proprietary institutions has almost doubled from 3.95% in 1996 (589,600 students) to 6.71% in 2004 (1,188,881 students) (see Figure 1). An especially astounding fact is that this minority of students received about 32% of all federal grants and borrowed up to 51% in federal loans under Title IV[7]. The financial impact of for-profit students on the federal higher education financing is high and has been growing.

There is no established economic theory about the peculiarities of the interactions of supply and demand between for-profit postsecondary institutions and their students. Some research exists discussing the supply-side, such as differences of for-profit colleges from the more traditional non-profit schools. However, there is little systematic information about the demand side – for-profit students. This paper examines the demand side of for-profit postsecondary education to inform further research on the choice and the effects of for-profit college training on students' outcomes.

In this study, I use the data from the three latest National Postsecondary Student Aid Studies of 1996, 2000 and 2004 (NPSAS:96, NPSAS:2000, and NPSAS:04) conducted by the National Center for Education Statistics (NCES) to produce a set of demographic characteristics of proprietary students and to draw systematic comparisons across the students in the for- and non-profit sectors. Further, I call attention to the heterogeneity of for-profit schools and their students by assessing the differences among for-profit students in different types of proprietary schools (less-than-2-year, 2-year and higher, and 4-year and higher schools) and interpret the consequences of this heterogeneity for the economics modeling.

Background

Limited data availability on for-profit schools and students was the reason for the sparse literature on the subject. Most notable are the targeted studies of proprietary schools and their students by Harvey Belitsky (1969) and Wellford Wilms (1975). Two other examples of targeted studies include the one by Bailey, Badway & Gumport(2001)that utilized interviews with for-profit school administrators and the study by Deil-Amen & Rosenbaum (2003)anchored in interviews of students in for-profit and non-profit schools. Apart stand the research on for-profit schools and students by Cellini (2005)based on a dataset from the California Bureau of Private Postsecondary and Vocational Education (BPPVE) and the examination of the for-profit corporately-owned schools by Kinser

[7]My calculation from Knapp et al. (2005). The statistics are for the 2002 fiscal year.

(2007) using data from the Integrated Postsecondary Education Data System (IPEDS), College Opportunities On-line (COOL), Security Exchange Commission (SEC) and individual school data.

The remaining literature derives from the nationally-representative datasets collected by NCES. The study by Apling (1993) presents the demographic profiles of proprietary schools from IPEDS:1988 and proprietary students from NPSAS:86. The research by Lyke, Gabe and Aleman(1991) uses the data from High School and Beyond (HS&B) representing the high school graduation cohort of 1980 to study the early labor market experiences of for-profit students. Grubb (1993) obtains his results on the returns to proprietary training from the National Longitudinal Study of 1972 (NLS-72) representing the high school graduation cohort of 1972. St. John, Starkey and Paulson(1995) estimate a model of for-profit student persistence using NPSAS:87. Phipps, Harrison and Merisotis(1999) study proprietary students' characteristics in NPSAS:93 and NPSAS:96. Finally, JBL Associates (2004) produce a demographic profile of for-profit students from NPSAS:2000.

Research by Apling (1993), Phipps et al. (1999)and JBL Associates (2004) is most relevant to this study. All of these works produced a set of for-profit student characteristics from the nationally-representative datasets. The studies identified a high percentage of female, low-income, and minority students in proprietary schools.

All of the studies (with the exception of Phipps et al. (1999)) treat for-profit students as a homogeneous body. It is not clear from the literature whether it is appropriate to consider for-profit students in the same context applied to non-profit students in junior colleges or to high-school graduates who have never chosen college training. Wilms (1975) differentiates the sampled for-profit students by occupation and compares them to non-profit junior college goers. Lyke et al. (1991) compare the labor market outcomes for all for-profit college students to those for non-college goers. Cellini's (2005) inherent assumption is that for-profit training is a close substitute to community college training. Grubb (1993) is careful to differentiate for-profit students by the program level and the school type, but he is not in the position to draw any systematic conclusions by these distinct groups of students. There has been no precedent in the literature providing guidance on how the present assumptions about for-profit students may agree or disagree with the assumptions used to model non-profit or non-college trained students' behavior.

Data Availability

Historically, for-profit schools did not report to the U.S. Department of Education. With the development of IPEDS, information about some for-profit schools could be located in the database, but it was not until 1996 that a concerted effort to locate Title-IV eligible[8] schools was undertaken. Cellini (2005) compared for-profit schools from BPPVE with IPEDS data. In 2002, BPPVE reported about 3,800 proprietary schools in California, 1.5 times the number of all for-profit schools in US reported in IPEDS. Evidently, the IPEDS proprietary school universe represents for-profit sector poorly, and up to this day we do not really know the extent to which the for-profit sector is misrepresented.

Regrettably, all nationally-representative data collected by the Department of Education (DOE) is based on the set of IPEDS schools and is not fully-representative of the entire US for-profit sector. Consequently, none of the available datasets accurately reflect the complete universe of for-profit students. NPSAS surveys feature the largest proprietary student samples representative of students in proprietary institutions eligible for the federal financial aid. The few NCES longitudinal panel surveys[9] that sample cohorts of students in high schools or colleges capture students who enroll into for-profit colleges right after high school or within 8 years of high school graduation, but it is not clear what proportion of the adult learners who attend proprietary schools throughout their working lives these surveys omit. This omission is particularly undesirable because the for-profit colleges' niche is to provide education to an adult learner who for some reason finds non-profit education unattainable, inconvenient or undesirable in any other way.

Because the October Supplement of the Current Population Survey (CPS) has not identified for-profit status of post-secondary institutions, NCES-collected datasets have remained the primary source for nationally-representative for-profit sector data available up to now. State-specific data on for-profit schools and their students has been collected by the few states (see, for example, Cellini (2005) describing California dataset). Finally, a few mixed-method targeted studies of for-profit schools and their students have been described in Belitsky (1969), Wilms (1975), Bailey et al. (2001), and Deil-Amen & Rosenbaum (2003). Neither state datasets nor privately collected surveys

[8] From IPEDS Glossary, a Title IV institution is "an institution that has a written agreement with the Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs (other than the State Student Incentive Grant (SSIG) and the National Early Intervention Scholarship and Partnership (NEISP) programs). Starting from NPSAS:2000, only the students from Title IV-eligible institutions were included into the NPSAS sampling frame (Riccobono et al., 2002).

[9] National Longitudinal Study of the H.S. Class of 1972 (NLS-72), High School and Beyond (HS&B), National Education Longitudinal Study of 1988 (NELS:88), Education Longitudinal Study of 2002 (ELS:2002), Baccalaureate and Beyond (B&B), Beginning Postsecondary Students Longitudinal Study (BPS).

are freely available to the researchers.

As a result, proprietary students have not been featured as a distinct and different group of students in economics of education research. The fundamental work on college choice by Manski & Wise (1983), for example, combined for-profit students with the students in non-profit junior colleges calling them vocational students. A similar approach was used in research on returns to 2-year college training by Kane & Rouse (1995). Another approach was to exclude for-profit students from the study sample (for example, the study on returns to sub-baccalaureate training by Marcotte, Bailey, Borkoski and Kienzl(2005)). Numerous other studies of technical training did not differentiate the programs by their ownership status.

An additional complication is that the for-profit postsecondary sector has been structurally changing since the late 1990s. For a long time, the for-profit sector has featured an assortment of neighborhood, more rarely regional, enterprise or venture institutes – small independent schools providing short-term technical and occupational training (Apling, 1993; Belitsky, 1969). The last decade marked the rise of corporate ownership represented by the for-profit national shareholder colleges and universities (Kinser, 2007) – the sector development that captured most of the media's attention. Remarkably, most of the recent growth in the for-profit sector has resulted from the increased enrollments in these national shareholder schools offering 2-year and 4-year degrees (see Figure 2). These structural changes have been particularly poorly handled in the national data collections for at least three reasons. First, it has not been clear how to classify these new institutions in the context of the existing taxonomy of the for-profit schools. National shareholder universities consist of multi-campus locations, and as some campuses report to IPEDS as separate institutions, others appear to report as the university system. Second, even though national shareholder for-profits have experienced remarkable enrollment growth, the overall share of their students is still very small. In 1996, the student enrollment in 4-year for-profit schools comprised only 0.88 %, and the student enrollment in the 2-year for-profit schools – 1.16% of the national student population (see Table 1). Because the national data collections rely on geographically stratified random sampling, they failed to produce samples containing sufficient numbers of for-profit students attending 4-year and 2-year degree programs, particularly those in shareholder universities.

Finally, it has been difficult to determine what particular data would be of relevance to the study of for-profit schools and their students, for there is no universally acknowledged theory on the interactions of for-profit college education providers and their customers. It is not clear whether the for-profit schools should be treated as profit maximizing businesses alone and whether quality

specialized education all that students seeking from for-profit schools. Lack of understanding of these issues reflects on the quality of the available survey data.

Data Overview

Even though IPEDS is not truly representative of the entire for-profit post-secondary sector, it is nevertheless fully representative of the Title IV-eligible for-profit school population. Therefore, an analysis based on IPEDS for-profit school population is valuable from the point of view of policy because it captures the receivers of the federal dollars. The NPSAS student population is drawn from the IPEDS school population, so NPSAS remains the largest and most inclusive cross-sectional survey delivering the largest federal financial aid eligible proprietary student population sample – a very useful feature for this study.

The project uses the three latest NPSAS surveys conducted by NCES during the 1995-96, 1999-2000, and 2003-2004 school years (NPSAS:96, NPSAS:2000, and NPSAS:04). The earlier NPSAS studies (NPSAS:90 and NPSAS:93) did not include all Title IV eligible schools, and the for-profit students representation in theses surveys is haphazard. NPSAS surveys contain nationally-representative samples of undergraduate, graduate and first-professional students and cover a wide array of topics including background student information and extensive financial aid detail. NPSAS: 96 contains information on 5,380 students at proprietary institutions; NPSAS:2000 – 5,645 for-profit students; and NPSAS:04 – 7,148 for-profit students.[10]

Another benefit of using NPSAS is that it provides a fair representation for non-traditional[11] students. This is unique to NPSAS, and other nationally-representative data sets, particularly longitudinal panels, are less likely to capture these students. Non-traditional students are most likely to delay college, so their post-secondary experiences may not be captured by panels featuring high school student cohorts. Yet, non-traditional students are more likely to experience financial hardship, and are most attracted to short-term programs delivering practical curriculum — the kind of training the for-profit sector specializes in. Because NPSAS intends to represent the cross-section of the American post-secondary at a certain point in time, it delivers the best representation of non-traditional students in both the non-profit and for-profit sector.

[10] See Table 2 for the student response rates in these NPSAS surveys.

[11] The definition of a "non-traditional student" is not very precise. It refers here to an undergraduate college student who has any of the following characteristics: delayed college enrollment; part-time college attendance; working 35 hours or more per week while enrolled in college; considered financially independent for financial aid eligibility; having dependents; being single parent; no regular high school diploma (see Choy (2002)).

It is informative to compare NPSAS with NELS to assess the impact of the incomplete inclusion of non-traditional students in a longitudinal nationally representative dataset (such as NELS) on the representativeness of the for-profit student sample. In 2000, approximately 53% of all enrolled students in for-profit NPSAS schools were non-traditional[12]. Table 3 draws some comparisons on a select number of student characteristics between the for-profit students in the NPSAS:2000 sample and the sample of mostly traditional students from NELS:88 who have chosen for-profit schools as their first post-secondary institution. The characteristics pertain to the same point in time for both student samples – 1999-2000 school year[13]. Remarkably, the main demographic characteristics (sex, race, income, marital status, number of dependents, high school credentials) are very similar. For-profit students from the NPSAS:2000 are slightly more likely to be minority and to have foreign-born parents, which is likely an artifact of a bigger student sample. The for-profit students in NPSAS also have slightly higher incomes; more of them receive untaxed benefits and are single parents. This is also not surprising because NPSAS captures an older set of students, and older students are more likely to exhibit these characteristics.

Finally, NPSAS for-profit students are more likely to have higher aspirations for a Master's degree and report much lower parents' educational attainment. The large differences in parents' education level in NPSAS vs. NELS may be due to different data collection. NELS supplements the student interviews with data from the detailed interviews with parents, and NPSAS data comes primarily from the student interviews. It is difficult to discern which source of information about parents' education is likely to be the most accurate one. It is possible that the parents have an incentive to over-report their education levels in personal interviews. It is also likely that the students are not fully aware of their parents' education.

For-Profit School Characteristics and School Heterogeneity

Dearth of information on the for-profit postsecondary sector begets a lack of definitive classification of proprietary schools. Earlier studies (such as Belitsky (1969)) proposed a curriculum-based classification. Lee & Merisotis (1990) suggested a modification of the curriculum-based classification based on the accrediting agency of a for-profit institution[14]. In the process of developing a classification of all 2-year institutions, Phipps, Shedd & Merisotis (2001) proposed to divide all

[12]My computation from NPSAS: 00.

[13]It is however the case that in 2000, NPSAS students are in school, but NELS students could be either in school or not.

[14]For a thorough overview of evolving for-profit classifications, see Kinser (2006).

for-profit institutions into private for-profit schools and career connector institutions based on their share of awarded certificates. Goan & Cunnigham (2007) followed Phipps, Shedd & Merisotis (2001) and defined characteristics for the 2-year for-profit degree-granting institutions vs. other for-profit institutions. NPSAS: 96, 2000 and 2004 stratified proprietary institutions as private for-profit less-than-2-year and private for-profit 2-year or more (Cominole et al., 2004; Riccobono et al., 2002; Riccobono et al., 1997). However, the most exact classification has been developed by Kinser (2006) along the three main elements: school location, its ownership, and the highest degree awarded. To investigate heterogeneity of the shareholder proprietary schools, Kinser (2007) utilizes the data from COOL, SEC, and numerous internet information sources (such as individual schools websites) in addition to IPEDS. Kinser identifies single-state institutions as neighborhood schools, multiple-location institutions in neighboring states as regional schools, and across-US institutions as national schools. Further, enterprise schools are owned by a family or individual entrepreneurs, venture schools – by independent private corporations, and shareholder schools – by publicly traded corporations. Finally, institutes offer an associate degree as the highest degree, colleges – a bachelor degree, and universities – a graduate or professional degree. Kinser's classification allows a more competent and systematic look at the meaningful differences among the for-profit institutions. As I relate the facts on the main characteristics of the for-profit schools, such as their size, program offering, location, quality, and price, I will use Kinser's for-profit school classification to identify the types of for-profit schools discussed.

School Size

Most of the for-profit schools are neighborhood enterprise or venture institutes that are small – fewer than 100 students – in size. Apling (1993) reports the median enrollment of 64 students in the for-profit sector with only 25% of all proprietary schools enrolling more than 175 students. Cellini (2005) finds that 58% of all California proprietary schools (including non-IPEDS schools) enroll fewer than 100 students. Bailey (2006) calculates the average enrollment in all IPEDS for-profit schools to be 337 students compared to 5,500 students in community colleges. National shareholder colleges and universities are also relatively small compared to traditional non-profit universities, but are substantially bigger than independently-owned for-profit schools (Kinser, 2006). Kinser (2006) reports an average enrollment of under 1,000 students at each location for the 61% shareholder institutions. The outlier 13 corporately-owned schools have enrollments greater than 100,000 students.

Program Offering

The program offering in proprietary schools is defined by their mission – to provide the training for the successful job placement. The majority of for-profit institutes provide a small assortment of short certificate programs. Apling (1993) obtained a median of 3 programs offered by a representative for-profit institute. 75% of all for-profit school in IPEDS:1988 offered 5 or fewer programs of study. 2/3 of them specialized in business or cosmetology. Cellini (2005) found that a representative for-profit school in California offered 4 programs of study. Overall, among 2002-2003 IPEDS for-profit institutes, certificates represented about 54% of all awarded credentials (Bailey, 2006).

A few for-profit colleges and universities specialize in Associate's and Bachelor's degrees. In 2002-2003, 2/3 of the students enrolled in degree-granting for-profit schools were enrolled in shareholder universities (Kinser, 2007). Associate's degrees comprised about 47% of all for-profit credentials, and Bachelor's degrees – 16%. 46% of all for-profit Associate's degrees and 83% of all Bachelor's degrees were awarded by the shareholder institutions[15]. Corporate-owned schools also awarded 14,000 graduate degrees, 95% of which were master's degrees (Kinser, 2007). Overall, for-profit schools exhibit a very degree-oriented approach emphasizing the receipt of a credential as the ultimate training goal (Bailey, 2006).

By design, for-profit schools are primarily career, or occupational schools, so they offer training mostly in career-oriented fields, such as personal and culinary services, allied health professions, business support services, computer and IT services, technology technician professions, and legal support (see Table 11). Shareholder colleges offer a wider array of programs and tend to concentrate on programs in computer and IT services, business support, and health care (Kinser, 2007).

For-profit schools offer training following various schedules, but a continuous calendar is most popular. Shareholder campuses, however, are more likely to offer their programs on a quarter or a semester system.

Location

For-profit schools location follows the US population density (see Figure 3). They are likely to be located in the urban areas and on the urban fringe in easily-accessible areas such as shopping malls and the lots close to the highways (Apling, 1993) . Apling (1993) found that in 1988 more than

[15]My calculations from credentials tabulation from (Bailey, 2006), which used IPEDS 2002-2003 data.

1/3 of all for-profit schools in IPEDS were located in five of the largest states: California, Texas, Illinois, Pennsylvania, and New York.

Quality

The information on for-profit school quality is lacking. The markers used to proxy for the "traditional" 4-year college quality – faculty salary, student SAT scores, and freshmen retention rates (Black & Smith, 2004) are frequently not available. In part this is due to different accounting and reporting standards non-profit and for-profit schools pursue. Often, the data are not reported.[16] Finally, the reported data are not checked, so there are doubts about their validity. By federal regulations, for-profit schools have to report completion rates and disclose them to potential students. The existing data suggest that the completion rates for the for-profits are higher than they are for community colleges (Bailey, 2006). From her comprehensive California dataset, Cellini (2005) finds that on average, about 50% of all for-profit students graduate. It is a comparable figure to the 60% completion rate (which includes transfers to 4-year colleges) in California community colleges.

Another potential quality marker is academic and student expenditures by for-profit schools. Cellini (2005) compares the expenditures of community and for-profit colleges per full-time equivalent student and finds that for-profit schools spend about $2,600 more per student in the category of student services and $600 less per student in the category of instruction. Most for-profits (and especially shareholder schools) rely heavily on part-time faculty, employ a standardized centralized curriculum, and make use of well-equipped labs. Student services (such as counseling, career placement, child care, financial aid advising, on-sire legal services, etc.) are given priority in for-profit schools (Bailey, 2006; Cellini, 2005; Deil-Amen & Rosenbaum, 2003).

These enhanced student services delivered by for-profits are particularly valuable to the disadvantaged students who are most likely to lack the information and skills to navigate the complexities of the post-secondary system (Deil-Amen & Rosenbaum, 2003). Such "customer-oriented" approach appeals to for-profit students. The students may view for-profit education as an entirely different educational good that is higher in quality than the one non-profit sector provides.

[16] Although it is mandatory for Title IV eligible schools to report to IPEDS, they do not have to report the data in full. Many schools report the bare minimum information to IPEDS thereby generating a massive non-response on many data items.

Price

On average, for-profit programs are much more expensive than comparable programs at public institutions. For example, Cellini (2005) cites a mean tuition of $7,615 at a Californian for-profit school and a $4,020 non-resident tuition at a Californian community college. It is difficult, however, to discuss the cost of attending a for-profit vs. non-profit college to a student because the "list" tuition price does not fully reflect the true cost of attendance for a for-profit student. First, for-profit programs are shorter in length and feature flexible scheduling, so that a student's opportunity cost of being in school is lower in for-profit school. Second, financial aid take-up rates are much higher in for-profit schools, largely due to the extensive financial aid advising offered by for-profit schools. Because of high tuition prices, students at for-profit schools can qualify for the maximum financial aid awards that can offset the high tuition prices.[17]

For-Profit Student Heterogeneity and Student Characteristics

The means and shares in student characteristics tables are calculated by using the complex survey weights and are representative of the national Title-IV eligible for-profit college student population. In addition, I have performed the Wald test of the equality of population proportions to detect whether the means or shares for for-profit students are statistically different from those for non-profit 2-year students and non-profit 4-year students (or, for the tabulations of for-profit students by for-profit school type, I test whether the means or shares for the students in for-profit less-than-2-yr schools are statistically different from the students in for-profit 2-year schools and for-profit 4-year schools). For example, in Table 4 we can see that the mean age of the students in the American Title-IV eligible for-profit colleges in 1996 was approximately 28 years old. This population mean is statistically different from those of the students in non-profit 2-year and 4-year schools. The national mean age of the students in non-profit 2-year and less-han-2-year schools in 1996 was about 29 years old, which was significantly different from the national mean age of 24 years old for the students in non-profit 4-year schools. All three student populations were statistically different populations in terms of age. The shares can be interpreted similarly. For example, in Table 7 we can see that in 1996 in the United States among the students in for-profit less-than-2-year colleges the share of students who were single parents was 0.26. This share was significantly different from

[17]The issue of financial aid to for-profit students has gained publicity and spiked interest in the research community in the last decades. It is a complex topic requiring the extensive and thorough research. I set aside the issue of financial aid for the future projects.

0.19 of single parent students in for-profit 2-year schools and from the 0.13 of single parents among the students in for-profit 4-year schools.

Students in For-Profit Schools Compared to Students in Non-Profit Schools

Tables 4, 5, and 6 contain the weighted means and shares for three student populations: students in for-profit schools, in non-profit 2-year schools, and in non-profit 4-year schools[18]. The results show that for-profit students are significantly different from the students in non-profit schools in many respects. Also, some student characteristics exhibit intriguing temporal trends.

There are a few characteristics differentiating proprietary students from non-profit students. They are more likely to be female and much more likely to be non-White. They are also less likely to be single, but more likely to have a dependent and be single parents. There is a higher share of GED holders among for-profit students, and higher percentages of these students have parents with either less-than-high school education or high school diploma. Proprietary students tend to work less while in school, to have lower incomes, and to attend school full-time. Compared to the non-profit 2-year students, the for-profit students enroll in smaller schools farther away from their home located in large cities (vs. mid-size cities, where most 2-year and 4-year students are attending schools). Not surprisingly, more for-profit students intend to get a certificate as their final post-secondary credential.

These characteristics are meaningful for the modeling of for-profit students' behavior and their labor market outcomes. Being a female, a minority student, a GED holder, and coming from a low-income family are associated with the chances of lower employment and lower earnings and wage premiums. These findings suggest that including rich background controls in the models of labor market outcomes is particularly important for for-profit college-trained workers.

The high share of minorities among for-profit students is a persistent descriptive result (Apling, 1993 ; Grubb, 1993). Grubb (1993) suggests that this result is due to the location of for-profit schools – large cities are likely to have higher minority populations. However, table statistics provide the new evidence on Grubb's hypothesis. Table 10 contains the shares of African-American students for the two most comparable groups of students (for-profit vs. non-profit 2-year students) tabulated by different geographic locations. Statistics indicate that even when geographical location is held fixed, the for-profit student population consistently features a higher share of African-Americans.

[18]For-profit schools include less-than-2-year, 2-year, and 4-year schools. Non-profit 2-year schools include both private and public non-profit 2-year and less-tha-2-year colleges. Non-profit 4-year schools include both private and public non-profit 4-year colleges and universities.

The data does provide an explanation for the preponderance of women in for-profit post-secondary sector. This preponderance is a consequence of considerable gender segregation in occupation training. Table 12 contains the shares of the female for-profit student population tabulated by the for-profit program content. The majority of women concentrate in health professions, personal and culinary services, and business support. The top "male" professions are computer and information sciences, mechanic and repair technologies, business support, engineering technologies, and health professions.

Several tentative trends come from comparing student characteristics from 2004 to those from 2000 and 1996. Although similar in age to the 2-year students in 1996 and 2000, for-profit students are getting older in 2004. The share of African-American students is rising. The mean number of students' dependents is increasing, and the share of single parents in the for-profit student population is going up as well. The income of the proprietary students is rising with time. Hours worked by for-profit students while in school increase above those of non-profit 2-year students in 2004. The GED gap between proprietary and non-profit 2-year students is closing in 2004. Aspirations for a Master's degree for the for-profit students are also unusually high in the last year of NPSAS.[19]

Students in Less-Than-2-Year, 2-Year, and 4-Year For-Profit Schools

Tables 7, 8, and 9 contain the weighted means and shares for students in less-than-2-year, in 2-year, and in 4-year for-profit schools. Table statistics suggest that students in for-profit 4-year schools are distinctly different from students in less-than-2-year and 2-year for-profit schools. Also, for-profit student populations in less-than-2-year and 2-year for-profit schools are distinctly different from each other.

Compared to the rest of the for-profit students, students at 4-year proprietary schools are more likely to be older, male, white, and married. They are more likely to have children and less likely to be single parents. Students in for-profit 4-year schools have incomes that are higher than those of students in non-profit 4-year schools. Their parents have education levels comparable to those of non-profit 2-year students and are more likely to have Bachelor's and Master's degrees. 4-year proprietary students work more while in school and are more likely to attend one institution full-time. They enroll in schools that are much larger in size and are farther away from their home

[19]There is a steep decline in the shares of single students in NPSAS:2000 (Tables 5 and 8). This decline is the artifact of high non-response to the question on marital status (about 35% missing observations).

than the schools that the rest of the for-profit students attend. These schools are more likely to be located in large cities rather than on the urban fringe.

These students represent the growing market share of for-profit schools, particularly corporate-owned ones. It is possible that 4-year for-profit degrees are becoming closer substitutes for the professional or business education offered by non-profit sector. Consequently, students attracted to these programs exhibit characteristics similar to those for the students enrolled in non-profit business and professional programs. Even though more similar to each other than to the students in 4-year for-profit schools, students in less-than-2-year and 2-year for-profit schools are still distinct populations. Proprietary students in less-than-2-year schools are more likely to be female and non-white. They have slightly higher incomes and work fewer hours while in school. They are less likely to be GED recipients and more likely to have parents with college degrees. Students in less-than-2-year for-profit schools are more likely to pursue certificates and to attend short (part-year) programs full-time. The schools they attend are located closer to home than the schools 2-year for-profit students attend, but farther away than the schools of non-profit 2-year students. These schools are small in size (391 students on average) and are likely to be located on the urban fringes, as well as in large cities.

Analyzing the Trends in For-Profit Student Characteristics

For-profit student characteristics spanning eight years of data reveal the distinct heterogeneity of the proprietary student population. Tables 7 through 9 also allow us to track the changes within the for-profit student body. For all groups of for-profit students, the shares of college-educated parents have increased. Another change common to all proprietary students is the rise in students' aspirations to attain Bachelor's and Master's degrees.

However, a trend in one for-profit student group (e.g. students in less-than-2-year for-profit schools) does not imply the same trend in other for-profit student groups. There is an appreciable increase in mean age for 4-yr students only. The shares of women have increased in less-than-2-year and 4-year schools. Both 2-year and 4-year schools have experienced a rise in African-Americans enrollments, as well as increases in the shares of single parents and consequently the mean number of students' dependents. Incomes of the students in less-than-2-year and 4-year schools have increased, but incomes of the students in 2-year schools have declined. 2-year for-profit schools enrollments have experienced higher shares of students with GED. Finally, student budgets in less-than-2-year for-

profit schools have grown substantially, and the mean for the 4-year for-profit school size has increased.

Keeping these differences among the for-profit students characteristics and trends in mind, it is possible to explain some of the changes in for-profit student population identified in the previous comparison. For example, the students in 4-year for-profit schools drive the increasing age of proprietary students, higher work hours, and lower shares of GED recipients. Students at both 4-year and less-than-2-year for-profit schools drive the increase in the share of African-Americans and growth in student incomes. These findings are meaningful for interpreting the analyses related to for-profit students. In particular, in other datasets where the students in 4-year for-profit schools are under-represented, the pronounced heterogeneity among the for-profit students may be difficult to detect, and the parameters of interest may differ across different groups of for-profit students.

Conclusions

The study of for-profit student heterogeneity and their characteristics is timely: the share of proprietary students in the post-secondary student population is growing, yet we know little about these students. In past and present economic research, for-profit students are either combined with the students from non-profit junior colleges, or excluded from the analyses. Data availability on the subject has been historically poor, but the release of the latest NPSAS surveys made it possible to conduct the study.

The two different comparisons performed in this study lead to three main conclusions. First, for-profit students are systematically and significantly different from their counterparts in non-profit 2-year and 4-year schools. Second, for-profit students are not a homogenous body. Students at less-than-2-year for-profit schools are different from the students in 2-year for-profit schools, and there is even a starker difference between the students in for-profit 4-year schools and the rest of the for-profit students. Finally, the increasing student population in for-profit 4-year schools drives the contemporary trends in proprietary student characteristics.

Table 1: Student Enrollment in For-Profit 4-Year and 2-Year Schools in NPSAS Collection Years

Year of fall enrollment	% For-profit student enrollment	
	4-yr schools	2-yr schools
1996	0.88%	1.16%
2000	1.64%	1.22%
2004	3.50%	1.47%

Source: Author's tabulation from the Digest of Education Statistics 1995-2006, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Table 2: Student Response Rates in NPSAS:96, NPSAS:2000, and NPSAS:04

Institutional sector	Weighted student response rate, in %		
	NPSAS:96	NPSAS:2000	NPSAS:04
Public, less-than-2-year	99.4	76	90.6
Public, 2-year	95.3	94	83.9
Public, 4-year non-doctorate-granting	95.7	91	93.3
Public, 4-year doctorate-granting	97.4	92	94.2
Private, not-for-profit, 2-year or less	92.8	96	94.6
Private, not-for-profit, 4-year non-doctorate-granting	97.8	79	96.9
Private, not-for-profit, 4-year doctorate-granting	96.4	94	95.4
Private, for-profit, less-than-2-year	96.2	82	94.3
Private, for-profit, 2-year or more	98.6	94	96.7

Source: NELS:88/2000 and PETS:2000.

Table 3: Means and Frequencies for the Select For-Profit Student Characteristics in NPSAS:2000 and NELS:87

Characteristics	**Mean or frequency**	
	NPSAS:2000	**NELS:88**
Age	27.01	26.49
Male	39.80%	39.04%
Non-Asian minority	33.21%	30.65%
Student's parents foreign-born	13.30%	11.25%
% income	37.55%	35.84%
Untaxed benefits	8.99%	5.30%
Single-never married	36.70%	42.30%
Single parent	26.60%	19.50%
# of dependents	0.92	1.02
No standard high school diploma	17.20%	17.13%
Parent's highest education level		
Parents' education less than HS grad	8.82%	12.73%
Parents' education some college	15.05%	34.41%
Parents' education bachelor's or higher	16.25%	20.64%
Expected Education		
Associate's degree	8.13%	11.10%
Bachelor's degree	21.80%	26.00%
Master's degree (MA/MS)	13.40%	4.60%
Advanced degree-doctorate or first-professional	2.96%	1.20%
N	5,645	309†

Notes: Variables from NELS come from the fourth student follow-up conducted in 2000. Some variables were re-categorized for better comparison.

†: The NELS sample used here consists of students who chose for-profit college as their first college. The same sample is used in Chung (2008).

Source: Author's tabulation from NPSAS:2000 and NELS:88.

Table 4: Select Student Characteristics in NPSAS:96, by School Type and Control

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Age	27.59***	28.69***	24.21***
	(0.42)	(0.25)	(0.15)
Gender			
Male	0.37***	0.42***	0.45***
	(0.03)	(0.01)	(0.01)
Female	0.63***	0.58***	0.55***
	(0.03)	(0.01)	(0.01)
Race			
White	0.54***	0.70***	0.73***
	(0.03)	(0.02)	(0.01)
Black or African American	0.17***	0.13***	0.10***
	(0.02)	(0.01)	(0.01)
Asian	0.04***	0.05***	0.06***
	(0.00)	(0.00)	(0.00)
American Indian/Alaska Native	0.01***	0.01***	0.01***
	(0.01)	(0.01)	(0.00)
Other race	0.09***	0.06***	0.04***
	(0.02)	(0.01)	(0.00)
Single, never married	0.69***	0.71***	0.85***
	(0.01)	(0.01)	(0.01)
# of dependents	0.82***	0.60***	0.27***
	(0.03)	(0.02)	(0.01)
Single parent	0.22***	0.15***	0.06***
	(0.01)	(0.01)	(0.00)
Mean income percentile rank	35.56***	47.30***	55.21***
	(1.10)	(0.66)	(0.45)
Mean income as % of poverty level	191.47***	270.29***	321.94***
	(8.06)	(4.96)	(3.51)
Hours worked while in college	19.87***	26.88***	19.33***
	(0.82)	(0.44)	(0.31)
Student's high school degree			
High school diploma	0.79***	0.89***	0.97***
	(0.01)	(0.01)	(0.00)
GED or other equivalency	0.14***	0.07***	0.02***
	(0.01)	(0.01)	(0.00)
High school completion certificate	0.00**	0.01***	0.00***
	(0.00)	(0.00)	(0.00)
No high school degree/certificate	0.06***	0.04***	0.01***
	(0.01)	(0.01)	(0.00)
Parent's highest education level			
Did not complete high school	0.14***	0.12***	0.05***
	(0.01)	(0.01)	(0.00)
High school diploma or equivalent	0.56***	0.45***	0.39***
	(0.01)	(0.01)	(0.01)

Table 4: Select Student Characteristics in NPSAS:96, by School Type and Control (Continued)

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Vocational/technical training	0.04***	0.05***	0.04***
	(0.01)	(0.00)	(0.00)
Less than two years of college	0.02***	0.04***	0.03***
	(0.00)	(0.00)	(0.00)
2 or more years of college/Associate's degree	0.08***	0.09***	0.08***
	(0.01)	(0.01)	(0.00)
Bachelor's degree	0.11***	0.16***	0.21***
	(0.01)	(0.01)	(0.00)
Master's degree or equivalent	0.04***	0.07***	0.13***
	(0.00)	(0.01)	(0.00)
MD, LLB, JD or other advanced degree	0.01**	0.01***	0.03***
	(0.00)	(0.00)	(0.00)
PH.D or equivalent	0.01***	0.01***	0.04***
	(0.00)	(0.00)	(0.00)
Student's expected education			
No degree or certificate	0.01***	0.02***	0.00***
	(0.00)	(0.00)	(0.00)
Certificate	0.10***	0.02***	0.00***
	(0.01)	(0.00)	(0.00)
Associate's degree	0.07***	0.06***	0.00***
	(0.01)	(0.00)	(0.00)
Bachelor's degree	0.15***	0.21***	0.10***
	(0.01)	(0.01)	(0.00)
Post-baccalaureate certificate	0.00*	0.00*	0.00***
	(0.00)	(0.00)	(0.00)
Master's degree (MA/MS)	0.10***	0.15***	0.27***
	(0.01)	(0.01)	(0.00)
Advanced degree-doctorate or first-professional	0.02***	0.05***	0.13***
	(0.00)	(0.00)	(0.00)
School attendance			
Full-time/full year, 1 institution	0.34***	0.17***	0.55***
	(0.02)	(0.01)	(0.01)
Full-time/full year, more than 1 institution	0.03***	0.03***	0.02***
	(0.01)	(0.00)	(0.00)
Full-time/part year	0.40***	0.13***	0.10***
	(0.02)	(0.01)	(0.00)
Part-time/full year, 1 institution	0.10***	0.29***	0.17***
	(0.01)	(0.01)	(0.01)
Part-time/full year, more than 1 institution	0.01***	0.02***	0.01***
	(0.00)	(0.00)	(0.00)
Part-time/part year	0.11***	0.36***	0.13***
	(0.01)	(0.01)	(0.01)
Student budget (in $)	13,918***	7,639***	13,326***
	(285.58)	(147.32)	(154.14)
Distance from home to school (in miles)	64.93*	41.09***	253.79***
	(25.65)	(7.29)	(13.16)

Table 4: Select Student Characteristics in NPSAS:96, by School Type and Control (Continued)

Characteristics	**For-profit†**	**Non-profit less-than-2-yr and 2-yr**	**Non-profit 4-yr**
	schools	**schools**	**schools**
School size	1,012***	16,584***	16,965***
	(102.40)	(1074.43)	(474.23)
School locale			
Large city	0.36***	0.23***	0.25***
	(0.05)	(0.03)	(0.02)
Mid-size city	0.24***	0.23***	0.33***
	(0.04)	(0.03)	(0.02)
Urban fringe of large city	0.23***	0.26***	0.11***
	(0.05)	(0.03)	(0.01)
Urban fringe of mid-size city	0.04	0.03*	0.05***
	(0.02)	(0.01)	(0.01)
Large town	0.02	0.04*	0.07***
	(0.02)	(0.02)	(0.01)
Small town	0.01	0.11***	0.12***
	(0.01)	(0.02)	(0.02)
Rural	0.00	0.05**	0.02*
	-	(0.02)	(0.01)
Total	5,380	9,259	26,720

Notes: †: For-profit schools include all school types (less-than-2-year, 2-year, and 4-year schools).
The significance levels are for the tests of the null of equal proportions (adjusted Wald test): * p<0.1, ** p<0.05, *** p<0.01. Missing standard errors are due to the presence of strata with single sampling units (see Appendix).
Source: Author's tabulation from NPSAS:96.

Table 5: Select Student Characteristics in NPSAS:2000, by School Type and Control

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Age	27.01***	28.60***	24.12***
	(0.37)	(0.20)	(0.09)
Gender			
Male	0.40***	0.43***	0.44***
	(0.04)	(0.01)	(0.00)
Female	0.60***	0.57***	0.56***
	(0.04)	(0.01)	(0.00)
Race			
White	0.62***	0.70***	0.75***
	(0.03)	(0.01)	(0.01)
Black or African American	0.21***	0.14***	0.11***
	(0.02)	(0.01)	(0.01)
Asian	0.05***	0.06***	0.06***
	(0.01)	(0.00)	(0.00)
American Indian/Alaska Native	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Native Hawaiian/other Pacific Islander	0.01**	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Other race	0.09***	0.06***	0.05***
	(0.01)	(0.00)	(0.00)
More than one race	0.02***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)
Single, never married	0.37***	0.36***	0.51***
	(0.01)	(0.01)	(0.01)
# of dependents	0.86***	0.68***	0.34***
	(0.04)	(0.02)	(0.01)
Single parent	0.27***	0.16***	0.09***
	(0.02)	(0.00)	(0.00)
Mean income percentile rank	37.55***	51.43***	51.24***
	(1.12)	(0.43)	(0.35)
Mean income as % of poverty level	212.55***	316.19***	345.69***
	(8.45)	(3.65)	(2.68)
Untaxed benefits	0.09***	0.07***	0.04***
	(0.01)	(0.00)	(0.00)
Hours worked while in college	25.44***	29.39***	20.61***
	(0.85)	(0.30)	(0.22)
Student's high school degree			
High school diploma	0.83***	0.89***	0.97***
	(0.02)	(0.00)	(0.00)
GED or other equivalency	0.11***	0.08***	0.02***
	(0.01)	(0.00)	(0.00)
High school completion certificate	0.01*	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Foreign high school	0.02**	0.02***	0.01***
	(0.01)	(0.00)	(0.00)
No high school degree/certificate	0.03***	0.02***	0.00***
	(0.01)	(0.00)	(0.00)

Table 5: Select Student Characteristics in NPSAS:2000, by School Type and Control (Continued)

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Parent's highest education level			
Did not complete high school	0.09***	0.08***	0.04***
	(0.01)	(0.00)	(0.00)
High school diploma or equivalent	0.37***	0.26***	0.23***
	(0.01)	(0.01)	(0.00)
Vocational/technical training	0.03***	0.02***	0.03***
	(0.00)	(0.00)	(0.00)
Less than two years of college	0.05***	0.06***	0.06***
	(0.00)	(0.00)	(0.00)
2 or more years of college/Associate's degree	0.08***	0.08***	0.09***
	(0.00)	(0.00)	(0.00)
Bachelor's degree	0.10***	0.14***	0.21***
	(0.01)	(0.00)	(0.00)
Master's degree or equivalent	0.04***	0.05***	0.11***
	(0.00)	(0.00)	(0.00)
MD, LLB, JD or other advanced degree	0.01***	0.01***	0.02***
	(0.00)	(0.00)	(0.00)
PHD or equivalent	0.01***	0.02***	0.06***
	(0.00)	(0.00)	(0.00)
Student's expected education			
No degree or certificate	0.01***	0.02***	0.00***
	(0.00)	(0.00)	(0.00)
Certificate	0.06***	0.02***	0.00***
	(0.01)	(0.00)	(0.00)
Associate's degree	0.08***	0.08***	0.01***
	(0.01)	(0.00)	(0.00)
Bachelor's degree	0.22***	0.24***	0.14***
	(0.01)	(0.01)	(0.00)
Post-baccalaureate certificate	0.00	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Master's degree (MA/MS)	0.13***	0.18***	0.35***
	(0.01)	(0.01)	(0.00)
Advanced degree-doctorate or first-professional	0.03***	0.05***	0.12***
	(0.00)	(0.00)	(0.00)
School Attendance			
Full-time/full year, 1 institution	0.32***	0.18***	0.53***
	(0.03)	(0.01)	(0.01)
Full-time/full year, more than 1 institution	0.01***	0.03***	0.03***
	(0.00)	(0.00)	(0.00)
Full-time/part year	0.45***	0.12***	0.12***
	(0.04)	(0.01)	(0.00)
Part-time/full year, 1 institution	0.10***	0.25***	0.17***
	(0.02)	(0.01)	(0.00)
Part-time/full year, more than 1 institution	0.01***	0.02***	0.01***
	(0.00)	(0.00)	(0.00)
Part-time/part year	0.11***	0.40***	0.14***
	(0.01)	(0.01)	(0.00)

Table 5: Select Student Characteristics in NPSAS:2000, by School Type and Control (Continued)

Characteristics	**For-profit†**	**Non-profit less-than-2-yr and 2-yr**	**Non-profit 4-yr**
	schools	**schools**	**schools**
Student budget (in $)	18,429	9,382	16,328
	-	-	-
Distance from home to school (in miles)	76.49***	36.05***	135.99***
	(12.44)	(1.90)	(3.92)
School Size	816	11,161	13,828
	-	-	-
School Locale			
Large city	0.35***	0.23***	0.25***
	(0.06)	(0.03)	(0.01)
Mid-size city	0.15***	0.24***	0.34***
	(0.03)	(0.03)	(0.01)
Urban fringe of large city	0.37***	0.30***	0.13***
	(0.07)	(0.03)	(0.01)
Urban fringe of mid-size city	0.08*	0.06**	0.07***
	(0.04)	(0.02)	(0.01)
Large town	0.00	0.02*	0.06***
	(0.00)	(0.01)	(0.01)
Small town	0.01	0.10***	0.10***
	(0.01)	(0.02)	(0.01)
Rural	0.00	0.05***	0.02***
	(0.00)	(0.01)	(0.00)
Total	5,645	11,440	32,849

Notes: †: For-profit schools include all school types (less-than-2-year, 2-year, and 4-year schools).
The significance levels are for the tests of the null of equal proportions (adjusted Wald test): * p<0.1, ** p<0.05, *** p<0.01. Missing standard errors are due to the presence of strata with single sampling units (see Appendix).
Source: Author's tabulation from NPSAS:2000.

Table 6: Select Student Characteristics in NPSAS:04, by School Type and Control

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Age	29.41***	28.33***	26.08***
	(0.41)	(0.18)	(0.14)
Gender			
Male	0.39***	0.41***	0.44***
	(0.02)	(0.01)	(0.01)
Female	0.61***	0.59***	0.56***
	(0.02)	(0.01)	(0.01)
Race			
White	0.58***	0.66***	0.74***
	(0.02)	(0.01)	(0.01)
Black or African American	0.25***	0.16***	0.11***
	(0.02)	(0.01)	(0.01)
Asian	0.04***	0.06***	0.07***
	(0.00)	(0.00)	(0.00)
American Indian/Alaska Native	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Native Hawaiian/other Pacific Islander	0.01***	0.01***	0.00***
	(0.00)	(0.00)	(0.00)
Other race	0.09***	0.08***	0.04***
	(0.01)	(0.01)	(0.00)
More than one race	0.02***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)
Single, never married	0.66***	0.71***	0.77***
	(0.01)	(0.01)	(0.01)
# of dependents	0.92***	0.69***	0.39***
	(0.04)	(0.01)	(0.01)
Single parent	0.27***	0.17***	0.08***
	(0.01)	(0.01)	(0.00)
Mean income percentile rank	44.99***	49.57***	51.17***
	(1.17)	(0.59)	(0.30)
Mean income as % of poverty level	243.43***	292.03***	336.93***
	(9.37)	(4.95)	(2.51)
Untaxed benefits	0.14***	0.10***	0.05***
	(0.01)	(0.00)	(0.00)
Hours worked while in college	27.24***	25.43***	21.53***
	(0.68)	(0.18)	(0.23)
Student's high school degree			
High school diploma	0.73***	0.84***	0.71***
	(0.01)	(0.01)	(0.01)
GED or other equivalency	0.13***	0.08***	0.02***
	(0.01)	(0.00)	(0.00)
High school completion certificate	0.01*	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Foreign high school	0.02***	0.04***	0.02***
	(0.00)	(0.00)	(0.00)
No high school degree/certificate	0.03***	0.02***	0.00***
	(0.00)	(0.01)	(0.00)

Table 6: Select Student Characteristics in NPSAS:04, by School Type and Control (Continued)

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Home schooled	0.00**	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Parent's highest education level			
Did not complete high school	0.10***	0.08***	0.04***
	(0.01)	(0.00)	(0.00)
High school diploma or equivalent	0.36***	0.31***	0.22***
	(0.01)	(0.01)	(0.00)
Vocational/technical training	0.04***	0.04***	0.04***
	(0.01)	(0.00)	(0.00)
Less than two years of college	0.06***	0.08***	0.06***
	(0.00)	(0.00)	(0.00)
2 or more years of college, no degree	0.04***	0.06***	0.04***
	(0.00)	(0.00)	(0.00)
Associate's degree	0.06***	0.08***	0.07***
	(0.00)	(0.00)	(0.00)
Bachelor's degree	0.15***	0.18***	0.25***
	(0.01)	(0.00)	(0.00)
Master's degree or equivalent	0.08***	0.09***	0.17***
	(0.01)	(0.00)	(0.00)
MD, LLB, JD or other advanced degree	0.01***	0.01***	0.03***
	(0.00)	(0.00)	(0.00)
PHD or equivalent	0.02***	0.02***	0.06***
	(0.00)	(0.00)	(0.00)
Student's expected education			
No degree or certificate	0.01***	0.01***	0.00***
	(0.00)	(0.00)	(0.00)
Certificate	0.10***	0.03***	0.00***
	(0.01)	(0.00)	(0.00)
Associate's degree	0.11***	0.14***	0.01***
	(0.01)	(0.00)	(0.00)
Bachelor's degree	0.30***	0.37***	0.17***
	(0.01)	(0.00)	(0.00)
Post-baccalaureate certificate	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Master's degree (MA/MS)	0.34***	0.32***	0.48***
	(0.02)	(0.01)	(0.00)
Advanced degree - doctorate	0.10***	0.09***	0.24***
	(0.01)	(0.00)	(0.00)
Advanced degree - first-professional	0.03***	0.03***	0.08***
	(0.00)	(0.00)	(0.00)
School Attendance			
Full-time/full year, 1 institution	0.34***	0.21***	0.49***
	(0.01)	(0.01)	(0.01)
Full-time/full year, more than 1 institution	0.02***	0.04***	0.03***
	(0.00)	(0.00)	(0.00)
Full-time/part year	0.36***	0.12***	0.10***
	(0.01)	(0.00)	(0.00)

Table 6: Select Student Characteristics in NPSAS:04, by School Type and Control (Continued)

Characteristics	For-profit† schools	Non-profit less-than-2-yr and 2-yr schools	Non-profit 4-yr schools
Part-time/full year, 1 institution	0.13***	0.28***	0.21***
	(0.01)	(0.01)	(0.01)
Part-time/full year, more than 1 institution	0.01***	0.03***	0.01***
	(0.00)	(0.00)	(0.00)
Part-time/part year	0.15***	0.34***	0.15***
	(0.01)	(0.01)	(0.01)
Student budget (in $)	21,298	10,688	20,980
	-	-	-
Distance from home to school (in miles)	101.31***	43.34***	259.43***
	(13.23)	(2.36)	(7.88)
School Size	2,057***	10,532***	13,804***
	(133.33)	(396.43)	(217.90)
School Locale			
Large city	0.43***	0.23***	0.27***
	(0.04)	(0.03)	(0.02)
Mid-size city	0.20***	0.29***	0.31***
	(0.04)	(0.04)	(0.02)
Urban fringe of large city	0.20***	0.28***	0.16***
	(0.03)	(0.03)	(0.02)
Urban fringe of mid-size city	0.03*	0.03*	0.06***
	(0.01)	(0.01)	(0.01)
Large town	0.00	0.01**	0.05***
	(0.00)	(0.01)	(0.01)
Small town	0.01	0.09***	0.11***
	(0.00)	(0.02)	(0.02)
Rural	0.00	0.04**	0.02**
	(0.00)	(0.01)	(0.01)
Total	13,000	31,000	47,000

Notes: †: For-profit schools include all school types (less-than-2-year, 2-year, and 4-year schools).
The significance levels are for the tests of the null of equal proportions (adjusted Wald test): * p<0.1, ** p<0.05, *** p<0.01. Missing standard errors are due to the presence of strata with single sampling units (see Appendix).
Source: Author's tabulation from NPSAS:04.

Table 7: Select For-Profit Student Characteristics in NPSAS:96, by For-Profit School Type

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Age	28.12***	26.47***	28.87***
	(0.65)	(0.58)	(1.06)
Gender			
Male	0.30***	0.40***	0.56***
	(0.04)	(0.05)	(0.05)
Female	0.70***	0.60***	0.44***
	(0.04)	(0.05)	(0.05)
Race			
White	0.49***	0.60***	0.54***
	(0.04)	(0.03)	(0.08)
Black or African American	0.19***	0.16***	0.14**
	(0.03)	(0.02)	(0.04)
Asian	0.03***	0.04*	0.07*
	(0.00)	(0.00)	(0.00)
American Indian/Alaska Native	0.01***	0.00**	0.00*
	(0.01)	(0.02)	(0.03)
Other race	0.10***	0.07**	0.09*
	(0.03)	(0.02)	(0.04)
Single, never married	0.68***	0.72***	0.65***
	(0.02)	(0.02)	(0.04)
# of dependents	0.92***	0.73***	0.71***
	(0.05)	(0.05)	(0.10)
Single parent	0.26***	0.19***	0.13***
	(0.02)	(0.02)	(0.02)
Mean income percentile rank	32.44***	37.45***	43.72***
	(1.66)	(1.59)	(3.42)
Mean income as % of poverty level	166.48***	206.15***	258.80***
	(11.95)	(11.12)	(29.39)
Hours worked while in college	16.37***	22.03***	30.52***
	(1.11)	(1.16)	(2.65)
Student's high school degree			
High school diploma	0.74***	0.83***	0.88***
	(0.02)	(0.02)	(0.01)
GED or other equivalency	0.15***	0.14***	0.11***
	(0.01)	(0.01)	(0.01)
High school completion certificate	0.01*	0.00	0.01
	(0.00)	(0.00)	(0.00)
No high school degree/certificate	0.10***	0.03**	0.00
	(0.02)	(0.01)	(0.00)
Parent's highest education level			
Did not complete high school	0.16***	0.11***	0.11***
	(0.02)	(0.01)	(0.02)
High school diploma or equivalent	0.55***	0.57***	0.51***
	(0.02)	(0.02)	(0.04)
Vocational/technical training	0.05***	0.03***	0.05***
	(0.01)	(0.01)	(0.01)

Table 7: Select For-Profit Student Characteristics in NPSAS:96, by For-Profit School Type (Continued)

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Less than two years of college	0.02***	0.03***	0.02**
	(0.00)	(0.00)	(0.01)
2 or more years of college/Associate's degree	0.07***	0.08***	0.08***
	(0.01)	(0.01)	(0.02)
Bachelor's degree	0.09***	0.11***	0.15***
	(0.01)	(0.01)	(0.03)
Master's degree or equivalent	0.03***	0.04***	0.06***
	(0.01)	(0.01)	(0.02)
MD, LLB, JD or other advanced degree	0.01*	0.01*	0.01
	(0.00)	(0.00)	(0.00)
PHD or equivalent	0.01*	0.01**	0.01**
	(0.00)	(0.00)	(0.00)
Student's expected education			
No degree or certificate	0.01***	0.01***	0.00
	(0.00)	(0.00)	(0.00)
Certificate	0.17***	0.04***	0.00
	(0.02)	(0.01)	(0.00)
Associate's degree	0.05***	0.10***	0.01*
	(0.01)	(0.01)	(0.00)
Bachelor's degree	0.14***	0.18***	0.13***
	(0.01)	(0.01)	(0.02)
Post-baccalaureate certificate	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Master's degree (MA/MS)	0.06***	0.10***	0.28***
	(0.01)	(0.01)	(0.04)
Advanced degree-doctorate or first-professional	0.02***	0.02***	0.04***
	(0.00)	(0.00)	(0.01)
School attendance			
Full-time/full year, 1 institution	0.33***	0.32***	0.46***
	(0.03)	(0.03)	(0.06)
Full-time/full year, more than 1 institution	0.03*	0.02***	0.03**
	(0.01)	(0.00)	(0.01)
Full-time/part year	0.50***	0.35***	0.15***
	(0.04)	(0.02)	(0.02)
Part-time/full year, 1 institution	0.06***	0.12***	0.18***
	(0.02)	(0.02)	(0.04)
Part-time/full year, more than 1 institution	0.00*	0.01***	0.01**
	(0.00)	(0.00)	(0.00)
Part-time/part year	0.06***	0.16***	0.16***
	(0.01)	(0.03)	(0.03)
Student budget (in $)	12,860***	14,476***	16,987***
	(392.05)	(420.20)	(1036.05)
Distance from home to school (in miles)	27.61***	134.77	212.74*
	(5.77)	-(85.40)	(85.07)
School size	382***	1,107***	3,663***
	(60.44)	(134.04)	(681.10)

Table 7: Select For-Profit Student Characteristics in NPSAS:96, by For-Profit School Type (Continued)

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
School locale			
Large city	0.26***	0.44***	0.55***
	(0.06)	(0.08)	(0.13)
Mid-size city	0.25***	0.26***	0.11
	(0.07)	(0.07)	(0.07)
Urban fringe of large city	0.26***	0.19*	0.21
	(0.06)	(0.08)	(0.11)
Urban fringe of mid-size city	0.06	0.02	0.00
	(0.04)	(0.02)	0.00
Large town	0.03	0.02	0.00
	(0.03)	(0.02)	-
Small town	0.01	0.00	0.00
	(0.01)	-	-
Rural	-	-	-
Total	2,492	2,129	759

Notes: The significance levels are for the tests of the null of equal proportions (adjusted Wald test): * p<0.1, ** p<0.05, *** p<0.01. Missing standard errors are due to the presence of strata with single sampling units (see Appendix).
Source: Author's tabulation from NPSAS:96.

Table 8: Select For-Profit Student Characteristics in NPSAS:2000, by For-Profit School Type

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Age	27.36***	26.13***	27.85***
	(0.56)	(0.51)	(0.96)
Gender			
Male	0.37***	0.35***	0.52***
	(0.08)	(0.07)	(0.04)
Female	0.63***	0.65***	0.48***
	(0.08)	(0.07)	(0.04)
Race			
White	0.51***	0.70***	0.66***
	(0.05)	(0.03)	(0.02)
Black or African American	0.26***	0.18***	0.16***
	(0.04)	(0.04)	(0.03)
Asian	0.06*	0.02**	0.07***
	(0.02)	(0.01)	(0.01)
American Indian/Alaska Native	0.01**	0.01*	0.01*
	(0.00)	(0.00)	(0.00)
Native Hawaiian/other Pacific Islander	0.02*	0.00	0.01
	(0.01)	(0.00)	(0.00)
Other race	0.12***	0.07***	0.08***
	(0.02)	(0.02)	(0.01)
More than one race	0.03***	0.02***	0.02**
	(0.01)	(0.00)	(0.01)
Single, never married	0.35***	0.40***	0.34***
	(0.02)	(0.02)	(0.04)
# of dependents	1.00***	0.81***	0.67***
	(0.04)	(0.07)	(0.12)
Single parent	0.35***	0.27***	0.13***
	(0.03)	(0.04)	(0.02)
Mean income percentile rank	30.90***	37.44***	49.04***
	(1.74)	(1.82)	(2.46)
Mean income as % of poverty level	160.35***	217.47***	293.30***
	(9.59)	(15.06)	(13.21)
Untaxed benefits	0.10***	0.11***	0.05***
	(0.01)	(0.01)	(0.01)
Hours worked while in college	20.93***	26.07***	32.02***
	(0.88)	(1.38)	(1.85)
Student's high school degree			
High school diploma	0.75***	0.87***	0.90***
	(0.04)	(0.03)	(0.02)
GED or other equivalency	0.13***	0.12***	0.07***
	(0.01)	(0.03)	(0.01)
High school completion certificate	0.01	0.00**	0.00
	(0.01)	(0.00)	(0.00)
Foreign high school	0.02	0.00	0.03
	(0.01)	(0.00)	(0.02)
No high school degree/certificate	0.08***	0.00	0.00
	(0.02)	(0.00)	(0.00)

Table 8: Select For-Profit Student Characteristics in NPSAS:2000, by For-Profit School Type (Continued)

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Parent's highest education level			
Did not complete high school	0.11***	0.09***	0.06***
	(0.01)	(0.01)	(0.01)
High school diploma or equivalent	0.38***	0.39***	0.31***
	(0.02)	(0.03)	(0.03)
Vocational/technical training	0.02***	0.03***	0.02**
	(0.00)	(0.00)	(0.01)
Less than two years of college	0.04***	0.05***	0.06***
	(0.00)	(0.01)	(0.02)
2 or more years of college/Associate's degree	0.07***	0.08***	0.08***
	(0.01)	(0.01)	(0.01)
Bachelor's degree	0.08***	0.12***	0.12***
	(0.01)	(0.01)	(0.02)
Master's degree or equivalent	0.03***	0.04***	0.05***
	(0.00)	(0.01)	(0.01)
MD, LLB, JD or other advanced degree	0.00**	0.01*	0.01*
	(0.00)	(0.00)	(0.01)
PHD or equivalent	0.01***	0.01***	0.02**
	(0.00)	(0.00)	(0.01)
Student's expected education			
No degree or certificate	0.02***	0.01**	0.00
	(0.00)	(0.00)	(0.00)
Certificate	0.12***	0.03**	0.00
	(0.01)	(0.01)	(0.00)
Associate's degree	0.07***	0.13***	0.02*
	(0.01)	(0.01)	(0.01)
Bachelor's degree	0.18***	0.26***	0.21***
	(0.02)	(0.02)	(0.04)
Post-baccalaureate certificate	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Master's degree (MA/MS)	0.07***	0.11***	0.28***
	(0.01)	(0.02)	(0.03)
Advanced degree-doctorate or first-professional	0.02***	0.03***	0.05***
	(0.00)	(0.01)	(0.01)
School Attendance			
Full-time/full year, 1 institution	0.20***	0.37***	0.45***
	(0.03)	(0.03)	(0.05)
Full-time/full year, more than 1 institution	0.01**	0.00**	0.03*
	(0.00)	(0.00)	(0.01)
Full-time/part year	0.64***	0.40***	0.20***
	(0.06)	(0.04)	(0.03)
Part-time/full year, 1 institution	0.06**	0.12***	0.15***
	(0.02)	(0.03)	(0.03)
Part-time/full year, more than 1 institution	0.01*	0.00*	0.01**
	(0.00)	(0.00)	(0.00)
Part-time/part year	0.09***	0.10***	0.16***
	(0.02)	(0.02)	(0.03)

Table 8: Select For-Profit Student Characteristics in NPSAS:2000, by For-Profit School Type (Continued)

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Student budget (in $)	15,545	18,318	20,708
	-	-	-
Distance from home to school (in miles)	65.73**	83.65***	83.00***
	(20.00)	(23.32)	(13.77)
School Size	244	637	1,977
	-	-	-
School Locale			
Large city	0.28***	0.35**	0.45***
	(0.07)	(0.12)	(0.12)
Mid-size city	0.21**	0.14*	0.06
	(0.06)	(0.06)	(0.06)
Urban fringe of large city	0.38**	0.31**	0.46***
	(0.13)	(0.11)	(0.13)
Urban fringe of mid-size city	0.04	0.17	0.00
	(0.03)	(0.09)	(0.00)
Large town	-	-	-
	-	-	-
Small town	0.02	0.00	0.03
	(0.01)	(0.00)	(0.03)
Rural	-	-	-
	-	-	-
Total	3,628	1,173	844

Notes: The significance levels are for the tests of the null of equal proportions (adjusted Wald test): * p<0.1, ** p<0.05, *** p<0.01. Missing standard errors are due to the presence of strata with single sampling units (see Appendix).
Source: Author's tabulation from NPSAS:2000.

Table 9: Select For-Profit Student Characteristics in NPSAS:04, by For-Profit School Type

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Age	27.21***	27.30***	32.05***
	(0.30)	(0.50)	(0.63)
Gender			
Male	0.26***	0.40***	0.47***
	(0.03)	(0.05)	(0.03)
Female	0.74***	0.60***	0.53***
	(0.03)	(0.05)	(0.03)
Race			
White	0.53***	0.60***	0.60***
	(0.02)	(0.03)	(0.03)
Black or African American	0.28***	0.25***	0.24***
	(0.02)	(0.03)	(0.03)
Asian	0.05***	0.03***	0.05***
	(0.01)	(0.01)	(0.01)
American Indian/Alaska Native	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Native Hawaiian/other Pacific Islander	0.01***	0.00**	0.01***
	(0.00)	(0.00)	(0.00)
Other race	0.10***	0.09***	0.07***
	(0.01)	(0.01)	(0.01)
More than one race	0.03***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)
Single, never married	0.73***	0.71***	0.59***
	(0.01)	(0.02)	(0.03)
# of dependents	0.88***	0.90***	0.96***
	(0.03)	(0.11)	(0.06)
Single parent	0.30***	0.30***	0.23***
	(0.01)	(0.04)	(0.02)
Mean income percentile rank	37.78***	36.97***	54.25***
	(0.85)	(1.06)	(1.85)
Mean income as % of poverty level	200.14***	184.45***	304.89***
	(7.34)	(10.71)	(15.78)
Untaxed benefits	0.15***	0.16***	0.13***
	(0.01)	(0.02)	(0.01)
Hours worked while in college	21.26***	24.78***	32.65***
	(0.41)	(0.67)	(0.90)
Student's high school degree			
High school diploma	0.74***	0.77***	0.71***
	(0.02)	(0.02)	(0.02)
GED or other equivalency	0.14***	0.19***	0.10***
	(0.01)	(0.02)	(0.01)
High school completion certificate	0.01***	0.00*	0.01
	(0.00)	(0.00)	(0.01)
Foreign high school	0.04***	0.01***	0.02***
	(0.01)	(0.00)	(0.00)
No high school degree/certificate	0.06***	0.02	0.00
	(0.01)	(0.01)	(0.00)

Table 9: Select For-Profit Student Characteristics in NPSAS:04, by For-Profit School Type (Continued)

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Home schooled	0.00*	0.00*	0.00
	(0.00)	(0.00)	(0.00)
Parent's highest education level			
Did not complete high school	0.11***	0.12***	0.08***
	(0.01)	(0.01)	(0.01)
High school diploma or equivalent	0.36***	0.38***	0.35***
	(0.01)	(0.01)	(0.01)
Vocational/technical training	0.03***	0.03***	0.05***
	(0.00)	(0.00)	(0.01)
Less than two years of college	0.06***	0.07***	0.06***
	(0.00)	(0.01)	(0.01)
2 or more years of college, no degree	0.05***	0.07***	0.06***
	(0.00)	(0.01)	(0.01)
Associate's degree	0.04***	0.05***	0.04***
	(0.00)	(0.01)	(0.01)
Bachelor's degree	0.14***	0.13***	0.16***
	(0.01)	(0.01)	(0.01)
Master's degree or equivalent	0.08***	0.06***	0.09***
	(0.01)	(0.01)	(0.01)
MD, LLB, JD or other advanced degree	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
PHD or equivalent	0.02***	0.01***	0.03***
	(0.00)	(0.00)	(0.00)
Student's expected education			
No degree or certificate	0.03***	0.01***	0.00*
	(0.00)	(0.00)	(0.00)
Certificate	0.26***	0.09***	0.00*
	(0.01)	(0.02)	(0.00)
Associate's degree	0.16***	0.18***	0.04***
	(0.01)	(0.01)	(0.01)
Bachelor's degree	0.26***	0.39***	0.27***
	(0.01)	(0.02)	(0.01)
Post-baccalaureate certificate	0.01***	0.01**	0.01
	(0.00)	(0.00)	(0.00)
Master's degree (MA/MS)	0.18***	0.26***	0.49***
	(0.01)	(0.02)	(0.02)
Advanced degree - doctorate	0.05***	0.04***	0.17***
	(0.00)	(0.00)	(0.01)
Advanced degree - first-professional	0.04***	0.03***	0.02***
	(0.00)	(0.00)	(0.00)
School Attendance			
Full-time/full year, 1 institution	0.25***	0.34***	0.40***
	(0.02)	(0.03)	(0.02)
Full-time/full year, more than 1 institution	0.01***	0.02*	0.02***
	(0.00)	(0.01)	(0.00)
Full-time/part year	0.51***	0.39***	0.24***
	(0.02)	(0.03)	(0.02)

Table 9: Select For-Profit Student Characteristics in NPSAS:04, by For-Profit School Type (Continued)

Characteristics	For-profit less-than-2-yr schools	For-profit 2-yr schools	For-profit 4-yr schools
Part-time/full year, 1 institution	0.09***	0.11***	0.17***
	(0.01)	(0.02)	(0.02)
Part-time/full year, more than 1 institution	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Part-time/part year	0.13***	0.13***	0.16***
	(0.01)	(0.02)	(0.02)
Student budget (in $)	17,999	20,299	23,163
	-	-	-
Distance from home to school (in miles)	57.09***	75.38***	145.56***
	(10.05)	(15.44)	(28.28)
School Size	391***	583***	3,993***
	(20.28)	(87.64)	(445.57)
School Locale			
Large city	0.34***	0.44***	0.48***
	(0.06)	(0.10)	(0.07)
Mid-size city	0.16***	0.29***	0.18*
	(0.03)	(0.08)	(0.07)
Urban fringe of large city	0.25***	0.16**	0.20***
	(0.05)	(0.05)	(0.05)
Urban fringe of mid-size city	0.08*	0.01	0.00
	(0.04)	(0.01)	(0.00)
Large town	-	-	-
	-	-	-
Small town	0.00	0.02	0.00
	(0.00)	(0.01)	(0.00)
Rural	-	-	-
	-	-	-
Total	7,148	2,992	2,978

Notes: The significance levels are for the tests of the null of equal proportions (adjusted Wald test): * p<0.1, ** p<0.05, *** p<0.01. Missing standard errors are due to the presence of strata with single sampling units (see Appendix).
Source: Author's tabulation from NPSAS:04.

Table 10: % of African-American Students in School, by School Type

School location	NPSAS:96		NPSAS:2000		NPSAS:04	
	For-profit† schools	**Non-profit 2-yr and less-than-2-yr** schools	**For-profit†** schools	**Non-profit 2-yr and less-than-2-yr** schools	**For-profit†** schools	**Non-profit 2-yr and less-than-2-yr** schools
Large city	17.10	18.66	22.79	17.48	27.82	22.18
Mid-size city	12.92	11.75	17.01	9.26	16.98	14.78
Urban fringe of large city	19.49	8.06	17.48	9.78	28.12	8.57
Urban fringe of mid-size city	9.41	8.16	9.79	8.00	24.84	13.71
Small town	-	12.55	0.72	11.24	3.26	12.36
Rural	-	15.79	-	14.78	-	23.50

Notes: †: For-profit schools include all school types (less-than-2-year, 2-year, and 4-year schools).
Source: Author's tabulation from NPSAS:96, NPSAS:2000 and NPSAS:04.

Table 11: Top For-Profit Student Majors in NPSAS:2000, by School Type

For-profit less-than-2-yr schools		**For-profit 2-yr schools**		**For-profit 4-yr schools**	
Health	39.59%	Health	21.87%	Health	20.43%
Cosmetology	22.41%	Computer/information sciences	12.39%	Design	16.33%
Computer/information sciences	13.74%	Design	6.57%	Computer/information sciences	15.62%
Computer programming	6.35%	Management/business	5.19%	Management/business	14.45%
Industrial arts: electronics	3.22%	Engineering	4.61%	Communication technology	7.73%
Business support	3.06%	Cosmetology	3.60%	Business/management system	5.63%
Secretarial	2.29%	Industrial arts: electronics	3.17%	Home economics: all	4.40%
Engineering	1.98%	Secretarial	3.02%	Engineering	4.05%
Basic/personal skill	1.86%	Computer programming	2.71%	Undeclared/no major	3.42%
Transport: air/not air	1.64%	Vocational home economics: other	2.67%	Industrial arts: electronics	3.04%
Management/business	1.51%	Basic/personal skill	2.63%	Commercial art	2.67%
Marketing/distribution	1.28%	Accounting	2.31%	Marketing/distribution	2.31%
Vocational home economics: other	1.19%	Commercial art	2.19%	Accounting	2.07%
Undeclared/no major	1.04%	Marketing/distribution	2.09%	Engineering technology	1.83%
Design	1.03%	Law: paralegal	1.73%	Computer programming	1.50%
Consumer/personal: not cosmetology	1.02%	Engineering technology	1.66%	Business support	1.10%
Finance	0.86%	Religious studies	1.36%	Communications	0.91%
Mechanics: all other	0.74%	Communication technology	1.32%	Education	0.76%

Source: Author's tabulation from NPSAS:2000.

Table 12: Top For-Profit Student Majors in NPSAS:2000, by School Type and Gender

For-profit less-than-2-yr schools

Males		**Females**	
Computer/information sciences	26.50%	Cosmetology	31.67%
Computer programming	9.73%	Health	31.67%
Industrial arts: electronics	7.30%	Computer/information sciences	6.30%
Cosmetology	6.54%	Computer programming	4.37%
Health:all	5.83%	Business support	4.06%
Engineering	4.13%	Secretarial	3.09%
Transport: air/not air	2.96%	Basic/personal skill	2.27%
Vocational home economics: other	2.13%	Management/business	1.89%
Design	2.11%	Marketing/distribution	1.74%
Mechanics: all other	2.01%	Finance	0.97%
Mechanics: transportation	1.70%	Transport: air/not air	0.87%
Undeclared/no major	1.62%	Consumer/personal: not cosmetology	0.83%
Business support	1.35%	Industrial arts: electronics	0.83%
Consumer/personal: not cosmetology	1.34%	Engineering	0.73%
Basic/personal skill	1.15%	Undeclared/no major	0.71%
Secretarial	0.92%	Vocational home economics: other	0.65%

For-profit 2-yr schools

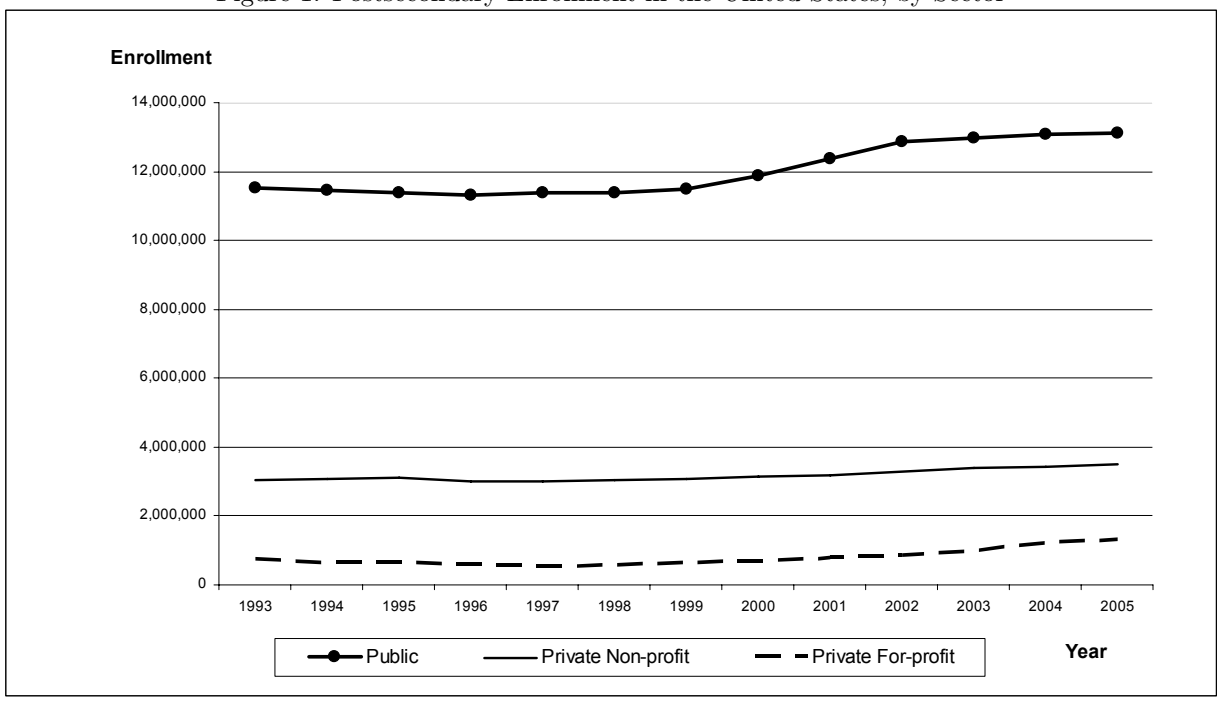
Males		**Females**	
Computer/information sciences	25.32%	Health	46.75%
Engineering	12.81%	Computer/information sciences	5.36%
Design	10.33%	Management/business	5.26%
Industrial arts: electronics	8.39%	Cosmetology	4.74%
Health	7.95%	Secretarial	4.65%
Management/business	5.07%	Design	4.52%
Vocational home economics: other	4.41%	Basic/personal skill	3.28%
Computer programming	3.80%	Marketing/distribution	2.89%
Commercial art	3.68%	Accounting	2.56%
Accounting	1.84%	Law: paralegal	2.19%
Communication technology	1.64%	Computer programming	2.12%
Cosmetology	1.51%	Vocational home economics: other	1.73%
Basic/personal skill	1.44%	Religious studies	1.58%
Undeclared/no major	1.37%	Home economics: all	1.51%
Consumer/personal: not cosmetology	1.07%	Commercial art	1.39%
Mechanics: all other	1.04%	Business/management system	1.21%
Religious studies	0.96%	Communication technology	1.14%
Law: paralegal	0.89%	Business support	0.94%

Table 12: Top For-Profit Student Majors in NPSAS:2000, by School Type and Gender (Continued)

For-profit 4-yr schools			
Males		**Females**	
Computer/information sciences	21.91%	Design	20.30%
Design	12.74%	Management/business	18.06%
Management/business	11.18%	Computer/information sciences	8.68%
Communication technology	10.96%	Home economics: all	8.29%
Engineering	6.61%	Business/management system	5.15%
Business/management system	6.06%	Communication technology	4.17%
Industrial arts: construction	5.54%	Health:all	3.56%
Undeclared/no major	3.34%	Undeclared/no major	3.52%
Commercial art	2.97%	Marketing/distribution	3.22%
Business support	1.86%	Accounting	3.02%
Computer programming	1.77%	Commercial art	2.34%
Marketing/distribution	1.50%	Engineering	1.22%
Accounting	1.21%	Computer programming	1.20%
Home economics: all	0.88%	Communications	1.14%
Communications	0.70%	Education	1.09%
Film arts	0.57%	International relations	0.71%

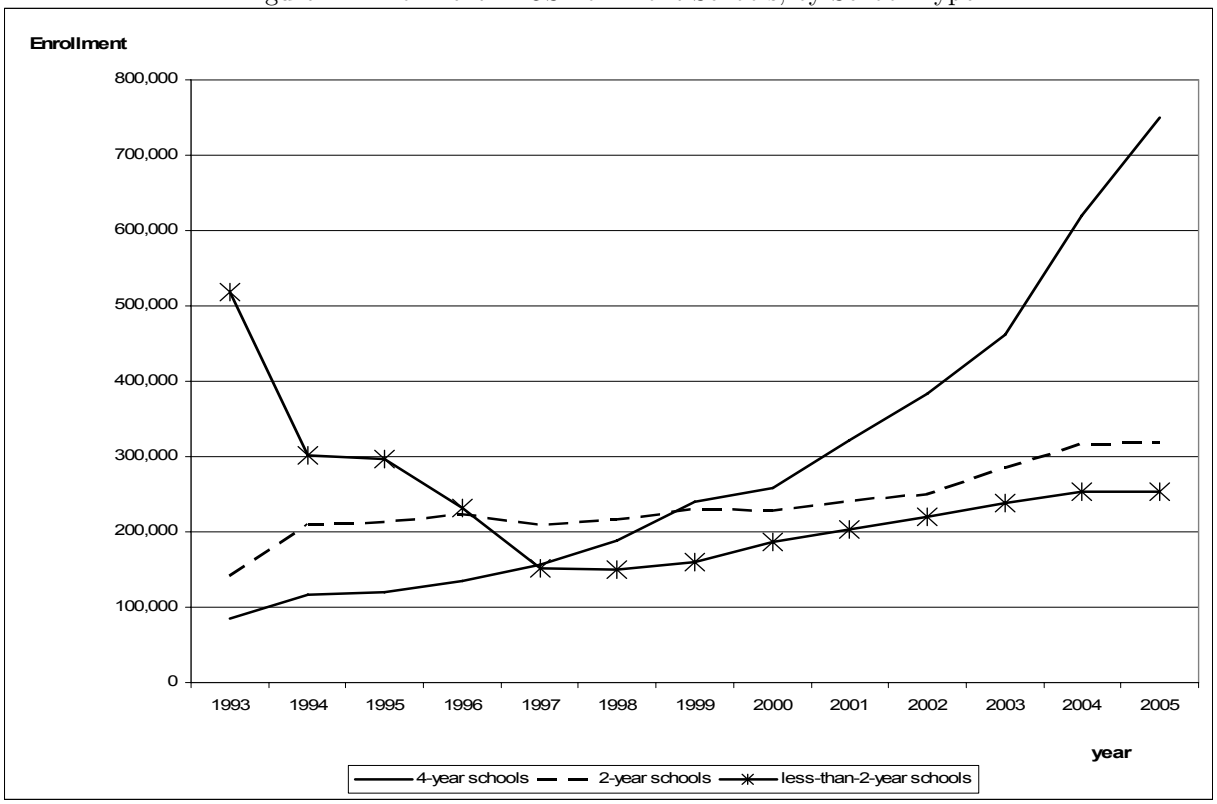
Source: Author's tabulation from NPSAS:2000.

Figure 1: Postsecondary Enrollment in the United States, by Sector



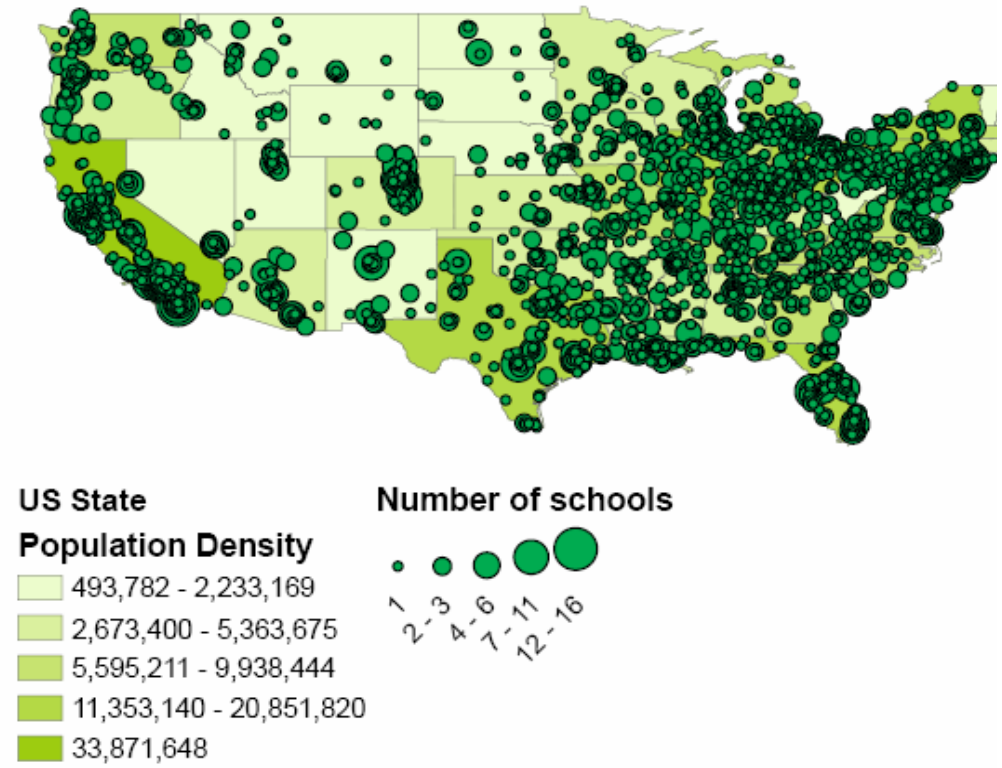
Source: Author's tabulation from the Digest of Education Statistics 1995-2006, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Figure 2: Enrollment in US For-Profit Schools, by School Type



Source: Author's tabulation from the Digest of Education Statistics 1995-2006, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Figure 3: For-Profit School Location in the United States



Source: Author's GIS map created from IPEDS:1992.

Appendix

NPSAS survey design is rather complex. Also, there are some appreciable differences in the design of NPSAS surveys from different years.

Starting from NPSAS:2000, the target survey population consists of all students enrolled in a Title IV participating school at any time between July 1 and June 30 of the NPSAS year. For NPSAS:96, the survey population was defined as those students who were enrolled in any term beginning between May 1 and April 30 during the survey year[20]. Also, the surveys prior to NPSAS:2000 included students enrolled at institutions not participating in Title IV aid programs.

Another difference between NPSAS:96 and the later NPSAS surveys lays in the sample stratification. A representative post-1996 NPSAS sample is built in several steps. First, the institutional sampling frame is constructed from the IPEDS Institutional Characteristics (IC) files. Then, institutions are stratified by institutional control, institutional level, highest level of offering, Carnegie classification, and state. Each institution is requested to provide the student lists from which up to eight student strata per institution are sampled. NPSAS:96 had a similar sample design, but in NPSAS:96 the institutional sample was stratified by control and highest level of offering only.

To produce nationally-representative statistics from NPSAS surveys, complex survey weights and procedures were used. Occasionally, a number of the strata with the single sampling unit would prevent the computation of the corrected standard errors. For the list of complex survey weights, see Table 13. Also, refer to Table 13 for the concordance of the variables used in the analyses of MPSAS:96, NPSAS:2000, and NPSAS:04.

[20] See NPSAS:2000 Methodological Report.

Table 13: Variables Used in Analyses of NPSAS:96, NPSAS:2000, and NPSAS:04

Variable	**NPSAS:96**	**NPSAS:2000**	**NPSAS:04**
School - control	sector, sector9	sector9	sector9
School - highest level of offering	hloffer, hloffer2	hloffer	hloffer
Age	age	age	age, agegroup
Gender	gender	gender	gender
Race	cenrace	cenrace1, cenrace2	racecen
Marital status	smarital	nbmarr	smarital
# of dependents	ndepend	ndepend	depnum
Single parent status	singlpar	singlpar	singlpar
Mean income percentile rank	pctall	pctall2	pctall
Mean income as % of poverty level	pctpov95	pctpov98	pctpov
Untaxed benefits	-	nduntax	untaxbf
Hours worked while in college	hrswork	ndhours	jobhour2
High school degree	hsdeg	hsdeg	hsdeg
Parents' highest education level	pared, pareduc	npared	pareduc
Student's expected education	sbhighed	neexpevr	highlvex
School attendance	attnstat	attnstat	attnstat
Student budget	budgetft	budgetft	budgetft
Distance from home to school	similes	nxdstsch	homedist
School size	enrlsize	enrlsize	enrlsize
% African-American students in school	pctmin1	pctmin1	pctmin1
School locale	locale	locale	locale
Undergraduate student major	majors3	majors4	majors5
Complex survey weights			
Frequency	daswt0	studywt	wta00
PSU	analrep	uanalpsu	psu
Strata	analstr	uanalstr	analstr

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