CRA Charles River Associates

Report on
Gainful Employment

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Date: April 2, 2010

Disclaimer

This report was prepared at the request of Harris Miller and the Career College Association. It is based on data and information that were available at the time of the analyses. If additional data or information become available we may update or modify our report.

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This report addresses the definition of "gainful employment" proposed by the U.S. Department of Education as a part of negotiated rulemaking. At present the proposal would define gainful employment so that a program's students would be required to have a median debt level no greater than 8 percent of the 25th percentile of annual earnings among individuals working in occupations for which that program prepares students. The 25th percentile of earnings would be calculated from Bureau of Labor Statistics (BLS) data, and is presumably meant to be an estimate of the typical starting annual earnings for someone finishing that program. Annual loan payments would be calculated from the median debt level based on a 10-year repayment plan using the interest rate on unsubsidized Stafford loans. For programs that do not meet the 8 percent loan-to-income cut-off, an alternative is to have a 90 percent repayment rate for recent graduates.

In this document, six basic areas are covered:

1. **What are possible rationales for this proposal? What problem is the proposed regulation aiming to solve?**
2. **Are the problems as severe as assumed?**
3. **What is the rationale for subsidizing loans for higher education?**
4. **What are the benefits of an Associate degree education in particular?**
5. **What effects might the proposed regulation have?**
6. **What alternative regulations or policies might be suggested to address the problem at hand?**

1. WHAT ARE POSSIBLE RATIONALES FOR THIS PROPOSAL? WHAT PROBLEM IS THE PROPOSED REGULATION AIMING TO SOLVE?

Presumably, the motivation behind the proposed regulation is to protect students from taking on "too much debt". Taking on excessive debt may lead to an inability to repay the debt, resulting in default. There may be a belief that some students agree to borrow so much there is little chance they will be able to repay the loan in the future. There may also be a belief among policymakers that, regardless of whether the loans are eventually paid back, some amounts of debt are too high *per se.*[1]

The proposal's focus on for-profit schools implies that there is a belief that the problems of excessive debt burden and high default rates are either specific to, or more severe at, for-profit schools. There has been no analysis of whether differences in debt levels or differences in default or delinquency rates across types of schools are the result of actions by the schools or due to differences in the types of students that the schools serve.

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[1] Further, the proposed legislation assumes that individuals do not have the ability to determine appropriate levels of personal debt without government guidance. One argument that the Department of Education may advance is that students do not have all of the necessary information to make informed decisions, and thus government guidance is necessary.

Later in this document, we address whether in fact it appears that default rates are higher at for-profit schools, and whether some of this difference is a result of serving students from different backgrounds.

The focus on for-profit schools suggests that another possible motivation for the proposed regulation is that the Department of Education believes the cost of for-profit programs is too high. This sense that the cost to students is greater at for-profit programs is surely based almost exclusively on a comparison of tuitions. However, the full cost of schooling must also include foregone earnings if the student must cease working to attend school, and other less obvious but very real costs. Since for-profit programs tend to offer more flexibility both in terms of the timing and location of schooling, these types of costs tend to be lower. Compare the costs for a student currently earning $30,000 per year who could continue to work while completing a 2-year for-profit program, but who would have to stop working to attend a community college program because it conflicts with his work schedule. Even if the tuition at the community college were significantly less, the total cost to the student (tuition plus any foregone earnings) is likely lower at the for-profit program.

It may be useful to discuss why policy makers should think of high default or debt levels as being something students should be protected from. Consider high default rates. The negative effects of loan default may include future difficulty securing loans. Without these costs, a defaulted loan is similar, from the student's standpoint, to a grant. If there were no long-term penalty from defaulting it would be in the student's interest to borrow monies he will not pay back. Thus, to the extent that the regulation's intent is to protect students, it should be made clear that it should protect students from the penalties associated with default, not from the funding stream that makes an education possible. One might imagine an alternative regulation that was aimed at reducing the number of students who strategically take out loans with no intention of repaying. But, it would seem that such a regulation would focus on the process by which students are approved for loans, and on lenders rather than schools.

Next consider the concept of "too much debt". It is important to consider the purpose of the debt before deeming it excessive. As we will discuss later in this document, the standard economic analysis of higher education treats it as an investment. Since education so consistently yields high returns in the form of increased earnings, lower unemployment rates, lower crime rates and even better health and longevity, it can be a smart worthwhile investment to borrow even large amounts to be educated.

The question of how much debt is too much can be answered in different ways. The Department of Education proposal focuses on the ability to make the associated loan payments relative to annual income. Another way to view the decision is to ask whether taking on the debt and getting the education increases the present value of a student's lifetime earnings. Those with more education tend to earn more per year. This is of course a benefit.[2] This benefit should be weighed against the costs. A significant cost of education typically is to forego earnings while in school. The other main cost is tuition. In Table 1 below, we calculate how much debt a student can take on such that comparing all of the costs and benefits getting more education leads to an increase in lifetime earnings net of the debt costs.

Before we turn to these calculations, it may be helpful to consider both the benefits of education and the 8 percent proposed debt limit together. It is widely accepted among academic economists that each

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2 There are other benefits of education that will be discussed later. The following calculation is conservative in that it ignores non-income benefits of education.

additional year of education increases earnings by some percentage. This percentage has varied from about 7 to 15 percent over the past 40 years. Recent estimates peg this number currently near 15 percent. This means each year of schooling causes a student's annual earnings to be higher by 15 percent *every year that she works*. In the first year after school, her earnings are 15 percent higher than they would be if she had not gone to school.

It cannot make sense to have a limit on debt payments that is less than the earnings return to education. It does not make logical sense to say that she cannot afford to spend more than 8 percent of her earnings to have that 15 percent bump in pay. If the government "protects" her from making these debt payments, she loses the 15 percent annual bonus, and her expenditures are 8 percent lower. It does students no favors to decrease their earnings by more than you decrease their required expenditures. If she could not afford to make the debt payments, she certainly cannot afford *not* to make them. She has less discretionary income in the world without the debt payments than she does in the world with the debt payments.

This argument ignores the other costs of education, namely the foregone earnings while in school. Thus, this argument does not imply that it is always a good investment to pay up to 15 percent of your income per year to finance the tuition for a year of schooling. However, it very clearly shows that it is wrong to say that someone is unable to pay more than 8 percent of her annual income to finance schooling. Thus, to the extent that the proposal is meant to protect students from taking on debt payments they cannot afford, it is misguided.

Here we consider not just whether students can afford these levels of debt, but how much one should be willing to borrow to finance a 2-year program if the goal is to maximize lifetime earnings net of costs.

Each row of Table 1 shows the calculation for slightly different situations. In all cases, we consider a student deciding whether to get two additional years of schooling at age 18. Consider the first row. Here we evaluate the choice of a student who would earn $30,000 per year with a High School Degree, and $34,992 per year if she spends two years earning her Associates Degree.   This corresponds to an 8 percent increase in earnings for each year of schooling (i.e. an 8 percent "return to education"). This is a fairly conservative estimate that may have been appropriate 30 years ago before returns to education increased so dramatically. Column 2 denotes the rate at which the student discounts earnings and costs that will come in the future. Much of the benefits of education come far in the future so how much these are discounted are important. Column 3 shows the increase in lifetime earnings associated with the extra education, in net present value. In other words, this is how much more someone with an Associate Degree will earn over her lifetime than someone with a High School Degree, properly discounting to account for the fact that much of the benefits will come many years in the future. Column 4 shows the annual loan payments associated with the maximum debt someone could take on to cover tuition costs and still not erase the amount in column 3. Column 5 shows the ratio of that annual debt payment to annual earnings with an Associate Degree.

The calculation is repeated for more appropriate 10 and 15 percent schooling returns, and for a 3 percent discount rate. A 10 percent return to schooling is closer to estimates of the return per year to a 2-year

college education (e.g. Kane and Rouse, 1995)[3] which are based on the experiences of people who graduated high school in the 1970s and 1980s. Estimates of contemporaneous returns to schooling tend to be closer to 15 percent per year of education (e.g. Goldin and Katz, 2008).

Table 1: How much is really too much debt?

(1) Return per year of school-ing	(2) Discount rate	(3) Net present value of lifetime earnings difference	(4) Maximum annual debt payments for 10 years such that education a good in-vestment	(5) Debt to income % with max-imum 10 year loan	(6) Annual payments if paid off over 20 years	(7) Debt to income % if paid in 20 years
8%	5%	$24,696.74	$3,135.44	9.00%	$1,904.92	5.40%
10%	5%	$45,783.80	$5,812.60	16.00%	$3,531.42	9.70%
15%	5%	$100,194.22	$12,720.42	35.00%	$7,728.23	21.30%
8%	3%	$57,967.21	$6,786.99	19.40%	$4,471.15	12.80%
10%	3%	$88,196.71	$10,326.35	28.40%	$6,802.83	18.70%
15%	3%	$166,197.14	$19,458.89	53.60%	$12,819.19	35.30%

Note: The calculations are for an individual who would earn $30,000 per year with a high school degree and $34,992, $36,300, or $39,675 with a 2-year associate degree and an 8, 10, or 15 percent return to education per year of schooling.

A number of things should be noted from the calculations:

- The increase in lifetime earnings associated with two additional years of education can be quite large, even for someone who would have earned $30,000 per year without that schooling. For a 10 percent return to education, using a 5 percent discount rate, the lifetime earnings benefit is more than $45,000. This number is net of the cost of foregone earnings during the two years while she is in school.[4]

- This calculation implies that someone who is trying to maximize her lifetime earnings should be willing to pay $45,000 for those two years of education. Paying anything less than that in tuition, the schooling will benefit her over the course of her life.

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3 This paper, co-authored by current member of the President's Council of Economic Advisors (CEA) Cecilia Rouse, shows that community college and other 2-year programs yield approximately the same returns per credit hour as 4-year colleges.

4 If an individual is able to continue working while completing her two year education this benefit increases by as much as $60,000, the current cost of foregone earnings.

- The net present value of the increase in lifetime earnings depends significantly on how future earnings streams are discounted. The more the future is discounted, the lower the benefits of education are. Using a 3 percent discount rate, the lifetime earnings benefit of a 2-year degree is almost $90,000 if the return is 10 percent per year of schooling.

- The return to education matters enormously in determining how much individuals should be willing to pay for schooling. If the return is 15 percent per year, the present value increase in earnings from a 2-year program is more than $100,000 even using a 5% discount rate.

- The Department of Education proposal essentially almost completely discounts (i.e. ignores) all future benefits of education by focusing on the ability to pay in the years immediately following the finish of school. This is present in the choice of estimated starting salary (i.e. the 25th percentile annual earnings) as the ability to pay, in the focus on repayment rates among recent graduates, and in the use of the 10-year repayment schedule to calculate loan payments. The proposed regulation is misguided in that it is not a function of the benefits of education. If the returns to education were to continue to rise, as they have for the past 30 years, students would be restricted from borrowing more to get this valuable training. Only the children of the rich (i.e. those who could afford to pay tuition without borrowing) would be able to get this valuable education.

- Using a 5 percent discount rate, and assuming a 10 percent return to schooling, a student who would earn $30,000 per year with a high school education would earn $45,784 more over her lifetime if she gets an Associate Degree. This calculation accounts both for the fact that she would spend two years early in her life earning nothing while she is in school, and that the higher earnings associated with education will come in the future. If she is able to work while in school then the increase in lifetime earnings is even greater.

- The student described above could pay close to $45,000 in tuition for the two years of schooling and still end up ahead. If she borrowed to cover all of these tuition costs, her annual loan payments would be $5,813 for the ten years she spends repaying, and in this time her loan payments would be 16% of her annual earnings (double the Department of Education limit).

- While it would surely be difficult to make the payments during the 10-year repayment period, the calculation shows that even taking on this high level of debt is a good investment for the student.

- Any restriction on borrowing that is more stringent than the levels shown in Table 1 will lead the student described to earn less over her lifetime.

- One reason the loan payments in the table may appear high, even though taking on this much debt is a good investment for the students, is that the repayment horizon is shorter than the time during which the benefits of education accrue. The proposed regulation's use of a 10-year repayment rate is another way in which it ignores the future benefits of education. If the student were to pay back over 20 years instead of 10, the loan payment to income ratio for the student described above would be 9.7 percent rather than 16 percent. For the 8 percent return to education calculation, the 20-year loan payment to income ratio would be 5.4 percent rather than 9.0 percent.

- For a 15 percent return to education, the calculations indicate that one should be willing to pay approximately 20 percent of his income for a 20-year repayment period. The reason this increases lifetime earnings is that 15 of that 20 percent is accounted for by the earnings increase resulting from

the schooling. For the working years after the loan is repaid, the 15 percent benefit is enjoyed with no cost.

- A major part of the costs of education considered in the calculation is the foregone earnings the student gives up if she attends school full-time. Schools that allow students to work and earn money while in school are therefore less costly, even if the tuition charged is the same. The calculations above would indicate a higher debt ceiling if foregone earnings were not considered as a cost.

- The calculation above assumes that the difference in earnings between college and high school educated individuals is the same at all ages. If instead the earnings of college educated students start similar to those of high school educated students but grow faster, the role of discounting the future is even more important.

Illustration: If the 8 percent loan limits were applied to medical school

Doctors spend much of their early years earning pay that is lower than they will earn in the long run, but continuing to train on the job. Much of the earnings benefits of a medical education come when doctors are far into their career. For such occupations, restricting debt levels to an amount that can be repaid given early-career earnings would preclude borrowing for extremely valuable investments. Furthermore, the lifetime benefits of a medical degree are quite large. Thus, for many it is worth making the investment of time and large sums of money to obtain the degree. This is the case even though it is typical for doctors to leave medical school with significant debt.

Here we show that if loan payments for medical school were limited to be 8 percent of the early earnings of doctors, medical education would be largely restricted to students who could pay tuition costs without much borrowing. In this case doctors would largely be drawn from wealthy families. The vast majority of racial minority students and students whose parents have less than a college education would not be allowed to become doctors. In fact more than half of the households in the U.S. do not have a net worth high enough to pay the amount of medical school tuition that would not be covered by loans.

To complete the calculation, we use the median medical school tuition for non-resident programs from the Association of American Medical Colleges web site. We ignore the costs of a medical education incurred during residency years. The median four-year tuition at medical school is $168,840. If someone financed 80 percent of this, it would require borrowing $135,072. To pay this loan back over the 10-year horizon at the unsubsidized Stafford loan rates would require an annual loan payment of $19,054 (or $1,588 per month). To satisfy the proposed 8 percent criteria, someone would have to earn an annual salary of $238,173. Payscale.com indicates that the typical annual salary of a doctor with 1-4 years of experience is, in fact, $140,000. Given these calculations, the median medical school would not meet the proposed standards.

We can also ask who would be able to afford medical school tuition if borrowing were only allowed up to the limit implied by the 8 percent standard. Using the $140,000 annual salary, the maximum debt that leaves annual payments no more than 8 percent of annual earnings is $79,397. Thus, to be able to attend medical school, students and their families would have to find the funds to cover more than half of the tuition costs, or $89,443.

Table 2: Paying for Medical School

Median non-resident medical school tuition, 2009-10	$42,210
Total tuition, 4 years non-resident	$168,840
Debt required to pay 80 percent of tuition	$135,072
Annual loan payment with 10 year repayment	$19,054
Annual earnings required to satisfy 8 percent rule	$238,173
Median salary of Doctors with 1-4 years experience	$140,000
Maximum allowed debt to satisfy 8 percent rule	$79,397
Remaining tuition that would have to be paid without borrowing	$89,443

Source: AAMC.org, Payscale.com.

(http://services.aamc.org/tsfreports/report_median.cfm?year_of_study=2010)

How many families in the U.S. have the ability to pay nearly $90,000 without borrowing? The Survey of Consumer Finances, sponsored by the Federal Reserve Board, indicates that in 2007, about one-third of U.S. households had total net worth less than $90,000. This means that students living in about this fraction of households would be precluded from becoming doctors. Many households who have slightly more than $90,000 in net worth hold a good deal of that wealth as housing equity, meaning that they would have to choose between owning a home and allowing their child to become a doctor. For minority students, the problem would be even worse. The median net worth of non-whites and Hispanics in 2007 was $28,200. Thus, the vast majority of non-white and Hispanic students would likely not be able to become doctors, regardless of their potential for success.

2.   ARE THE PROBLEMS AS SEVERE AS ASSUMED?

The Department of Education's proposal presumably aims to address a specific perceived problem. In this section we explore whether that problem is as severe as might be thought given summary measures comparing for-profit and not-for-profit schools.

What is the problem that the proposal aims to address? We suspect that the Department of Education sees the following problem: (a) a significant number of students take on more debt than they can afford to repay upon entering the labor force and (b) this problem is more severe for students who attend for-profit schools. We infer the latter because the proposed regulation treats for-profit schools differently than not-for-profit schools. Here we address whether it is the case that default rates are strongly related to the for-profit status of schools. The data strongly suggest that a large portion of the difference in default rates between for-profit and not-for-profit schools is because for-profit and not-for-profit schools serve very different student populations. For-profit schools are more likely to serve low-income, minority students,

without parental support.   They are more likely to serve students who are the first in their families to attend college. Because of their access to outside resources, these groups of students are more likely to default at both for-profit and not-for-profit schools. We estimate that if for-profit and not-for-profit schools served the same population of students that the default rates would be significantly closer across the types of schools. One might effectively argue that it is bad public policy to punish institutes of higher education for serving students from groups who historically have not had wide access to schooling.

Furthermore, in part because the student populations are different, persistence rates at for-profit and not-for-profit schools are different. Students who complete higher education programs are more likely to find the jobs for which those programs prepare students. Some of the difference in default rates across types of schools is accounted for by the higher completion rates at not-for-profit schools (particularly 4-year programs).   It would also seem to be bad policy to punish schools for the decisions by students not to complete. At the very least, such a policy punishes the students who work to complete the program by restricting access for all students, not just those who fail to complete.

Here we lay out the data on which the former conclusions are based. First, consider the difference in characteristics of students by the type of school attended. Specifically, the data below come from the Beginning Postsecondary Students Longitudinal Study, 1996 cohort. This is a survey administered by the U.S. Department of Education that follows a nationally representative sample of students who entered postsecondary education for the first time in 1996. We focus on this cohort of students rather than more recent data because a follow-up survey has been done that allows for measurement of default rate by this cohort.

2.1. COMPARING STUDENT CHARACTERISTICS

A series of figures shows that the demographic and socioeconomic background of students attending for-profit and not-for-profit are different in systematic ways. All comparisons are based on the first institution attended, so those who begin at community college and transfer to a 4-year institution are categorized as community college students. We first examine the characteristics of students who entered postsecondary education in 1996, because these are the students for whom we can track default rates in the NCES data (BPS).   For comparison, we also show comparable figures (Appendix A) calculated from the 2008 National Postsecondary Student Aid Study (NPSAS:08).

Figure 1 below shows the average age at which students begin postsecondary schooling. Beginning students at for-profit schools are on average 25 years old. Students at not-for-profit public and private programs of 2 years or less are on average 22-23 years old. In contrast, students entering 4-year not-for-profit colleges are significantly younger, less than 19 years old on average. This difference shows that the set of students entering these different programs are not the same. Though most of the differences between for-profit and not-for-profit college students have held up since 1996, this is one that has changed. While for-profit students continue to be older when they begin, the average age difference is much closer today than it was in 1996.

Figure 1:

Average age at which students first enroll in postsecondary schooling
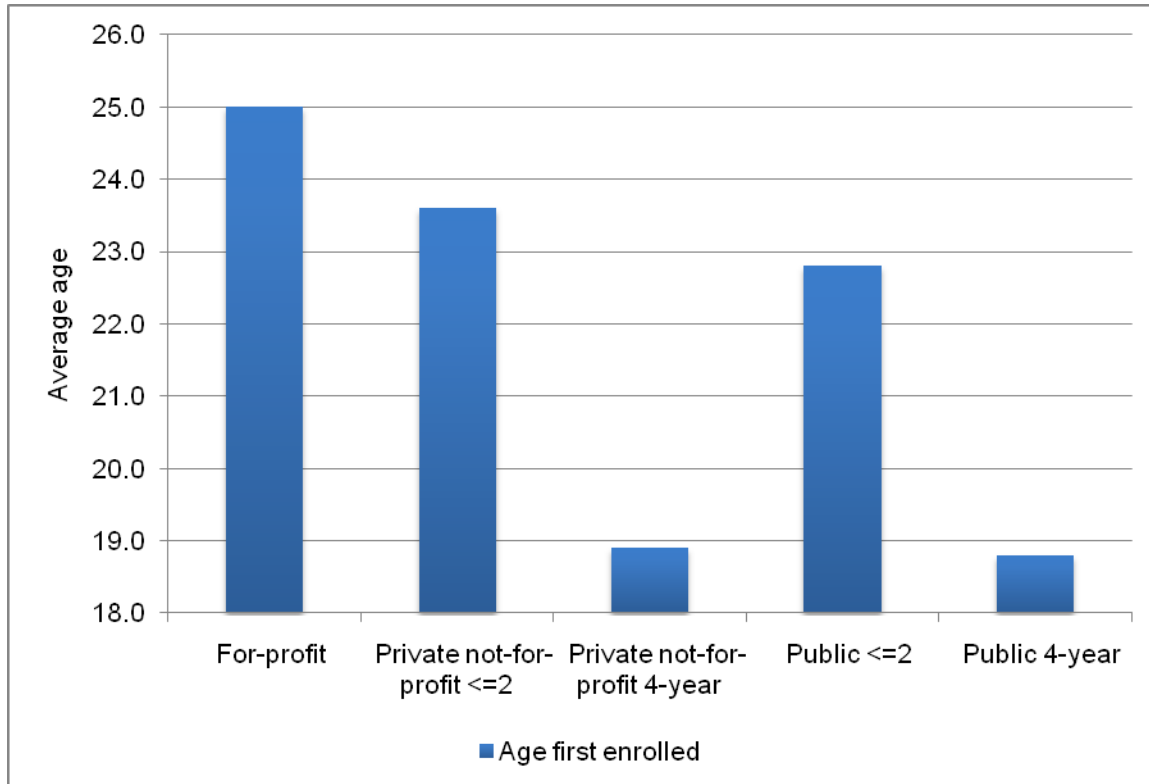
Notes: Calculated from the Beginning Postsecondary Students Longitudinal Survey, 1996 Cohort.

Next, we turn to the average income of students and/or their parents (Figure 2). Specifically, we consider the total income of either parents (for those who are dependents) or students (for those who are independent at the time they apply). Students at for-profit schools have the lowest income, prior to entering college, of any group. Whereas the average prior family or individual income of students entering for-profit schools was $22,165 (in 1996 dollars), it was 71 percent higher among public 2-year-or-less students, 154 percent higher (i.e. more than 2 ½ times) among public 4-year students, and 178 percent higher (i.e. close to 3 times) among private 4-year students.

Figure 2:

Average income of parents or independent students prior to school entry
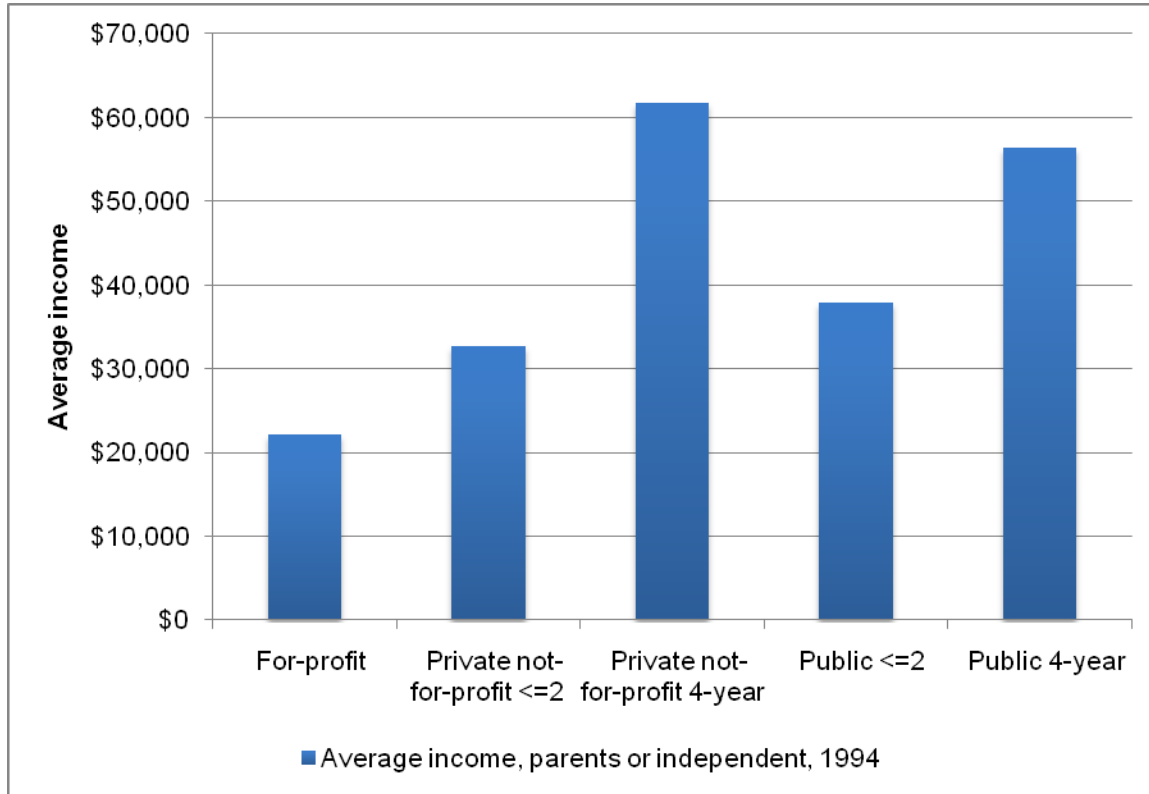
Notes: Calculated from the Beginning Postsecondary Students Longitudinal Survey, 1996 Cohort.

For-profit students do not just come from families with lower average income, they are also more likely to come from families that are quite poor. Consider the percent of students whose families collected AFDC (Aid for Families with Dependent Children, the precursor to TANF, and commonly known as "welfare"). Figure 3 shows a full 16 percent of students who began at for-profit schools in 1996 came from families collecting AFDC. This was more than double the rate of students attending not-for-profit 2-year-or-less programs. At public and private not-for-profit 4-year programs the corresponding rates are 2.6 and 1.6 percent.

Figure 3:

Percent of students from families who received AFDC prior to school entry
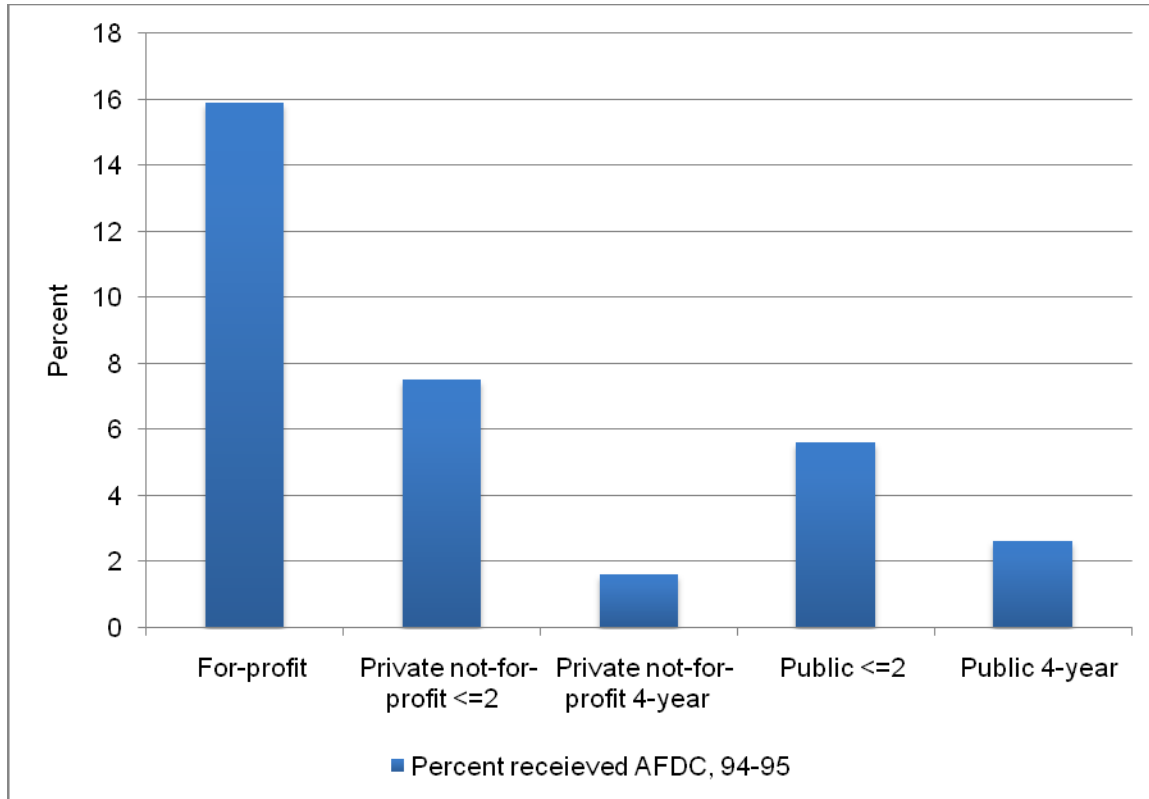
Notes: Calculated from the Beginning Postsecondary Students Longitudinal Survey, 1996 Cohort.

Students attending for-profit schools are also significantly more likely to be single parents at the time they begin school. A full 28.5 percent of for-profit students were single parents prior to beginning school in 1996. At not-for-profit 2-year-or-less programs, less than 12 percent were single parents upon entering. At 4-year programs single parents were extremely rare, less than 2 percent of students (Figure 4 below). One interesting thing that has changed is that single parents are more likely today to attend college than they were in 1996, but they are still significantly more likely to attend for-profit schools.

Figure 4:

Percent of students who were single parents prior to school entry
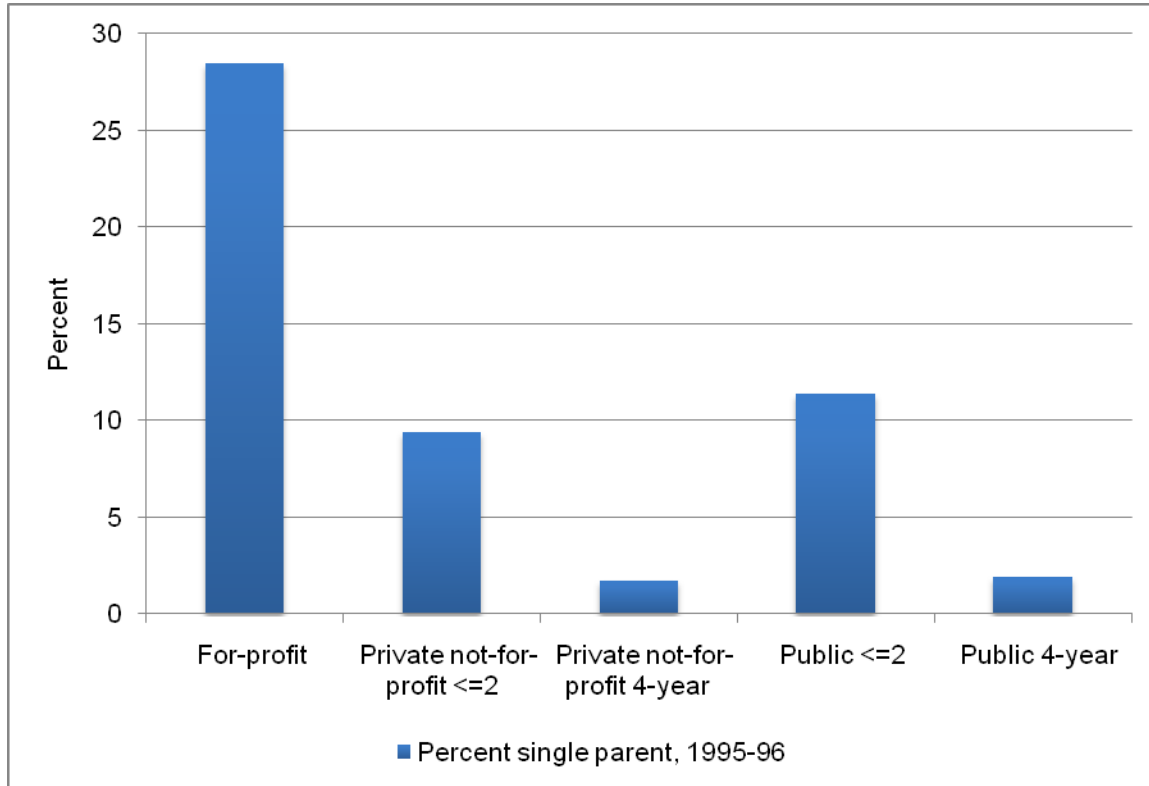
Notes: Calculated from the Beginning Postsecondary Students Longitudinal Survey, 1996 Cohort.

Students at for-profit schools are also the first in their immediate family to attend college. Figure 5 shows the fraction of students at each school type who have at least one parent with at least some college education. The figure shows that these rates are lower at for-profit schools, particularly when compared with 4-year not-for-profit schools.

Figure 5:

Percent of students whose parents attended at least some college
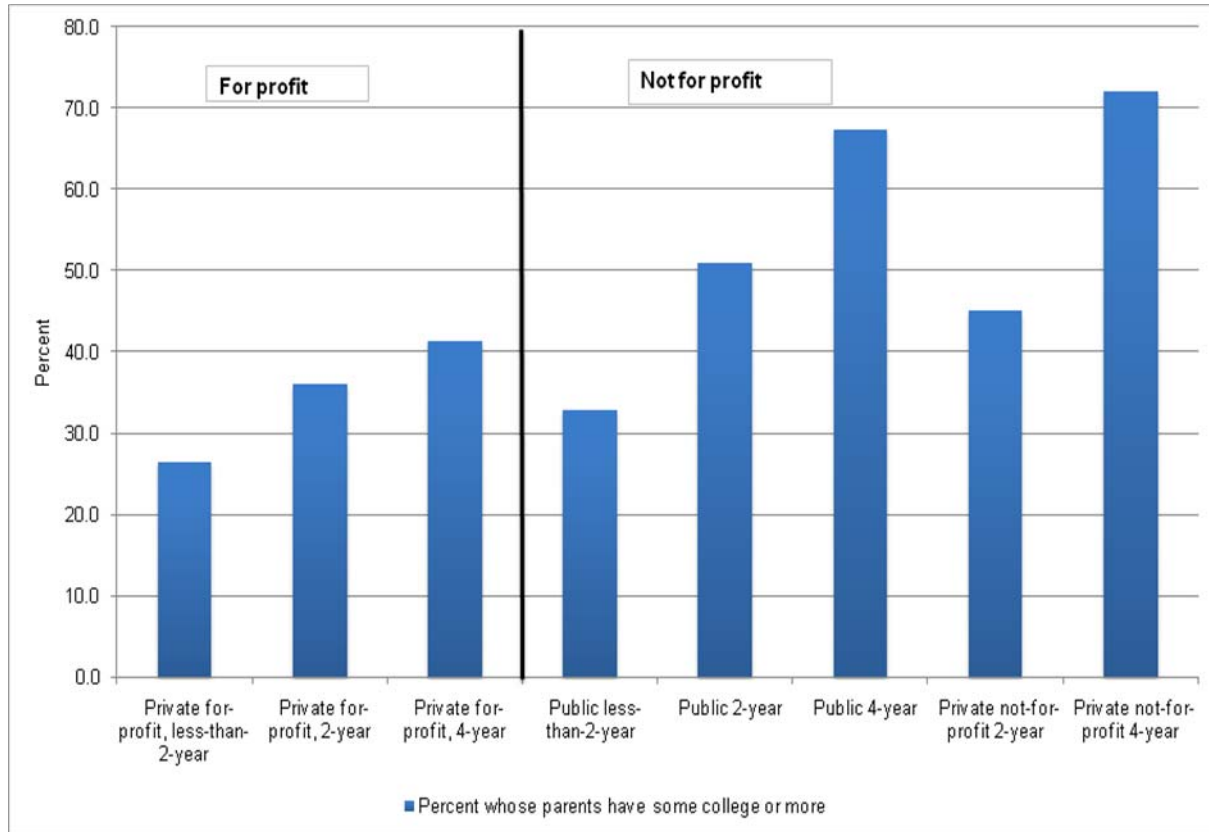
Notes: Calculated from the Beginning Postsecondary Students Longitudinal Survey, 1996 Cohort.

Finally, Figure 6 shows that for-profit schools are much more likely to serve students from racial and ethnic minority groups. The fraction of students at for-profit schools who are either Black or Hispanic was 43.9, 37.2 and 51.4 percent at less than 2-year, 2-year and 4-year programs respectively. Private not-for-profit less-than-2-year programs also are likely to serve Black or Hispanic students (35.9 percent). However, the share of students who are Black or Hispanic at all other not-for-profit school groups was less than 25 percent.

Figure 6:
Percent of students who are Black or Hispanic
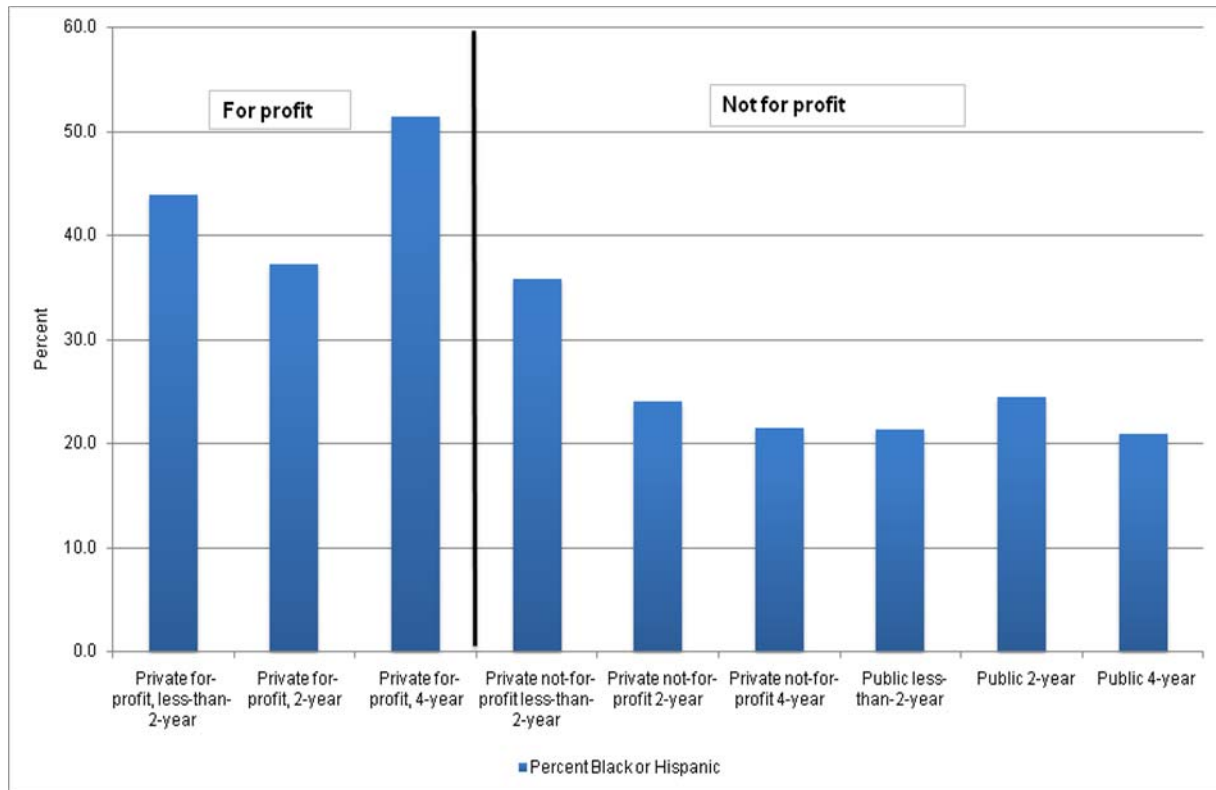
Notes: Calculated from the Beginning Postsecondary Students Longitudinal Survey, 1996 Cohort.

2.2. DEFAULT RATES

Using the same Beginning Postsecondary Students Longitudinal Survey data, we also compared 6-year default rates of students at different types of schools. The default rate is computed as the fraction of students in the 1996 entering cohort with any student borrowing who ever default by 2001. This is calculated in the same way as Mark Kantrowitz did in his recent report.

The light blue bars in Figure 7 below show the raw default rates of students starting in different types of schools. All for-profit students are considered together. Because sample sizes are small in particular groups, less-than-2-year and 2-year schools are combined. Without adjusting for the differences in student background across the different school groups, the 6-year default rate is significantly higher at for-profit schools than at not-for-profit schools. At for profit schools, almost 25 percent of the 1996 cohort borrowers defaulted on at least one loan at some point by 2001. The default rate is 17.1 percent at private not-for-profit 2-year-or-less programs, and 8.5 percent at public not-for-profit 2-year-or-less programs. The rates at not-for-profit 4-year programs are both around 6.3 percent.

Figure 7:

6-year default rates by type of school, controlling for student characteristics
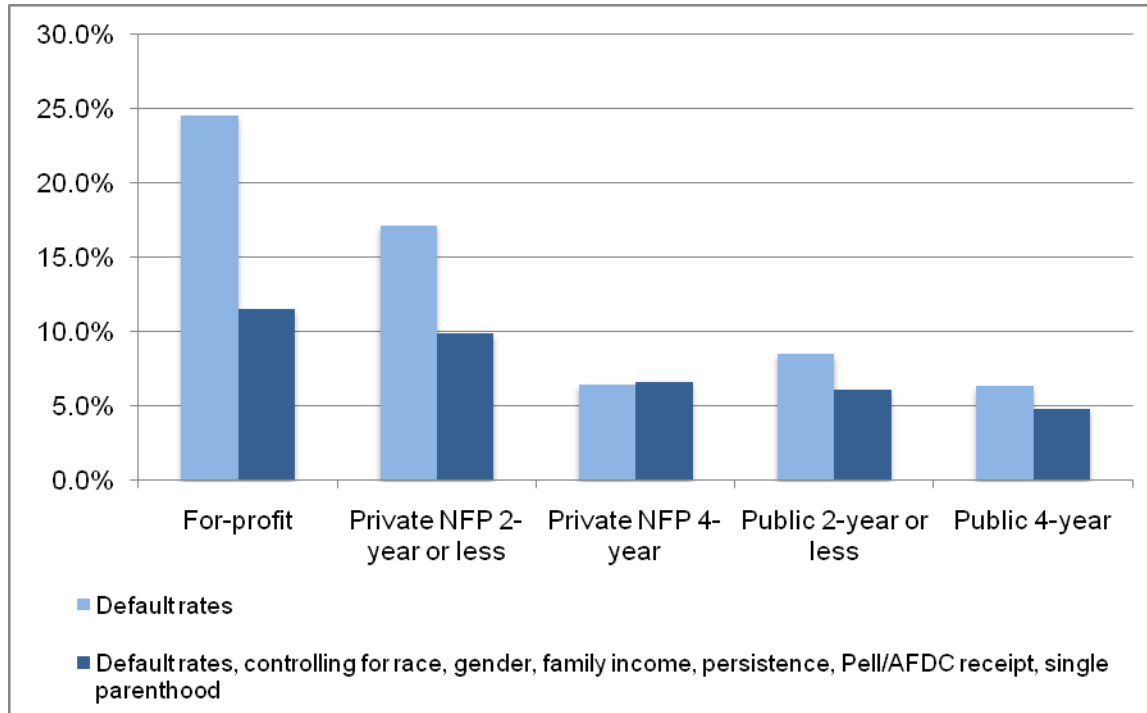
Notes: Calculations from the Beginning Postsecondary Students Survey: 1996 cohort and 2001 follow-up. The light bars show the fraction of students beginning in each type of school in 1996 who ever defaulted by 2001. The dark bars show the default rates after controlling for race, gender, persistence and completion, Pell grant receipt in 95-96, family AFDC receipt in 94-95, parent or own income (if dependent), and dependency status.

The dark blue bars show our estimates of what the default rates would be if all schools had similar entering student bodies. To estimate this, we run a regression of individual students' default status on controls for their race/ethnicity, gender, family income, dependency status, whether they persisted or completed their program, and whether they received a Pell grant. The dark blue bars show what we estimate the default rates would be if all schools served white male students who are dependent, whose parents earn between $60-75K per year, who completed their programs and who did not receive a Pell grant.

The estimates show that if all schools served similar students with similar backgrounds and who completed their programs, the differences in default rates between for-profit and not-for-profit schools would narrow considerably. Whereas the difference in 6-year default rates between for-profit and public 4-year schools is 18.3 percentage points (24.6 – 6.3) without controlling for the differences in student characteristics, this difference is almost cut in half to 9.6 percentage points (12.2 – 2.6) when adjustments for student characteristics are made.   This measure of default also overestimates the difference because students in shorter programs have more time to default by 2001.   Furthermore, this narrowing is what

happens when adjustments are made for the characteristics that are observed in the BPS data. One might suspect that there are other dimensions along which for-profit and not-for-profit students are different. It is possible that if we had data on those characteristics and were able to adjust for them that the difference in default rates would narrow more.

In addition to narrowing the difference in default rates between for-profit and not-for-profit students, adjusting for student characteristics also lowers the default rate at for-profit considerably. These estimates imply that the default rate at for-profit schools would be cut in half (from 24.6 to 12.2 percent) if for-profit schools served wealthier non-minority students, and students who were more likely to complete.

3.   WHAT IS THE RATIONALE FOR SUBSIDIZING LOANS FOR HIGHER EDUCATION?

The standard economic analysis of education considers the choice of an individual whether to get an additional year of schooling.[5] In this standard way of thinking, individuals weigh the costs and benefits of schooling. The costs are the earnings foregone if one attends school full time, and tuition/fees. The benefits include increased earnings in future years. Individuals choose to get more education so long as the benefits are larger than the costs.

Education is an investment, meaning that the costs are paid up front and the benefits come in the future. To properly weigh the costs and benefits, one must discount benefits that will not be realized for many years. To simplify things, use the interest paid on savings accounts or the expected return on personal investments as the discount rate.

Now consider the education choice of two students: one who has enough personal or family wealth to pay tuition costs out of savings, the other who must borrow to finance the tuition costs.

For someone who would pay tuition costs out of savings, the decision comes down to comparing the present value of increased lifetime earnings (the benefits) to the foregone earnings while in school and the tuition (the costs). If the benefits are greater than the costs, then the student should continue in her schooling. If the costs are larger than the benefits, she should end her schooling and begin working.[6]

Compare this decision with someone who must borrow to pay the tuition costs. This student must consider as costs the additional interest payments associated with the loan. Those payments must be paid in the future. If the interest rate on the loan were equal to the interest rate used for discounting (in this case the interest paid on savings), then the decision would be the same for both students. Since the unsubsidized interest rate charged on student loans is typically higher than the interest rate paid on savings accounts, the cost of furthering education is higher for this student.

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5 The standard reference is Human Capital by Gary Becker (University of Chicago), who won the Nobel Prize in Economics for this and other work.

6 While it is necessary to consider as a cost the interest she does not earn on the money she takes out of saving to pay tuition, these interest payments are discounted because they would have happened in the future. If we use the savings account interest rate as the discount rate, the discounting eliminates this from consideration.

In short, because borrowing interest rates are higher than savings interest rates, the cost of schooling is higher for those who must borrow to pay for higher education. Because these students almost by definition come from poorer families, this problem creates access differences that relate to wealth, socioeconomic status, and race. Subsidies for student loans are meant to narrow the difference between borrowing and saving interest rates so that the costs of education are less related to family wealth.

Any restriction of access to debt financing for higher education will have the effect of decreasing access more for poor and minority students. This is completely at odds with the intent and spirit of the Higher Education Act.

Notice that the economic analysis of the schooling decision does not depend on the level of earnings. Instead, it focuses on the *increase* in earnings resulting from the schooling. The proposal's focus on the ability of students to pay back their loans quickly leads it to focus on the level of earnings.

This will have the effect of differentially punishing students with poor labor market prospects and who would gain the most from higher education. Students with poor labor market prospects would have low earnings, and likely high unemployment rates, without any higher education. Among these students, the ones who would benefit greatly from additional focused schooling may end up in occupations with low earnings. But, these earnings may be much higher than the student's personal alternative. The proposal would limit how much this student could borrow based on the low level of earnings, and not based on the large gains that would be realized from the doors opened by education.

3.1. WHAT ARE THE BENEFITS OF HIGHER EDUCATION?

Education is widely recognized as a source of social mobility. Though the US is regarded as a "land of opportunity," correlations in earnings between fathers and sons are actually quite high. To understand how much social mobility there is in the U.S., consider a family of four right at the poverty threshold. Based on the best current estimates, it would on average take the descendants 5 or 6 generations before their income is within 5 percent of the national average.[7]

What's more, studies find less social mobility among families with low net worth, suggesting that the inability to borrow restricts social mobility. In other words, restrictions on borrowing (coming from poorly functioning credit markets and high interest rates) makes being born into wealth or poverty quite determinative of earnings in adulthood.

One large reason for the effect of net worth and borrowing constraints on intergenerational mobility is likely access to schooling. As an example consider the economic progress made by African Americans during the past century. While legislative changes such as the Civil Rights Act of 1964 have led to significant progress in reducing discrimination, economic research suggest very strongly that improvements in educational opportunities for blacks have been more important. Until recently successive cohorts of blacks have obtained progressively more education, and in turn their earnings have caught up to whites.

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[7] Mazumder, Bhashkar, "Fortunate Sons: New Estimates of Intergenerational Mobility in the United States Using Social Security Earnings Data," Review of Economics and Statistics 2005.

One of the most important ways in which the labor market in the U.S. has changed in the past 30 years is that the benefits of education have increased dramatically. Those with more education have always earned more on average than those with less. But, the difference in earnings between those with and without a college education has increased sharply since 1980. In 1980, 4-year college graduates earned about 40 percent more (about 10 percent per year of additional schooling) than comparable high school graduates. By 2005, the benefit of a college education was more than 70 percent (almost 18 percent per year of schooling). It is more important than it has been since the 1920s to be educated, and more important than ever to get education beyond high school.

The changes that have led to this dramatic increase in the monetary benefits to education have also led to very high levels of inequality. The difference in earnings and economic well-being between the rich and the poor is also as large as it has been since the early part of the 20th century. And, how much education you have is significantly determinative of which side of that inequality you lie on. Those with more education have benefited from the rich getting richer in the past 30 years. Those with less education have been hurt terribly by the poor getting poorer during that same time.

All of this argues strongly that is as important as it has ever been to assure that all students who will benefit have access to higher education. The social costs of restricted access are larger than they have been in almost a century.

3.2. PRESIDENT OBAMA RECOGNIZES THE IMPORTANCE OF EDUCATION BOTH AS AN ENGINE OF ECONOMIC GROWTH FOR THE COUNTRY AND AS A SOURCE OF ECONOMIC PROGRESS FOR INDIVIDUALS FROM ALL CORNERS OF THE U.S. SOCIAL STRUCTURE.

In a *Washington Post* column, published on July 12, 2009, President Obama called for increase in 5 million students with certificate or associate degree in the next 10 years. Here are two quotes from what he wrote:

> *"In an economy where jobs requiring at least an associate's degree are projected to grow twice as fast as jobs requiring no college experience, it's never been more essential to continue education and training after high school. That's why we've set a goal of leading the world in college degrees by 2020. Part of this goal will be met by helping Americans better afford a college education."* Barack Obama, The Washington Post, July 12, 2009.

> *"We believe it's time to reform our community colleges so that they provide Americans of all ages a chance to learn the skills and knowledge necessary to compete for the jobs of the future. Our community colleges can serve as 21st-century job training centers, working with local businesses to help workers learn the skills they need to fill the jobs of the future. We can reallocate funding to help them modernize their facilities, increase the quality of online courses and ultimately meet the goal of graduating 5 million more Americans from community colleges by 2020."* Barack Obama, The Washington Post, July 12, 2009.

What the President calls for cannot be done without increasing the capacity of community colleges and for profit schools. Even with increased federal support, community colleges will face funding problems as states continue to deal with severe fiscal problems. By decreasing access to the specific programs the President wants to increase, the proposal will make the President's goal almost surely unattainable.

The for-profit education sector will be essential in helping the President to achieve this goal. For example, consider that enrollment at for-profit colleges has grown significantly more than at non-profit

schools. In other words, as the demand for higher education has increased in recent years – likely as a response to the increased returns described above – the non-profit sector has not been able to meet that need. The for-profit sector has. Consider the growth rates of enrollment in public, private not-for-profit and private for-profit colleges over the past 5, 10 and 20 years.

Overall enrollment in higher education has grown by more than 2 percent per year during the past 10 years. Capacity at neither public nor private not-for-profit colleges has grown fast enough to keep up with this increased demand. Note that some of this demand comes from natural population growth, while some comes from an increased desire to get a college education due to the high returns. Capacity growth in the not-for-profit (public or private) sectors has not matched the overall increase in demand for higher education over either the last 5, 10 or 20 years.

Table 3: Five, ten and twenty year enrollment growth by type of institution, through 2007

	Total	Public	Private Not-for-profit	Private For-profit
Total percent growth in enrollment:				
20 years	39.78%	32.80%	33.60%	438.23%
10 years	25.79%	21.10%	18.80%	225.60%
5 years	9.85%	5.80%	9.40%	99.60%
Average annual growth rate:				
20 years	1.70%	1.40%	1.50%	8.80%
10 years	2.30%	1.90%	1.80%	13.70%
5 years	1.90%	1.10%	1.80%	14.80%

Source: Digest of Education Statistics, 2008, Table 188.

During that same time, the private for-profit sector has grown to meet the needs of students not-for-profit schools cannot serve. Enrollment growth rates have been significantly higher. Though the private for-profit sector is smaller than the other two sectors, the significantly higher growth rates have ensured that overall enrollment could increase.

To meet President Obama's call for 5 million more Associate degree or certificate holders from 2-year programs, capacity will have to increase in some or all of these sectors. Fiscal difficulties in the states are likely to restrict community colleges and state colleges from meeting this need, even with increased funding called for by the President. Given the historical role of for-profit schools in meeting increased demand, it is likely that these schools will be the most able to expand quickly in response to this need. Restrictions on student borrowing will curtail the for-profit sector from meeting these needs, and will make it less likely that the President's goal will be met.

4. WHAT ARE THE BENEFITS OF AN ASSOCIATE DEGREE EDUCATION IN PARTICULAR?

The Bureau of Labor Statistics administers a survey each month called the Current Population Survey. This is the survey that is used to calculate the official unemployment rate that is released each month as a barometer of the health of the economy. In that survey, individuals are asked questions about their employment status, earnings, educational attainment and demographic information. Since 1996, individuals have also been asked about their access to health insurance.

The following table presents estimates of the difference in various outcomes between those with an Associate degree and those with exactly a high school education. We look separately at "academic" and "vocational/occupational" Associate degrees. All estimates control for individuals' years of labor market experience, and for changes over time in the outcomes that affect all individuals in the same way.

Positive effects on annual earnings: The way to read the table is the following. The first row shows how much more those with an Associate degree earn on an annual basis than those with a high school degree. For example, males with a Vocational/Occupational Associate degree earn 23.2 percent more each year than males with a high school degree. If the average Associate program were 2 years, this would correspond to an 11.6 percent earnings return to each year of schooling.

Table 4: The Benefits of an Associate Degree Education

	Males		Females	
	Associate: Vocational/ Occupational	Associate: Academic	Associate: Vocational/ Occupational	Associate: Academic
Benefit of Associate degree or some college, relative to a high school education for:				
Annual earnings	23.20%	27.40%	27.20%	30.30%
Percent employed full time	3.50%	2.10%	-2.00%	-0.70%
Percent employed	2.60%	2.50%	0.20%	0.50%
Percent with employer sponsored health insurance	10.10%	8.70%	6.40%	8.40%
Percent with any health insurance	9.10%	9.30%	5.30%	6.70%

Note: Regression estimates from the Current Population Survey. The table shows the difference in various outcomes between those with an Associate degree and those with exactly a high school education. Two types of Associate degrees are considered, vocational/occupational and academic. These self-reported by the respondents to the Current Population Survey according to the guidelines described by the Bureau of Labor Statistics.

Men who go on to get a vocational Associate degree earn 23.2 percent more each year than comparable high school graduates. The return to an academic Associate degree is slightly larger for men – a 27.4percent increase in annual earnings. For women, the returns are even higher. Women who get a vocational Associate degree earn 27.2 percent more than high school graduate women, and women who

get an academic Associate degree earn 30.3 percent more than women who stop schooling after completing high school.

Positive effects on employment for men: The benefits of an Associate degree extend beyond the earnings of those who work. Men with a vocational Associate degree are 3.5 percent more likely to be employed than high school graduates. Men with an academic Associate degree are 2.1 percent more likely to be employed than high school graduates. For women, there is no corresponding effect on employment. Women with Associate degrees are actually less likely to be employed full-time than high school graduates, but equally likely to be employed. Though there is no effect on employment for women, it appears (based on the earnings effects and the health insurance effects discussed below) that those who work are in better jobs than they would be if they did not get the additional education.

Positive effects on health insurance: An Associate degree education also helps to reduce the number of uninsured. There is of course great interest currently in access to health insurance. For both men and women, those with an Associate degree are significantly more likely to have health insurance. As compared with high school graduates, men with a vocational Associate degree are 10.1 percent more likely to have employer provided health insurance and 9.1 percent more likely to have health insurance of any kind. Men with an academic Associate degree are 8.7 percent more likely to have employer provided health insurance and 9.3 percent more likely to have health insurance of any kind. Women with a vocational Associate degree are 6.4 percent more likely to have employer provided health insurance and 5.3 percent more likely to have health insurance of any kind. Men with an academic Associate degree are 8.4 percent more likely to have employer provided health insurance and 6.7 percent more likely to have health insurance of any kind.

4.1. THE PROPOSAL'S FOCUS ON ANNUAL INCOME IGNORES THE OTHER BENEFITS OF EDUCATION:

Academic research has shown that there are many benefits of education beyond the large increases in annual income.

Reduced unemployment: The proposed regulation is based on the 25th percentile of earnings among those working. But, individuals with more education are less likely to be unemployed. It is perfectly rational for a student to be willing to pay more than 8 percent of her annual income to avoid joblessness.

Insulation from recessions: Recessions typically hit the least educated the most severely. Consider the current recession and the unemployment rates of people with different levels of education, in January 2008, January 2009 and January 2010, shown below.

Table 5: Unemployment Rates by Schooling Level

	Jan-08	Jan-09	Jan-10
Less than HS	7.7%	12.4%	15.2%
High School	4.6%	8.1%	10.1%
Associate or Some College	3.6%	6.4%	8.5%
Bachelor or more	2.1%	3.9%	4.9%

Source: The Employment Situation, Bureau of Labor Statistics.

First, notice that even in normal economic conditions, such as January 2008, unemployment rates are strongly related to schooling levels. In addition to earning less, those with fewer years of schooling are much more likely to experience unemployment. This is true when comparing students with a high school education to students with some college and/or an Associate degree.

Second, notice that the increase in unemployment rates that has happened during the current severe recession has impacted all groups, but the less educated more than others. Those with a high school education saw their unemployment rates increase from 4.6 to 10.1 percent over the last two years, a 5.5 percentage point increase. In comparison, those with some college or an Associate degree saw their unemployment rate increase by 4.9 percentage points. It is typical that recessions are differentially burdensome on the least educated.

Furthermore, the most recent employment numbers for February 2010 show that while the overall unemployment remained steady at 9.7 percent, this obscures very different experienced for more and less educated Americans. For those with less than a high school degree and high school graduates, the unemployment rate rose by 0.4 percentage points (15.2 to 15.6 percent for high school dropouts; 10.1 to 10.5 percent for high school graduates). For those with a Bachelor's degree or more, the unemployment rate remained essentially unchanged, rising from 4.9 to 5.0 percent. The only education group for which the unemployment rate fell significantly this month was those with an Associate degree or some college. For this group, the unemployment rate fell by 0.5 percentage points, from 8.5 to 8.0 percent).

Increased access to health care and health insurance: As shown above, those with more education are more likely to have both employer-provided health insurance and any health insurance at all. This relationship is partly explained by the positive effect of schooling on the likelihood of being employed, and partly explained by the effect of education on income. Those with more income are more likely to be able to afford health insurance.

For this reason, and possibly because more educated people make more informed decisions regarding the management of their own health, *individuals with more education tend to be healthier.* Their mortality rates are lower, they are less likely to smoke, more likely to exercise, more likely to engage in preventative care, more likely to properly manage chronic conditions such as diabetes.

- "In 1999, the age-adjusted mortality rate of high school dropouts ages 28-64 was more than twice as large as the mortality rate for those with some college (Lyert et al. 2001, table 26)."[8]

- Comparing across countries, those with higher average education levels have longer life-expectancy at birth (i.e. people live longer in countries with more educated populations).

Some argue that this relationship is just an association, that either health causes people to get more education, or that there is a third factor that causes both health and education to rise together. There are, however, policy experiments that suggest this relation may be causal – that increasing education may cause improvements in health.

Various studies show that laws that require children to complete more years of schooling (increases in the compulsory schooling age) lead to improvements in health when those kids become adults.[9]

Educated mothers also have healthier babies: One study shows that increases in the number of colleges nearby increases the likelihood that women attend college, and in turn makes them more likely to have healthy babies. The study finds that the women were more likely to obtain prenatal care, and less likely to smoke and drink alcohol during pregnancy. They were also more likely to be married at the time they gave birth and had fewer children.[10]

Reduced criminality: There is evidence that obtaining more education makes it less likely that someone will engage in crime. A study by Lochner and Moretti (2004) finds that compulsory schooling laws reduce the likelihood that people become incarcerated. The effect is large for whites, and even larger for blacks. They estimate that there is an additional 15-25 percent benefit to each year of education in the form of reduced crime that is not accounted for by the increased earnings that educated people enjoy. In other words if we consider the reduced cost of crime imposed on society because of education, the total benefit of education should be 15-25 percent larger than the increase in earnings that results from the additional schooling.

General fulfillment: In addition to the benefits of education that are easily measurable, surely education and learning brings some direct satisfaction. To the extent that students enjoy learning new ideas and new skills, these are real benefits and they are not accounted for as a benefit of education if we just focus on monetary earnings. People buy things all the time that bring them pleasure but no monetary return. For example, consider vacations, televisions, tickets to sporting events, clothing, food. None of these purchases increase earnings, but no one would dispute that these are reasonable things to buy.

To point out that the proposed regulation is misguided as a way to protect students from borrowing too much, consider the following. Would there be support for a regulation that restricted individuals from spending more than 8 percent of their annual earnings on food? This may sound ridiculous, but the logic is quite similar to the proposal's. Through its effects on schools, the proposed restriction intends to protect students from spending more than 8 percent of their annual earnings to be educated. Put this

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8 Quoted in "Education and Health: Evaluating Theories and Evidence" chapter 2 in Making Americans Healthier: Social and Economic Policy as Health Policy, ed. Robert F. Schoeni, James S. House and George A. Kaplan, Russell Sage Foundation, 2008.

9 See e.g. Lleras-Muney, 2005; Oreopolous, 2003; Arendt, 2005; Spasojevic, 2003.

10 Currie and Moretti, 2003.

way, the declaration that this is too much to spend on education is not very different logically from a declaration that it would be too much to spend on any other good that people need or enjoy, such as food or clothing.

5. WHAT EFFECTS MIGHT THE PROPOSED REGULATION HAVE?

5.1. WHAT ARE THE EFFECTS OF INCREASED ACCESS TO FUNDING FOR HIGHER EDUCATION AND HOW DO THESE VARY ACROSS DIFFERENT TYPES OF STUDENTS?

There is relatively good scientific evidence of how college costs and the ability to borrow affects access to higher education. The evidence is divided into two types: (1) estimates of the effect of reducing the price of higher education, e.g. through grants, on college attendance, and (2) estimates of the effect of increasing access to borrowing, e.g. through subsidized loans, on college attendance.

While estimates of the effect of eligibility for Pell grants are mixed, various studies of other sources of grants find a significant effect of reducing the cost of college on college attendance. Studies of the G.I. Bill and the Social Security student benefit find large effects of these grants on the likelihood that those who are eligible go to college. Dynarski (2003) for example finds that an extra $1,000 grant (i.e. reduction in tuition) increases college attendance by 4 percentage points.

There are fewer good studies of the effect of access to loans on college attendance. Reyes (1995) shows that when loan eligibility changed differentially across income groups in the early 1980's, college enrollment rates increased for the groups for whom loan eligibility increased. Dynarski (2005) finds positive but smaller effects of loan eligibility on college attendance based on a study of changes in eligibility induced by the Higher Education Amendments of 1992.

A more recent experimental study may be directly relevant.[11] A group of researchers simplified the FAFSA and worked with H&R Block to automatically fill out the form using information already entered from individuals' 1040 tax forms. For randomly selected households, H&R Block pre-populated the FAFSA form and offered to assist the family in filling out the form. Relative to a randomly selected comparison group, the assistance increased college enrollment significantly both for recent high school graduates and for older independent students with no college experience. There was no effect on a second treatment group who were just given information about the FAFSA but no assistance. These results show that barriers to the availability of financing restrict access to higher education. Based in part on this research, the President and Secretary of Education recently announced that the FAFSA form will be drastically simplified.[12]

5.2. HOW TO MEASURE THE 25TH PERCENTILE OF EARNINGS?

The proposed regulation places a limit on the median debt among students at a program. This limit is based on the 25th percentile of earnings in occupations for which that program prepares students.

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11 Bettinger, Eric, Bridget Terry Long and Philip Oreopolous, "Increasing Postsecondary Enrollment Among Low-Income Families: A Project to Improve Access to College Information and Financial Aid" (http://gseacademic.harvard.edu/~longbr/FAFSA_Project_-_Bettinger_Long_Oreopoulos_-_Description_1-09.pdf)

12 http://www2.ed.gov/news/pressreleases/2009/06/06242009.html

Presumably, the 25th percentile is meant to be an estimate of the typical starting salary of graduates of the program. However, it is clear that the proposal has the potential to act as a limit on tuitions that for-profit schools will be able to charge. The extent of these limits will depend on how the 25th percentile of earnings for a given area of study (CIP code) is determined. In Appendix A of the proposed regulations, the Department of Education has provided a step-by-step method for calculating what it considers to be the 25th percentile of earnings for a particular CIP code.

The Department proposes using the wage, earnings and employment data that are regularly collected by the Bureau of Labor Statistics. However, since the employment information is reported by occupation based on the Standard Occupational Classification (SOC) system, rather than area of study (CIP codes), areas of study must be linked to one (or more) occupations. According to the Department's methodology the 25th percentile of earnings for each program (based on the 6-digit CIP code) can be calculated using the following method:

- First, determine all occupations based on the SOC codes available from the O-Net crosswalk (http://online.onetcenter.org/crosswalk/CIP/) that are associated with each 6-digit CIP code.

- Next, for each SOC code determine employment and annual 25th percentile wages using data from the Bureau of Labor Statistics (BLS) available at http://www.bls.gov/oes/current/oes_stru.htm.

- Finally, based on the above values calculate for each CIP code the weighted average of the annual 25th percentile wages using the total employment of each SOC code as the weights. According to the Department, this weighted average represents the 25th percentile of earnings for each 6-digit CIP code.

While the Department's calculations are clear and concise, they are neither simple nor correct. The Department's choice of how to calculate the 25th percentile is also far from innocuous. Below, we describe three ways in which the calculation of expected earnings can be quite sensitive to choices concerning the method. All of these choices are made either explicitly or implicitly, and all of them can have significant effects both on the earnings levels and on the ultimate impact of the proposed regulation. These examples also point out that future changes in seemingly technical inputs, such as which occupations are matched in the CIP to SOC crosswalk, have the potential to have large impacts on programs and students.

In calculating the earnings measure the Department makes assumptions regarding the occupations for which a graduate is likely to enter and the relative importance of each of these occupations in determining earnings. In addition, the calculated earnings measure is not the 25th percentile across the SOC codes. Modifying either the assumptions or the method for calculating earnings can have substantial impacts on whether a program meets the 25th percentile/8 percent rule. Even without explicit changes from the Department, programs may change from meeting the proposed regulation to not meeting the proposed regulation because of future changes in BLS coding or employment patterns.

The correspondence between CIP codes and BLS occupation codes is important:

Table 6 below shows the weighted average for the Culinary Arts/Chef Training area of study based on the 25th percentiles of the occupations that are assigned to that CIP code. According to the CIP to SOC crosswalk that is used by the Department to determine the "25th Percentile" this area of study includes four occupations: Chefs and Head Cooks; Cooks, Private Household; Cooks, Restaurant; and Cooks, All

Other.   While Culinary Arts programs are designed to train Chefs as defined in the first occupational category, the Department's definition appears to include those individuals working as cooks at fast food restaurants and cafeterias, and short order cooks. While the majority of students who complete Culinary Arts/Chef Training programs do not work at fast food restaurants, these workers' low earnings would be used to estimate graduates' ability to afford student loan payments.

Table 6: Department of Education
Calculation of the 25th Percentile

Area of Study			Weighted Average	25th Percentile	Number Employed
12.0503	Culinary Arts/Chef Training		$19,278		
	35-1011.00	Chefs and Head Cooks		$29,050	98,040
	35-2013.00	Cooks, Private Household		$19,030	960
	35-2014.00	Cooks, Restaurant		$18,230	899,620
	35-2019.00	Cooks, All Other		$18,390	17,340
52.0201	Business Administration/Management		$62,379		
	11-1011.00	Chief Executives		$102,080	301,930
	11-1021.00	General and Operations Managers		$62,900	1,697,690
	11-2022.00	Sales Managers		$65,350	333,910
	11-3011.00	Administrative Services Managers		$52,240	246,930
	11-3051.00	Industrial Production Managers		$64,390	154,030
	11-3071.01	Transportation Managers		$59,830	96,300
	11-9021.00	Construction Managers		$60,650	220,550
	11-9151.00	Social and Community Service Managers		$42,110	117,150
	11-9199.00	Managers, All Other		$64,440	365,460
	13-1051.00	Cost Estimators		$42,720	218,400
	13-1111.00	Management Analysts		$54,890	535,850
	25-1011.00	Business Teachers, Postsecondary		$46,400	69,690
51.3501	Massage Therapy/Therapeutic Massage		$45,777		
	25-1071.00	Health Specialties Teachers, Postsecondary		$54,850	125,100
	31-9011.00	Massage Therapists		$23,630	51,250

The choice to use a weighted average of 25th percentiles is important:

More general areas of study are mapped to many occupations. To calculate the 25th percentile of earnings among graduates of a program, the Department's method takes a weighted average of the 25th percentiles in each of the assigned occupations. Taking a weighted average of 25th percentiles within occupations does not, however, give the 25th percentile of earnings among the workers in those occupations. Take, for example, the case of Business Administration/Management (shown in the table above). One of the occupations for which that area of study prepares students, according to the Department of Education, is Chief Executive. Thus, the Department of Education's method bases the

early career earnings of students finishing with Business Management degrees in part on the 25th percentile of earnings of Chief Executives. We suspect that a recent college graduate has a vanishingly small chance of earning a Chief Executive salary in the first few years after finishing school, though some will become Chief Executives later in their careers. An important implication of this example is that the allowable debt levels would be very sensitive to future decisions concerning which occupations match to each CIP code. Removing 'Chief Executive' from the set of occupations for which a Business Administration/Management program prepares students, for example, would significantly lower the estimated earnings, and in turn the allowable debt.

As another example, consider trying to calculate the 25th percentile of earnings among workers in two equally large states: a very high-wage state and a very low-wage state. To make the illustration clear, imagine the extreme situation in which the lowest-paid worker in the high wage state earns twice as much as the highest-paid worker in the low-wage state. The average of the 25th percentiles will fall somewhere in the range between the highest-paid worker from the low-wage state and the lowest-paid worker from the high-wage state. However, the 25th percentile earner among all the workers in both states is someone in the middle of the pack in the low-wage state.

The choice to take a weighted average of percentiles may be appropriate in some situations, and the determination depends on the way the relevant occupations are defined. Consider, for example, that a student leaving a program has a 50 percent chance of entering occupation X and a 50 percent chance of entering occupation Y. This student will remain in either of these parallel occupations for his career. In this case, the average of the 25th percentiles in occupations X and Y may be an appropriate estimate of his early career earnings experience.

In contrast, consider a student leaving a program who will enter the entry-level occupation A after which he will eventually progress to occupation B. In this case, the weighted average of 25th percentiles does not tell us about his experience early in his career.

In some cases occupations are defined by the Bureau of Labor Statistics to correspond to a typology represented by occupations X and Y, and in other cases (as illustrated by some of the examples in the table above) occupations are defined to correspond more closely to occupations A and B.

The estimate of earnings does not distinguish by degree level:

Furthermore, the CIP code is not specific to a level of degree, but rather just to the area of study. Therefore, an individual with an Associate's degree in Business Administration/Management will have the same CIP code as an individual with a Master's degree in Business Administration/Management. Thus, the Department's assessment of earnings (and measure of affordable debt) will be the same for these two individuals.

How to weight information from different occupations is important:

Assuming the Department's goal is to generate an estimate of the early earnings of a program's graduates given that they may be prepared for multiple occupations, a weighted average of percentiles may make sense. Even when a weighted average may be appropriate, how to weight is an important question that must be addressed. The Department's current approach of using total employment in the full labor market (and not specific to either degree earners or for-profit students) is likely inappropriate in many situations. For example, the table above shows the occupations associated with Massage

Therapy/Therapeutic Massage. In this case the teachers of health specialties (which includes Massage Therapy and other health specialties) receives more than 70 percent of the weighted average when it likely represents a much smaller percentage of Massage Therapy graduate placements.

From a mathematical point of view, the problem is that percentiles are not linear. As a result the average of percentiles within groups is not the percentile of the full population. It is therefore possible that the Department of Education's method for calculating the 25th percentile of earnings would not survive the rulemaking process. For this reason, in our calculations of impact below we present estimates that are based on an alternative method of calculating the 25th percentile among the workers in the occupations that match to an area of study.

What is the 25th Percentile?

As noted above the Department's calculated earnings measure is not the 25th percentile of the occupations that are assigned to a CIP code. An arguably more appropriate measure of the 25th percentile can be obtained by sorting the individual earnings information of all individuals in occupations assigned to a given CIP code and determining the earnings at the 25th percentile of that set of workers. To do this, we first obtained a crosswalk between CIP codes and BLS occupation codes from the National Center for Education Statistics (NCES), a division of the U.S. Department of Education. We then merged this information with earnings data from the Current Population Survey (CPS) March Annual Demographic File. Each March, the CPS includes more-detailed questions about annual earnings and demographics. For each CIP code, we sorted the annual earnings of individuals in the occupations that were matched to that CIP code, and calculated the 25th percentile of annual earnings. The table below compares the difference in "25th percentiles" based on the alternative methods of selected CIP codes. In addition, for each CIP code we have computed the implied maximum debt allowed based on an 8 percent limit on annual loan payments (assuming a 10-year repayment schedule at 6.8 percent interest). As is clear from the table, the maximum debt can vary substantially depending on the calculation of the 25th percentile.

Table 7: Comparison of 25th Percentile Earnings and Maximum Debt Level for Selected CIP Codes

CIP Code	CIP Description	Full-Time Earners		Department of Education	
		25th Percentile	Maximum Debt	25th Percentile	Maximum Debt
10.0202	Radio & Television Broadcasting Technology/Technician	$27,000	$15,312	$27,207	$15,430
12.0503	Culinary Arts/Chef Training	$14,000	$7,940	$19,278	$10,933
14.0901	Computer Engineering, General	$48,000	$27,222	$73,752	$41,826
14.0903	Computer Software Engineering (New)	$47,000	$26,655	$73,791	$41,848
14.1001	Electrical, Electronics & Communications Engineering	$45,000	$25,520	$75,437	$42,782
15.1301	Drafting & Design Technology/Technician, General	$35,000	$19,849	$35,266	$20,000
15.1399	Drafting/Design Engineering Technologies/Technicians, Other (New)	$35,000	$19,849	$35,130	$19,923
31.0501	Health & Physical Education, General	$32,000	$18,148	$19,927	$11,301
31.0504	Sport & Fitness Administration/Management	$32,000	$18,148	$18,989	$10,769
43.0203	Fire Science/Firefighting	$45,000	$25,520	$31,532	$17,883
47.0201	Heating, Air Conditioning, Ventilation & Refrigeration Maintenance Technology/Technician	$29,700	$16,843	$31,070	$17,620
51.2001	Pharmacy (PharmD, BS/BPharm)	$41,000	$23,252	$80,585	$45,701
51.3501	Massage Therapy/Therapeutic Massage	$36,000	$20,416	$45,777	$25,961
52.0201	Business Administration/Management	$45,000	$25,520	$62,379	$35,376
52.0408	General Office Occupations & Clerical Services	$23,000	$13,044	$23,239	$13,179
52.1902	Fashion Merchandising	$35,000	$19,849	$36,460	$20,677
52.1904	Apparel and Accessories Marketing Operations	$35,000	$19,849	$36,460	$20,677

As shown above, the particular way to calculate the 25th percentile is not innocuous. Small changes in the way one calculates this number causes large differences in the estimate of early career earnings. One concern would be that future changes in the method of calculating this number could have serious consequences. We estimate that differences in earnings levels resulting from changes in how the 25th percentile is calculated would lead to large differences in the number of students impacted by the proposed regulation. This suggests that further consideration should be given to: (a) whether the 25th percentile concept is appropriate, and (b) whether the method of calculating the student's estimated ability to pay is overly sensitive to small changes in the future and valid from a scientific standpoint.

5.3. PRELIMINARY ANALYSIS BASED ON DATA SUBMITTED BY CCA MEMBER INSTITUTIONS

To estimate the impact of the proposed regulation on the Title IV eligible for-profit postsecondary institutions, we collected data from Career College Association (CCA) member institutions. Specifically, we collected student/loan level data from each institution based on the population included in their 2006, 2007 and 2008 Cohort Default Rate calculation. These data include information on student loans and default status on all students entering repayment during a given cohort year for 3 years after entering repayment, and are the actual data that the institution's cohort default rate is based upon. We also received individual level demographic data from each institution including race, gender, program of study (CIP code), OPEID, campus information, total loan amounts (both public and private), and length of program. In all, we received data from 17 different institutions, representing approximately 450 campuses, 640,000 students and over 10,000 separate programs from institutions ranging from very small to very large.

In order to determine the impact of the proposed regulation on the CCA schools for which we received data, we calculated both the 25th percentile of earnings based on the methodology used by the Department of Education, and the median debt of graduating students from each of the schools and programs with available data. In addition, we calculated the 25th percentile of earnings for each CIP code based on full-time earners in the CPS data. This alternative 25th percentile of earnings calculation was done according to the method described in the previous section.

The median total loan amounts (public and private) accrued by graduating students were calculated for each school, OPEID, campus, program length, and 6-digit CIP code. The Department of Education's methodology requires that students who do not take any loans (public or private) should be included in the median calculation as having accrued 0 loans. Since the data we have available for the CCA schools only include students who have taken some form of government loan, we needed to impute the number of students not taking any loans. Also, some schools did not provide data on the private loans taken by students so we needed to impute the value of private loans in these instances. We do not have data on students who do not take any public loans, but take private loans. We have not included any adjustment for these individuals.[13]

In order to account for students not taking any loans, we used IPEDS data to calculate the average percent of students in private, for-profit institutions that do not take any loans (approximately 20 percent). Since the population that we observe in the data are only 80 percent of the total population that should be included in the calculations we use the 37.5th percentile of total loans amounts instead of the 50th percentile as this would impute a total of 20 percent of the total population as having 0 loans (since they would all be below the median).

In cases where no data was available to assess the amount of private loans taken, we multiplied the value of public loans by 1.47 since the average percent of total loans that were public (based on NPSAS:2008 data from the NCES) was approximately 70 percent.

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[13] For most schools we do not have information on loans students took at prior postsecondary institutions. As a result, we underestimate median total debt, thus possibly underestimate the fraction of programs that would be impacted by the proposed debt limit rule.

Based on the 25th percentile of earnings determined above, we calculated the maximum amount of debt that could be accrued using the 8 percent rule proposed by the Department of Education (assuming a 10-year repayment schedule at 6.8percent interest). Comparing the maximum debt value with the median debt actually accrued from the students in each program, we determined the programs which would currently be impacted by the proposed regulation (i.e. the programs whose median debt was higher than the maximum allowed under the regulation's guidelines).

As shown in Table 8, our analysis implies that approximately 18 percent of the programs we examined would be impacted by the 8-percent/25th-percentile rule when using the Department of Education's income calculation. Using the CPS full-time earners results in nearly 25 percent of the programs being impacted. The impact is disproportionately on larger programs as nearly 34 percent of students are impacted using the Department's approach, and almost 50 percent are impacted using the CPS full-time earners. In the sample of students analyzed, approximately 29 percent of black students and 35 percent of Hispanic students would be in programs impacted by the proposed regulation. In addition, 25 percent of women are in programs that would be affected. All of these percentages are higher when the alternative measure of the 25th percentile of earnings is used to evaluate programs.

Table 8: Percent of CIPs Impacted by Proposed Regulation
(Assuming 8 Percent Debt Ratio Using the 25th Percentile of Income)
Median Loan Based on Graduates

	Total Number of Programs	Percent of Programs Impacted	Percent of Students Impacted	Percent of Females Impacted	Percent of Blacks Impacted	Percent of Hispanics Impacted	Percent of Asians Impacted
Department of Education 25th Percentile	10,725	18.19%	33.72%	24.79%	28.91%	34.89%	44.26%
CPS 25th Percentile	10,695	24.58%	49.10%	39.95%	44.91%	47.40%	65.14%

Source: Data provided by CCA member institutions.

As shown in Table 9 below, if the sample of schools and programs used in the analysis is representative of the full set of for-profit schools and programs – and we caution that not enough analysis has been done yet to ascertain whether this is a reasonable assumption – these estimates imply that each year 361,000 students, including 68,300 non-Hispanic black students, 78,500 Hispanic, and 179,000 women, would

enter for-profit postsecondary programs that would lose eligibility for participation in the federal Title IV financial aid programs.[14]

While some capacity may exist in other sectors of higher education to absorb these students, recent reports indicate that the most likely alternatives—community colleges—are already oversubscribed in many cases, and are facing further financial cutbacks as the states that provide much of their funding face severe financial challenges. Given recent growth rates at for-profit postsecondary institutions, we estimate that by 2020 approximately 1 million non-Hispanic black students and an additional 1 million Hispanic students are on track to attend programs that would be adversely affected, and would be denied access as a result.[15]

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[14] The annual flow of students in for-profit programs is estimated from the 12-month enrollment reported in the IPEDS. Since the IPEDS figures provide the stock of students enrolled at a given point in time we divide the number of students enrolled in a 4-year program by 4, the number of students enrolled in a 2-year program by 2, and then add those results to the number enrolled in less than 2-year programs to obtain an estimate of the flow of students into for-profit schools. This is likely an underestimate of the flow because all students do not stay enrolled for the full length of the program and institutions are categorized base on the longest program offered (so, some students recorded in a 4-year program are enrolled in something less than four years).

[15] Estimates based on the CPS full-time earners and estimates of impacted students by state are provided in the appendix.

Table 9: Estimated Number of Students Impacted by 2020
Median Loan Based on Graduates
25th Percentile Based on Department of Education Calculation

Year	Total Number of Students Impacted	Number of Female Students Impacted	Number of African-American Students Impacted	Number of Hispanic Students Impacted	Number of Asian Students Impacted
Using the Department of Education's 25th percentile of annual earnings and 8% Debt-to-Earnings Ratio					
2011	361,172	179,149	68,348	78,545	15,875
2012	392,955	194,914	74,363	85,456	17,272
2013	427,535	212,066	80,907	92,977	18,792
2014	465,158	230,728	88,027	101,159	20,445
2015	506,092	251,032	95,773	110,060	22,245
2016	550,628	273,123	104,201	119,746	24,202
2017	599,084	297,158	113,371	130,283	26,332
2018	651,803	323,307	123,347	141,748	28,649
2019	709,162	351,759	134,202	154,222	31,170
2020	771,568	382,713	146,012	167,794	33,913
Total Students Impacted	5,435,157	2,695,948	1,028,550	1,181,990	238,895

Note: The number of impacted students assumes that the CCA data is representative of all for-profit schools, that for-profit schools will continue to grow at 8.8% per year (the growth rate over the last five years), and the relative student composition does not change during this period.

Based on our estimates, the impact of the regulation would vary across types of programs. Because the limits on borrowing do not vary with the length of program, longer programs would be more severely impacted. Whereas approximately 18 percent of students in less than 2 year programs would be impacted, we estimate that approximately 40 percent of students in 2- and 4-year programs would be impacted. Table 10 below shows the percent of programs and students impacted by program length. the results based on the CPS 25th percentile are also provided in Table 10 below.

Table 10: Percent of CIPs Impacted by Proposed Regulation
(Assuming 8 Percent Debt Ratio Using the 25th Percentile of Income)
Median Loan Based on Graduates

Program Type	Total Number of Programs	Percent of Programs Impacted	Percent of Students Impacted	Percent of Females Impacted	Percent of Blacks Impacted	Percent of Hispanics Impacted	Percent of Asians Impacted
Department of Education 25th Percentile							
Less than 2 Years	2,335	10.66%	18.79%	7.94%	17.06%	13.43%	18.08%
2 Year	4,493	18.52%	39.04%	27.86%	35.71%	52.76%	56.35%
4 Year	2,892	22.23%	40.93%	39.19%	34.98%	53.71%	51.43%
CPS 25th Percentile							
Less than 2 Years	2,335	15.59%	25.88%	16.22%	24.84%	17.65%	31.86%
2 Year	4,494	24.81%	50.03%	37.95%	49.88%	68.54%	74.62%
4 Year	2,853	28.74%	68.79%	68.47%	65.58%	76.91%	78.01%

Source: Data provided by CCA member institutions.

We also estimate that the impact would not be limited to a few areas of study, but would impact a wide variety of programs.   Table 11 below reports the results aggregated to general CIP categories for categories for which we have data on at least 100 programs. For example, we estimate that nearly 14 percent of Health Professional and Related Clinical Sciences, including Nursing, programs and more than 46 percent of Engineering Related Technologies/Technicians programs would not currently satisfy the proposed debt limit rule as defined by the Department. If the alternative measure of 25th percentile earnings were to be adopted, the percent of impacted programs and students substantially would be higher.

Table 11: Percent of CIPs Impacted by Proposed Regulation
(Assuming 8 Percent Debt Ratio Using the 25th Percentile of Income)
Median Loan Based on Graduates

CIP	CIP Description	Total Number of Programs	Percent of Programs Impacted	Percent of Students Impacted	Percent of Females Impacted	Percent of Blacks Impacted	Percent of Hispanics Impacted	Percent of Asians Impacted
	Department of Education Income Calculation							
9	Communications, Journalism, & Related Fields	111	32.43%	70.89%	77.00%	68.40%	68.05%	86.67%
10	Graphic Communications	219	28.31%	51.27%	45.19%	53.47%	57.24%	55.81%
11	Computer & Information Sciences & Support Services	1,390	19.35%	32.80%	25.12%	35.15%	42.05%	41.66%
12	Personal & Culinary Services	542	27.31%	88.82%	85.02%	80.35%	88.81%	94.00%
13	Education	192	26.04%	51.56%	55.46%	43.28%	26.43%	30.10%
15	Engineering Related Technologies/Technicians	535	46.73%	81.70%	66.91%	80.37%	75.63%	91.35%
22	Law, Legal Services, & Legal Studies	331	9.97%	21.91%	22.36%	8.37%	5.28%	2.56%
42	Psychology	185	33.51%	70.71%	69.90%	75.13%	54.15%	78.81%
43	Protective Services	806	9.43%	13.97%	13.79%	11.48%	26.57%	18.02%
47	Mechanic & Repair Technology	160	39.38%	80.84%	73.46%	77.70%	77.64%	87.86%
50	Visual & Performing Arts	1,342	22.35%	56.10%	57.61%	50.60%	58.39%	63.86%
51	Health Professions & Related Clinical Sciences	2,322	13.48%	15.31%	15.57%	14.54%	7.43%	17.53%
52	Business, Management, Marketing, & Related Support Services	2,356	11.50%	9.31%	9.24%	9.83%	12.59%	13.52%
	CPS Full-Time Earners							
9	Communications, Journalism, & Related Fields	111	31.53%	71.84%	76.45%	69.71%	71.25%	86.67%
10	Graphic Communications	219	39.27%	84.21%	84.07%	80.68%	91.13%	91.73%
11	Computer & Information Sciences & Support Services	1,390	29.57%	62.37%	57.27%	64.20%	74.15%	75.99%
12	Personal & Culinary Services	537	32.03%	92.81%	89.96%	88.14%	94.45%	96.90%
13	Education	192	32.29%	60.30%	55.85%	95.85%	93.21%	90.29%
15	Engineering Related Technologies/Technicians	535	48.79%	84.17%	68.27%	82.38%	78.42%	94.01%
22	Law, Legal Services, & Legal Studies	356	14.89%	28.66%	28.87%	22.11%	14.76%	7.69%
42	Psychology	185	36.22%	73.48%	72.81%	77.02%	56.45%	81.78%
43	Protective Services	806	18.24%	39.90%	40.76%	38.17%	54.61%	70.43%
47	Mechanic & Repair Technology	160	41.88%	81.05%	73.72%	77.85%	77.82%	88.04%
50	Visual & Performing Arts	1,342	26.01%	66.07%	68.47%	68.60%	66.59%	75.50%
51	Health Professions & Related Clinical Sciences	2,322	20.24%	26.89%	26.89%	24.38%	13.56%	38.07%
52	Business, Management, Marketing, & Related Support Services	2,298	18.41%	32.04%	30.91%	36.13%	38.00%	44.06%

Source: Data provided by CCA member institutions.

6.   WHAT ALTERNATIVE REGULATIONS OR POLICIES MIGHT BE SUGGESTED TO ADDRESS THE PROBLEM AT HAND?

6.1.   FURTHER CRITICISMS OF THE PROPOSED REGULATION

Thus far this report has focused primarily on the first provision of the Department of Education's proposal, which would limit median debt to be no more than 8 percent of the 25th percentile of earnings in specified occupations. Programs that fail this test could retain gainful employment status by meeting alternative tests.

Schools would be allowed to show that the graduates of the program at their school in particular earn more than the 25th percentile upon entering the workforce. This provision would seem to address some of the concerns raised above. However, to properly conduct a survey of graduates would be costly, and some of these costs would be passed on to students. Furthermore, there is no guidance as to how such a survey would need to be conducted. Would schools be required to show that the respondents were a representative sample of all graduates? How would this be determined? How large a sample would the estimated earnings need to be based on? Should the survey focus on the earnings in the appropriate occupations, as specified by the Department of Education, or would earnings in other occupations count? How would students who chose to take jobs in other higher-paying occupations be treated? How would students who chose to take jobs in other occupations because they were unable to find work in the specified occupation be treated? These and other questions would need to be answered. Many of these questions highlight that the implementation of this part of the proposal would be messy at best, and quite possibly arbitrary.

Programs that failed the 8 percent test could also retain gainful employment status by showing that they maintained 90 percent repayment rates. As others have noted, this would not be based on default behavior as defined in the Cohort Default Rate calculation. Students who are not current in their payments, even though they have not yet reached the point of default, would count against a school's clean record. Students in deferment or forbearance would also apparently count against a school's repayment rate.   It is difficult to know how many programs would satisfy this standard. Most problematic, the data necessary to calculate this rate is not readily available to schools. It is therefore almost impossible to analyze whether the 90 percent standard is appropriate. Furthermore, without the data underlying this calculation, it is not possible for schools to monitor problems, or to affect the behavior that leads to low repayment rates. It is also not clear whether the Department of Education based the standard on any analysis of data.

One argument described above is that it cannot be good policy to have limits on student loan payments that are less than the benefits to earnings from schooling. The argument is the following. Standard estimates of the return to education suggest that a student who completes a 2-year program earns 20 percent more per year, every year she works. If the debt payment limit were less than 20 percent, she could make the loan payments out of her 20 percent schooling bonus, and still have money left over.

If the Department of Education were to consider a debt limit that is approximately equal to the return to education, several additional factors would need to be considered. For example:

- Programs are different lengths. Longer programs have larger returns. Would the department institute different loan limitations for 1-, 2- and 4-year programs?   How would the limit be set if there were variation within a program in how long students attended (or how many credits students earned)?

- The return to education changes over time. It has risen dramatically in the past 30 years. How would the Department of Education decide what the return is in each year?

6.2. TO DIRECTLY ADDRESS THE PROBLEM, REGULATION SHOULD FOCUS ON DISCLOSURE AND ENSURING THAT STUDENTS MAKE INFORMED DECISIONS

A comparison of expected returns to education with the costs of education is what students are doing when they decide whether to get a higher education, and whether to take on loans to finance that education. If the problem the policy is trying to solve is that students are not doing this well – that they are not making informed, considered decisions based on comparisons of expected benefits and costs – then the regulation should address this problem.

To make this case, it may be necessary first to refocus the discussion on which problem is in need of solving. Whereas the current proposal appears to be based on the perception that students take on too much debt, we believe this is misguided. As argued above, standard economic analysis clearly indicates that the amount of debt should be dictated by the benefits of the investment, not by the level of income. It may not be in the students' interest to be restricted from taking on large amounts of debt; that debt may be the key to a better future. The important thing is to make sure that students make informed and intelligent decisions about whether loans are right for them, and whether the benefits of the schooling they wish to finance are large enough to repay the debt they take on.

This focus on making smart informed decisions leads directly to a policy based on provision of information, and assistance analyzing the consequences of borrowing.

One way that this problem could be addressed directly is through different forms of disclosure and education:

- Increased scrutiny could be placed on lenders to ensure that every student who takes on a loan is made aware of the costs associated with the loan, the magnitude of the annual or monthly payment, and the length of the payback period.

- Disclosure could also include mandated information regarding typical earnings of workers in the occupation for which the student is preparing. For example, lenders could be required to show students the 25th percentile or median of annual earnings in the appropriate occupation.

- This could be extended further so that students would be shown a mock budget based on an estimate of their earnings in the appropriate occupation, their loan payments, and a standardized set of necessary expenses. This could be done either in a standardized paper form, or an online application could be developed to allow students to enter various earnings and expense values to see how they fit into the budget.

7. CONCLUSION

In summary, the proposed regulation is not currently formulated to address a specific problem effectively. Secretary of Education Arne Duncan has stated publicly that he wants to ensure that the Department understands its proposal thoroughly so that it prevents any "unintended consequences." Our analysis suggests that the "unintended consequences"—cutting off access to hundreds of thousands of students who want postsecondary education—will be much more substantial than the intended consequence, which we believe to be—though we are not certain—reducing the number of students who over borrow.

To start, the Department of Education has not clearly defined what the problem is that the regulation aims to address. As discussed above, some perceived problems the regulation may intend to address are not problems at all but rather a reflection of the fact that for-profit postsecondary schools serve a very different population than not-for-profit postsecondary schools. If the Department of Education wishes to address the problem that some students take on excessive debt, the proposed regulation is not well designed to do so. By applying a rule at the school or program level, many other students would be negatively affected. Our analysis suggests that 33 percent of students currently in for-profit postsecondary schooling would be denied access. Many more students would be denied access to postsecondary schooling than would be protected from excessive borrowing.

Furthermore, it should not be assumed that public postsecondary institutions, particularly community colleges, would absorb these students. Given the fiscal conditions of the states, it is not obvious that community colleges will be able to increase capacity to meet the increasing demand for postsecondary schooling.

Finally, because for-profit schools disproportionately serve racial and ethnic minority students and students from low-income family backgrounds, the regulation would have the effect of reducing access to higher education to groups of students that have historically had the lowest levels of access.

8. APPENDIX A

Appendix Figure 1:

Average age at which students first enroll in postsecondary schooling, 2008
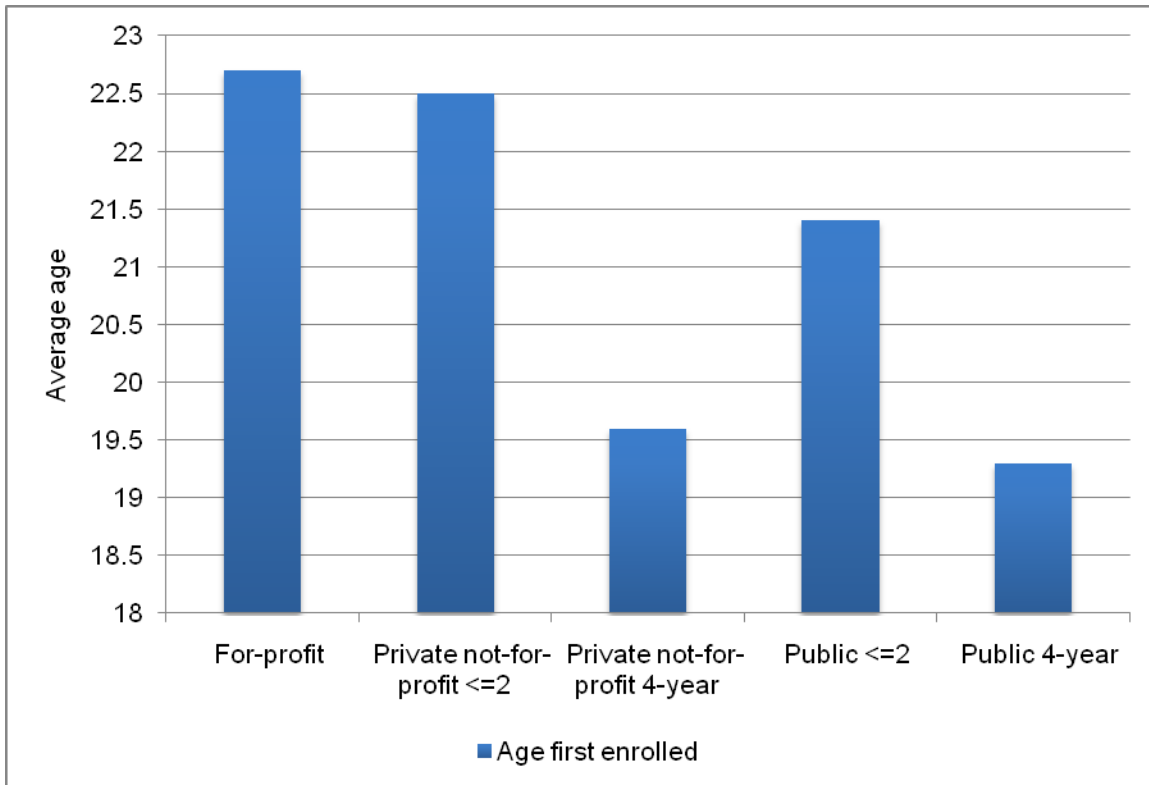
Notes: Calculated from the National Postsecondary Student Aid Study, 2008.

Appendix Figure 2:

Average income of parents or independent students prior to school entry, 2008
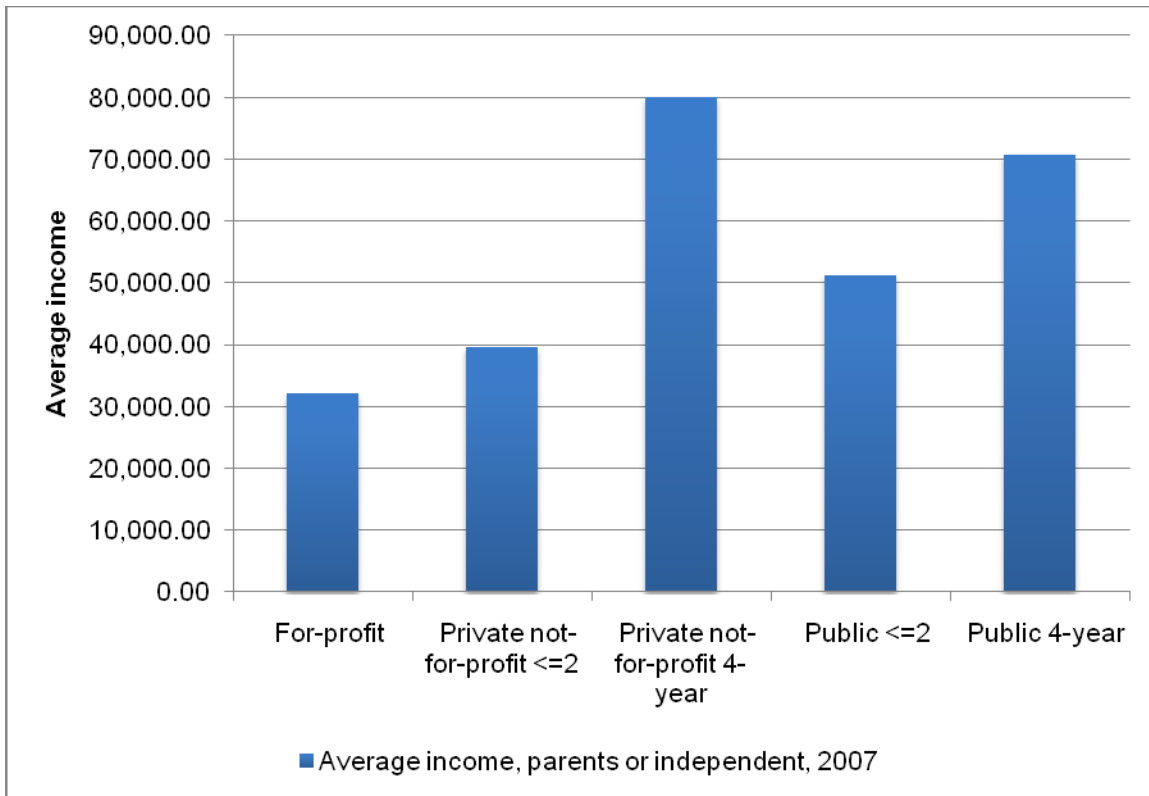
Notes: Calculated from the National Postsecondary Student Aid Study, 2008.

Appendix Figure 3:

Percent of students from families who received AFDC prior to school entry, 2008

Notes: Calculated from the National Postsecondary Student Aid Study, 2008.

Appendix Figure 4:

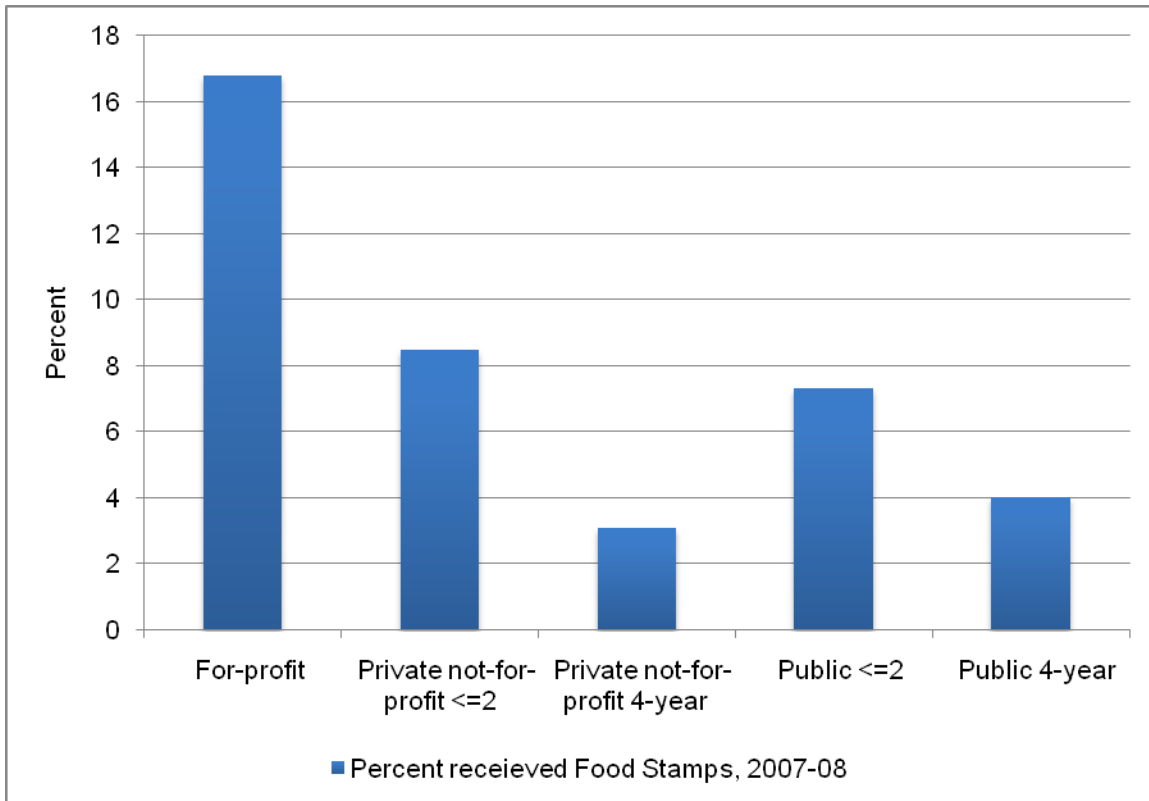## Percent of students who were single parents prior to school entry, 2008
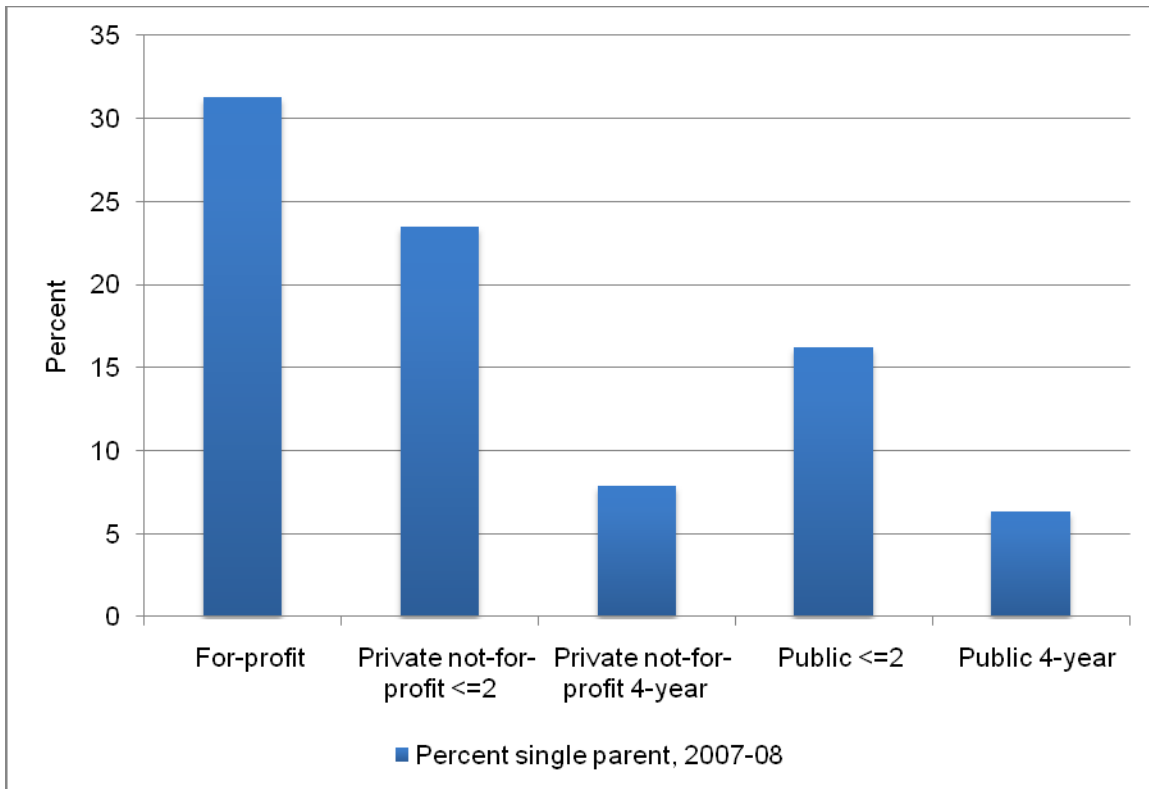
Notes: Calculated from the National Postsecondary Student Aid Study, 2008.

Appendix Figure 5:

Percent of students whose parents attended at least some college, 2008

Notes: Calculated from the National Postsecondary Student Aid Study, 2008.

Appendix Figure 6:

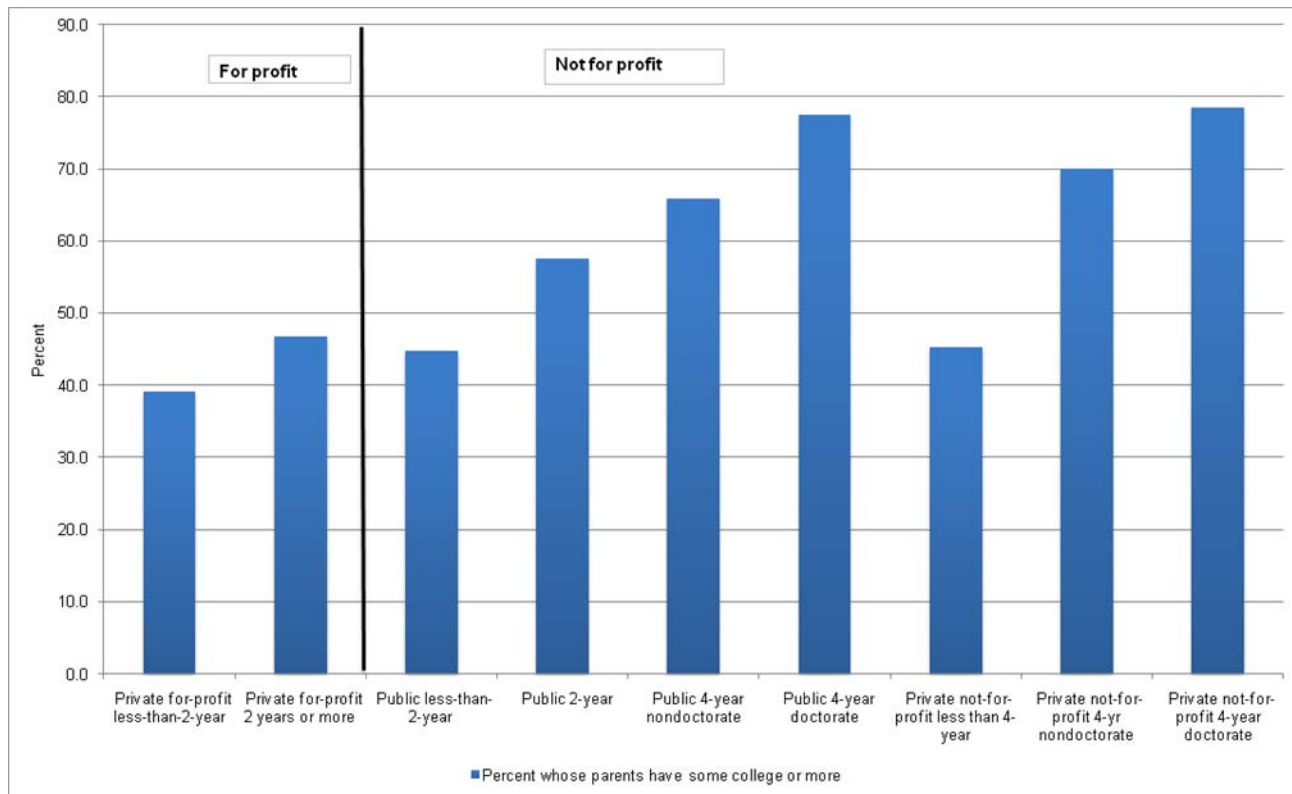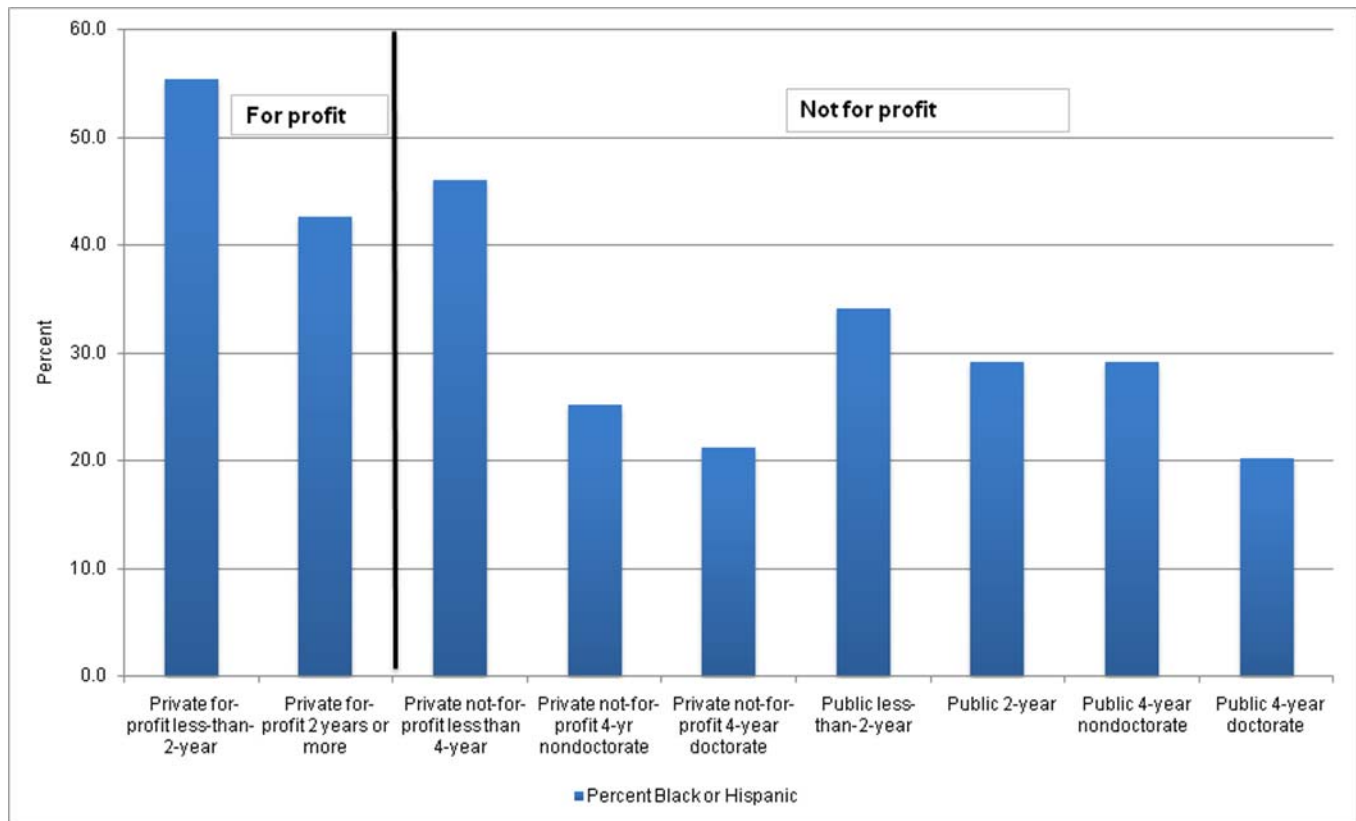## Percent of students who are Black or Hispanic, 2008

Notes: Calculated from the National Postsecondary Student Aid Study, 2008

Appendix Table 1

Estimated Number of Students Impacted by 2020
Median Loan Based on Graduates
25th Percentile Based on Full-Time Earners (CPS)

Year	Total Number of Students Impacted	Number of Female Students Impacted	Number of African-American Students Impacted	Number of Hispanic Students Impacted	Number of Asian Students Impacted
Using the 25th percentile of annual earnings and 8% Debt-to-Earnings Ratio					
2011	525,924	288,663	106,169	106,729	23,365
2012	572,206	314,065	115,511	116,121	25,421
2013	622,560	341,703	125,676	126,340	27,658
2014	677,345	371,773	136,736	137,458	30,092
2015	736,952	404,489	148,769	149,554	32,740
2016	801,803	440,084	161,860	162,715	35,621
2017	872,362	478,811	176,104	177,034	38,756
2018	949,130	520,946	191,601	192,613	42,167
2019	1,032,653	566,790	208,462	209,563	45,877
2020	1,123,527	616,667	226,807	228,004	49,914
Total Students Impacted	7,914,462	4,343,989	1,597,695	1,606,132	351,613

Note: The number of impacted students assumes that the CCA data is representative of all for-profit schools, that for-profit schools will continue to grow at 8.8% per year (the growth rate over the last five years), and the relative student composition does not change during this period.

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Appendix Table 2

Estimated Annual Number of Students Impacted by State
Median Loan Based on Graduates
25th Percentile Based on Department of Education Calculation

State	Total Number of Students Impacted	Number of Female Students Impacted	Number of African-American Students Impacted	Number of Hispanic Students Impacted	Number of Asian Students Impacted
Using the 25th percentile of annual earnings and 8% Debt-to-Earnings Ratio					
AL	1,134	630	470	13	11
AR	1,204	718	297	22	19
AZ	33,998	15,928	3,377	3,160	924
CA	44,910	22,958	3,935	16,101	6,713
CO	7,593	3,363	981	1,004	248
CT	5,648	2,169	870	1,015	120
DC	4,681	2,266	2,150	368	172
FL	25,202	12,307	5,601	7,738	487
GA	10,324	5,727	4,979	491	242
IA	6,684	3,705	292	117	50
IL	18,988	9,294	4,290	2,372	677
IN	4,978	2,732	1,115	195	37
KS	1,681	893	270	108	58
KY	3,292	1,865	574	41	41
LA	3,885	2,242	1,581	57	42
MA	5,765	2,893	520	742	240
MD	4,297	1,960	2,155	188	94
MI	8,949	5,099	3,043	232	109
MN	9,406	5,038	1,309	325	365
MO	5,510	2,953	1,349	106	80
MS	1,111	667	576	7	23
NC	2,307	1,116	863	69	44
NH	1,284	760	17	55	18
NJ	9,118	4,366	1,969	2,294	430
NM	1,612	926	102	650	27
NV	2,722	1,344	411	472	265
NY	18,845	8,797	4,928	4,439	1,129
OH	11,686	6,147	3,401	291	129
OK	2,456	1,273	417	163	49
OR	2,901	1,579	107	183	148
PA	16,909	7,653	3,334	896	299
RI	1,839	936	189	324	38
SC	1,523	878	655	46	19
TN	5,682	2,911	1,848	124	67
TX	29,176	14,832	5,846	12,457	718
UT	2,675	1,380	33	231	83
VA	7,032	3,720	2,854	328	250
WA	3,964	2,107	269	261	490
WI	2,004	1,116	707	100	46
WV	3,226	941	321	215	80
Total Students Impacted	361,172	179,149	68,348	78,545	15,875

Note: The number of impacted students assumes that the CCA data is representative of all for-profit schools. States with less than 1,000 students who are impacted and Puerto Rico are not reported above.

Appendix Table 3

Estimated Annual Number of Students Impacted by State
Median Loan Based on Graduates
25th Percentile Based on Full-Time Earners (CPS)

State	Total Number of Students Impacted	Number of Female Students Impacted	Number of African- American Students Impacted	Number of Hispanic Students Impacted	Number of Asian Students Impacted
Using the 25th percentile of annual earnings and 8% Debt-to-Earnings Ratio					
AL	1,652	1,016	730	18	17
AR	1,753	1,157	461	29	28
AZ	49,506	25,665	5,246	4,294	1,360
CA	65,396	36,992	6,113	21,879	9,881
CO	11,056	5,419	1,525	1,364	365
CT	8,224	3,495	1,351	1,379	177
DC	6,816	3,650	3,340	500	253
FL	36,698	19,830	8,700	10,515	717
GA	15,034	9,228	7,733	667	355
HI	1,029	548	23	27	1,002
IA	9,733	5,970	454	158	74
IL	27,650	14,976	6,664	3,223	996
IN	7,249	4,402	1,732	265	54
KS	2,449	1,438	420	146	86
KY	4,794	3,005	892	56	61
LA	5,657	3,613	2,455	78	62
MA	8,395	4,662	808	1,008	353
MD	6,256	3,159	3,348	256	139
ME	1,279	924	26	13	19
MI	13,032	8,217	4,727	315	161
MN	13,697	8,118	2,033	441	538
MO	8,024	4,759	2,095	144	117
MS	1,618	1,075	895	10	34
NC	3,359	1,798	1,341	94	64
NE	1,181	739	149	41	15
NH	1,870	1,224	26	74	26
NJ	13,277	7,036	3,058	3,117	633
NM	2,347	1,492	158	884	39
NV	3,964	2,166	638	641	391
NY	27,441	14,174	7,654	6,031	1,662
OH	17,017	9,905	5,283	395	189
OK	3,576	2,051	647	222	72
OR	4,225	2,544	166	249	218
PA	24,622	12,331	5,179	1,217	441
RI	2,679	1,507	293	440	55
SC	2,217	1,415	1,018	62	28
TN	8,274	4,691	2,871	168	99
TX	42,485	23,899	9,081	16,926	1,057
UT	3,896	2,223	52	314	123
VA	10,239	5,994	4,434	446	369
WA	5,773	3,395	418	354	722
WI	2,918	1,798	1,098	135	68
WV	4,697	1,517	499	292	118
Total Students Impacted	525,924	288,663	106,169	106,729	23,365

Note: The number of impacted students assumes that the CCA data is representative of all for-profit schools. States with less than 1,000 students who are impacted and Puerto Rico are not reported above.