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Exhibit 1

September 9, 2010

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The Honorable Arne Duncan
Secretary, U.S. Department of Education
400 Maryland Ave., SW
Washington, DC 20202

Re: Docket ID ED-2010-OPE-0012, Gainful Employment

Dear Secretary Duncan:

We thank you for the opportunity to publicly comment on the proposed rule regarding gainful employment that was described in the NPRM dated July 26, 2010. We were retained by the Career College Association to conduct an independent analysis of the rule. Over the past several months, we have collected data relevant to the rule's impact and formulated an assessment of the rule. We describe our findings and recommendations below.

We hope our comments are helpful to the Department as it works to develop rules and policies that are in the best interest of students.

Sincerely,



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Development and Social Policy
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Matthew Thompson, Ph. D
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Docket ID ED-2010-OPE-0012

Comment on the proposed rule regarding Gainful Employment described in the NPRM released by the Department of Education on July 26, 2010

Introduction

We wish to comment on the proposed rule regarding the definition of gainful employment that was described in the NPRM released by the U.S. Department of Education on July 26, 2010. Our comment is organized into four parts. In the first part, we describe the standard way that academic economists analyze and understand the investment that students make when they choose to further their education beyond secondary school. We point out inconsistencies between this standard way of thinking about education and the gainful employment proposal. In particular, the standard economic analysis of education implies that the focus should be on ensuring that all students who are likely to gain more from education than the costs they have to pay will attend. We believe that the currently proposed rule does not focus adequately on measuring the benefits to students from education. We describe our concern that by not measuring the benefits to students, the rule has the potential to reduce access to programs that would have conferred significant benefits to students in the form of higher lifetime earnings.

In this first part, we also discuss what academic economic studies show about the increasing and significant importance of postsecondary schooling for labor market success, and the need for growth in capacity in the higher education sector. We explain that if the earnings benefits from postsecondary schooling are in line with what academic studies suggest, the currently proposed rule will be detrimental to many students. We also contrast the recent slow rate of growth in the number of students that institutions of higher education accommodate with the larger needs and demands of potential students. We relate this contrast with the President's call for the nation to substantially increase the number of students with a postsecondary degree over the next decade.

In the second part, we describe the data analysis we have conducted to assess the possible effect of the proposed rule on both schools and students. To do that analysis, we collected a large amount of individual student-level data from for-profit schools. Those results suggest the proposed gainful employment rule could cause a significant reduction in the number of students entering postsecondary schooling over the next decade, which stands in contrast with the President's call for a large increase in the number of college graduates over that same period. We report a range of estimates, which account for various contingencies. Since we do not have access to actual earnings for graduates, we estimate earnings using Current Population Survey (CPS) data. These estimates may differ from the actual earnings particularly when these averages are based on relatively small groups of students. The student-weighted average of our annual earnings measure is about \$1,000 higher than the student-weighted average in the Missouri data. However, the unweighted average across programs of our annual earnings measure is about \$6,000 higher than the unweighted average across programs in the Missouri data.

There is also considerable variation in the difference between the two measures, in part due to the smaller sample sizes in the Missouri data. To the extent that our earnings estimates are higher than what would be used in practice, our estimates understate the likely impact on for-profit programs and students, possibly significantly.

Our most conservative estimates suggest that nearly 1.2 million fewer students would enter postsecondary schooling over the next decade as a result of the proposed rule. This would include more than 700,000 female students, more than 200,000 non-Hispanic black students, and nearly 200,000 Hispanic students. If less conservative but reasonable assumptions are used, the impact on students could be significantly higher. For example, one reasonable set of assumptions yields estimates suggesting that more than 2 million fewer students would enter postsecondary schooling over the next decade as a result of the proposed rule. This would include more than 1.3 million female students, more than 360,000 non-Hispanic black students, and more than 330,000 Hispanic students. Furthermore, if the Department's own estimate of the fraction of programs and students in ineligible and restricted programs is correct, each of our estimates of the number of students impacted should be increased by 25 percent.

In this second part, we also discuss our concern that the rule may generate a discriminatory incentive for schools to avoid serving low-income students. We hope that all of these effects on students will be viewed in light of the President's commendable call to produce 8 million more college graduates over the next decade, the increased importance of postsecondary education for economic well-being, and the vast current undersupply of education capacity at the postsecondary level.

In the third part, we discuss concerns we have regarding specific details of the way in which the rule would likely be implemented. These include problems related to the treatment of small programs – which are more common than one might think – and related to the use of social security or IRS earnings records.

We conclude with some specific suggestions for how the rule – if one resembling the proposed rule were implemented – might be changed to address some of the concerns we raise. Though we offer these specific suggestions, they should not be interpreted as fully addressing the conceptual problems we raise throughout our comment.

Based on our review and analyses, we are most concerned that the current proposal has the potential to greatly restrict access to individuals who have traditionally had limited access to postsecondary education when the consensus among top researchers in this area is that the returns to education might be quite high. More research should be done before taking action that has the potential to restrict access to many of the types of students that tend to benefit the most from additional schooling.

Part I: The rule contrasted with the standard economic analysis of schooling

In this section, we first review the standard analysis that is used by academic economists to examine postsecondary education decisions, and include a discussion of how the Department's proposed rule deviates from this approach. Next, we examine the basis of the Department's use of an 8 percent debt-to-earnings threshold, and describe how it may be at odds with optimal education decisions for students, given the benefits of postsecondary education. We then argue that the Department should focus on the quality of programs, in addition to the costs. We discuss how measures of debt relative to early career earnings, or of repayment rates as they are calculated in the proposed rule, are not measures of program quality. We next provide an overview of what the academic research has shown with respect to student returns on educational investment, and explain why a rule that does not account for the benefits of schooling could be detrimental to students. We conclude this section by discussing the protection of taxpayers, and the need for increased postsecondary capacity.

A. The standard economic analysis of schooling

Based on the standard economic analysis of the costs and benefits of schooling, we believe the focus of the Department of Education should be on ensuring access to education for all students for whom the benefits are likely to outweigh the costs. The standard 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. We believe the proposed rule does not appropriately focus on benefits, and in some important ways mismeasures the costs. As a result we believe the proposed rule may have the unintended consequence of disproportionately limiting postsecondary education access for students who have traditionally faced barriers to higher education.

The standard economic analysis of schooling considers the choice of whether an individual should obtain an additional year of education.¹ 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

¹ The standard reference is *Human Capital* by Gary Becker (University of Chicago), who won the Nobel Prize in Economics for this and other work.

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).² 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.³

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.

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.

Therefore, 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.

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

² Note the cost of education does not necessarily include living expenses while attending school. Many of these expenses, particularly for financially independent students, would be incurred regardless of the education decision. However, students will often take loans to cover part, or all, of their living expenses.

³ 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.

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.

The standard economic analysis of education implies that the decision of whether to continue schooling beyond high school should be based on a comparison of the lifetime benefits and the lifetime costs of that schooling. These costs and benefits should both be properly discounted to account for the fact that many of the benefits and some of the costs occur far in the future. Even when the benefits only slightly exceed the costs, when properly measured, it benefits the student to continue to pursue additional education.

The proposed gainful employment formula is different from this ideal in a number of ways. Most significantly, the proposed formula focuses on the level of earnings in the first few years after completion of the schooling. While the Department of Education's intent is likely to ensure that students are able to afford the necessary loan payments in those early years after schooling, it must be noted that any deviation from a comparison of lifetime benefits to lifetime costs has the potential to harm the students. For this reason, special care should be taken when analyzing a rule that effectively restricts borrowing for schooling costs.

As stated above, the proposed gainful employment rule focuses on a comparison of earnings in the early years after school completion with estimated annual student loan payment amounts. The reason for basing program eligibility on this comparison presumably is to protect students from finishing school with loans that they cannot afford to repay in those early years after completion.

Two points should be addressed with respect to the way the rule achieves this goal. First, the allowable debt/earnings ratio should not be based on guidelines that are developed to be appropriate for the average consumer. Student borrowing is different from consumer borrowing both because students tend to be at a point in their working careers when earnings are about to grow substantially, and because schooling is something that tends to cause increases in earnings. On average earnings grow sharply in the early years following the completion of schooling. For most students, it is probably smart to devote a higher share of their annual expenditures to loan repayments early in their career than they would be willing to sustain indefinitely. If education confers benefits to students – such as increased earnings throughout their post-schooling career – restricting borrowing can cause students to be worse off on net. Thus, guidelines about appropriate debt-to-earnings ratios should allow for higher levels in these early years. The guidelines that informed the Department of Education's choice of debt/earnings ratio cut-offs were based on lending rules that are meant to apply to borrowers at all stages of their working life and for physical assets that do not lead to increases in earnings. Rules that apply to early career earnings should be different. They should recognize the fact that the thing the borrowing pays for – schooling – tends to increase earnings,

and they should recognize the fact that because earnings tend to grow in the early working years it makes sense to borrow more in these years than in later years.

Second, the calculation of annual debt payments should be based on the repayment amounts that students have the option to choose. The proposed rule calculates annual loan payments assuming a 10-year repayment period. However, all students with Title IV loans have the options either of extending the repayment period to between 12 and 30 years through the choice of an “extended repayment”, or of reducing the payments they must make in the early years after school completion through the choice of a “graduated repayment”. Calculations reported to us by Mark Kantrowitz, the publisher of FinAid.org, indicate that the average repayment length chosen by students for Title IV loans is at least 15 years, and possibly close to 19 years.

In addition, students with low earnings, the ones that the proposed gainful employment rule is meant to protect, have the option of reducing their Title IV payments to a lower percentage of their earnings through the choice of “income-based repayment”. For many students, and particularly for those with lower than average earnings in the years for which earnings are measured for the gainful employment rule, it is advisable to choose one of these options.

If the goal of the proposed gainful employment rule is truly to ensure that students can afford their loan payments upon completing schooling, the rule should compare their earnings to the amounts they are required to pay. If students choose to pay back their loans over a shorter period than they have to, it cannot be argued that those students are unable to afford the payments. The correct test, absent measuring the gains resulting from, or quality of the program, is whether students finish school with required debt payments – the lowest ones available to them given their options – that are too high relative to their earnings.

If it were logistically difficult for the Department of Education to determine which of these repayment options offers the lowest annual payment for each borrower, a simple adjustment to the rule would be to extend the repayment length used in the formula to 15 or 20 years. The allowable repayment period varies between 12 and 30 years and depends on the total amount of the Title IV loan. At a minimum, this modification would reflect a more realistic loan payment amount that an individual would be required to make on a student loan.

Another fundamental flaw in the proposed rule that should be addressed is that it does not focus on program quality. Standard economic analysis clearly indicates that good schooling decisions should be based on a comparison of the costs of education to their benefits. Students should think very differently about taking on a given amount of debt if it is to pay for a program that is likely to add to their earnings than if it is to pay for a program that is not. In other words, if the goal of the proposed regulation is to help students, the focus should be on program quality – the benefits that the program gives to students in terms of increased earnings and improved employment likelihood – and not so directly on debt

amounts. For a high-quality program, it can be a good idea to finance tuition costs through debt. For example, medical students commonly take on very large debt amounts yet end up better off for it once the effect on lifetime earnings is taken into account. The reason this is a good investment for them is that medical school typically leads to large increases in lifetime earnings (though those increases often are not attained until many years after school is completed).

B. The basis for an 8 percent debt to earnings threshold

The Department's choice of an 8 percent threshold for the debt to earnings ratio is not a number that is implied by any standard economic model, or supported by research as the Department suggests. The standard economic analysis of the educational investment decision does not imply a limit on annual debt payments related to annual earnings. Rather, experts who study the economics of education use a model based on a comparison of costs with benefits, including the gains to earnings resulting from the schooling.

While the Department has stated that the 8 percent threshold is based on research, as economists we wish to make it clear that this number is not based on economic theory. In fact, as we have described, economic theory implies a quite different set of guidelines for making good decisions regarding schooling.

Based on statements in the NPRM, the 8 percent threshold appears to come from two sources: home lending guidelines and a report by Sandy Baum and Saul Schwartz.⁴ We will address the use of the Baum and Schwartz study first, then return to the home lending guidelines. In the report to which the Department of Education refers, Baum and Schwartz do not support the use of an 8 percent threshold for student debt payments. Rather, Baum and Schwartz explicitly criticize a blanket use of such a rule. Quoting from page 3 of their report:

“In sum, we believe that using the difference between the front-end and back-end ratios historically used for mortgage qualification as a benchmark for manageable student loan borrowing [*which Baum and Schwartz have just explained is the origin of the 8 percent rule*] has no particular merit or justification. This is not to say that 8 percent is an unreasonable number. Some of the problems listed below suggest that higher limits might be appropriate, while others suggest the opposite. It is simply to say that any benchmark needs stronger justification than has thus far been forthcoming.” (Baum and Schwartz, 2006, p. 3)

Just prior to this statement, Baum and Schwartz explain some of the reasons why the 8 percent rule is not appropriate for student lending guidelines. One of those reasons derives directly from an economic model related to the one we have described in our comment. That model points out that because earnings tend to

⁴ Baum, Sandy and Saul Schwartz. 2006. “How Much Debt is Too Much? Defining Benchmarks for Manageable Student Debt.” New York: The College Board.

increase most sharply in the early years after school completion, it is optimal to do more borrowing in those years than in later years. They explain:

“To the extent that they are grounded in empirical analysis, the ratios [*which were used to determine the 8 percent rule*] reflect the default experience of all homeowners, not the experience of young people who have recently left school. The life-cycle model suggests that the ability and willingness of young people to maintain any given debt-service ratio is greater than that of older cohorts. The front-end and back-end ratios, based on current income, do not take into account the higher future income of some borrowers and especially of student loan borrowers.” (Baum and Schwartz, 2006, p.3)

We suggest that the Department not use the Baum and Schwartz study to support the choice of an 8 percent threshold, when in fact that study concludes that the general use of such a rule is a bad idea.

Baum and Schwartz argue that the 8 percent rule that was commonly used at one time by home mortgage underwriters (but, which they point out is not commonly used now) is not appropriate for all student borrowers. This leads us back to the fact that the 8 percent number was originally taken from home mortgage standards. Baum and Schwartz explain that this number appears to come from guidelines for the fraction of annual earnings that should be devoted to non-housing debt for the average homebuyer.

However, borrowing for schooling costs is different. Borrowing for schooling costs is different because schooling tends to cause earnings to increase. A rule limiting the ratio of student debt payments to annual earnings that does not take into account the fact that additional schooling can increase those very earnings has the potential to hurt, not protect, borrowers.

C. The benefits of education and its relevance for the proposed gainful employment rule

It is informative to describe what the vast set of studies by academic researchers has found regarding the benefits of postsecondary schooling. There are dozens, if not hundreds, of studies of this sort that have published in peer-reviewed academic journals. Education is widely recognized as a source of social mobility. Though the United States 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.⁵

⁵ Mazumder, Bhashkar, “Fortunate Sons: New Estimates of Intergenerational Mobility in the United States Using Social Security Earnings Data,” Review of Economics and Statistics 2005.

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 an impoverished household a significant barrier to social mobility. All of this argues strongly that it 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.

The general consensus from studies that examined data from various periods over the past 50 years is that each year of schooling causes the average student to enjoy a gain in annual earnings of between 7 and 15 percent. This means that the average student earns between 7 and 15 percent more each year for the rest of his career, for every additional year of schooling he completes. Because the gains accrue per year of schooling, students that complete 4-year college programs on average see gains in earnings that are 4 times this large.

Another consistent finding is that these returns to education have been rising in the U.S. fairly consistently since the early 1980's. The 7 percent estimates tend to come from data representing earnings from earlier periods, while estimates between 10 and 15 percent are more likely to come from more recent data. Postsecondary schooling is more important than it has maybe ever been – certainly since the 1920's – for labor market success. Put differently, the gap in earnings and economic wellbeing between the rich and poor is at historically high levels, and postsecondary schooling is one important determinant of which side of that gap one sits.

Consider if the earnings return were only 5 percent per year. A student who attended a 2-year program would earn 10 percent more each year for the rest of his career. That student could spend 10 percent of his annual earnings on student loan payments and not be any worse off during those 10 years than if he had not attended school. Then for all of the remaining years of his working life, he would earn 10 percent more with no costs. And yet, a program that educated students like this would be restricted from enrollment growth.

If for-profit schooling leads to 8 or 10 percent earnings increases, still significantly less than the average return to schooling, restricting student borrowing to fall in line with the guidelines implied by the proposed rule reduce lifetime earnings for those students. Whether the proposed gainful employment rule hurts or helps students depends directly on the earnings benefits from postsecondary schooling.

D. The focus should be on quality of education and value-added by schools, not on measures that punish schools for serving non-traditional students

Though more study needs to be done, there is reason to suspect that at least on some easily observable dimensions the quality of for-profit postsecondary

programs is similar to, and on some dimensions better than open enrollment public and not-for-profit programs. Consider, for example, a comparison of graduation rates from the Integrated Postsecondary Education Data System (IPEDS), the official graduation rates reported by the Department of Education.

Table 1
Graduation Rates by Cohort and Type of Institution

Year	Public Institutions			Not-For-Profit Institutions			For-Profit Institutions		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<i>Percent Completing Bachelor's Degrees Within 4 Years After Start</i>									
1996 Cohort	26.0	20.8	30.3	48.6	43.6	52.6	21.8	22.3	21.1
1997 Cohort	26.4	21.1	30.7	48.9	44.4	52.5	19.1	20.9	16.6
1998 Cohort	26.8	21.4	31.2	49.8	44.9	53.8	19.9	22.2	17.5
1999 Cohort	27.9	22.5	32.4	50.2	45.4	54.0	22.1	23.3	20.4
2000 Cohort	29.0	23.6	33.5	50.3	46.0	53.7	25.7	30.1	20.7
2001 Cohort	29.4	24.0	33.9	50.9	45.8	55.0	18.6	21.8	15.2
<i>Percent Completing Bachelor's Degrees Within 6 Years After Start</i>									
1996 Cohort	51.7	48.1	54.7	63.1	60.4	65.4	28.0	28.0	27.9
1997 Cohort	52.8	49.3	55.7	63.0	60.4	65.1	24.0	25.4	22.2
1998 Cohort	53.2	49.8	56.1	63.7	60.8	66.0	24.5	26.4	22.5
1999 Cohort	54.1	50.5	57.0	64.0	61.3	66.3	29.1	29.5	28.6
2000 Cohort	54.8	51.3	57.7	64.5	61.7	66.7	32.6	35.5	29.1
2001 Cohort	55.0	51.7	57.8	64.4	61.4	66.7	24.5	27.6	21.1
2001 Open Admissions	31.2	27.4	34.4	34.9	32.8	36.8	24.5	27.6	21.1
<i>Percent Completing Certificates or Associate's Degrees Within 150 Percent of Normal Time</i>									
1999 Cohort	22.9	21.6	24.2	44.7	43.6	45.7	61.0	63.2	59.1
2000 Cohort	23.6	22.2	24.8	50.1	49.5	50.7	59.1	59.3	58.9
2001 Cohort	22.9	21.7	24.0	54.8	57.0	51.9	58.7	58.9	58.5
2002 Cohort	21.9	20.9	22.8	49.1	51.1	47.3	57.1	56.6	57.4
2003 Cohort	21.5	20.8	22.2	49.0	49.6	48.5	57.2	58.0	56.8
2004 Cohort	20.3	19.6	21.0	44.4	43.2	45.4	58.2	58.1	58.3

Source: National Center for Education Statistics

It has also been reported publicly that repayment rates are lower among for-profit students than among public or private not-for-profit students. The data released by the Department of Education show repayment rates of 36, 56 and 54, respectively for these groups of students. However, virtually all of the difference between for-profit and public colleges is explained by the fact that for-profit college students are more likely to receive Pell grants. Receipt of Pell grants is income-dependent, and so Pell receipt is a strong predictor of having low family income and low family wealth.

If one splits all schools into two groups – those where more than 50 percent of the students receive Pell grants, and those where less than 50 percent of the students receive Pell grants – and then compare for-profit and public colleges, there are not large differences in repayment rates. Among 2-year schools, in the high-Pell group, the repayment rate at for-profits is 33.0 percent, compared with 36.2 percent at public. Among 2-year schools, in the low-Pell group, the repayment at for-profits is 46.5 percent, compared with 43.3 percent at public. Turning to 4-year or above

schools, in the high-Pell group the repayment rate at for-profits is 29.1 percent, compared with 35.6 percent at publics. And among 4-year or above schools, in the low-Pell group the repayment rate at for-profits is 38.5 percent, compared with 57.5 percent. It is not surprising that the largest difference is among 4-year low-Pell schools. These public schools are the most likely among the comparisons just listed to have selective admissions policies.⁶

Table 2
Average Repayment Rate by Sector and Pell Designation

Sector	High Pell		Low Pell	
	Average of Estimated Repayment Rate	Percent of OPEIDs in Sector	Average of Estimated Repayment Rate	Percent of OPEIDs in Sector
Private for-profit- 2-year	33.0%	73%	46.5%	27%
Private for-profit- 4-year or above	29.1%	56%	38.5%	44%
Private for-profit- less-than 2-year	35.5%	73%	48.6%	27%
Private not-for-profit- 2-year	46.0%	41%	65.4%	59%
Private not-for-profit- 4-year or above	36.9%	17%	62.1%	83%
Private not-for-profit- less-than 2-year	39.9%	51%	58.7%	49%
Public- 2-year	36.2%	26%	43.3%	74%
Public- 4-year or above	35.6%	16%	57.5%	84%
Public- less-than 2-year	50.9%	70%	46.9%	30%

Note: High Pell is defined as having a Pell Percentage of 50% or more.

Source: Data released by the Department of Education on August 13, 2010.

Why is Pell receipt so strongly related to repayment rates? There are likely at least two reasons. First, the repayment rate as defined by the Department of Education counts a student as not repaying if he goes into forbearance or deferment, two options legally available to students, and Pell students are more likely to qualify for those options. Second, because they qualify based on low family income and family wealth Pell students have fewer outside resources to draw on when they face economic hardship. Particularly during recessions such as the severe one we find ourselves in right now, but not exclusively so, those with few outside resources are more likely to defer payments or default on loans.

These two comparisons illustrate that comparisons between for-profit colleges and the rest of the higher education sector need to be thoughtful to be informative. For-profit colleges are almost all open enrollment, meaning they do not restrict admission based on the student’s income or academic record. For-profit colleges also are far more likely to enroll “non-traditional students.” Students at for-

⁶ Pell eligibility is based on economic factors of the individual student and her family. Pell eligibility does not reflect other individual characteristics such as aptitude, skill, ability or desire. Pell eligible students at institutions with high admission standards likely differ from Pell eligible students at institutions with less restrictive, or open, enrollment policies. Thus, other individual characteristics are important factors to consider when examining differences in measures such as repayment rates, graduation rates, default rates and placement rates.

profit colleges are more likely to be the first in their family to attend college, more likely to be working adults, more likely to be female and more likely to be racial and ethnic minorities. As many of these are groups that have historically been denied access to higher education, it would be a mistake to punish these schools solely for serving these students.⁷ Once again, it is clear that the focus of policymakers should be on ensuring these students attend programs that are high quality and that benefit students. Unfortunately, neither the measure of debt nor the repayment rate as defined is a measure of program quality.

E. Research on the economic returns to education

[In a separate comment submitted in response to the same NPRM, Dr. Anthony Carnevale criticized our earlier writings on this topic. Simply put, we believe Dr. Carnevale is incorrect with respect to the economics of the problem, and that he mischaracterizes the academic research on the topic. A response to his criticism can be found in Appendix A at the end of this comment.]

By focusing primarily on the cost side of the education investment decision, the proposed rule does not account properly for the benefits of education. There is a large and well-established literature in economics documenting the large benefits of education (see e.g. David Card, 1999 and Claudia Goldin and Lawrence Katz, 2008 for discussions). Economic studies typically find that each additional year of schooling on average raises a student's annual earnings by between 8 and 15 percent. These studies vary in the level of education they examine, but the general finding is that the returns are fairly similar for different levels of education. For example, one prominent study focuses on the benefits of staying in high school for an extra year among students who drop out of high school at the earliest date allowable by compulsory schooling laws (Joshua Angrist and Alan Krueger, 1991). This study finds earnings increases for these high school dropouts of about 10 percent per year of schooling in 1980, a point in time when the returns to schooling were significantly lower than they are today.

The highest-quality study that examines the returns to community college education is by Tom Kane and Cecilia Rouse (1995). Using data that follow students who completed high school in 1972, they find that the returns per credit at 2-year colleges is no different than the return per credit at 4-year colleges; this is true both for students who completed Associate's degree programs and for those who only completed a semester or two's worth of classes. On a per year basis, they find

⁷ There are several equally important questions that we believe the Department should be raising in light of these enrollment trends. For example, are there ways for-profit colleges have designed their programs that students find attractive, more convenient and more accessible? Why have traditional public universities and community colleges failed to grow to meet the increased demand for postsecondary education? What can be done to encourage public and not-for-profit colleges to attract the students for-profits are serving? What can be done to encourage public and not-for-profit colleges to increase availability of on-line courses, flexible class schedules, and flexible academic calendars?

returns of 4-6 percent. These estimates come from a period when the return to education was on the low end of the 8-15 percent range. As is well documented, the return to education has risen consistently over time since then (see e.g. Card, 1999; Goldin and Katz, 2008). If the return to community college has risen in the same proportion with the returns to all other levels of schooling that have been studied, ranging from high school to college, these estimates imply the return per year of a 2-year community college program would be between 8 and 10 percent today.

Since the time both of those studies measured earnings, the returns to education has consistently increased. Claudia Goldin and Lawrence Katz (2008), estimate that in 2005 the return to education was between 13 and 14 percent per year. Thus, a student completing four years of college on average earned more than 55 percent more each year than a high school graduate. They conclude that:

The true economic rate of return would remain high even after adjusting for the direct resource costs of providing a college education. Thus, investments in schooling would appear to make enormous economic sense. What is preventing America from crossing the finishing line?

One possibility is that some young people might *not* actually benefit from going to college. The rate of return we have estimated may not be applicable to some young people who do not currently attend or complete college. The average wage gap between college and high school workers may, therefore, overstate the returns to those on the margin of going to college. But that possibility appears not to be the case.

Recent estimates of the rate of return to a year of schooling have used “natural experiments” from policies that have increased access to college, changed college tuition subsidies or merit aid, and altered compulsory schooling laws. These carefully executed studies using plausibly exogenous variation in educational attainment find high rates of return to further schooling. Because these returns would accrue to the marginal youth affected by such policy interventions, often an individual of modest means, they reinforce our conclusion that returns could be extremely high for many individuals currently not finishing college or even not finishing high school. (Goldin and Katz, 2008, p. 336.)

A similar point is made by David Card (1999). He explains that the natural experiments referred to by Goldin and Katz fall into two general categories, those that vary the benefits to schooling and those that vary the costs. He shows that studies that vary the cost of schooling tend to find larger returns. He then explains that these studies are informative of the returns for students who do not attend because of difficulty paying for college, whether because they face higher borrowing costs or because they have fewer

financial resources. These are precisely the students that Title IV funding is meant to encourage to continue their schooling. What evidence exists suggest that the benefits of further education for these students is, if anything, higher than for the students who can more easily afford college tuition.

We suggest that the Department of Education encourage direct experimental or quasi-experimental studies of the returns from for-profit colleges, though we suspect the results from all of the studies described above, as well as those referenced by Goldin and Katz and Card, are informative. Whether the use of Title IV aid to attend for-profit colleges is beneficial to students depends crucially on what these earnings returns are. As the results from Kane and Rouse (1995) and the summary of the literature from Goldin and Katz (2008) show, the quality studies that do exist do not suggest that the returns to education are similar at different levels of schooling (i.e. high school versus college) and that the returns are if anything higher for students who might be discouraged from attending college because of high costs. We therefore think the large base of academic research suggests that the return to for-profit colleges for students receiving Title IV aid are likely to be in line with the returns estimated for other types of schooling. However, there is likely to be a good deal of variation in returns across programs, just as there is variation in quality of public and not-for-profit colleges.

We are aware of a small group of top academic economists who are currently conducting studies of the return to education at for-profit colleges. One of these researchers, Stephanie Cellini Assistant Professor of Public Policy and Economics at George Washington University's Trachtenberg School of Public Policy & Public Administration, has published a number of articles on for-profit colleges. Along with Latika Chaudhary, of Scripps College, she is currently working on a study of the return to education at private and public 2-year or less colleges. She is able to make before-after comparisons of earnings, hours worked, employment, and hourly wages for the same individuals before and after they complete 1- and 2-year certificate and Associate's programs. Her preliminary results show no evidence of smaller returns at private (the majority of which are for-profit) colleges. Her preliminary results also suggest increases in weekly earnings resulting from education at private (again, the majority of which are for-profit) 2-year or less colleges that are around the low end of the returns typically found for most other schooling, and that are as high or higher than the returns we assume in our example calculation described in section I.C., above. In addition to these weekly earnings benefits, her preliminary results suggest large increases in the likelihood of employment associated with completing a certificate or 2-year degree program. Any increase in employment would of course be a benefit that is above and beyond the increase in earnings among those with jobs.

If the returns that accrue to students who attend for-profit colleges are in line with the returns found for most other schooling, then any policy that restricts growth in capacity in the for-profit college sector will hurt potential students. If the returns to for-profit college education are significantly lower, then restricting access to poor quality programs will protect uninformed students. Without knowing what the returns are, however, a rule that shuts down programs and restricts their growth has the potential to hurt the students it intends to protect. Because the consensus among top researchers in the area is suggestive that the returns might be quite high, more research should be done before taking action that has the potential to restrict access to many of the types of students that tend to benefit the most from additional schooling.

Just to give a sense of how important the returns are relative to the debt guidelines implied by the proposed gainful employment rule, consider a return to schooling of 8 percent per year. With this return, a student attending two years of college will earn 16 percent more each year than he would have if he had stopped schooling after completing high school. That student could pay 8 percent of his annual earnings on student loans, as suggested by the proposed rule, and still have 8 percent more each year, until the loan is repaid, than he would have had if he did not take out the loan and did not complete the schooling. This calculation ignores any foregone earnings while he was in school, which should be considered as a significant cost, and it also ignores the years beyond the loan repayment when the benefits continue but loan payments do not. It points out, however, that for a student who gets these average gains the loan is affordable on an annual basis. For students that get much smaller returns, such loan payments may not be affordable. For this reason, learning more about the returns to these types of programs is necessary to make informed and thoughtful policy.

F. Protecting students and taxpayers

The NPRM refers to a goal of protecting both students and taxpayers. We focus mostly here on the perspective of the students because we believe these concerns are most important. Because the discussion both in the NPRM and in the public sphere has been confused with regard to some economic concepts surrounding gainful employment and the costs of for-profit postsecondary schooling, we wish to comment on those, too.

First, it is claimed that the proposed gainful employment rule is intended to protect the taxpayer's investment. This claim is based on high default rates reported on Title IV loans in the for-profit sector. Such logic would imply that funding for community colleges and other public postsecondary institutions should be cut to protect the taxpayer since direct funding to public institutions is equivalent to loans that are never expected to be repaid. To be clear, we think cutting funding for community colleges and other public postsecondary institutions would be a terrible idea. Funding for all forms of postsecondary schooling needs to be

increased. In light of the very high returns we describe above, it is a terrible mistake that funding for community colleges in particular is not increasing to allow for the increases in capacity necessary to educate all students who would benefit.

Unfortunately, the argument that protecting taxpayer dollars means monitoring what fraction of them are repaid implies precisely the wrong policy with respect to community colleges. For this reason, we believe default rates should be viewed primarily from the standpoint of the student, not the taxpayer. To the extent that default rates are informative of the benefits students are receiving from a program relative to its costs, they should be examined. Without reference to other measures of benefits to students default rates are not a good measure of the returns to taxpayer spending. Many government expenditures on education are never repaid, but are important and good uses of taxpayer dollars.

From the standpoint of the taxpayer the expenditures devoted to schooling includes both those devoted to student loans and those that come in the form of direct spending. While for-profit colleges receive more Title IV dollars per student, public colleges and universities receive significantly more direct government funding, particularly from state and local governments. These direct subsidies are one important reason that community colleges are able to charge tuition that is significantly lower than their costs.

The true costs to taxpayers are different across these two types of expenditures. Direct subsidies are not returned, and so they must all be financed through tax revenues or deficits.⁸ Some portion of student loan disbursements must also be financed through tax revenues or deficits. However, despite defaults, a large portion of those loans is eventually repaid. The government must finance the portion that is not repaid and the interest on the loan amount during the time it is awaiting repayment.

Based on the public discussion surrounding the Department's proposal, there exists the belief that the cost of educating students at for-profit schools is greater than at other institutions. However, when direct subsidies paid by the federal, state and local governments are considered, the per-student costs of education are similar at for-profit and public institutions, both of which are considerably less than at private not-for-profit institutions. The difference between the for-profit and public institutions is who bears the burden of this cost, taxpayers or students.

A second economic concept that has been confused in the public discussion surrounding the proposed gainful employment rule is the cost of education to the student. It is often pointed out that for-profit Associate's degree programs have significantly higher tuition than community college Associate's degree programs.

⁸ As the available tax revenue has decreased there has been upward pressure on tuition charges at public universities and community colleges. This trend, in addition to capacity constraints, might be expected to continue as funding sources become less available.

It is commonly implied that students would be better off attending community college programs with lower tuitions. A key point that is made in all standard economic analyses of educational investment is that the costs of education include both the direct costs (tuition, books, etc.) and what economists call the opportunity costs. The main opportunity cost in the case of education is foregone earnings.

If one attends school full-time, the earnings she would have received from the job(s) she stops doing are real costs. In many cases, the foregone earnings account for significantly more than half of the total costs (i.e. they are more than the tuition). This means that for a student that attends school full time, the difference in cost is a smaller fraction of total costs than a comparison of tuition would indicate.

More importantly, programs that allow students to continue to work full-time while they receive an education can be less expensive than lower-tuition programs that require students to stop working. To the extent that for-profit programs allow students to continue working, whether because they offer more online options or because they are scheduled at night and on weekends to accommodate working adults, the tuition comparison may be misleading.

G. More capacity is needed to educate all students who would benefit relative to the costs of education

The President has called for the U.S. to lead the world in college degrees by 2020. We believe this is a laudable goal, and that many students will benefit if the nation meets it. In order to reach this goal, it is estimated that upwards of 8 million more students must complete postsecondary programs over the next decade than would do so if there were no growth.

There are many reasons to support the President's push for more students to receive some college education. Primary among these is the high return to education that we described above. Postsecondary schooling is perhaps as important for economic success as it has ever been, and almost certainly since the early part of the last century. Changes in the economy and in the types of goods and services that are produced in the U.S. have made skills more and more valuable over the past 30 years (see e.g. Katz and Murphy, 1992; Goldin and Katz, 2008). At a time when earnings inequality is distressingly high, increased educational attainment has the potential to help reduce these earnings gaps and to improve the economic well being of many non-traditional students.

Yet at the very time when the skills are most in demand and postsecondary schooling is such a key to economic well being, much of the higher education sector has not increased its capacity. In fact, most state governments are in such difficult fiscal shape that unless some dramatic changes in funding for public colleges occurs these schools are likely to be dramatically restricted. At the very time when more students need to be educated, community colleges are not growing and in many cases are already at capacity. The tragedy is that the students most likely to be

affected by insufficient growth in the higher education sector are from groups that have historically had low access, and who may have very high returns (see the discussion of Goldin and Katz, 2008 and Card, 1999 above).

Table 3
Enrollment growth by type of institution through 2007:
5, 10, 20 and 30 years

	Total	Public	Private Not-for-profit	Private For-profit
Total percent growth in enrollment:				
30 years	62.06%	53.55%	48.28%	1700.87%
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:				
30 years	1.62%	1.44%	1.32%	10.12%
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.

And, during this time of remarkable increases in the returns to higher education, and of changes in the U.S. economy that have made high-level skills more and more valuable, there has not been commensurate growth in the nation's capacity to educate students beyond high school. Consider the annual growth rates in enrollment in different sectors of postsecondary education, shown in the table above. Over the past 30 years, according to data collected by the Department of Education, the annual average enrollment growth rate in public and private not-for-profit postsecondary schools has been 1.4 and 1.3 percent, respectively. Recall that this is during a period when the economic returns to a college education have possibly doubled (see e.g. Goldin and Katz, 2008). The lack of expansion in postsecondary education is part of the reason for the U.S. falling behind in the fraction of population that are college graduates, what the President points to as motivation for his call to increase the number of college completers.

Contrast these numbers with the annual enrollment growth rate at for-profit postsecondary institutions. The comparable average annual growth rate at these schools has been 10.1 percent over the past 30 years. Only this small portion of postsecondary schooling has grown as the demand for college education has increased. We emphasize that the question of quality is the key. If for-profit colleges are providing students with education and skills that lead to positive economic benefits after accounting for costs, then this growth in education capacity is an important positive development that should be encouraged for the good of students and of the economy. If not, then this growth is something to be concerned about. In that case, we need to learn more about why the high-quality programs are not expanding to meet the needs of the many students who would benefit from them.

Again, the focus should be on quality. Measures of debt relative to early career earnings, or of repayment rates as they are calculated in the proposed rule, are not measures of program quality. It is easy to think of very high-quality programs that lead to very high levels of debt. Consider, for just a few examples, Harvard, MIT and medical and law school graduate programs. Students coming out of those programs – who are not from families that can afford to pay their tuitions for them – leave with very high debt loads. However, one would not argue that Harvard’s high tuition (the reason for the high debt loads) is a sign of Harvard being a low-quality institution.

Calculations we have done indicate that if the debt-to-earnings ratio test were applied to medical schools at a student level, the poorest one-third of students in the U.S. would not be allowed to become doctors. And many more would be forced to choose between owning a home and paying for their child’s medical school. These calculations also indicate if one followed the 8 percent rule, in order to attend medical school it would be necessary to pay \$90,000 without borrowing. The Survey of Consumer Finances, sponsored by the Federal Reserve Board, indicates that the median net-worth of non-whites and Hispanics was \$28,200. In other words, if the 8 percent debt-to-earnings rule were applied at a student level, the vast majority of non-white and Hispanic students would not have a chance of becoming doctors.

Returning to recent growth rates in postsecondary capacity, the historical numbers shown above are likely to actually overstate the growth in capacity at community colleges in the near future. Many states are in bad fiscal shape, and as a result funding of community colleges may be cut. If this is to happen, it is possible that the capacity of the nation’s community colleges to educate students could be restricted. It is troubling that this could happen to schools that serve a disproportionate share of low-income, low-wealth and racial and ethnic minority college students.

Because the economic returns are so high, and earnings inequality is so dramatic, public policy should be encouraging growth in postsecondary options for students. Policy should try to ensure that students make informed decisions regarding education investments. And, to the extent necessary regulation should focus on program quality, which should be measured by the economic benefits that accrue both to students and to the economy more generally, compared with the costs paid both by students and by taxpayers.

Part II: Evaluation of the rule’s possible impact

In this section we present our analysis of the effect the rule may have both on schools and students. We begin by describing the data we collected to conduct the analysis. We then describe our estimates of the fraction of for-profit programs that will be deemed

ineligible and restricted. After describing the baseline results, we discuss school and student responses to the rule that might affect the number of students affected. We then describe some criticisms of the Department's analysis of school and student responses to the rule, which we believe are too optimistic. After this discussion, we present our estimates of how many fewer students would enter postsecondary schooling over the next decade as a result of the proposed rule. We conclude the section with a discussion of the possible unintended discriminatory incentives that we worry could be created by the proposed rule.

A. Description of the data collected to conduct the analysis

To assess the possible impact of the proposed gainful employment rule, we collected data from for-profit colleges. In February 2010, we sent out a request to all members of the Career College Association to share their 2006-2008 Cohort Default Rate (CDR) loan-level files, as well as several other data elements that we expected schools might have on their individual student records.

We received responses from 308 schools (identified by OPEID's), representing approximately 450 campuses, including information on approximately 10,000 programs and more than 600,000 students. While there is no way to tell for sure that the sample is perfectly representative, the coverage is remarkably large, accounting for more than one-fifth of all students in for-profit colleges. The size of the sample relative to the population we wish to measure suggests the results are likely to be quite informative of students in the for-profit postsecondary sector. These data include loan amounts and repayment status – including whether loans are repaid in full, in deferment or forbearance – as well as whether the student completed her program, and for most students a total loan amount inclusive of federal, other governmental and institutional loans. For students for which we only observe federal loans, we inflate the loan amount by 1.47, the ratio of total loans to federal loans among students at for-profit colleges who took out federal loans, as reported in the 2008 NPSAS.⁹

These data allow us to calculate most elements of the proposed gainful employment rule fairly precisely. In some cases, we can calculate inputs into the formula more correctly than was done in the Department's own analysis. For example, we are able to calculate repayment rates at the program level, rather than the institution level as the Department was forced to do. As we discuss below, this detail may cause the Department's analysis to underestimate the fraction of programs with low repayment rates in each year.

In two ways our data are less than ideal. First, though we have very detailed data on individual Title IV loans, there is some detail we are missing that would be used to calculate repayment rates exactly as specified in the NPRM. We observe

⁹ Source: NPSAS, 2008.

whether loans are in deferment, in forbearance, in default, or in what is called “repayment” in the CDR data. We believe that this latter category includes loans for which payments are late but which are not yet in default. We present two analyses, one that assumes all of these loans are being repaid on time (and thus systematically overestimates the repayment rate and therefore underestimates the failure and restricted rate of programs), and another that adjusts our estimated repayment rates by a factor of 0.86 so that our average repayment rate is the same as the average repayment rate in the Department of Education’s data for for-profit schools.

Second, we do not have access to the individual students’ social security or IRS earnings records because those are protected for privacy reasons. In their place, we calculate estimated annual earnings from the Current Population Survey (CPS), a nationally representative survey conducted by the Bureau of Labor Statistics to measure the official monthly unemployment rate. From these data, we estimate the average annual earnings for 18 to 30 year-olds in the occupations that correspond to the area of study for each program (using the CIP code to SOC code correspondence from the Bureau of Labor Statistics). While there may be considerable variation in the CPS earnings relative to those of graduates in any particular program, the student weighted CPS average across programs is similar to the student-weighted average reported by the Department of Education for the Missouri analysis. The average of annual earnings (weighted by student enrollment) in the Missouri data is \$28,684; the average of annual earnings in our data (also weighted by student enrollment) calculated from the CPS is \$29,649. A comparison of the unweighted average across programs that have a 4-digit CIP code in both the Missouri data and the CPS data shows a larger divergence between the two populations with the Missouri average approximately \$6,000 less than the CPS average. There is also considerable variation in the difference between the two measures, in part due to the smaller sample sizes in the Missouri data. To the extent that our earnings estimates are higher than what would be used in practice, our estimates will understate the impact on for-profit programs and students.

To calculate the fraction of programs and students in our data that would fall into each designation of the rule, we define a program to be a specific 6-digit CIP code at a particular campus of a school (defined by OPEID) and of a particular length (less than 2-year, 2-year, 4-year, greater than 4-year). We then calculate the median total debt from the students in each program. Because our data is drawn from the CDR microdata we do not observe students with no Title IV loans. To calculate the median among all graduates, it is necessary to impute some fraction of students with loan amounts less than the median. From the 2008 NPSAS, we estimate that among for-profit students, 4.1 percent of those in 4-year programs, 2.9 percent of those in 2-year programs and 23.9 percent of those in less than 2-year programs take no federal loans. We therefore calculate an adjusted median assuming these

respective fractions of students in each program have zero loans.¹⁰ We calculate the annual loan payment for a loan of that amount with a 6.8 percent annual interest rate and a 10-year repayment length. We then compute the ratio of this amount to the annual early career earnings we estimate for the program from the CPS data.

To calculate repayment rates we use the individual loan data from the CDR files. For each loan we observe the loan amount and its status. Loans amounts reported as paid in full and in repayment are counted in the numerator. These loan amounts plus those reported as in deferment, forbearance and consolidated but not paid in full are counted in the denominator. As we describe above, loans reported as being in “repayment” in the CDR include loans that are delinquent and/or for which principal is not being paid down yet. For this reason we overestimate repayment rates. To address this problem with our data, we compare our average repayment rate with the average repayment rate reported by the Department of Education for for-profit schools. Because the Department’s average is 86 percent as large as our average, we conduct separate analyses after multiplying each program’s repayment rate by 0.86.

B. Baseline results

Our first set of baseline results is shown in Table 4. We estimate that 7.1 percent of programs in our data would be in the ineligible category if the proposed rule were applied. An additional 11.3 percent of programs would be restricted. The programs in our data are of varying sizes such that the fraction of programs in each category is not equal to the fraction of students in failing or restricted programs. If we count the number of students in programs in each category, we find that 7.5 percent of students in the for-profit programs in our data are in programs that would fail the proposed test. An additional 19.6 percent of students would be in restricted programs.

¹⁰ In the NPRM, the Department discusses the importance of measuring median debt including all graduates, not just those who have debt. However, in the Department’s analysis of the rule’s impact, only those with debt appear to be counted. It is important that if a rule based on median debt were adopted all graduates are in fact included in the calculation of the median.

Table 4

Impact of Gainful Employment Proposed Regulations - Adjusted Repayment Rates						
Programs						
Total Number of Programs Subject to the Proposed Regulation: 11,304	Debt-To-Income				Missing	Total
		Using 3YP: Between 8% and not more than 12% of Annual Earnings OR Between 20% and not more than 30% of Discretionary Income - Using P3YP: Not Applicable	Using 3YP OR P3YP: 8% or less of Annual Earnings OR 20% or less of Discretionary Income			
At least 45%	6.2%	5.7%	25.0%	0.2%	37.1%	
At least 35% and Less Than 45%	3.3%	2.5%	7.5%	0.1%	13.3%	
Below 35%	7.1%	5.6%	33.1%	0.4%	46.2%	
Missing	0.4%	0.3%	1.6%	1.1%	3.4%	
Total	16.9%	14.1%	67.3%	1.7%	100.0%	

Eligibility Description	Percent
Percent Ineligible	7.1%
Percent Restricted	11.3%
Percent Eligible	77.6%
Percent Not Able to Determine	4.0%

Impact of Gainful Employment Proposed Regulations - Adjusted Repayment Rates						
Students						
Total Number of Students Enrolled in Programs Subject to the Proposed Regulation: 664,971	Debt-To-Income				Missing	Total
		Using 3YP: Between 8% and not more than 12% of Annual Earnings OR Between 20% and not more than 30% of Discretionary Income - Using P3YP: Not Applicable	Using 3YP OR P3YP: 8% or less of Annual Earnings OR 20% or less of Discretionary Income			
At least 45%	8.6%	10.3%	21.6%	0.1%	40.5%	
At least 35% and Less Than 45%	9.9%	5.4%	17.4%	0.1%	32.8%	
Below 35%	7.5%	4.3%	14.2%	0.1%	26.2%	
Missing	0.0%	0.0%	0.5%	0.0%	0.5%	
Total	26.1%	20.0%	53.7%	0.3%	100.0%	

Eligibility Description	Percent
Percent Ineligible	7.5%
Percent Restricted	19.6%
Percent Eligible	72.1%
Percent Not Able to Determine	0.8%

Our estimates of impacted programs are higher when we adjust for the fact that our repayment rates are overstated. When we adjust our repayment rates to have the same average as in the Department of Education’s data, we estimate that 8.8 percent of programs would fail, and an additional 13.8 percent of programs would be restricted. Adjusting for our overstatement of the repayment rates, we estimate that 13.0 percent of students are in programs that would fail, and an additional 23.6 percent of students are in programs that would be restricted.

Table 5

Impact of Gainful Employment Proposed Regulations - Adjusted Repayment Rates							
Programs							
Total Number of Programs Subject to the Proposed Regulation: 11,304	Debt-To-Income					Missing	Total
		Using 3YP: Between 8% and not more than 12% of Annual Earnings OR Between 20% and not more than 30% of Discretionary Income - Using P3YP: Not Applicable		Using 3YP OR P3YP: 8% or less of Annual Earnings OR 20% or less of Discretionary Income			
At least 45%	3.9%	3.8%	19.4%	0.2%	27.2%		
At least 35% and Less Than 45%	3.9%	3.1%	8.7%	0.1%	15.7%		
Below 35%	8.8%	6.9%	37.6%	0.4%	53.7%		
Missing	0.4%	0.3%	1.6%	1.1%	3.4%		
Total	16.9%	14.1%	67.3%	1.7%	100.0%		

Eligibility Description	Percent
Percent Ineligible	8.8%
Percent Restricted	13.8%
Percent Eligible	73.4%
Percent Not Able to Determine	4.0%

Impact of Gainful Employment Proposed Regulations - Adjusted Repayment Rates							
Students							
Total Number of Students Enrolled in Programs Subject to the Proposed Regulation: 664,971	Debt-To-Income					Missing	Total
		Using 3YP: Between 8% and not more than 12% of Annual Earnings OR Between 20% and not more than 30% of Discretionary Income - Using P3YP: Not Applicable		Using 3YP OR P3YP: 8% or less of Annual Earnings OR 20% or less of Discretionary Income			
At least 45%	3.7%	5.8%	13.3%	0.0%	22.8%		
At least 35% and Less Than 45%	9.4%	7.2%	15.4%	0.0%	32.0%		
Below 35%	13.0%	7.0%	24.5%	0.2%	44.7%		
Missing	0.0%	0.0%	0.5%	0.0%	0.5%		
Total	26.1%	20.0%	53.7%	0.3%	100.0%		

Eligibility Description	Percent
Percent Ineligible	13.0%
Percent Restricted	23.6%
Percent Eligible	62.7%
Percent Not Able to Determine	0.8%

While the Department’s analysis reported in the NPRM shows a 5 percent failure rate of programs, this analysis is not based on a sample of for-profit programs. In fact, more than half of the programs analyzed by the Department of Education are not for-profit programs. As the Department of Education recognizes that most of the impact of the rule will fall on for-profit colleges, the inclusion of so many not-for-profit schools in the analysis is puzzling. The resulting estimate of a 5 percent failure rate is misleading.

The Department has subsequently reported that the failure rate among for-profit programs in their data is 16 percent, though we think this number refers to the fraction of students, not programs.¹¹ Because our analysis focuses on for-profit schools and scales the effect by the population of students in for-profit programs, this 16 percent failure rate is the relevant one. Alarming, if one calculates the failure rate using the data on Missouri programs that the Department made public, 26 percent of for-profit programs fail the test, and an additional 30 percent of

¹¹ See: <http://www2.ed.gov/policy/highered/reg/hearulemaking/2009/ge-faq.pdf>. The Department later clarified that this is 16 percent of students.

programs would be restricted.¹² If it is indeed true that 16 percent of for-profit students are in programs that would fail the proposed rule, and an additional 34 percent of students are in programs that would be restricted absent changes by the schools or students, our estimates of the number of students affected by the rule should be 25 percent higher than the estimates we report based on our own analysis below.

C. The role of school and student responses to the rule

The estimates we have described so far do not yet account for responses to the rule by schools or students, and as a result may overstate, or possibly understate, the effect of the rule if implemented. Schools may attempt to take actions to bring failing or restricted programs into compliance with the rule. Students shut out from failing or restricted programs might choose to attend other programs.

For example, it has been suggested that programs with high debt-to-earnings ratios could reduce tuition as a way to reduce student debt amounts. While this is possible, we are skeptical that its effect would be as direct as has been suggested. Students are allowed to, and commonly do, borrow amounts in addition to tuition, e.g. to cover living expenses. For these students, it is not clear that reductions in tuition would lead to commensurate reductions in student loans. In addition, for institutions for which the 90/10 rule is binding it may not be possible to reduce tuition without increasing tuition for some other program.

One would expect that some of the students shut out from a program because of its ineligible or restricted status would find another program to attend. However, students' ability to and likelihood of doing so depends on available capacity at public programs (which these students would not have chosen to attend if not for the restriction on the for-profit program), and the availability of other programs in similar fields and that are similarly convenient for the student to attend.

If students shut out from ineligible and restricted programs do attend other for-profit programs, it is possible they would cause those programs to be ineligible or restricted. Recall that the students who would attend ineligible programs are high-debt students. While debt amounts are partly related to the characteristics of the programs, they are also largely a function of student economic characteristics. The programs that absorb these students would likely experience an increase in their median debt and a decrease in their repayment rate.

¹² If one counts the number of for-profit programs that the Department of Education's spreadsheet indicates as failing both the debt-to-income and repayment test, and divides by the number of for-profit programs in the spreadsheet, the result is 0.26, or 26 percent. If one counts up the number of students in ineligible programs, that calculation yields 16 percent. The spreadsheet to which we refer is called ge-data-model.xls, and was downloaded at <http://ifaps.gov> on August 13, 2010.

There is also a question of what effect restricted status would have on the ability of a program to attract students. It seems at least possible that having such a label on a program could discourage enrollment. If this was to happen and restricted programs were to shrink or even close as a result, our estimates could be too low.

We are interested in the effect of the rule not just on current programs and students, but also on access for students going forward. To predict the number of students affected over the next decade, we calculate the number of students entering for-profit programs nationally each year. We then apply the average annual enrollment growth rate over the past 20 years for the for-profit sector to this number. It is then necessary to apply the estimated fraction of for-profit students affected by the gainful employment rule. The preceding discussion points out that an estimate is needed for the effect of school and student responses.

D. Some specific criticisms of the department's analyses regarding student responses to the rule

The Department presents several scenarios of the projected impact of the NPRM on students. These scenarios are based on assumptions about the choices and ability of students in affected programs to complete, switch programs, transfer, or leave education. Since no regulation of this type has ever been implemented it is difficult to predict what type of response students will have, but there are several assumptions that the Department makes that do not seem plausible.

The Department assumes in most scenarios that only around 10% of students in impacted programs will leave education. All other students are assumed to either complete programs, transfer, or switch programs. Given the fact that the student has chosen a particular program in a particular location in which to enroll, the Department's transfer rates implicitly assume several factors about the student and available programs. First, this assumes that students are able to find a comparable program in the same field at either the same institution or a different institution. Second, since it is unlikely that the same institution has a comparable program in the same field of study, this implicitly assumes that there are other institutions where the student could enroll that are equally as convenient for the student to attend. Third, this assumes that the student will be accepted into the transfer program if that program does not have open enrollment. Fourth, if comparable programs in the same field are unavailable this assumes that students are willing to change their field of study when their program fails and can therefore transfer to any other program that remains eligible.

Given that students have considered their options for education and employment before choosing a program, it seems reasonable to believe that most students would like to continue in their chosen field, especially in the for-profit sector where many students are currently working in their chosen field while attending school. However, the Department assumes up to 50% of students will choose to switch programs. It also seems unlikely that most students will have

numerous other options in the same field at different institutions that will be available in the students' local community, and which offer classes at the same time, etc. Even in cases where other options are available, it seems overly optimistic to assume that the other programs have enough capacity to enroll all students from ineligible programs.

Further, the Department makes several assumptions about the students who transfer that seem unreasonable. In all scenarios the Department assumes around 50% of students in ineligible 4-year programs will transfer to eligible 2-year programs, and vice-versa. Again, given that the students have chosen a certain educational path, it does not seem realistic to assume that nearly half of them would alter the length of that plan after their program is deemed ineligible. This is especially true for students who have chosen a 2-year program or a less than 2-year program that would be assumed to transfer to a longer length program, which of course would cost the student more.

In short, we believe the Department's assumptions concerning the fraction of affected programs that would come into compliance and of the fraction of affected students who would make their way to other programs are far too optimistic.

E. Estimates of the effect of the proposed rule on the number of students entering postsecondary education over the next decade

Because there are reasons to believe our baseline estimates may overstate or even understate the impact (particularly if the restricted label causes programs to shut down), and because we believe the Department of Education's analysis understates the impact significantly, we present three sets of numbers. One is from our baseline analysis, one assumes half of all students who would be affected by failing or restricted programs are able to attend anyway, and a third assumes one-quarter of all students who would be affected by failing or restricted programs are able to attend anyway. The latter two analyses include the effects both of schools adjusting in ways that improve programs' status, and of students choosing to go to programs that are different from the ones they otherwise would have attended. All three analyses are based on the estimates that adjust the repayment rate so that it is the same on average as the repayment rate in the data shared by the Department of Education.

Table 6
Estimated Number of Students Impacted by 2020
Median Loan Based on Graduates
CPS Average Earnings by CIP and Program Length

Assumes - No Program Replacement for Ineligible Programs and No Growth for Restricted Programs

Year	Total Number of Students Impacted	Number of Female Students Impacted	Number of Non-Hispanic Black Students Impacted	Number of Hispanic Students Impacted	Number of Asian Students Impacted
2011	126,721	85,335	21,963	20,691	5,997
2012	173,609	115,774	30,888	28,580	7,759
2013	188,887	125,962	33,606	31,095	8,442
2014	205,509	137,047	36,564	33,831	9,185
2015	223,593	149,107	39,781	36,808	9,993
2016	243,270	162,229	43,282	40,047	10,873
2017	264,677	176,505	47,091	43,571	11,829
2018	287,969	192,037	51,235	47,406	12,870
2019	313,310	208,937	55,744	51,577	14,003
2020	340,882	227,323	60,649	56,116	15,235
Total Students Impacted	2,368,426	1,580,257	420,803	389,723	106,188
Total Students Impacted - Assume 25% Continue in Education	1,776,319	1,185,193	315,602	292,292	79,641
Total Students Impacted - Assume 50% Continue in Education	1,184,213	790,129	210,402	194,861	53,094

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 20 years), and the relative student composition does not change during this period.

The estimated numbers of students who would not receive postsecondary education over the next decade are shown in Table 6. Our most conservative estimate, which assumes half of the potentially affected students attend college, is that more than 1.1 million students will be restricted access because of the proposed rule. Because female, Non-Hispanic Black, and Hispanic students are disproportionately represented at for-profit colleges, the numbers are particularly large among these groups. The estimates from this scenario imply approximately 790,000 fewer female students, more than 210,000 fewer Non-Hispanic Black students, and more than 190,000 fewer Hispanic students may attend college as a result of the rule.

If 25 percent of potentially affected students attend college despite the effects of the rule, the numbers are larger, of course. In that case, we estimate that more than 1.7 million students' college enrollment would be impacted, including more than 1.1 million female students, approximately 315,000 Non-Hispanic Black students, and more than 290,000 Hispanic students.

If there were no net effect of school or student responses, the number of students affected would of course be even larger. These estimates imply upwards of

2.3 million fewer students would attend college over the next decade, including more than 1.5 million female students, more than 420,000 Non-Hispanic Black students and almost 390,000 Hispanic students.

While one might criticize the latter estimates as not accounting for the response of schools and students, consider how the estimates would be affected if placing the “restricted” label on programs were to cause them to shut down. In this case, even assuming that 50 percent of potentially affected students would attend college, more than 2.6 million fewer students would attend college over the next decade as a result of the rule.

Furthermore, all of these estimates assume an annual enrollment growth rate at for-profit colleges of 8.8 percent. That is the average annual growth rate in the sector over the past 20 years. Over the past 5 and 10 years, the annual growth rate of for-profit rate has been 10.1 percent. Though there is no way to tell for sure, it is not unreasonable to expect that further cuts in funding of community colleges that may occur in the coming years could lead the enrollment growth rate at for-profit colleges to increase rather than decrease. All of our estimates would be larger if we assumed an annual enrollment growth rate higher than 8.8 percent per year.

The estimates also do not account for the increases in Stafford loan limits that were implemented after most of the students in our data took out their loans. Increases in loan limits may lead to an increase in median debt amounts for some programs, which would cause an increase in the fraction of programs that are deemed restricted and ineligible.

F. Uncertain fate of “restricted” programs

The estimates reported thus far assume that there is no growth in enrollment in restricted programs, but that there is no effect of being restricted on the survival of the program itself. There are a number of reasons to suspect that restricted status may lead to the closing of some programs. First, being labeled restricted may deter students from enrolling. If restricted programs offered students lower return on their investment, then the label would be useful information. However, if programs are labeled restricted because the repayment rate is based on a small sample, because social security earnings significantly understate the earnings that graduates could receive, or because the rule does not focus enough on the benefits the program offers, then the label may provide students with misleading information and is not helpful to them.

Second, the placement of the restricted label on a program may have negative spillover effects on other programs within the same school. Students considering a different program at the school may infer negative things about the institution as a whole because programs within that institution are restricted. For this reason, schools may close restricted programs to avoid negative effects on enrollment at eligible programs.

Table 7
Estimated Number of Students Impacted by 2020
Median Loan Based on Graduates
CPS Average Earnings by CIP and Program Length

Year	Total Number of Students Impacted	Number of Female Students Impacted	Number of Non-Hispanic Black Students Impacted	Number of Hispanic Students Impacted	Number of Asian Students Impacted
<i>Assumes - No Program Replacement for Ineligible Programs and No Growth for Restricted Programs</i>					
Total Students Impacted - Assume 0% of Students in Impacted Programs Continue in Education					
Assume 0% Restricted Programs Shut Down	2,368,426	1,580,257	420,803	389,723	106,188
Assume 10% Restricted Programs Shut Down	2,694,434	1,773,670	488,299	448,564	117,424
Assume 25% Restricted Programs Shut Down	3,183,445	2,063,788	589,542	536,827	134,278
Assume 50% Restricted Programs Shut Down	3,998,465	2,547,318	758,282	683,930	162,369
Assume 75% Restricted Programs Shut Down	4,813,484	3,030,849	927,021	831,034	190,460
Assume 100% Restricted Programs Shut Down	5,628,504	3,514,379	1,095,761	978,138	218,550
Total Students Impacted - Assume 25% of Students in Impacted Programs Continue in Education					
Assume 0% Restricted Programs Shut Down	1,776,319	1,185,193	315,602	292,292	79,641
Assume 10% Restricted Programs Shut Down	2,020,825	1,330,252	366,224	336,423	88,068
Assume 25% Restricted Programs Shut Down	2,387,584	1,547,841	442,157	402,620	100,709
Assume 50% Restricted Programs Shut Down	2,998,849	1,910,489	568,711	512,948	121,777
Assume 75% Restricted Programs Shut Down	3,610,113	2,273,136	695,266	623,276	142,845
Assume 100% Restricted Programs Shut Down	4,221,378	2,635,784	821,820	733,603	163,913
Total Students Impacted - Assume 50% of Students in Impacted Programs Continue in Education					
Assume 0% Restricted Programs Shut Down	1,184,213	790,129	210,402	194,861	53,094
Assume 10% Restricted Programs Shut Down	1,347,217	886,835	244,149	224,282	58,712
Assume 25% Restricted Programs Shut Down	1,591,723	1,031,894	294,771	268,413	67,139
Assume 50% Restricted Programs Shut Down	1,999,232	1,273,659	379,141	341,965	81,184
Assume 75% Restricted Programs Shut Down	2,406,742	1,515,424	463,511	415,517	95,230
Assume 100% Restricted Programs Shut Down	2,814,252	1,757,190	547,880	489,069	109,275

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 20 years), and the relative student composition does not change during this period.

To show how important this question is, above we present estimates of the reduction in students going on to college over the next decade under different assumptions of the fraction of restricted programs that shut down. The table reports estimates based on the three different assumptions about the percent of potentially affected students that attend college (zero, 25, and 50 percent).

Beginning with the assumption that 50 percent of potentially affected students attend college, if 10 percent of restricted programs shut down each year, our estimate of the number of students affected over the next decade increases from 1,184,213 to 1,347,217. If 25 percent of restricted programs shut down each year, we estimate that almost 1.6 million fewer students will attend college over the next decade as a result of the proposed rule. If we assume that 50 percent of restricted programs shut down each year, we estimate that nearly 2 million fewer students will attend college over the next decade as a result of the proposed rule. Finally, if 75 percent of restricted programs shut down each year, we estimate that

approximately 2.4 million fewer students will attend college over the next decade as a result of the proposed rule.

Each of these estimates is 50 percent larger if 25 percent of potentially affected students attend college, and twice as large if there is no net ameliorative response on the part of schools and students. These estimates are shown in the table above and range from 1.7 million students to nearly 4.8 million students.

G. Ongoing impacts of the proposed rule

Our analysis does not address the important way in which the proposed rule might affect the creation of new programs. (We also discuss the proposed rules regarding the establishment of new programs in Part III below.) As we discussed in the first section of this comment, changes in the economy have made a college education more and more important over the past 30 years. There is a need for the nation to educate more students beyond high school, and to do that it will be necessary to increase capacity throughout postsecondary education. The proposed rules regarding approval of new programs have the potential to discourage innovation and growth among for-profit colleges. This is an even more worrying possibility in light of the slow growth we expect from the public and private not-for-profit schools.

In addition, our estimates of the impact of the proposed rule over the next decade may be understated because we essentially assume that, in the absence of responses by schools of the type described in section C, the number of programs moving from ineligible to restricted/eligible each year would equal the number of programs moving from restricted/eligible to ineligible. We suspect in practice the restrictions placed on ineligible programs will make it quite difficult to regain eligibility. Whereas, the small-sample fluctuations in the measures are likely to cause some programs to move from restricted/eligible to ineligible each year. If this were the case, the impact on total enrollments would likely be larger than we report above.

H. The rule may create an incentive to discriminate

An additional concern we have that we have not yet addressed directly is the possible discriminatory incentives that the rule might create. If schools want to take action to improve their standing with respect to the proposed rule, the most effective way to do so will be to select students they predict will take on small loan amounts and will not default. It is likely to be easier to select students who would have done these things regardless of the school they attend than to affect the borrowing and repayment behavior of students.

We are concerned that the rule may induce some schools to move away from open enrollment, thereby reducing educational opportunities for many students. We are further concerned that the rule will push schools to select locations and to select admissions criteria to reduce the number of low-income students they admit or

attract. If this were to occur, it is possible that there could be a disproportionately large decline in enrollment among racial and ethnic minority students.

Returning to a theme we have emphasized throughout our comment, whether a reduction in enrollment is good or bad depends not on whether those students would have had to borrow large amounts to attend school. (If this were the case, it would always be good policy to discourage low-income students from attending college.) Rather, it depends directly on whether the students in question would have gained more from the education than the costs. We hope that if a rule resembling the one proposed is implemented, special attention is paid to the net effects on access and enrollment by low-income students.

Part III. Concerns about the implementation of the rule

In this section, we describe a number of concerns we have regarding the implementation of the proposed rule. The concerns we describe are not exhaustive. A major concern relates to the way small sample sizes are likely to have important effects on the metrics in the formula. As we describe, many programs are quite small, leading us to worry that debt to earnings ratios and repayment rates will be calculated from small samples. Another set of concerns relates to the use of social security or IRS earnings data from the graduates of programs. In addition to the small sample problem just mentioned, the use of these data to measure earnings introduces a number of measurement concerns. Other concerns include the way in which the Department assumes the rule will affect tuition levels, the way repayment rates are measured, and the effect of macroeconomic conditions on the debt to earnings ratio and repayment rates.

A. Concerns regarding small programs and small sample sizes

One particular concern we have regards the treatment of small programs. Because the rule is based on statistics measured from the students enrolled in or completing a program, the repayment rates and debt to earnings ratios are likely to vary significantly from year-to-year in programs with low numbers of students or graduates. Such fluctuations are unlikely to be related to the quality or actions of the program; the choices or luck of a few students could cause these ratios to change significantly.

To illustrate this point, the table below shows the fraction of programs with very high and very low repayment rates, separately for programs with 10 or fewer students and for programs with more than 10 students. Among larger programs, 0.1 percent have repayment rates of 90 percent or above, while 1.2 percent have repayment rates of 10 percent or below. The fraction of programs with very high or very low repayment rates is much larger among small programs. Among programs with 10 or fewer students, 21.9 percent have repayment rates of 90 percent or

above, and 47.1 percent have repayment rates of 10 percent or below. It is unlikely that there is so much more variation in program quality among small programs than among larger programs. This pattern is what would be expected when calculating averages from smaller samples; it suggests that a good deal of the variation in repayment rates is due to measurement error rather than true differences across programs.

Table 8
Percent of Programs with High or Low Repayment Rates

	Less than 10% Repayment Rate	Greater than 90% Repayment Rate
Programs with 10 students or less	47.1%	21.9%
Programs with more than 10 students	1.2%	0.1%

The Department was not consistent in its definition of a program in its analysis described in the NPRM, and has offered imprecise explanations of how very small programs would be treated. The Department has made reference to calculating certain elements at the 4-digit CIP code level, or 2-digit CIP code level as necessary. We suggest that the Department be more specific about how such determinations would be made. For example, how few students would have to be in a program to trigger the redefinition? There have been some references by the Department to using only the repayment rate for programs too small to get reliable earnings data. This shows that the Department recognizes the problems with measurement of small programs. However, the repayment rate is likely to suffer from the same mismeasurement due to small sample sizes as average earnings.

To show how significant a problem this could lead to, consider the table below, which shows the number of programs of different sizes in our data. Recall that counts of students in our data refer to the number of students who exit (whether by completing or not) a program during the 2006 through 2008 fiscal years and who took Title IV loans. Because students leaving a program are the ones on whom the measures in the rule would be based, this count is a relevant measure of program size for the purpose of the proposed rule.

Table 9
Distribution of Programs by Number of Students
All Programs

Number of Students in Program	Number of Programs	Cumulative Percent
1 - 5	6,249	55.3%
5 - 10	908	63.3%
11 - 25	1,015	72.3%
26 - 50	777	79.2%
51 - 100	790	86.2%
101 - 250	983	94.9%
251 - 500	391	98.3%
> 500	191	100.0%
Total	11,304	

For this analysis, and unless otherwise noted throughout the comment, we define a program to be a specific 6-digit CIP code at a particular campus of a school (defined by OPEID) and of a particular length (less than 2-year, 2-year, 4-year, greater than 4-year). As the table shows, more than half of programs have 5 or fewer students exiting over this three-year period. Nearly two-thirds have 10 or fewer students that would appear in the calculations. While the Department may mean to define a program more broadly, we suggest that the definition be made clearer. The possible impact of the rule, and how many programs are arbitrarily deemed ineligible or restricted, will depend on how programs are defined.

While we think actual programs are likely not this small, these are the sample sizes that would be relevant for the rule if a program is defined at the 6-digit CIP level as the Department has indicated. We suspect that one reason there are so many small programs defined this way is that the 6-digit CIP code is detailed enough that students taking most classes together but with different concentrations are listed as being in different detailed areas of study.¹³

We suggest that the Department address the problem of small sample sizes, and specify precisely the way in which programs are defined. As programs are currently defined, small sample sizes have the potential to cause programs to fail or be restricted arbitrarily.

B. Concerns regarding the use of social security or IRS earnings data

We believe that the use of social security earnings, on its own, will be problematic. First, all of the problems described above related to the small sample sizes and small programs will affect the earnings measure calculated from actual earnings data. Averages or medians calculated from small samples are likely to vary widely from year to year. This year-to-year variation is unlikely to be related to the quality of the program from which the students graduated, but can cause programs to move from eligible to restricted or ineligible according to the rule.

A second fundamental problem is that, to our knowledge, neither social security nor other IRS earnings data include information about the number of hours or weeks worked by the individual. In contrast, the Current Population Survey, the source data for the Bureau of Labor Statistics (BLS) earnings statistics, collects information about the number of weeks each person worked during the year, and about the usual number of hours each person works per week. Without information on weeks or hours worked, it is not possible to tell the difference between someone who got a job halfway through the year that pays \$1,000 per week and someone who worked for the whole year at a job that pays \$500 per week. The total annual earnings for both workers would be reported in the social security earnings data as the same amounts. However, the former worker is likely significantly more skilled,

¹³ If programs were not divided by campus, the cumulative distribution of program sizes is as follows: 1-5: 48.5%; 6-10: 55.6%; 11-25: 65.2%; 26-50: 73%; 51-100: 80.7%; 101-250: 90.9%; 251-500: 96.1%; >500: 100%.

and if she works for more than half of each year going forward, she will have more earnings over her lifetime.

A third problem is that individuals' employment decisions affect their reported earnings. For example, some may choose to work part-time or not to enter the workforce due to family obligations. Others may engage in extended job searches due to location or scheduling preferences. Decisions such as these will affect reported annual earnings, but are not directly related to the quality of education a particular person receives. Since both schools and the Department of Education will receive information only on the average earnings for a group of graduates, there is no way to determine how these individual employment decisions affected the calculated average.

Additionally, it is possible that self-employed workers, particularly those who work in businesses with many cash transactions, underreport earnings to the IRS. If this is a significant problem, the social security earnings will understate the economic wellbeing of graduates. Any such understatement of earnings will cause programs to be restricted or become ineligible unnecessarily.

In addition, earnings are likely to be correlated with the performance of the overall economy. During economic recessions average earnings are likely to be lower as individuals may have longer periods of unemployment or underemployment. In economic booms the average earnings are likely to be higher as a result of competitive pressures and available positions. The Department's approach is therefore likely to result in a larger number of programs being ineligible or restricted during recessions, when the need for retraining is likely at its highest.

Though we believe there are also problems with the BLS earnings measures that were used in the rule suggested in January, offering programs a choice between earnings based on publicly available data and the individual earnings records of graduates will help with many of these problems. The main problem with the BLS earnings measures is that they do not vary by degree length (though research suggests that earnings does). This could be addressed.

It would be beneficial to have the option of using an earnings measure that is based on sound statistical practice, and which is predictable. The more predictable the measures used in the rule are, the more likely that schools will be incentivized to adjust in response, and the less likely that good programs will be negatively affected by it.

C. The effect of the debt to earnings ratio test on tuition

The discussion in the NPRM, as well as public statements by supporters of the proposed rule, suggests a belief that schools will reduce tuition to meet the debt to earnings ratio test. We wish to point to two reasons why this is not as likely as many expect. First, students are allowed to, and commonly do, borrow amounts in excess of what is required to cover tuition, e.g. to cover living expenses. For these students, it is not clear that reductions in tuition would lead to commensurate

reductions in student loans. In addition, for institutions for which the 90/10 rule is binding it may not be possible to reduce tuition without increasing tuition for some other program.

We are concerned that instead the rule could lead schools to end open enrollment policies. In place of open enrollment, the rule could lead schools to restrict enrollment to those students who can fund the education through their personal resources, or who have individual characteristics that have been shown to be highly correlated with labor market success and loan repayment. In this way the proposal carries the strong possibility of limiting access to those students whom the Title IV program was intended to assist.

D. Concerns with the loan measurement and implementation

Throughout the NPRM the Department underscores its concern that students are taking on too much debt. However, nothing in the proposal addresses students' access to Title IV loans. The rule focuses primarily on the part of the problem that schools cannot control (i.e. how much students borrow, and the choices they make about how to structure their loans), and not enough on the parts over which they can have some control (i.e. the increases in earnings their students experience after completing their programs, graduation rates, and employment rates after graduation).

In addition to this general criticism of the rule, we point out here some specific ways in which details of the rule may have unintended consequences. First, the introduction of numerous ineligible and restricted programs may result in students taking on more debt rather than less. While the department has made some provisions for those students who are currently enrolled in a program deemed "ineligible", it seems likely that many of those students will choose not to remain in those programs. In fact, the Department's own estimate of the impact of the proposed gainful employment rules anticipates students will transfer to other programs. It is reasonable to expect that when students change programs, particularly if they enroll in a new institution, the length of time they spend in school will increase, thereby increasing the debt a student incurs.

Furthermore, how the Department treats the debt of those students who transfer programs is not the same for all students. It appears that based on the current rules students who transfer to a different program within the same institution would carry, from the institution's perspective, the existing debt with them. In contrast, students who transfer to a different program at a different institution would, from the new institution's perspective, come with a "clean slate" with respect to the measurement of her debt at the institution. It is possible that this inconsistent treatment of prior loans could result in institutions restricting access of those wishing to move from a restricted or ineligible program, to an eligible program within the same institution. This possible denial of access would not benefit the student or lead to lower loan burdens.

In general, it is our opinion that the repayment rate, as currently defined, does not measure what the Department intends. Some common choices that students make (consolidation, deferment) cause many dollars to be counted as not in repayment. However, these choices are not always the result of economic hardship. It makes sense for many students to consolidate or defer even though they could afford to make standard payments currently.

How the Department chooses to account for deferred and consolidated loans will impact whether a program satisfies the repayment test. According to the NPRM the department will include the deferred loans in the calculation among the total loans, and because they are in deferment they are loans for which payments are not being made. As many have noted, this approach would result in nearly every medical program failing the Department's repayment criteria. Few, if any, would argue that these low repayment rates among medical schools are indicative of a poor quality program or a high likelihood of default. The Department's repayment calculation penalizes programs whose students make legal, rational, and responsible choices with regard to the repayment of student loans.

The Department's repayment calculation includes both deferred loans and loans where the student is making interest-only payments in the total loan amount, but not in the amount of loans in repayment. Both of these options were created to provide borrowers additional loan repayment flexibility so that students are less likely to enter into default.

Given the popularity of loan consolidation¹⁴, deferment and interest-only payments, how the Department has chosen to treat these loans will greatly impact the institutions calculated repayment rate. In each case the effect is to lower the repayment rate. In addition, the students who exercise these options are likely to be those who are most financially at-risk regardless of institution type (for-profit, not-for-profit, or public). As noted above, the Department reported repayment rates of 36 percent for for-profit programs, 56 percent for public programs and 54 percent for private not-for-profit programs. However, as discussed above these percentages do not account for the number of at-risk students being served. As shown in the table below there is a strong correlation between the Department's repayment rates and the percent of Pell recipients in the institution. Thus, it is not surprising to find that institutions serving high-risk students are more likely to have low repayment rates.

¹⁴ According to the for-profit student level data that we reviewed approximately 25% of the loans were consolidated.

Table 10
Average Repayment Rate
by Pell Category

Percent Pell Category	Average of Estimated Repayment Rate	Number of OPEID Observations
0-20%	61.5%	649
20-40%	53.0%	1,617
40-60%	43.5%	1,332
60-80%	34.3%	975
80-100%	31.6%	676

As previously discussed, for-profit institutions tend to serve students who have traditionally been denied access to postsecondary education, including Pell-eligible students. Given the high percentage of low-income and low-wealth students at for-profit schools, it is not surprising to find lower repayment rates within these institutions. For an institution, one method of increasing repayment rates is to limit the number of at-risk students they enroll. We are concerned that an unintended consequence of the rule could be for schools to cease open enrollment policies, and to avoid admitting students likely to borrow large amounts. As we have emphasized throughout our comment, if these students would have attended a program that would have offered them large returns, restricting them from attending is not in the students' interest.

E. The proposed rule does not account for macroeconomic conditions, which are likely to influence the indicators in the formula

When evaluating a particular program it should be the quality of the program that should be measured, not the cost or short-term post-completion earnings. As we initially stated, the cost of a program for an individual is only “too” high when the costs exceed the lifetime benefits for the individual. The department’s attempt to measure quality based on repayment rates and debt-to-income ratios is too highly correlated with the broader economy for which no institution can predict or control. Simply based on changes in macroeconomic conditions a program can move from eligible to ineligible, with no change in the quality of service being provided. When the economy is “booming” there may be poor-quality programs that meet the thresholds recommended by the department, and when the economy is in a recession high-quality programs will fail to meet the thresholds recommended by the department.

F. New programs may face significant barriers, limiting the potential for growth of the education sector

According to the NPRM, institutions would have to apply for approval of new programs if the program wishes to be eligible to receive Title IV aid. Approval

would require the institution to provide “(1) the projected enrollment for the program for the next five years for each location of the institution that will offer the additional program, (2) documentation from employers not affiliated with the institution that the program’s curriculum aligns with recognized occupations at those employers’ businesses, and that there are projected job vacancies or expected demand for those occupations at those businesses, and (3) if the additional program constitutes a substantive change, documentation of the approval of the substantive change from its accrediting agency.” The programs would then be subject to the gainful employment restrictions as soon as data was available, and before then based on data from existing programs at that institution from the same job family.

Given the approval process suggested in the NPRM, the barriers faced by institutions in introducing new programs may be quite substantial. If these barriers in any way restrict programs from starting, the growth rate of graduates from for-profit postsecondary institutions would slow as a result.

Part IV: Recommendations

As we have tried to emphasize throughout our comment, we believe the focus of the Department of Education should be on ensuring access to education for all students for whom the benefits are likely to outweigh the costs. We believe the current proposed rule does not achieve these goals. In particular, we believe the focus on debt to earnings ratios rather than on the earnings gains that result from education will cause some good programs to be shut down. Additionally, for the reasons outlined in the previous sections we think there is potential for programs to be closed or restricted for reasons unrelated to quality, and for postsecondary access to be restricted generally and particularly for groups of students that have historically had low access. For this reason, we think the formula should be completely rethought.

However, if the Department of Education is going to proceed with a rule that resembles the one described in the NPRM, we recommend the following adjustments.

1. The annual debt payments used in the calculation of debt to earnings ratios should be the lowest debt payment that each student has the option of choosing.

If the goal of the rule is to protect students from having required debt payments that are too high, the rule should recognize that students are legally able to reduce those payments by either extending the length of the loan or by entering into income-based repayment. Any student who is having trouble making Title IV loan payments in the early years after completing school can reduce his annual loan payments using one of these options. It is therefore incorrect to characterize the student’s annual debt burden by the payment that would be required by a 10-year repayment period.

If such a calculation were logistically difficult, an alternative would be to calculate debt payments assuming a 15- or 20-year repayment period. All students have the option of choosing to extend the loan period of Title IV loans, to different lengths that depend on the size of the loan. The allowed length that corresponds to each student's loan size could be used, or the average allowed length could be used.

2. The option of using publicly available data to compute earnings, in addition to a measure of actual earnings, should be brought back to the proposal.

The rule that was proposed in January of 2010 included a measure of earnings that was based on Bureau of Labor Statistics estimated earnings, as well as the option for schools to submit their own data on actual earnings of their graduates. We applaud the Department of Education in their attempt to improve the measure of earnings through the use of administratively collected individual earnings for the students that attended each program. Unfortunately, as we describe above, these data also have shortcomings (e.g. the inability to distinguish between full-year and part-year workers, small samples from which to estimate averages or medians, possible underreporting of earnings by self-employed workers).

While we were critical of particular details regarding the BLS earnings estimates that were proposed in January 2010, the use of a publicly available data source has some advantages relative to what is currently proposed. Because the two methods have different strengths and weaknesses, we suggest the Department of Education considers basing their estimate of earnings on both sources of data. One possibility would be to allow schools to choose which of the two methods to use each year. This would protect, for example, against the year-to-year fluctuations in the actual earnings measure that are likely to occur for small programs in particular.

3. The allowable debt to earnings ratio should relate to the length of the program.

In theory, actual earnings should be higher for students who complete longer programs. Given the small size of many programs, we are concerned that the small samples from which averages or medians are calculated will not appropriately capture the true relationship between program length and earnings. For this reason, we suggest that the Department of Education consider adopting different debt to earnings ratio standards for different length programs.

In addition, if the Department of Education elects to use a measure of earnings based on the BLS data, as it proposed in January of 2010, we suggest that adjustments be made to those numbers to account for the fact that on average students who complete more years of college earn more.

4. Measures that are used in the proposed formula for each program should be based on samples that are large enough to be statistically meaningful.

As we discuss above, the data we analyzed suggest that many programs are small enough that sample sizes should be a concern. If annual samples of graduates or enrollees are used, we are concerned that debt to earnings ratios and repayment rates may move around year-to-year for reasons unrelated to program quality. The Department of Education's analysis did not address problems resulting from small program size because that analysis was in some cases based on measures for entities that are larger than programs. We suggest that the Department of Education clarify how a program will be defined, and conduct analyses of potential impact using data defined at the program level in the way that would be done if the rule were implemented.

As we have described above, some of the measures used in the proposed rule are likely to change year to year for reasons unrelated to the quality or actions of the program. Much of this year-to-year variation will result from small sample sizes, though some of it will result from external factors such as the macroeconomy and choices by students. The reliance on measures that are prone to move around like this will reduce the incentive the rule creates for schools to change their behavior.

5. The rule should account for the fact that macroeconomic events, such as recessions, can cause negative employment and loan repayment outcomes, and that these events are often not predictable at the time students enroll in programs.

It is likely the case that both repayment rates and annual earnings of graduates are currently lower as a result in part of a recession. It can be difficult to predict at the time a student enters a program what the macroeconomic conditions will be when he completes and is looking for a job. It would be a mistake to attribute the effects of a severe recession to individual schools or programs. We expect that with no adjustments the proposed rule would designate more programs ineligible and restricted during recessions, and fewer during booms. However, all else equal, the total economic cost of education is lower during recessions because the cost includes foregone earnings from the labor market. As a result, the rule will lead to more restrictions on enrollment growth at times when demand is likely to be highest, and total economic cost is likely to be lowest.

6. The warnings that programs are required to disclose should be precise and should provide students with good information

We support the idea of providing more information to students to help them make good decisions regarding their education. To the extent that warnings provide students with better information about the likely debt payments they will have to make and the prospects for employment they are likely to face, we think they will help students. However, information can also lead students to make decisions that are bad for them if it is misleading. For example, consider a small program whose

repayment rate moves dramatically from high to low because it is based on the experiences of a small number of students. It would be misleading to prospective students to tell them that this program has a low repayment rate, without informing them what this assessment is based on (i.e. that it is based on a small sample and that two years ago the repayment rate was high).

References

Angrist, Joshua D. and Alan B. Krueger. 1991. "Does Compulsory School Attendance Affect Schooling and Earnings?" *Quarterly Journal of Economics* 106 (4): 979-1014.

Card, David. 1999. "The Causal Effect of Education on Earnings," in *Handbook of Labor Economics, Volume 3A* edited by Orley C. Ashenfelter and David Card. New York: Elsevier.

Goldin, Claudia and Lawrence F. Katz. 2008. *The Race Between Education and Technology*. Cambridge, Massachusetts: The Belknap Press.

Kane, Thomas J. and Cecilia E. Rouse. 1995. "Labor-Market Returns to Two- and Four-Year College," *American Economic Review* 85 (3): 600-614.

Katz, Lawrence F. and Kevin M. Murphy. 1992. "Changes in Relative Wages, 1963-1987: Supply and Demand Factors," *Quarterly Journal of Economics* 107 (1): 35-78.

Appendix A: A response to Dr. Carnevale

In a separate comment submitted in response to the same NPRM, Dr. Anthony Carnevale makes direct reference to a report we wrote regarding the gainful employment proposal. We address his criticisms directly here because we believe they are incorrect, and because some of the points he disputes are central to the argument we describe in our comment.

Dr. Carnevale points out correctly that the returns to education are usually estimated to be between 8 and 15 percent per year of schooling. He then points out that these estimates are not based on studies of students at for-profit colleges. He also claims that these estimates are “based on studies of students with Associate’s and Bachelor’s degrees”.

This is not correct. It is true that some studies compare students with those degrees to high school graduates. However, what is arguably the best study of the returns to education compares the earnings of students who drop out at different points in high school, depending on when they reach the age at which compulsory schooling laws allow them to (Angrist and Krueger, 1991). This study estimates the return to a year of high school, among high school dropouts, and finds a return of 10 percent per year of schooling. The highest-quality study that examines the returns to community college education is by Tom Kane and Cecilia Rouse (1995). Using data that follows students who completed high school in 1972, they find that the returns per credit at 2-year colleges is no different than the return per credit at 4-year colleges; this is true both for students who completed Associate’s degree programs and for those who only completed a semester or two’s worth of classes. On a per year basis, they find returns of 4-6 percent. These estimates come from a period when the return to education was on the low end of the 8-15 percent range. As is well documented, the return to education has risen consistently over time since then. If the return to community college has risen in the same proportion with the returns to all other levels of schooling that have been studied, ranging from high school to college, these estimates imply the return is likely between 8 and 10 percent today.

Since the time both of those studies measured earnings, the returns to education has consistently increased. Claudia Goldin and Lawrence Katz (2008), two of the most well respected researchers on the subject and professors of economics at Harvard University, estimate that in 2005 the return to education was between 13 and 14 percent per year. Thus, a student completing four years of college on average earned more than 55 percent more each year than a high school graduate. They conclude that:

The true economic rate of return would remain high even after adjusting for the direct resource costs of providing a college education. Thus, investments in schooling would appear to make enormous economic sense. What is preventing America from crossing the finishing line?

One possibility is that some young people might *not* actually benefit from going to college. The rate of return we have estimated may not be applicable to some young people who do not currently attend or complete college. The average wage gap between college and high school workers may, therefore, overstate the returns to those on the margin of going to college. But that possibility appears not to be the case.

Recent estimates of the rate of return to a year of schooling have used “natural experiments” from policies that have increased access to college, changed college tuition subsidies or merit aid, and altered compulsory schooling laws. These carefully executed studies using plausibly exogenous variation in educational attainment find high rates of return to further schooling. Because these returns would accrue to the marginal youth affected by such policy interventions, often an individual of modest means, they reinforce our conclusion that returns could be extremely high for many individuals currently not finishing college or even not finishing high school. (Goldin and Katz, 2008, p. 336.)

Dr. Carnevale also suggests that it does not make sense to base educational investment decisions on lifetime earnings for older students. Again, this is incorrect. It is true that the lifetime benefit from education that will accrue to an older student is smaller because there are fewer years before retirement in which they will get benefits. However, these students should still compare the future lifetime earnings gains, properly discounted, to the discounted costs of education. For these students, as for any others, basing educational investment decisions on expected earnings in the few years following completion of the schooling would lead to suboptimal decisions.

Furthermore, this point does not affect the simplest argument we make relating the return to education to advisable debt limits. If it is the case that a two year college education causes annual earnings to rise by 10 percent *per year*, a student spending 8 percent of his annual earnings on student loan payments is 2 percent better off for the 10 years he repays the loan, plus the full 10 percent better off for all remaining years after the loan is repaid. This is true regardless of the age of the student, so long as the return per year is the same. There is no research of which we are aware showing that the returns to education, on an annual basis, are lower for older students.

Dr. Carnevale also puzzlingly argues that “lifetime earnings should not be taken into account because it is unreasonable to ask individuals to be burdened by student debt over their lives; there should be a point where the student reaps the gains.” If a student takes on student loan payments that are less than the total annual return to the education those loans support (e.g. 8 percent per year of schooling, and two years of college implies a 16 percent per year increase in earnings), that student reaps the gains in every year. This is true to a lesser extent

in the years he is repaying the loans, and the calculation should include as costs any earnings he has to forgo while he is in school, but he still earns more even after paying his loans than he would have if he had no loans and none of the schooling the loans supported.

Exhibit 2

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Education

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Journal Articles

“Is Lottery Gambling Addictive?” *American Economic Journal: Economic Policy* August 2010, 2(3): 90-110 (joint with Melissa S. Kearney).

“The Race Between Education and Technology: A Review Article,” *Journal of Human Capital* Summer 2009, 3(2): 177-196.

“The Efficacy of a Voluntary Summer Book Reading Intervention for Low-Income Latino Children from Language Minority Families: A Replication Experiment,” *Journal of Educational Psychology* 102(1): 21-31 (joint with James Kim).

“Peer Effects in the Workplace: Evidence from Random Groupings in Professional Golf Tournaments,” *American Economic Journal: Applied Economics*, October 2009, 1(4): 34-68 (joint with Matt Notowidigdo and Kory Kroft).

“Climate Change and Birth Weight,” *American Economic Review Papers and Proceedings*, May 2009, 99(2), pp. 211-217 (joint with Olivier Deschenes and Michael Greenstone).

“Prejudice and Wages: An Empirical Assessment of Becker’s *The Economics of Discrimination*,” *Journal of Political Economy*, October 2008, 116(5), pp. 773-809 (joint with Kerwin Charles).

“Does Teacher Testing Raise Teacher Quality? Evidence from Teacher Certification Requirements,” *Economics of Education Review*, October 2008, 27(5), pp. 483-503 (joint with Joshua D. Angrist).

“Parental Education and Parental Time with Children,” *Journal of Economic Perspectives*, Summer 2008, 22(3) (joint with Erik Hurst and Melissa S. Kearney).

“Gambling at Lucky Stores: Empirical Evidence from State Lottery Sales,” *American Economic Review*, March 2008, 98(1), pp. 458-473 (joint with Melissa S. Kearney).

“Using Technology to Describe Social Networks and Test Mechanisms Underlying Peer Effects in Classrooms,” *Developmental Psychology*, March 2008, 44(2) pp. 355-364 (joint with Eric Klopfer, Brian Jacob and Jennifer Groff).

“The Impact of Internet Subsidies in Public Schools,” *The Review of Economics and Statistics*, May 2006, 88(2), pp. 336-347, (joint with Austan Goolsbee).

“Desegregation and Black Dropout Rates,” *American Economic Review*, September 2004, 94(4), pp. 919-943.

“Teacher Testing, Teacher Education, and Teacher Characteristics,” *American Economic Review, Papers and Proceedings*, May 2004, 94(2), pp. 241-246. (joint with Joshua D. Angrist).

Grants

NICHD (1R01HD067500-01): “A Randomized Study to Abate Truancy and Violence in Grades 3-9” (Guryan:PI) 2010-2015. \$3,024,515.

Institute for Education Sciences, U.S. Department of Education: “Preventing truancy in urban schools through provision of social services by truancy officers: A Goal 3 randomized efficacy trial (Chicago Public Schools)” (Guryan:PI) 2010-2014. \$3,177,638.

Smith Richardson Foundation: “Reducing Juvenile Delinquency by Building Non-Cognitive Skills: Experimental Evidence” (Guryan:PI) 2010-2012. \$246,039.

University of Chicago Energy Initiative: “Health and Economic Costs of Climate Change” (Guryan:PI) 2008-2009. \$20,000.

W.T. Grant Foundation: “Proposal for multi-district randomized control trial of a voluntary summer reading intervention” (James Kim: PI, Guryan:Co-Investigator), 2007-2008. \$520,968.

National Science Foundation: “The Internet, Subsidies, and Public Schools,” (Austan Goolsbee:PI, Guryan:Co-Investigator), 2003-2007. \$422,619.

Working Papers

- “Making Savers Winners: An Overview of Prize-Linked Savings Products,” *NBER Working Paper 16433*, October 2010 (joint with Melissa S. Kearney, Peter Tufano and Erik Hurst).
- “Birth Cohort and the Black-White Achievement Gap: The Roles of Access and Health Soon After Birth,” *NBER Working Paper 15078*, June 2009 (joint with Kenneth Y. Chay and Bhash Mazumder). [Revise and resubmit, *Quarterly Journal of Economics*.]
- “Prejudice and the Economics of Discrimination,” *NBER Working Paper 13661*, December 2007 (joint with Kerwin Charles).
- “Does Money Matter? Regression-Discontinuity Estimates from Education Finance Reform in Massachusetts,” *NBER Working Paper 8269*, May 2001.

Other Publications

- “Decreasing Delinquency, Criminal Behavior, and Recidivism by Intervening on Psychological Factors other than Cognitive Ability: A Review of the Intervention Literature,” in *Controlling Crime: Strategies and Tradeoffs*, Eds. Philip J. Cook, Jens Ludwig and Justin McCrary. University of Chicago Press, forthcoming. (joint with Patrick L. Hill, Brent W. Roberts, Jeffrey T. Grogger, and Karen Sixkiller).
- "taste-based discrimination", "The New Palgrave Dictionary of Economics", Eds. Steven N. Durlauf and Lawrence E. Blume, Palgrave Macmillan, 2009, The New Palgrave Dictionary of Economics Online, Palgrave Macmillan. 19 February 2010, DOI:10.1057/9780230226203.1906 (joint with Kerwin Charles).
- “Trying to Understand the 2008-2009 Recession: Part 1, Perspective and Causes,” *Journal of Lutheran Ethics* 9, March 2009.
- “Trying to Understand the 2008-2009 Recession: Part 2, Remedies,” *Journal of Lutheran Ethics* 9, March 2009.
- “World Wide Wonder? Measuring the (non-)Impact of Internet Subsidies in Public Schools,” *Education Next*, Winter 2006 (joint with Austan Goolsbee).
- “Should We Test Prospective Teachers?” *Perspectives on Work*, Winter 2005.
- “How Financial Aid Affects Persistence: Comment,” in *College Choices: The Economics of Where to Go, When to Go, and How to Pay for It*, Caroline Hoxby, ed., 2004.

Work in Progress

- “Sexism and Women’s Labor Market Outcomes,” (joint with Kerwin Charles and Jessica Pan).
- “Birth Cohort and Black-White Earnings, Education and Disability Gaps: The Further Effects of Access and Health Soon After Birth” (joint with Kenneth Y. Chay and Bhash Mazumder).

“The Economics of Discrimination,” for the *Annual Review of Economics* (joint with Kerwin Charles).

“Estimating Employment Separation Hazards Accounting for Individual Heterogeneity,” (joint with Mathis Wagner).

“Preventing Truancy in Urban Schools through Provision of Social Services by Truancy Officers: An Experimental Evaluation” (joint with Jens Ludwig and Phil Cook).

“Youth Violence Prevention in Milwaukee through Enhanced Truancy Enforcement,” (joint with Jens Ludwig, Phil Cook and Mallory O’Brien).

“A Cognitive Behavioral Intervention for Delinquent Youth: Effects on Academic Performance and Recidivism” (joint with Kenneth Dodge, Jeff Grogger, Jens Ludwig, and Mike McCloskey).

Awards and Honors

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Economics, Review of Economics and Statistics, American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, Journal of Policy Analysis and Management, National Tax Journal, Economics of Education Review, European Economic Review, Journal of Human Resources, Regulation and Governance, Education Next, Education Finance and Policy, British Journal of Industrial Relations, Journal of Law and Economics.

Exhibit 3

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Matthew Thompson has worked extensively with attorneys and human resource professionals in analyzing labor-related issues, including employment discrimination and wage and hour violations. He specializes in the empirical analysis of the ways in which gender, age, race, and ethnic origin are related to employment practices, and he assists clients with the development and production of complex databases that are instrumental in analyzing wage and hour and other labor related issues.

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Exhibit 4

The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings

Issued July 2002

Special Studies

P23-210

Does going to school pay off? Most people think so. Currently, almost 90 percent of young adults graduate from high school and about 60 percent of high school seniors continue on to college the following year. People decide to go to college for many reasons. One of the most compelling is the expectation of future economic success based on educational attainment.

This report illustrates the economic value of an education, that is, the added value of a high school diploma or college degree. It explores the relationship between educational attainment and earnings and demonstrates how the relationship has changed over the last 25 years. Additionally, it provides, by level of education, synthetic estimates of the average total earnings adults are likely to accumulate over the course of their working lives.

These synthetic estimates of work-life earnings, which are based on data from the Current Population Survey (CPS), are illustrative and do not predict actual future earnings. The synthetic work-life earnings are “expected average amounts” based on cross-sectional earnings data for the preceding calendar year by age, sex, full- or part-time work experience, race, Hispanic origin, and educational attainment groupings, as collected in the March 1998, 1999, and 2000 Current Population Surveys (CPS).¹ The synthetic work-life

¹ This report refers to “work-life earnings” rather than “life-time earnings.” The latter would account for the probability of life events, which might alter the average number of years people work, such as early death or accidents leading to disability.

“Synthetic” estimates of work-life earnings are created by using the working population’s 1-year annual earnings and summing their age-specific average earnings for people ages 25 to 64 years. The resulting totals represent what individuals with the same educational level could expect to earn, on average, in today’s dollars, during a hypothetical 40-year working life. A typical work-life is defined as the period from age 25 through age 64. While many people stop working at an age other than 65, or start before age 25, this range of 40 years provides a practical benchmark for many people.

estimates are thus based on 1997-1999 earnings data and are shown in terms of “present value” (constant 1999 dollars).² These synthetic estimates are shown in detail in three tables at the end of this report.

EDUCATION AND EARNINGS

We are more educated than ever.

In 2000, 84 percent of American adults ages 25 and over had at least completed

² See the Methodology section of this report for a detailed explanation of the limitations of these estimates. The estimates in this report are based on responses from a sample of the population. As with all surveys, estimates may vary from the actual values for the entire population because of sampling variation, or other factors. All statements made in this report have undergone statistical testing and meet Census Bureau standards for statistical accuracy.

Current Population Reports

By
Jennifer Cheeseman Day
and
Eric C. Newburger

Demographic Programs

U S C E N S U S B U R E A U

Helping You Make Informed Decisions • 1902-2002

U.S. Department of Commerce
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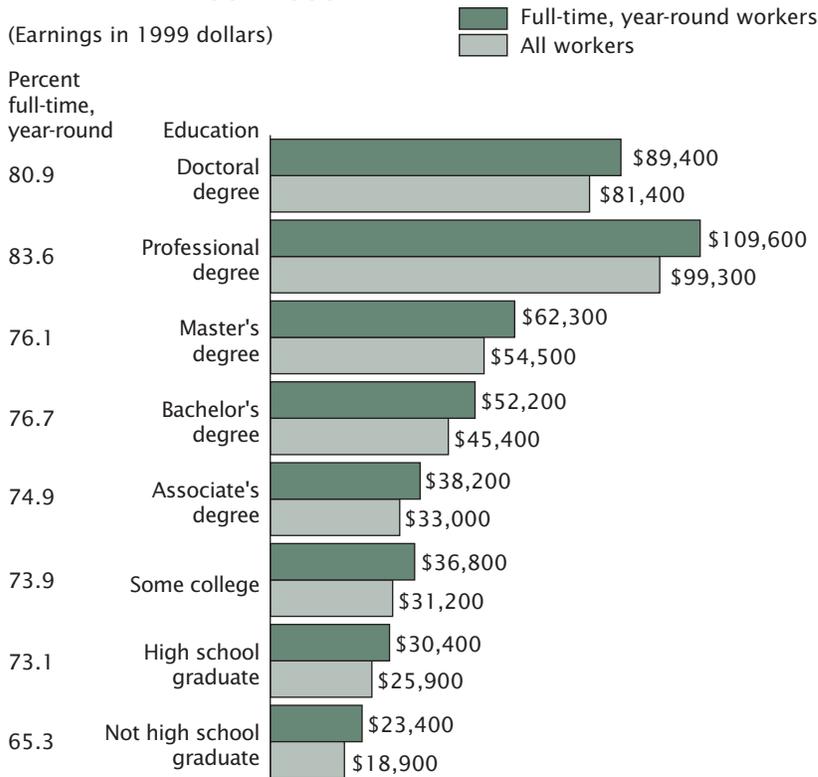


high school; 26 percent had a bachelor's degree or higher.³ Both figures were all-time highs. In 1975, 63 percent of adults had a high school diploma, and 14 percent had obtained a bachelor's degree.⁴ Much of the increase in educational attainment levels of the adult population is due to a more educated younger population replacing an older, less educated population. As more and more people continue their schooling, this more highly-educated population pursues opportunities to enter into occupations yielding higher returns in earnings.

Earnings increase with educational level.

Adults ages 25 to 64 who worked at any time during the study period⁵ earned an average of \$34,700 per year.⁶ Average earnings ranged from \$18,900 for high school dropouts to \$25,900 for high school graduates, \$45,400 for college graduates, and \$99,300 for workers with professional degrees (M.D., J.D., D.D.S., or D.V.M.). As shown in Figure 1, with the exception of

Figure 1.
Work Experience and Average Annual Earnings of Workers 25 to 64 Years Old by Educational Attainment: 1997-1999



Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

³ For a further explanation about educational attainment, see Eric Newburger and Andrea Curry, *Educational Attainment in the United States: March 1999*, Current Population Reports, P20-528, U.S. Census Bureau, Washington, DC, 2000.

⁴ Prior to 1992, educational attainment was measured using a two-part question referring to years of schooling "What is the highest grade or year of regular school ever attended?" and "Did you complete the grade?" Since 1992, a new question asks specific degree completion levels beyond high school. For a more detailed discussion of the question changes, see Robert Kominski and Andrea Adams, *Educational Attainment in the United States: March 1993 and 1992*, U.S. Bureau of the Census, Current Population Reports, P20-476, U.S. Government Printing Office, Washington, DC, 1994.

⁵ The study period covers 3 years – 1997, 1998, and 1999. Earnings are represented in 1999 dollars.

⁶ Though medians provide a measure of central tendency less sensitive to outliers, and so are often used in describing earnings data, means present fewer computational difficulties, both in modeling the synthetic work-life estimates and in creating statistical procedures to test these estimates.

workers with professional degrees who have the highest average earnings, each successively higher education level is associated with an increase in earnings.

Work experience also influences earnings. Average earnings for people who worked full-time, year-round were somewhat higher than average earnings for all workers (which include people who work part-time or for part of the year). Most workers worked full-time and year-round (74 percent). However, the commitment to work full-time, year-round varies with demographic factors, such as educational attainment, sex, and age. For instance, high school dropouts (65 percent) are less likely than people with bachelor's degrees (77 percent) to

work full-time and year-round. Historically, women's attachment to the labor force has been more irregular than men's due mostly to competing family responsibilities.⁷ Earnings estimates based on all workers (which includes part-time workers) include some of this variability. Yet, regardless of work experience, the education advantage remains.

Earnings estimates based on full-time, year-round workers provide a more straight-forward view of potential earnings and remove some biases for demographic group comparisons. The resulting

⁷ See Suzanne M. Bianchi and Daphne Spain. *American Women in Transition*. Russell Sage Foundation, New York, 1986. pp. 139-168.

Figure 2.
Average Earnings of Full-Time, Year-Round Workers as a Proportion of the Average Earnings of High School Graduates by Educational Attainment: 1975 to 1999



Source: U.S. Census Bureau, Current Population Surveys, March 1976-2000.

synthetic work-life estimates assume full employment throughout one's work-life. These estimates cannot account for an individual's past partial employment or unemployment, which may reduce current full-time earnings.⁸ The text of this report discusses earnings for full-time, year-round workers only, though findings for all workers are shown in the tables.

⁸The annual earnings and work-life earnings for a specific individual may differ significantly from the group averages presented in this report. Some factors, which can help explain the differences, include the individual's work history and continuity, occupation, type and quality of education and field of training (college major), motivation, and location. For further discussion on field of training and earnings, see Bauman, Kurt and Camille Ryan, *What's It Worth? Field of Training and Economic Status: 1996*, Current Population Reports, P70-72, U.S. Census Bureau, Washington DC, 2001.

Historically, education has paid off.

Over the past 25 years, earnings differences have grown among workers with different levels of educational attainment. As Figure 2 shows, in 1975, full-time, year-round workers with a bachelor's degree had 1.5 times the annual earnings of workers with only a high school diploma.⁹ By 1999, this ratio had risen to 1.8. Workers with an advanced degree, who earned 1.8 times the earnings of high school graduates in 1975, averaged 2.6 times the earnings of workers with a high school diploma in 1999. During the same period, the relative earnings of the least educated workers fell. While in 1975,

⁹Data in Figure 2 are based on full-time, year-round workers 18 years old and over.

full-time, year-round workers without a high school diploma earned 0.9 times the earnings of workers with a high school diploma; by 1999, they were earning only 0.7 times the average earnings of high school graduates.

The historical change in relative earnings by educational attainment may be explained by both the supply of labor and the demand for skilled workers. In the 1970s, the premiums paid to college graduates dropped because of an increase in their numbers, which kept the relative earnings range among the educational attainment levels rather narrow. Recently, however, technological changes favoring more skilled (and educated) workers have tended to increase earnings among working adults with higher educational attainment, while, simultaneously, the decline of labor unions and a decline in the minimum wage in constant dollars have contributed to a relative drop in the wages of less educated workers.¹⁰

SYNTHETIC EARNINGS

Earnings differences by educational attainment compound over one's lifetime.

Synthetic estimates of work-life earnings dramatically illustrate the differences that develop between workers of different educational levels over the course of their working lives.

As shown in Figure 3, for full-time, year-round workers, the 40-year synthetic earnings estimates are about \$1.0 million (in 1999 dollars) for high school dropouts, while completing high school would increase earnings by another

¹⁰Boesel, David, *College for All? Is There Too Much Emphasis on Getting a 4-year College Degree?* National Library of Education Department of Education NLE 1999-2024, 1999.

er quarter-million dollars (to \$1.2 million). People who attended some college (but did not earn a degree) might expect work-life earnings of about \$1.5 million, and slightly more for people with associates degrees (\$1.6 million). Over a work-life, individuals who have a bachelor's degree would earn on average \$2.1 million — about one-third more than workers who did not finish college, and nearly twice as much as workers with only a high school diploma. A master's degree holder tops a bachelor's degree holder at \$2.5 million. Doctoral (\$3.4 million) and professional degree holders (\$4.4 million) do even better.

The large differences in average work-life earnings among the educational levels reflect both differential starting salaries and also disparate earnings trajectories — that is, the path of earnings over one's life. As Figure 4 shows, the earnings paths of people with doctoral and professional degrees look very different from those of workers at other levels of education. At most ages, however, more education equates to higher earnings.¹¹ Indeed, the educational payoff is most notable at the highest educational levels.

SEX, EDUCATION, AND EARNINGS

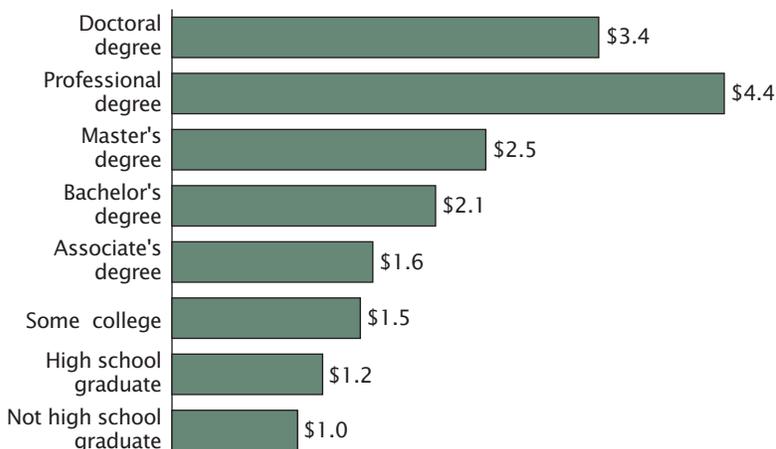
The educational gap between men and women is narrowing.

Among people ages 25 and older, the percentage of men and women with a bachelor's degree has increased sharply over the past 25 years, with women markedly

¹¹ With the exception of workers with professional degrees who have the highest average earnings. At some ages, average earnings for people with some college and for people with an associates degree are not significantly different.

Figure 3.
Synthetic Work-Life Earnings Estimates for Full-Time, Year-Round Workers by Educational Attainment Based on 1997-1999 Work Experience

(In millions of 1999 dollars)



Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

narrowing the gap. In 1975, 18 percent of men and 11 percent of women had attained a bachelor's degree. By 2000, 28 percent of men and 24 percent of women had a bachelor's degree. In fact, in each year since 1982, more American women than men have received bachelor's degrees.¹² Additionally, 84 percent of both men and women had completed high school in 2000, up from 63 percent for men and 62 percent for women in 1975.

Men earn more than women at each education level.

Men had higher average earnings than women with similar educational attainment. Among full-time, year-round workers ages 25 to 64, the female-to-male earnings ratio was 0.67 during the study

¹² See National Center for Education Statistics, *Digest of Education Statistics 1999*, U.S. Department of Education, NCES2000-031, Table 249.

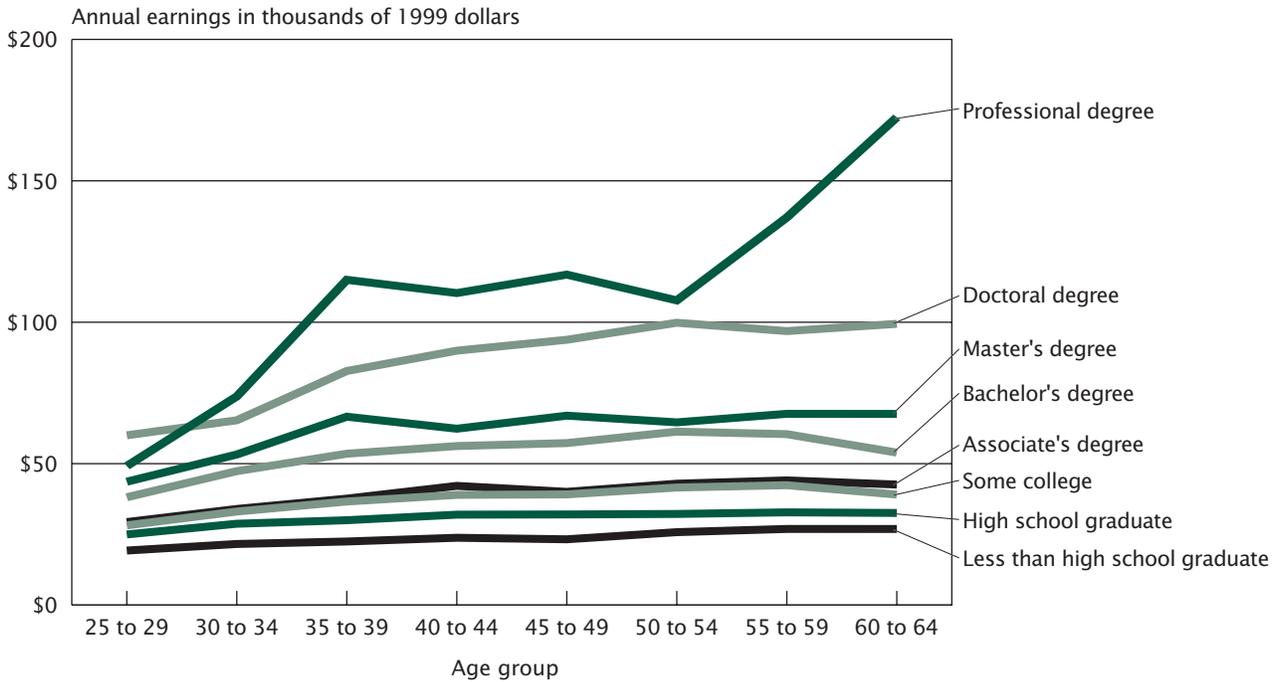
period.¹³ This wage gap occurred with very little variation at every level of educational attainment.

Across the ages, however, the female-to-male earnings ratio was higher among younger full-time, year-round workers (0.84) than among older workers (0.56). Clearly, younger women begin their work-life with earnings much closer to those realized by men.¹⁴ This pattern of male and female younger workers starting with closer earnings than those of older

¹³ Among all workers, including part-time workers, the female-to-male earnings ratio was 0.57. This greater difference reflects a higher proportion of part-time or seasonal workers among women.

¹⁴ Some of the persistent, though shrinking, differences in earnings may be related to field of study. Women have historically tended to major in fields with lower economic rewards than have men. While this remains the case, a growing proportion of female college graduates now receive bachelor's degrees in more highly paid fields, such as business or computers (National Center for Education Statistics, "1999 Digest of Education Statistics," U.S. Department of Education, NCES 2000-031).

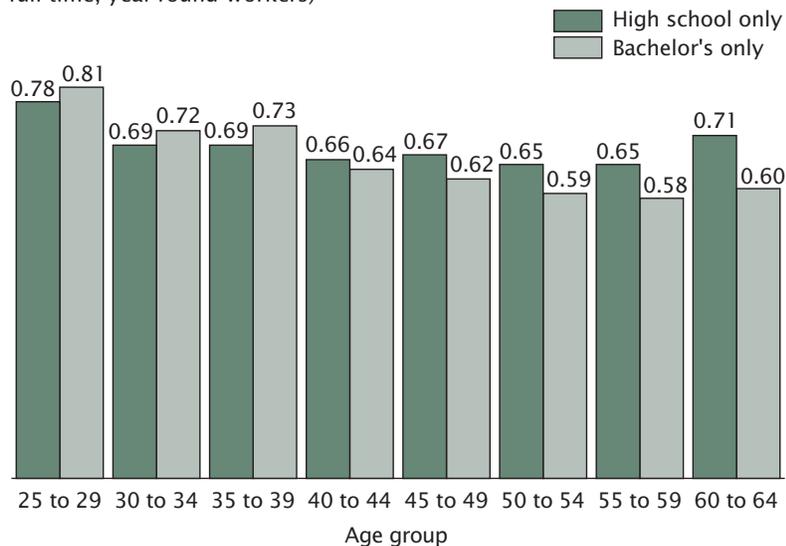
Figure 4.
Earnings Trajectories for Full-Time, Year-Round Workers by Educational Attainment Based on 1997-1999 Work Experience



Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

Figure 5.
Women's Earnings Relative to Men's by Age and Educational Attainment: 1997-1999

(Women's earnings as a proportion of men's earnings for full-time, year-round workers)



Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

workers is not new. In 1975, the earnings ratio was 0.69 for younger workers compared with 0.56 for older workers. The age differences remain, although the earnings gap between younger men and women is closing.

Figure 5 illustrates the variation in female-to-male earnings ratios by age and education level for the 1997-1999 study period. At both the high school and bachelor's attainment level, the earnings of younger women and men are relatively close with women earning about four-fifths of men's earnings. However, for workers with a bachelor's attainment, the earnings difference between men and women becomes more pronounced as workers age (from 0.81 for ages 25 to 29 years compared with 0.60 for ages 60 to 64), compared with

a relatively flat earnings difference for workers at the high school level.¹⁵

Numerous events over one's work-life may account for the expanding wage gap with age, such as continuous participation in the labor force, commitment to career goals, competing events, discrimination, and promotions. These and other factors may lower the earnings of women relative to men, and these differences play out dramatically with total work-life earnings.

The gap between men's and women's work-life earnings is substantial.

On average, a man with a high school education will earn about \$1.4 million from ages 25 to 64 years. This compares with about \$2.5 million for men completing a bachelor's degree and \$4.8 million for men with a professional degree. In contrast, men with less than a high school education will earn an average of \$1.1 million (Figure 6).

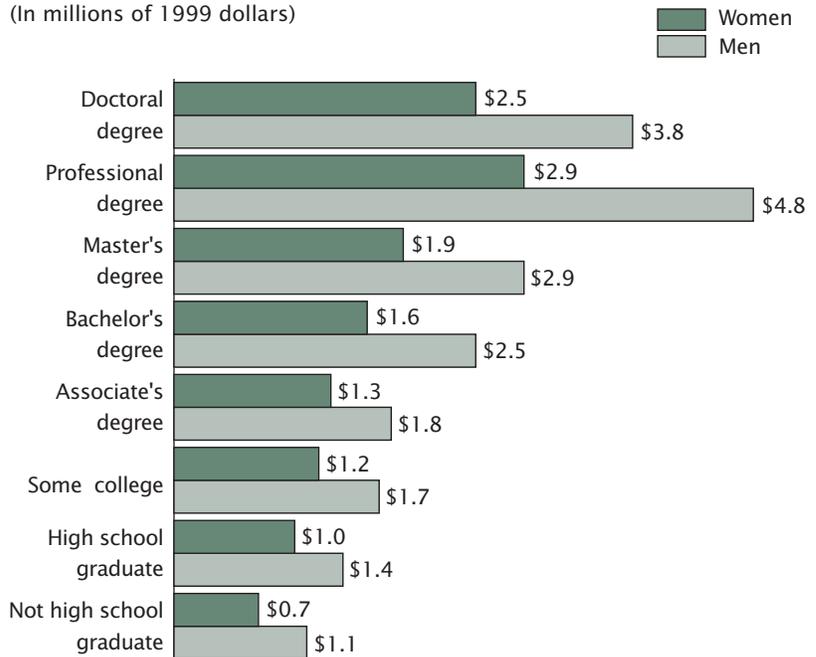
Women completing high school will earn an average of \$1.0 million, about 40 percent less than the estimated \$1.6 million for women completing a bachelor's degree. The work-life payoffs for women with professional (\$2.9 million) and doctoral (\$2.5 million) degrees, though substantial, lag markedly behind those of men with the same educational attainment.

The cumulated difference between men and women amounts to about \$350,000 for high school

¹⁵ The female-to-male earnings ratio for workers ages 60-64 with a high school diploma does not differ significantly from the ratio for younger workers, ages 25-29.

Figure 6.
Synthetic Work-Life Earnings Estimates for Full-Time, Year-Round Workers by Sex and Educational Attainment Based on 1997-1999 Work Experience

(In millions of 1999 dollars)



Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

dropouts. The difference increases to \$450,000 for high school graduates and to about twice that for bachelor's degree holders. Men with professional degrees may expect to earn almost \$2 million more than their female counterparts over their work-life.

RACE AND HISPANIC ORIGIN, EDUCATION, AND EARNINGS

Educational attainment and work-life earnings vary by race and Hispanic origin.

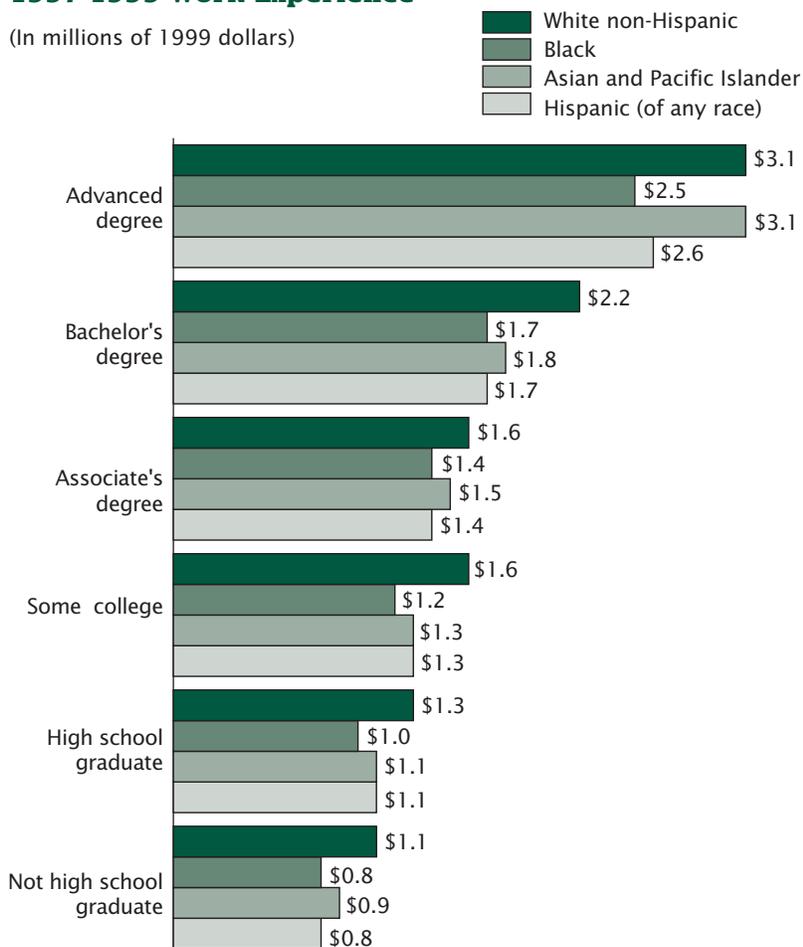
Educational attainment differs significantly by race and Hispanic origin. Among adults 25 years old and over in 2000, 88 percent of White non-Hispanics, 86 percent of Asians and Pacific Islanders, and 79 percent of Blacks had attained

at least a high school diploma.¹⁶ Similarly, 28 percent of White non-Hispanics, 44 percent of Asians and Pacific Islanders, and 17 percent of Blacks had received a Bachelor's degree. For Hispanics (who may be of any race), only 57 percent had a high school diploma and 11 percent a bachelor's degree. Even accounting for these large differences in

¹⁶ Because Hispanics may be of any race, data in this report for Hispanics overlap slightly with data for the Black population and for the Asian and Pacific Islander population. Based on the March 1998, 1999, and 2000 Current Population Survey samples, 3 percent of Black adults 25 to 64 years old and 2 percent of Asian and Pacific Islanders 25 to 64 years old are also of Hispanic origin. Data for the American Indian and Alaska Native population are not shown in this report because of their small sample size in the March 1998, 1999, and 2000 Current Population Surveys.

Figure 7.
Synthetic Work-Life Earnings Estimates for Full-Time, Year-Round Workers by Educational Attainment, Race, and Hispanic Origin Based on 1997-1999 Work Experience

(In millions of 1999 dollars)



Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

educational attainment by looking at earnings within each education category, earnings differences persist and can accumulate dramatically over a 40-year work-life.¹⁷

White non-Hispanics earn more than Blacks or Hispanics at almost

¹⁷The small sample size of workers by race and ethnicity prevents this report from providing some kinds of detailed analysis by race or ethnicity for some education levels. However, summary statistics are possible, and these have been included.

every level of educational attainment.¹⁸ For example, among full-time, year-round workers with a high school education, White non-Hispanics will earn an average of \$1.3 million during their working life, compared with about \$1.1 million earned by Blacks and Hispanics (Figure 7). At the

¹⁸With the exception of workers with an associates degree where the work-life earnings estimates for Hispanics do not differ significantly than those for White non-Hispanics.

bachelor's level, White non-Hispanics can expect total earnings of about \$2.2 million, compared with \$1.7 million for Blacks or Hispanics.

While Asians and Pacific Islanders earn less than White non-Hispanics with similar educational attainment at the high school graduate level and the bachelor's level, Asians and Pacific Islanders with graduate degrees (master's, doctoral, or professional) have earnings similar to those of White non-Hispanics. Among full-time, year-round workers with a high school diploma or bachelor's degree, Asians and Pacific Islanders will earn about \$200,000 and \$400,000 less, respectively, than White non-Hispanics during their work-life.

Though on average, work-life earnings are lower for Blacks and Hispanics than White non-Hispanics of the same educational attainment level, the educational investment still pays off. Black workers with less than a high school education would earn less than a million dollars during their work-life, increasing to \$1.0 million for workers with a high school education, \$1.7 for a bachelor's degree, and \$2.5 million for an advanced degree. Likewise, Hispanic work-life earnings also reflect this ascending outcome. Thus, regardless of race or ethnicity, higher educational attainment equates to higher earnings.

The economic reward for each succeeding level of educational attainment differs by group. Though the work-life earnings differences between a high school dropout and a high school graduate are fairly uniform for the three race groups and Hispanics, about \$200,000 each, work-life earnings for workers with a bachelor's degree compared

with workers with just a high school diploma increased by about \$1,000,000 for White non-Hispanics and about \$700,000 for Asians and Pacific Islanders, Blacks, and Hispanics. More dramatic differences appear between the work-life earnings for people with advanced degrees and bachelor's degrees. Continuing college beyond the bachelor's level pays an extra \$800,000 for White non-Hispanics and Blacks compared with \$1.3 million for Asians and Pacific Islanders.¹⁹

METHODOLOGY

Assumptions and limitations

An individual's work-life earnings are the sum of each year's earnings over that person's work-life. In this report, "synthetic" estimates of work-life earnings were created by using the working population's 1-year annual earnings and summing age-specific average earnings for people ages 25 and 64 years. The resulting totals represent what individuals with the same educational level would expect to earn on average in 1999 dollars, in a hypothetical 40-year working life.

The work-life earnings estimates in this report depend upon several assumptions. First, the estimates assume current cross-sectional earnings are representative of the patterns in future earnings. Second, the average earnings of individuals in each age group have been based on all members within an age group without regard to work history, past performance, or other factors which may affect pay. Third, these estimates do not

¹⁹ For Hispanics, the estimated difference of \$900,000 between the average work-life earnings of workers with bachelor's degrees and workers with advanced degrees is not significantly different from those for White non-Hispanics, Blacks, or Asians and Pacific Islanders.

account for any future productivity gains in the economy, and therefore, the estimates may be low. Fourth, this report assumes uninterrupted labor force participation from age 25 to 64. Since earnings are based on currently surviving workers and past research indicates differential mortality by education, the work-life estimates may be inflated differentially by education level.

The limitations in the CPS universe also affect earnings estimates. Selecting only the resident, noninstitutional population with earnings excludes a segment of adults with less education. This results in a higher estimate of the earnings of people with less education, and consequently, may understate the difference in work-life earnings between workers with less education and workers with more.

Many factors which affect earnings are not covered in this report. These include college major, continuity of occupation (or "career path"), or the motivation and effort put in at work by the individual. Information on other characteristics known to affect earnings is available from the Current Population Survey, but the limited sample size of these data preclude their use in this analysis. Occupation, marital status, family responsibilities or income requirements, area of residence, local job availability, and employment rates fall into this category. In addition, non-cash or fringe benefits data are not considered in the average earnings estimates.

Computational procedure

The following equation describes the estimates,

$$\text{work-life earnings} = \sum_{x=25}^{x=64} \text{average(earnings)}_{\text{age}(x)}$$

where work-life earnings equals the sum of all the average earnings of workers of each age from 25 to 64 years old.

One of the difficulties in producing reasonable work-life estimates is the reliability of the available data. For many groups, the limited sample size of the Current Population Survey made earnings averages for members of certain sub-population groups unreliable. To account for limited sample size, two steps were taken in developing the estimates.

First, 3 years of sample data from the March 1998, 1999, and 2000 CPS were consolidated into a single data set for analysis.²⁰ All earnings data were adjusted to reflect 1999 dollars using the Consumer Price Index.²¹

Second, average earnings were generated on consolidated age groups rather than single years of age. For the total population of workers, and workers grouped by sex, averages were generated for 5-year age groups, summed, and multiplied by 5. For workers grouped by race or ethnic origin, 10-year groups were used to generate averages, which were then summed and multiplied by 10. Limiting the sample to full-time, year-round workers had little impact on sample sizes by characteristic and so was not considered when choosing age groups.

For example, earnings of Blacks were calculated using 10-year age

²⁰ The CPS March Supplement asks respondents to report earnings from the previous calendar year. Therefore, March 1998, 1999, and 2000 CPS include data on 1997, 1998, and 1999 earnings. Because a proportion of households are re-sampled and thus appear in 2 years of data, a correlation coefficient which accounts for the resulting covariation is used in the calculation of standard errors, confidence intervals, and statistical tests of significance.

²¹ "CPI for All Urban Consumers, U.S. City Average for All Items," as published by the U.S. Department of Labor, Bureau of Labor Statistics, series ID# CUUR0000SA0.

groups. The estimation model thus took the following form.

Work-life earnings = 10*(Average earnings of Black workers ages 25 to 34 years) + 10*(Average earnings of Black workers ages 35 to 44 years) + 10*(Average earnings of Black workers ages 45 to 54 years) + 10*(Average earnings of Black workers ages 55 to 64 years).

SOURCE OF THE DATA

Most estimates in this report come from data obtained in March 1998, 1999, and 2000 from the Current Population Survey (CPS). Some estimates are based on data obtained from the CPS in earlier years. The U.S. Census Bureau conducts the survey every month, although this report uses only March data for its estimates.

ACCURACY AND RELIABILITY OF THE DATA

Statistics from sample surveys are subject to sampling and nonsampling error. All comparisons presented in this report have taken sampling error into account and meet the Census Bureau's standards for statistical significance. Nonsampling errors in surveys may

be attributed to a variety of sources, such as how the survey was designed, how respondents interpret questions, how able and willing respondents are to provide correct answers, and how accurately answers are coded and classified. The Census Bureau employs quality control procedures throughout the production process — including the overall design of surveys, testing the wording of questions, review of the work of interviewers and coders, and statistical review of reports.

The CPS employs ratio estimation, whereby sample estimates are adjusted to independent estimates of the national population by age, race, sex, and Hispanic origin. This weighting partially corrects for bias due to undercoverage, but how it affects different variables in the survey is not precisely known. Moreover, biases may also be present when people who are missed in the survey differ from those interviewed in ways other than the categories used in weighting (age, race, sex, and Hispanic origin). All of these considerations affect comparisons across different surveys or data sources. Please contact Brandi York of the Demographic Statistical Methods Division via Internet e-mail

at dsmd_s&a@census.gov for information on the source of the data, the accuracy of the estimates, the use of standard errors, and the computation of standard errors.

MORE INFORMATION

The electronic version of this report is available on the Internet at the Census Bureau's World Wide Web site (www.census.gov). Once on the site, click on "E" under the "Subjects A-Z" heading, and then "Educational Attainment."

CONTACTS

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USER COMMENTS

The Census Bureau welcomes the comments and advice of data and report users. If you have any suggestions or comments, please write to:

Chief, Population Division
U.S. Census Bureau
Washington, DC 20233

or send e-mail to: pop@census.gov

Table 1.

Synthetic Estimates of Work-Life Earnings by Educational Attainment, Work Experience, and Age, Based on 1997-1999 Work Experience

(Numbers in 1999 dollars)

Work experience and age	Not high school graduate	High school graduate	Some college	Associate's degree	Bachelor's degree	Master's degree	Professional degree	Doctoral degree
ALL WORKERS								
Work-life estimate	766,951	1,037,759	1,267,803	1,331,201	1,838,432	2,127,947	4,015,613	3,105,793
90-percent confidence interval (\pm) ¹ ...	18,998	11,594	22,553	36,334	29,007	52,134	218,750	161,514
Average earnings								
Total	18,894	25,909	31,192	33,020	45,394	54,537	99,253	81,430
25 to 29 years.....	15,346	20,975	22,871	25,403	33,031	37,211	42,662	47,457
30 to 34 years.....	17,238	24,282	28,164	29,642	41,417	47,080	65,355	61,159
35 to 39 years.....	18,311	25,633	30,747	32,347	46,532	58,179	104,366	79,221
40 to 44 years.....	19,426	27,696	33,663	36,143	49,724	55,577	102,191	82,947
45 to 49 years.....	19,230	27,936	34,457	35,784	50,322	59,379	109,435	87,146
50 to 54 years.....	21,514	27,942	36,725	37,671	54,419	58,897	98,787	88,590
55 to 59 years.....	21,716	27,643	35,838	37,827	50,981	58,848	127,745	89,769
60 to 64 years.....	20,610	25,446	31,096	31,423	41,259	50,423	152,581	84,870
FULL-TIME, YEAR-ROUND WORKERS								
Work-life estimate	950,097	1,226,575	1,494,989	1,563,702	2,140,864	2,463,059	4,411,542	3,440,001
90-percent confidence interval (\pm) ¹ ...	25,797	14,583	29,240	46,903	35,559	69,948	249,680	198,575
Average earnings								
Total	23,420	30,436	36,758	38,216	52,231	62,295	109,551	89,433
25 to 29 years.....	19,280	24,977	28,186	29,349	38,118	43,614	49,162	60,023
30 to 34 years.....	21,599	28,754	33,068	33,977	47,356	53,240	73,775	65,339
35 to 39 years.....	22,480	29,998	36,616	37,631	53,519	66,606	114,998	82,763
40 to 44 years.....	23,800	31,968	38,970	42,147	56,226	62,361	110,316	89,948
45 to 49 years.....	23,259	32,043	39,134	40,032	57,281	66,971	116,835	93,800
50 to 54 years.....	25,780	32,223	41,564	42,913	61,324	64,605	107,726	99,821
55 to 59 years.....	26,918	32,781	42,380	44,083	60,437	67,622	137,035	96,873
60 to 64 years.....	26,904	32,570	39,080	42,609	53,911	67,592	172,461	99,434

¹ This figure added to or subtracted from the estimate provides the 90-percent confidence interval.

Note: Average earnings based on means.

Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

Table 2.
Synthetic Estimates of Work-Life Earnings by Educational Attainment, Sex, Work Experience, and Age, Based on 1997-1999 Work Experience

(Numbers in 1999 dollars)

Sex, work experience, and age	Not high school graduate	High school graduate	Some college	Associate's degree	Bachelor's degree	Master's degree	Professional degree	Doctoral degree
MEN								
ALL WORKERS								
Work-life estimate	926,740	1,292,447	1,587,208	1,642,398	2,294,747	2,601,549	4,488,976	3,491,928
90-percent confidence interval (\pm) ¹ ..	24,105	18,051	40,371	64,810	46,514	89,521	259,028	224,184
Average earnings								
Total	22,636	32,024	39,031	40,608	56,779	67,202	115,931	91,982
25 to 29 years.....	17,466	24,787	27,728	30,524	37,373	43,425	46,139	59,569
30 to 34 years.....	20,485	29,633	34,903	36,727	50,398	55,411	73,934	62,671
35 to 39 years.....	21,949	31,519	38,662	40,486	57,209	71,665	112,992	87,781
40 to 44 years.....	23,276	34,895	42,308	45,080	63,469	67,962	114,977	93,645
45 to 49 years.....	23,385	35,120	42,031	43,725	64,742	75,312	129,413	97,445
50 to 54 years.....	26,935	36,051	46,955	42,903	69,256	70,851	110,193	102,771
55 to 59 years.....	26,724	35,349	47,297	50,212	65,567	73,197	145,157	101,575
60 to 64 years.....	25,129	31,135	37,558	38,823	50,936	62,487	164,990	92,928
FULL-TIME, YEAR-ROUND WORKERS								
Work-life estimate	1,069,100	1,419,932	1,740,929	1,793,213	2,468,324	2,889,977	4,784,121	3,751,483
90-percent confidence interval (\pm) ¹ ..	30,256	20,548	48,843	75,020	51,910	115,802	288,155	265,390
Average earnings								
Total	26,124	34,906	42,525	43,680	60,592	73,210	122,892	97,626
25 to 29 years.....	20,443	27,177	31,817	32,847	41,826	50,239	53,087	70,304
30 to 34 years.....	23,201	32,274	37,088	39,072	53,591	59,990	79,690	66,072
35 to 39 years.....	24,944	34,064	41,943	43,218	59,871	75,444	119,478	88,346
40 to 44 years.....	27,198	37,255	45,287	48,624	65,493	71,728	118,788	96,351
45 to 49 years.....	26,835	37,670	44,422	45,976	67,931	81,699	132,042	102,118
50 to 54 years.....	30,398	39,032	50,015	45,935	72,178	74,460	116,590	112,929
55 to 59 years.....	30,446	39,120	52,552	53,723	71,353	80,641	153,001	107,021
60 to 64 years.....	30,356	37,393	45,062	49,247	61,422	83,793	184,147	107,155
WOMEN								
ALL WORKERS								
Work-life estimate	532,755	768,866	934,413	1,050,157	1,299,158	1,617,840	2,466,479	2,158,779
90-percent confidence interval (\pm) ¹ ..	31,157	12,966	15,452	33,771	23,436	36,747	190,229	159,680
Average earnings								
Total	13,217	19,156	23,015	26,104	32,816	41,270	63,904	56,807
25 to 29 years.....	11,140	15,974	18,113	20,846	28,901	32,662	39,565	33,773
30 to 34 years.....	12,029	17,230	21,009	23,322	32,146	38,833	55,472	57,564
35 to 39 years.....	12,631	18,442	22,591	25,414	34,989	42,723	87,603	61,390
40 to 44 years.....	13,764	19,697	24,617	28,205	34,608	42,856	76,751	60,520
45 to 49 years.....	13,804	20,957	26,052	27,770	34,383	44,028	61,964	64,586
50 to 54 years.....	13,987	21,130	26,022	32,643	34,969	45,265	63,103	56,037
55 to 64 years ²	14,598	20,172	24,239	25,916	29,918	38,600	54,419	48,943
FULL-TIME, YEAR-ROUND WORKERS								
Work-life estimate	722,048	968,305	1,172,547	1,290,600	1,612,193	1,892,375	2,878,016	2,482,647
90-percent confidence interval (\pm) ¹ ..	48,286	18,387	19,626	46,422	28,588	42,183	234,831	183,138
Average earnings								
Total	17,947	24,109	29,072	31,784	40,001	47,980	74,897	65,900
25 to 29 years.....	15,345	21,124	23,615	25,485	34,073	38,198	45,420	43,955
30 to 34 years.....	17,755	22,381	27,364	28,223	38,802	44,718	65,436	62,984
35 to 39 years.....	17,411	23,466	29,116	31,011	43,580	52,125	104,303	69,285
40 to 44 years.....	17,692	24,424	30,571	34,439	42,018	50,150	89,123	69,922
45 to 49 years.....	17,473	25,283	31,794	32,588	41,786	49,800	70,299	74,259
50 to 54 years.....	17,870	25,235	30,919	39,282	42,257	50,303	73,886	65,233
55 to 64 years ²	20,432	25,874	30,566	33,546	39,961	46,591	63,568	55,446

¹This figure added to or subtracted from the estimate provides the 90-percent confidence interval.

²The estimates for women's earnings ages 55 to 59 and 60 to 64 are combined into one group (55 to 64) due to small sample sizes.

Note: Average earnings based on means.

Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

Table 3.
Synthetic Estimates of Work-Life Earnings by Educational Attainment, Race, Hispanic Origin, Work Experience, and Age, Based on 1997-1999 Work Experience

(Numbers in 1999 dollars)

Race, Hispanic origin, work experience, and age	Not high school graduate	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree ¹
WHITE						
ALL WORKERS						
Work-life estimate	794,696	1,070,692	1,303,356	1,359,195	1,902,033	2,663,080
90-percent confidence interval (\pm) ²	23,043	12,856	25,584	42,621	33,219	62,097
Average earnings						
Total	19,490	26,721	32,170	33,685	46,673	67,590
25 to 34 years	16,941	23,469	25,960	27,990	37,789	47,158
35 to 44 years	19,264	27,575	33,313	35,109	49,596	70,344
45 to 54 years	20,800	28,582	36,304	37,065	53,773	71,996
55 to 64 years	22,464	27,442	34,758	35,756	49,047	76,810
FULL-TIME, YEAR-ROUND WORKERS						
Work-life estimate	981,413	1,262,800	1,546,346	1,594,036	2,222,668	3,055,360
90-percent confidence interval (\pm) ²	31,380	15,795	33,356	54,725	41,171	77,286
Average earnings						
Total	24,048	31,360	38,158	39,068	53,893	77,037
25 to 34 years	20,839	27,700	31,653	32,404	43,414	54,208
35 to 44 years	23,590	32,016	39,419	40,942	57,002	78,870
45 to 54 years	25,158	33,026	41,336	41,751	61,162	80,418
55 to 64 years	28,554	33,539	42,227	44,307	60,689	92,040
WHITE NON-HISPANIC						
ALL WORKERS						
Work-life estimate	861,789	1,085,475	1,320,419	1,367,156	1,920,741	2,672,810
90-percent confidence interval (\pm) ²	28,914	13,545	27,112	43,620	34,335	63,261
Average earnings						
Total	21,482	27,182	32,744	34,014	47,205	67,940
25 to 34 years	17,955	24,003	26,317	28,062	38,148	47,218
35 to 44 years	20,800	27,998	33,929	35,613	50,277	70,543
45 to 54 years	23,282	28,873	36,617	37,239	54,234	72,311
55 to 64 years	24,141	27,673	35,178	35,802	49,415	77,209
FULL-TIME, YEAR-ROUND WORKERS						
Work-life estimate	1,083,470	1,283,375	1,570,914	1,605,456	2,248,054	3,068,170
90-percent confidence interval (\pm) ²	40,045	16,782	35,493	55,765	42,677	78,833
Average earnings						
Total	27,086	31,969	38,925	39,507	54,562	77,475
25 to 34 years	23,770	28,457	32,298	32,624	43,772	54,285
35 to 44 years	26,145	32,537	40,219	41,565	57,906	79,194
45 to 54 years	27,862	33,383	41,729	41,950	61,790	80,705
55 to 64 years	30,570	33,960	42,845	44,407	61,337	92,633
BLACK						
ALL WORKERS						
Work-life estimate	638,225	878,833	1,099,573	1,196,247	1,492,568	2,343,370
90-percent confidence interval (\pm) ²	24,963	20,638	30,761	72,471	58,713	94,445
Average earnings						
Total	15,987	21,692	26,362	28,146	36,311	47,699
25 to 34 years	12,581	19,737	22,146	24,433	31,152	39,884
35 to 44 years	17,012	21,767	27,800	28,612	37,824	45,750
45 to 54 years	18,101	24,429	30,922	32,092	40,922	54,568
55 to 64 years	16,129	21,950	29,090	34,488	39,359	46,436

See footnotes at end of table.

Table 3.
Synthetic Estimates of Work-Life Earnings by Educational Attainment, Race, Hispanic Origin, Work Experience, and Age, Based on 1997-1999 Work Experience—Con.

(Numbers in 1999 dollars)

Race, Hispanic origin, work experience, and age	Not high school graduate	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree ¹
BLACK—Con.						
FULL-TIME, YEAR-ROUND WORKERS						
Work-life estimate	807,374	1,037,184	1,247,895	1,357,547	1,677,160	2,512,980
90-percent confidence interval (\pm) ²	29,182	24,185	32,445	79,197	64,579	105,428
Average earnings						
Total	20,362	25,655	30,194	32,077	40,251	51,154
25 to 34 years	17,622	24,273	26,323	27,769	35,136	43,927
35 to 44 years	21,416	25,453	31,253	33,127	41,115	48,769
45 to 54 years	21,253	27,365	33,950	35,695	44,261	57,700
55 to 64 years	20,447	26,627	33,264	39,164	47,204	49,748
ASIAN AND PACIFIC ISLANDER						
ALL WORKERS						
Work-life estimate	719,975	901,614	1,135,016	1,351,452	1,565,197	2,798,480
90-percent confidence interval (\pm) ²	86,943	45,170	111,042	156,506	69,166	288,132
Average earnings						
Total	18,103	22,896	28,384	33,007	39,835	65,388
25 to 34 years	18,108	20,858	29,195	30,591	37,090	49,606
35 to 44 years	17,089	23,454	27,326	31,347	43,069	72,253
45 to 54 years	20,461	25,314	28,561	38,055	41,967	67,486
55 to 64 years	16,338	20,536	28,419	35,152	34,394	90,503
FULL-TIME, YEAR-ROUND WORKERS						
Work-life estimate	875,305	1,056,329	1,309,136	1,482,595	1,801,288	3,104,930
90-percent confidence interval (\pm) ²	115,093	52,969	93,821	147,714	79,516	326,355
Average earnings						
Total	22,056	26,659	31,995	36,568	46,006	74,054
25 to 34 years	22,646	24,579	30,518	31,982	44,086	58,024
35 to 44 years	20,428	26,734	32,572	35,597	48,144	80,735
45 to 54 years	24,710	29,199	32,709	43,843	48,220	74,172
55 to 64 years	19,747	25,121	35,114	36,838	39,678	97,562
HISPANIC (OF ANY RACE)						
ALL WORKERS						
Work-life estimate	678,454	925,113	1,093,791	1,237,869	1,505,666	2,322,410
90-percent confidence interval (\pm) ²	38,639	35,094	45,458	214,562	106,969	281,277
Average earnings						
Total	16,792	22,572	26,507	29,376	36,172	58,299
25 to 34 years	16,002	20,499	23,526	27,457	31,629	45,412
35 to 44 years	17,388	23,701	27,794	28,605	37,199	64,129
45 to 54 years	16,798	24,714	31,413	33,448	41,836	62,624
55 to 64 years	17,657	23,597	26,646	34,276	39,904	60,076
FULL-TIME, YEAR-ROUND WORKERS						
Work-life estimate	822,590	1,064,984	1,264,431	1,440,018	1,700,896	2,614,220
90-percent confidence interval (\pm) ²	54,422	38,527	51,247	287,359	119,884	332,889
Average earnings						
Total	20,041	26,026	30,867	33,600	40,940	65,805
25 to 34 years	18,584	23,592	27,697	30,878	37,182	52,351
35 to 44 years	20,528	27,278	32,252	32,942	40,980	69,889
45 to 54 years	20,651	28,469	35,431	37,959	45,496	72,381
55 to 64 years	22,496	27,159	31,063	42,223	46,432	66,801

¹Advanced degree includes master's, professional, or doctoral degrees.

²This figure added to or subtracted from the estimate provides the 90-percent confidence interval.

Note: Average earnings based on means.

Source: U.S. Census Bureau, Current Population Surveys, March 1998, 1999, and 2000.

Exhibit 5

APC Member Colleges

1. Art Institute of New York City
2. Berkeley College
3. Briarcliffe College
4. Bryant and Stratton College
5. Business Informatics Center
6. College of Westchester
7. DeVry College of NY
8. Elmira Business Institute
9. Everest Institute
10. Five Towns College
11. Island Drafting and Technical Institute
12. ITT Technical Institute
13. Jamestown Business College
14. LIM College
15. Long Island Business Institute
16. Mandl School
17. Monroe College
18. New York Career Institute
19. Olean Business Institute
20. Plaza College
21. St. Paul's School of Nursing
22. School of Visual Arts
23. Simmons Institute of Funeral Services
24. Swedish Institute
25. Technical Career Institutes
26. Utica School of Commerce
27. Wood Tobe-Coburn

Exhibit 6



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF MANAGEMENT

Regulatory Information Management Services

December 7, 2010

Mr. Jonathan C. Glass
DowLohnes
1200 New Hampshire Avenue, NW
Suite 800
Washington, DC 20036-6802
jglass@dowlohn.com

RE: FOIA Request No. 10-01765-F

Dear Mr. Glass:

This letter is a final response to your letter dated July 27, 2010 requesting information pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. § 552. Your request was received in this office on July 28, 2010. Your request has been assigned to the following offices within the Department to search for responsive records: Federal Student Aid (FSA) and Office of Post Secondary Schools (OPE). You requested copies of all information in the possession, custody or control of the Department of Education or the employees, etc in reference to contracts or agreements that the DoEd entered into in the preparation of the Notice of Proposed Rulemaking (NPRM) regarding Program Integrity Gainful Employment as published in the Federal Register on July 26, 2010, etc.

Staff in FSA informed the FOIA Requester Services Center that after a search of their files, they were unable to locate any documents that were responsive to your request.

Enclosed is an e-mail containing 26 pages of OPE documents responsive to your request. The documents provided are:

- NPRM Data Analysis
- NPRM Logistical Support

However, certain information has been withheld according to the FOIA exemption specified below:

- Personal information under exemption (b)(6) of the FOIA, 5 U.S.C. § 552(b)(6) and Departmental regulation 34 CFR § 5.71(a). Disclosure of this information would constitute a clearly unwarranted invasion of personal privacy.

Provisions of the FOIA allow us to recover the costs pertaining to your request. The Department has concluded that you fall within the category of a “commercial use” requester. The fee for processing your request totals \$24.96. The breakdown for this cost is as follows: The cost of search time for 30 minutes and review time for 30 minutes at the rate of pay of a GS-12 plus 16 percent of that rate = \$24.96; and the cost for documents recorded on CD = \$0.

A check in the amount of \$24.96 should be made payable to the U.S. Department of Education (please include the FOIA number) and sent to the address below. Please note that if the payment is not received, future requests may require advance payment.

Payment Address:

U.S. Department of Education
Office of Management
400 Maryland Avenue, SW, LBJ, 2W220
ATTN: FOIA Office
Washington, DC 20202-4500

You have the right to appeal this decision by writing to the address below, 35 days from the date of this letter. Your appeal should be accompanied by a copy of your initial letter of request and this denial letter, and should contain any evidence or argument you wish the Department to consider in making an administrative determination on your appeal.

Appeal Address:

U.S. Department of Education
Office of Management
400 Maryland Avenue, SW, LBJ 2W311
ATTN: Appeals Office
Washington, DC 20202-4500

Or, you may complete the online FOIA appeal form, located at:
http://www.ed.gov/policy/gen/leg/foia/foia_appeal_form_1.html.

If you have any questions, please contact the FSC at (202) 401-8365 or
EDFOIAManager@ed.gov.

Sincerely,



Christie D. Swafford
FOIA Public Liaison, OM/RIMS

Enclosures

Exhibit 7

**EXPERT REPORT OF
PROFESSOR BRADFORD CORNELL
REGARDING PROPOSED GAINFUL EMPLOYMENT REGULATION**

I. RETENTION AND QUALIFICATIONS

1. I have been retained by Career Education Corporation to analyze certain proposals contained in the Department of Education’s notice of proposed rulemaking (“NPRM”) dated July 26, 2010 from the perspective of a financial economist. Specifically, I have been asked to focus on the concept of ‘gainful employment’ and the related benchmarks proposed by the Department to determine the eligibility of for-profit educational institutions for access to student financial assistance programs authorized under title IV of the Higher Education Act of 1965 (“title IV funds”).
2. I am currently a Visiting Professor of Financial Economics at the California Institute of Technology (“Caltech”). Previously, I was a Professor of Finance and Director of the Bank of America Research Center at the Anderson Graduate School of Management at the University of California, Los Angeles for 26 years.
3. I earned a master’s degree in Statistics from Stanford University in 1974 and earned my doctorate in Financial Economics from Stanford in 1975. I have served as an editor of numerous journals relating to business and finance and have written more than 70 articles and two books on finance and securities, including *Corporate Valuation: Tools For Effective Appraisal and Decision Making* (1993), published by McGraw-Hill, and *The Equity Risk Premium and the Long-Run Future of the Stock Market* (1999), published by John Wiley and Sons. To complement my academic writing, I have also authored articles for *The Wall Street Journal* and the *Los Angeles Times*.
4. My research has been widely recognized. In 1988, I was cited by the Financial Management Association as one of the ten most prolific authors in the field of finance. I have received prizes and grants for my research from the Chicago Board of Trade, the Chicago Mercantile Exchange, and the Institute for Quantitative Research in Finance.

My article, "Corporate Stakeholders and Corporate Finance,"¹ received the 1987 Distinguished Applied Research Award from the Financial Management Association. In 1999, I was awarded the I/B/E/S prize for empirical work in finance and accounting (with Wayne Landsman and Jennifer Conrad). Richard Roll and I received a Graham and Dodd Scroll Award in 2006 from the Financial Analyst Society for our work on delegated agent asset pricing theory. Recently, my paper entitled "Luck, Skill, and Investment Performance" won an Outstanding Article prize from the 11th Annual Bernstein, Fabozzi/Jacobs, Levy Awards in The Journal of Portfolio Management.

5. I have also been active in my profession. I have served as a Vice President of the Western Finance Association. I am also a past director of both the American Finance Association and the Western Finance Association. I have served as an associate editor of numerous professional journals including: The Journal of Finance, The Journal of Futures Markets, The Journal of Financial Research and The Journal of International Business Studies. I have served as a reviewer for nearly a dozen other professional journals.
6. My teaching and writing have focused on a number of different financial and economic issues, many of which are relevant to the subject matter of this report. I currently teach Applied Corporate Finance and Investment Banking at Caltech. Examples of other classes I have taught over the course of my academic career include Corporate Valuation, the Law and Finance of Corporate Acquisitions and Restructurings, Corporate Financial Theory, and Security Valuation and Investments. I have drawn upon this experience in formulating my opinions in this case.
7. In addition to my teaching, writing, and research studies, I serve as senior consultant to Charles River Associates ("CRA"), an international consulting firm. In my position as a senior consultant, I advise business and legal clients on financial economic issues. Prior to my affiliation with CRA, which began in March of 1999, I operated FinEcon, a financial economic consulting company, through which I also advised business and legal clients on financial economic issues. I have served as a consultant and given testimony

¹ Journal of Portfolio Management, 35, (2009).

for both plaintiffs and defendants in a variety of securities, regulatory and commercial lawsuits. During my many years of experience as an expert witness and consultant, I have provided economic analyses and expert testimony (again, for both plaintiffs and defendants) related to valuation, corporate finance, portfolio management and damages issues. I have been engaged as a damages expert in numerous high-profile cases which revolved around complex financial and securities transactions.

8. My background is described more fully in my curriculum vitae, which is attached as Exhibit 1 to this declaration. A list of my publications may also be found as part of Exhibit 1.

II. FINANCE THEORY UNDERLYING INVESTMENT DECISIONS

10. To place my opinion on the proposed rules to determine the eligibility for access to title IV student financial assistance programs in the proper context, it is helpful to introduce the finance theory underlying capital project investment decisions. My reason for doing this is that finance theory, more specifically Capital Budgeting or Investment Appraisal theory, teaches that a more useful way to analyze the decision to undertake higher education (and the related decision to provide financial assistance for higher education) is by considering education to be a capital project undertaking, similar to a firm deciding to build a factory or a University deciding to fund the construction of new classrooms. Capital Budgeting theory is a long-established sub-field of Economics and Finance theory that considers the problem of allocating limited capital to competing projects and investment opportunities. In making such investment decisions or in deciding whether to undertake further education, the essential issue is the same: is the investment or additional education likely to produce benefits that exceed the cost.
11. Education can be thought of as a special type of capital investment project, aimed at building human capital, which requires substantial expenditures (tuition, opportunity cost of attending school, etc.) in a fairly short period (one to four years) at the start of the project. The benefits from education typically accrue over a lengthy period following the

conclusion of the formal coursework. The direct benefits to education are the increased earnings potential of the student throughout his career, a period that could span decades, but there are also other intangible benefits to the student and society.

12. Capital Budgeting theory has guided capital investment decisions for decades through the concept of net present value (“NPV”). The NPV of a project is the sum of the present values of all incremental cash flows (current and future) related to that project (where cash outflows are treated as negative and cash inflows are treated as positive). To arrive at the NPV, these cash flows are discounted to their present values using the appropriate discount rate. In the example of a firm deciding to build a new factory, NPV would equal the sum of the initial capital outlay, future cash inflows from the factory production, future maintenance costs, etc., all expressed in terms of their present values.
13. Capital Budgeting theory demonstrates the appropriate rule for undertaking projects is to proceed with the project if its NPV is positive. As expressed in a leading finance text book:

*Firms can best help their shareholders by accepting all projects with positive net present values and rejecting projects with negative net present values. The net present value of a project measures the wealth created by the project.*²

14. Although the NPV investment rule is straightforward, there are two factors one should be sure to take account of:
 - The NPV calculation must include *all incremental* cash flows arising from the decision to undertake a project in calculating the NPV. The Brealy, Myers and Allen textbook emphasizes this point by stating: “*Estimate the project’s incremental cash flows – that is, the difference between the cash flows with the project and those without the project.*”³ Another leading text book states, “*In calculating the NPV of a*

² Brealy, Richard A., Stewart C. Myers and Franklin Allen, “Principles of Corporate Finance”, 9th edition, page 29.

³ Brealy, Richard A., Stewart C. Myers and Franklin Allen, “Principles of Corporate Finance”, 9th edition, page 161.

project, only cash flows that are incremental to the project should be used. These cash flows are the changes in the firm's cash flows that occur as a direct consequence of accepting the project. That is, we are interested in the difference between the cash flows of the firm with the project and the cash flows of the firm without the project."⁴ This is an especially important factor as in many cases, such as the rules proposed in the NPRM, decision makers fail to take into account the full period over which the incremental benefits accrue, in this case the full working career of the student.

➤ The discount rate used to calculate the present value must be consistent with the nature of the project.

15. The above short introduction to Capital Budgeting theory is important for understanding the critique I have of the tests proposed by the Department of Education ("Department") in their NPRM to be eligible for access to title IV student financial assistance programs.

III. PROPOSED TESTS TO DETERMINE ELIGIBILITY FOR TITLE IV STUDENT FINANCIAL ASSISTANCE PROGRAMS

16. It is my understanding that the proposed regulations that the Department has outlined in the NPRM aim to assess the question of whether an educational program or provider offers courses and training to students that leads to their gainful employment after the program. Under the proposals, the eligibility of the educational provider to access title IV student financial assistance programs is in the Department's view based on how successful the program is in providing gainful employment to its students under measures defined by the Department. The Department proposes two tests to measure whether students are gainfully employed following their educational program:

1. The first test is based upon the debt-to-income ratios of students following completion of the program ("Debt to Income Ratio Test"). Specifically, the test

⁴ Ross, Stephen A., Randolph W. Westerfield and Jeffrey Jaffe, "Corporate Finance", 7th edition, page 179.

states that students should not devote more than 8 percent of their annual earnings towards repaying their student loans, with the loan amount calculated as the median loan among all students of the program. Further, a 12 percent or higher ratio of repayments to earnings is considered excessive. Alternatively, the Department proposes that the debt repayment cannot exceed 30 percent of the discretionary income of the student, defined as the amount of total income above 150 percent of the poverty level for the applicable year. If the Department permits the use of earnings data from four to six years out, the debt cannot exceed 20 percent of the discretionary income. These ratios are calculated based on a 10-year loan repayment plan and the average annual earnings, in the most recent year for which post-completion data are available, for the program's graduates from the previous three years.⁵

2. The second test is based upon repayment rates, i.e., what percentage of students who enrolled in the program (regardless of whether they completed the program or dropped out) in the previous four years have repaid some portion of the principal in the most recent fiscal year ("Loan Repayment Rate Test"). Under the proposal, a repayment rate of 45 percent and higher leads to eligibility for title IV funds while a rate of below 35 percent may lead the program to become ineligible for title IV funding.

17. The two proposed tests summarized above are applied in tandem, for example a program could have a repayment rate of below 35 percent and still qualify for title IV funding if the ratio of student loan repayments to earnings of its recent students is less than 8 percent. A matrix of the relationship between these two tests and their outcomes leading to eligibility for title IV funding is included in the NPRM on page 43621.

IV. THE DEPARTMENT'S PROPOSED METHODOLOGY IS ECONOMICALLY IRRATIONAL

18. Neither the Debt to Income Ratio test nor the Loan Repayment Rate Test is based on the NPV methodology. Consequently, both tests are economically irrational and will lead to sub-

⁵ Under the proposed regulation, an institution may seek to measure earnings of earlier graduates (four to six years prior) if graduates typically experience "large earnings increases" after an initial period of employment. NPRM at 43661.

optimal decisions and outcomes whereby students who would benefit from educational programs will be denied access to funds that would help them enroll in such programs.

19. As pointed out earlier, education is an investment whose benefits typically accrue over a lengthy period that could span three to four decades. Neither of the Department's two tests takes into consideration the increase in the lifetime earning capacity of a student who is deciding whether to enroll in a program.
20. The Debt to Income Ratio Test is based on ratios calculated using the average annual earnings in the most recent year for which post-completion data are available, for the program's graduates from the previous three years. This approach introduces two errors in the estimate of cash flows arising from the proposed rule:
 - a. A very significant amount of the positive incremental cash inflows to the student are ignored. The increase in lifetime earnings of the student after the three year period is not taken into consideration in deciding whether to fund the education or not. This is a significant distortion since the Department's own figures demonstrate that substantial increases in earnings occur after the first three years. *See* Chart F, NPRM at 43666.
 - b. By focusing on the total earnings for the first three years and not the incremental lifetime earnings, errors can be made that hurt effective programs and/or help under-performing programs. That is, certain programs may not affect the already high earnings of their students and yet have access to title IV funding under the proposed tests, while other programs that dramatically increase the much lower earnings of their students could be denied access to the funding.

21. The correct approach according to finance theory would be an NPV based approach that considers the present value of *all incremental lifetime earnings* due to the educational program and compares this to the present value of the total costs of the program. If the present value of the benefits is higher than the present value of the costs, it makes economic sense for the student to enroll in the program and for the federal government to provide access to title IV funding *even if in the first three years the debt repayments might exceed 12 percent of the student's annual income or during the first four years the student might not be able to make a repayment on the principal amount of the loan.*
22. To illustrate this point with an example, consider a hypothetical average student who is considering enrollment in a 2-year associate degree program that will have a total present value cost equal to \$30,000.⁶ This program will enhance the earnings capacity of the student throughout his working life, and assume that the present value of the *entire stream of incremental earnings* is equal to \$150,000.⁷ After deducting tuition costs of the education of approximately \$30,000, and allowing for additional opportunity costs (assumed to be approximately \$20,000), the degree still represents a net present value in excess of \$100,000⁸. Thus, financing the education is clearly an easy investment decision to make under the NPV rule – the student should go ahead with the enrollment and the

⁶ College Board, a membership association composed of more than 5,700 schools, colleges, universities and other educational organizations, estimates the annual tuition and fees at for-profit institutions to equal \$14,174 for the 2009-10 academic year. See College Board's Trends in College Pricing 2009, page 6.

⁷ Data from US Census indicates that students with associate degrees earn \$1.6 million over their lifetimes, whereas students with high school diplomas make \$1.2 million (See, "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings" by Jennifer Cheeseman Day and Eric C. Newburger). The present value of the \$400,000 of incremental earnings is approximately \$150,000, assuming a 40-year period and 6% discount rate. The discount rate accounts for the interest costs attributable to loans used to finance the education. As noted previously, under the proposed regulation, an institution may seek to measure earnings of earlier graduates (four to six years prior) if graduates typically experience "large earnings increases" after an initial period of employment. NPRM at 43661. However, the Department could not have intended this proviso to apply to the average additional earnings of \$400,000 noted above, since these represent average cumulative figures over the full working career of a student.

⁸ The NPV calculation should also include opportunity costs. While opportunity costs might include income lost due to attending school, many students attending for-profit schools are unemployed at the time they commence their education, many continue to work while attending school, and many may be able to augment their income during the course of their school attendance by virtue of their increased skills. I assume the opportunity costs for students enrolling in an associate degree program to be approximately \$20,000.

associated costs and the government should provide access to funding through loans if the student requires it.

23. But under the proposed test, there will be cases where such a student is denied access to funds/loans. Extending the example, suppose that the student borrowed \$20,000 at 6.8 percent⁹ from the federal government under the title IV program to partially fund the associate degree program and found a job after the program with a salary of \$25,000. Under the proposed Debt to Income Ratio Test, based on a 10-year repayment plan, the ratio of student loan repayments to total earnings equals 13.4 percent, which is higher than the maximum 12 percent permissible under the NPRM. Similarly, under the Department's alternative Debt to Income Test relating to discretionary income, the ratio is 38.4%, again higher than the proposed mandate of 30%.¹⁰ If this example is extrapolated to the entire program, many worthwhile educational programs will be denied access to title IV funding under the proposed rules.
24. Similarly, applying the Loan Repayment Rate test to the same hypothetical example leads to equally irrational results. In our example, even though the direct benefit of the education is approximately \$400,000 of average incremental earnings over the working life of the student (\$150,000 in present value terms) and has an NPV of approximately \$100,000, if the repayment rate is below 35 percent for students enrolled in the program (regardless of whether they completed the program or dropped out) in the previous four years, the program is ineligible.
25. Therefore, in my opinion the proposed rule is arbitrary and capricious from an economic point of view. If the Department wants to implement a regulation addressing the economic value of an educational program, the rule should be based on an NPV based benchmark.

V. THE USE OF THREE TO FOUR YEAR DATA TO EVALUATE GAINFUL

⁹ The current interest rate charged on Stafford Loans is 6.8%. See <http://www.staffordloan.com/stafford-loan-info/interest-rates.php>. Also, the 6.8% rate is suggested in the NPRM on page 43662.

¹⁰ The HHS poverty level for a single-person-family in 2010 is \$10,830. Discretionary income equals earnings minus 150% of the poverty level i.e. discretionary income with earnings of \$25,000 equals \$8,755.

EMPLOYMENT IS ABRITRARY, CAPRICIOUS, AND UNREASONABLE

26. The Department's proposed regulation is arbitrary, capricious, and unreasonable for another reason. Even if it were economically rational to base the regulation on a non-NPV basis (which it is not), the Department's proposed regulation is economically irrational because the Debt to Income Ratio Test and the Loan Repayment Rate Test are based on an arbitrary three and four year period respectively that is unreflective of the value of the education because it takes a truncated snapshot in which the student is at the entry level and hence his or her income is the lowest.
27. This period is too short to fairly reflect the benefits of education to earnings potential (as explained in section IV). The data contained in the NPRM itself demonstrates that the Department's arbitrary selection of a three to four year period in which to measure the Debt to Income Ratio Test and Loan Repayment Test is economically irrational even under the Department's flawed methodology.
28. In this regard, Chart F demonstrates a substantial increase "by as much as 43 percent between the first few years out of post secondary education and the sixth to tenth years out." NPRM at 43666. Thus, it makes little sense to artificially limit the period to the first three or four years.
29. Furthermore, the Department's explanation for its selection of such a short period makes no economic sense. The Department states that: "Some would argue that a more appropriate income measure would occur a few years after completion of the degree or certificate, since incomes increase with age and experience." NPRM at 43666. But it claims that "this increase is true for high school diplomas as well as postsecondary education; in other words, the income gaps measured in the early years generally serve as good indicators of the income gaps in the later years." *Id.* The Department thus seeks to justify these very short time periods on the basis that the relative income gap between

high school graduates and those students who receive post-secondary education remains relatively constant.

30. But this observation is beside the point. The Loan Repayment Rate Test and Debt to Income Ratio Test do not (as a rational NPV methodology would) even purport to evaluate the additional income attributable to post-secondary education over the working life of the student. Rather, both of these tests take a snapshot of certain metrics during a specific short term period. The fact that salaries rise for high-school graduates over time does not mean that students who have obtained post-secondary education at for-profit schools should be assessed solely on the basis of their lower salaries over the period immediately following completion of their programs of study.
31. A simple hypothetical is sufficient to demonstrate the fallacy in the Department's reasoning. Assume, consistent with our prior hypothetical example, that a student has total loans of \$20,000 at 6.8 percent from the federal government under the title IV program and has found a job after the program with a salary of \$25,000. As previously noted, under the proposed test, based on a 10-year repayment plan, the ratio of student loan repayments to total earnings equals 13.4 percent, which is higher than the maximum 12 percent permissible under the NPRM.
32. However, if the student obtains the associate degree, assume that his income reaches \$42,000 by his tenth year following completion of the program (consistent with data presented in NPRM's Chart F), at which point his loan repayments would constitute 8 percent of his annual income (assuming no principal repayment in the years 1 to 10 after the completion of the program). Similarly, under the Department's alternative Debt to Income Test, the ratio of debt payments to discretionary income by the tenth year is only 13%, far below the proposed threshold of 30%. This is true despite the fact that the income differential between high school graduates and associate degree students remains constant. Thus, the Department's proposed rationale for selecting the truncated three year period on the basis that it does not make any difference to the application of the Debt to Income Ratio Test because the income gap remains relatively constant is demonstrably false.

33. Moreover, the period is too short to smooth out externalities such as recessions and periods of high unemployment including the current downturn. While the cost of enrolling in a particular education program and the assumed 10-year loan repayment costs are relatively constant, the employment opportunities available to students and their earnings levels are adversely impacted in the short term by recessions and labor markets with high unemployment. Furthermore, it is during periods of slow economic growth, when opportunity costs are less that many students contemplate getting further education to expand their skill set and gain access to more employment opportunities.
34. Because the proposed rules ignore external factors such as the state of the economy, wage growth and the rate of unemployment, they could in effect be counter-productive in that programs would be denied access to title IV funding during periods of slow economic growth – exactly the time when society should be encouraging education and re-training of the workforce.

VI. LOSS OF SOCIETAL BENEFITS

35. As explained above, the average direct benefit per student for an associate degree in my hypothetical example is approximately \$400,000 of incremental earnings over the working life of the student (\$150,000 in present value terms) and the NPV of the degree is approximately \$100,000 (considering the cost of tuition and other opportunity costs faced by the student). Other educational programs are also likely to have substantial benefits and NPV associated with them. By excluding a large number of students from access to funding for these educational programs, the excluded students and society as a whole will suffer substantial losses in value (the actual amount of value lost will depend upon the total number of students who discontinue or limit their education as a result of the proposed regulation, the percentage of those students that would have graduated but for the proposed regulation, and the net present value of the education these students would have received but for the proposed regulation).

36. Thus, the Department's proposed regulation is not only potentially ruinous to the lives of tens of thousands of students, it is economically irrational on a macro-economic scale as well.



Bradford Cornell

September 09, 2010

Exhibit 8

BRADFORD CORNELL

Senior Consultant

Ph.D. Financial Economics,
Stanford University, 1975

M.S. Statistics, Stanford
University, 1974

A.B. (Interdepartmental)
Physics, Philosophy and
Psychology, Stanford
University, 1970

ACADEMIC AND PROFESSIONAL POSITIONS

1999–Present *Senior Consultant, CRA*

2005–Present *Visiting Professor of Financial Economics, California Institute of Technology*

1987–2005 Professor of Finance and Director of the Bank of America Research Center,
Anderson Graduate School of Management, UCLA

1990–1999 *President, FinEcon: Financial Economic Consulting*

1988–1990 Vice-President and Director of the Securities Litigation Group, Economic Analysis
Corporation

1979–1986 *Assistant and Associate Professor of Finance, UCLA* 1983–

1984 *Visiting Professor of Finance, California Institute of Technology*

1977–1979 *Assistant Professor of Finance, University of Southern California*

1975–1977 *Assistant Professor of Finance, University of Arizona*

Courses Taught

- Applied Corporate Finance and Investment Banking
- Corporate Valuation
- The Law and Finance of Corporate Acquisitions and Restructurings
- Corporate Financial Theory
- The Theory of Finance (in the UCLA Law School)
- Security Valuation and Investments
- A wide variety of executive and community education programs

Special Education Programs Include

- The U.S. Business School in Prague—Special Finance Program, Summer 1991

- The Lead Program for Business Education of Minority High School Students, 1987–1997

CONSULTING AND PROFESSIONAL ACTIVITIES

Selected Service at UCLA

- Twice Chairman of Finance Department
- Twice Vice Chairman of the Anderson School
- Three-time member of the staffing and promotion committee

Service to Scholarly Journals and Organizations

Served as an associate editor for a variety of scholarly and business journals, including *Journal of Finance*, *Journal of International Business Studies*, *Journal of Business and Economics*, *Journal of Financial Research*, *Journal of Futures Markets*, and the *Investment Management Review*.

Served as a reviewer for numerous finance and economics journals, including *American Economic Review*, *Journal of Political Economy*, *Journal of Financial Economics*, *Journal of Business*, *Journal of Financial and Quantitative Analysis*, and the *Review of Economics and Statistics*.

Memberships in Professional Societies

- American Finance Association, 1973–Present
 - Member of Board of Directors, 1987–1989
- Western Finance Association, 1973–Present
 - Member of Board of Directors, 1982–1985
 - Vice President, 1987
- American Economic Association, 1973–Present
- American Bar Association, 1995–1999
- American Statistical Association, 1992–1999
- International Association of Financial Engineers, 1993–2003
- American Law and Economics Association, 1995–2000
- Human Behavior and Evolution Society, 1995–2000

Research Evaluation

- Project reviewer for the National Science Foundation, 1979–Present
- Program committee for the Western Finance Association, Various years

Selected Board and Committee Memberships

- Pension Policy Board, The Aerospace Corporation, 1985–2008
- Chairman, Mayor's Blue Ribbon Commission on Los Angeles' Municipal Investments, 1995
- Director, Forms Engineering Corporation, 1976–1997
- Trustee, Kellow Trust, 1982–1991

Expert Witness

Numerous cases involving the application of financial economics

Media Experience

- Occasional contributor to *The Wall Street Journal* and *The Los Angeles Times*
- Occasional commentator for local television and radio stations
- Lecturer on valuation theory, appraisal practice, and securities pricing

PUBLICATIONS

Books and Book Chapters

“Stock Repurchases: Tradeoffs and Trends.” *Dividends and Dividend Policy*, H. Kent Baker, ed., Blackwell Publishing, New York, 2009.

“Securities Fraud Damages.” With J. Hirshleifer and J. Haut. *Developments in Litigation Economics*, Vol. 87, P. Gaughan and R. Thornton, eds., Elsevier, Ltd., Oxford, U.K., 2005.

The Equity Risk Premium and the Long-run Future of the Stock Market. John Wiley and Sons, New York, NY, 1999.

“Corporate Valuation.” *Handbook of Modern Finance*, 3rd edition, Dennis Logue, ed., Warren Gorham Lamont, Boston, MA, 1994.

Corporate Valuation: Tools for Effective Appraisal and Decision Making. McGraw-Hill, New York, NY, 1993.

Academic Articles

Articles 1-17

1. "The Equity Premium Revisited." With M. Moroz, *Journal of Portfolio Management*, forthcoming 2010.
2. "Economic Growth and Equity Investing." *Financial Analysts Journal*, January/February, 2010, Vol. 66, 1, 54-64.
3. "Beliefs Regarding Fundamental Value and Optimal Investing." With J. Cvitanic and L. Goukasian, 4. *Annals of Finance*, January 2010, Vol. 6, 1, 83-105.
5. "Collateral Damages and Securities Litigation." With J. Rutten. *Utah Law Review*, Vol. 2009, 3, pp. 717-748.
6. "The Fundamental Nature of Recessions: A Contracting and Restructuring Approach, *The Economists Voice*, October 2009, pp. 1-4.
7. "The Pricing of Volatility and Skewness." *Journal of Investing*, Vol. 18, Fall 2009, pp 27-31.
8. "Implications of the Financial Crisis for Financial Education." *Journal of Financial Education*, Vol. 35, Spring, pp. 1-6.
9. "Investment Research: How Much is Enough." Management Online Review, Oxford Management Publishing, 2009, <http://www.morexpertise.com/download.php?id=135>.
10. "Luck, Skill and Investment Performance." *Journal of Portfolio Management*, Vol. 35, Winter 2009, pp. 85-89. Winner Bernstein/Fabozzi Award for 2009.
11. "The Basic Speed Law for Capital Market Returns." *CFA Magazine*, Nov-Dec, 2008, pp. 10-11. also published electronically by *Real Capital Markets*, October 24, 2008, http://www.realclearmarkets.com/articles/2008/10/the_basic_speed_law_for_capita_1.html.
12. "The Impact of Analysts' Forecast Errors and Forecast Revisions on Stock Prices." With W. Beaver,
13. W. Landsman, and S. Stubben. *Journal of Business Finance and Accounting*, Vol. 35, No. 5/6, 2008, pp. 709-740.
14. "Market Efficiency, Crashes, and Securities Litigation." With J. Rutten. *Tulane Law Review*, Vol. 81, No. 2, 2006.
15. "Dividends, Stock Repurchases, and Valuation." *Journal of Applied Finance*, Vol. 15, No. 2, 2005, pp. 13-24.
16. "How Do Analysts' Recommendations Respond to Major News?" With J. Conrad, W. Landsman, and B. Roundtree. *Journal of Financial and Quantitative Analysis*, Vol. 41, No. 1, 2006, pp. 39-68.
17. "A Delegated Agent Asset Pricing Model." With R. Roll. *Financial Analysts Journal*, Vol. 61, No. 1, 2005, pp. 57-69. Winner Graham and Dodd Award for 2006.

Articles 18-34

18. "Comovement as an Investment Tool." *Journal of Portfolio Management*, Vol. 30, spring 2004, pp. 1–5.
19. "Compensation and Recruiting: Private Universities vs Private Corporations." *Journal of Corporate Finance*, Vol. 10, No. 1, 2004, pp. 37–52.
20. "Accounting and Valuation: Is the Quality of Earnings an Issue?" With W. Landsman. *Financial Analysts Journal*, Vol. 59, No. 6, 2003, pp. 20–28.
21. "The Information that Boards Really Need." *Sloan Management Review*, Vol. 44, spring 2003, pp. 71–76.
22. "When is Bad News Really Bad News." With J. Conrad and W. Landsman. *Journal of Finance*, Vol. 57, December 2002, pp. 2507–2532.
23. "The Parent Company Puzzle: When is the Whole Worth Less than the Sum of the Parts." With Q. Liu. *Journal of Corporate Finance*, Vol. 4, December 2001, pp. 341–366.
24. "Is the Response of Analysts to Information Consistent with Fundamental Valuation? The Case of Intel." *Financial Management*, Vol. 30, spring 2001, pp. 113–136.
25. "Equity Duration, Growth Options and Asset Pricing." *Journal of Portfolio Management*, Fall 2000, pp. 171–180.
26. "Risk, Duration and Capital Budgeting: New Evidence on Some Old Questions." *Journal of Business*, Vol. 2, April 1999, pp. 183–200.
27. "The Term Structure, the CAPM, and the Market Risk Premium: An Interesting Puzzle." *Journal of Fixed Income*, Vol. 4, December 1998, pp. 85–89.
28. "Cash Settlement when the Underlying Securities are Thinly Traded: A Case Study." *Journal of Futures Markets*, Vol. 17, No. 8, 1997, pp. 855–871.
29. "Estimating the Cost of Equity Capital." With J. Hirshleifer and E. James. *Contemporary Finance Digest*, Vol. 1, fall 1997, pp. 5–26.
30. "The Valuation of Complex Derivatives by Major Investment Firms: Empirical Evidence." With A. Bernardo. *Journal of Finance*, Vol. 52, June 1996, pp. 785–798.
31. "Culture, Information, and Screening Discrimination." With I. Welch. *Journal of Political Economy*, Vol. 104, June 1996, pp. 542–571.
32. "Throwing Good Money After Bad? Cash Infusions and Distressed Real Estate." With F. Longstaff and E. Schwartz. *Journal of the American Real Estate and Urban Economics Association*, Vol. 24, 1996, pp. 23–41.
33. "An Hypothesis Regarding the Origins of Ethnic Discrimination." *Rationality and Society*, Vol. 7, January 1995, pp. 4–29.
34. "Change Reinforces Use of DCF Method." *Natural Gas*, Vol. 11, October 1994, pp. 5–15.

Articles 35-52

35. "Adverse Selection, Squeezes and the Bid-Ask Spread on Treasury Securities." *Journal of Fixed Income*, Vol. 3, June 1993, pp. 39–47.
36. "The Reaction of Investors and Stock Prices to Insider Trading." With E. Sirri. *Journal of Finance*, Vol. 47, July 1992, pp. 1031–1059.
37. "Liquidity and the Pricing of Low-grade Bonds." *Financial Analysts Journal*, Vol. 48, January/February 1992, pp. 63–68.
38. "Measuring the Investment Performance of Low-grade Bond Funds." With K. Green. *Journal of Finance*, Vol. 66, March 1991, pp. 29–48.
39. "Using Finance Theory to Measure Damages in Fraud on the Market Cases." With G. Morgan.
40. *UCLA Law Review*, Vol. 37, No. 2, 1990, pp. 883–924.
41. "The Incentive to Sue: An Option Pricing Approach." *Journal of Legal Studies*, Vol. 17, No. 1, 1990, pp. 173–188.
42. "Volume and R^2 ." *Journal of Financial Research*, Vol. 13, No. 13, 1990, pp. 1–7.
43. "Measuring the Term Premium: An Empirical Note." *Journal of Economics and Business*, Vol. 42, No. 1, 1990, pp. 89–93.
44. "Cross Sectional Regularities in the Reaction of Stock Prices to Bond Rating Changes." With W. Landsman and A. Shapiro. *Journal of Accounting, Auditing, and Finance*, Vol. 4, No. 4, 1989, pp. 460–479.
45. "The Mispricing of U.S. Treasury Bonds: A Case Study." With A. Shapiro. *The Review of Financial Studies*, Vol. 2, No. 3, 1989, pp. 297–310.
46. "The Impact of Data Errors on Measurement of the Foreign Exchange Risk Premium." *Journal of International Money and Finance*, Vol. 8, 1989, pp. 147–157.
47. "Security Price Response to Quarterly Earnings Announcements and Analyst Forecast Revisions." With W. Landsman. *The Accounting Review*, Vol. 64, October 1989, pp. 680–692.
48. "Financing Corporate Growth." With A. Shapiro. *Journal of Applied Corporate Finance*, Vol. 1, summer 1988, pp. 6–22.
49. "Measuring the Cost of Corporate Litigation: Five Case Studies." With K. Engelmann. *Journal of Legal Studies*, Vol. 17, June 1988, pp. 135–162.
50. "Corporate Stakeholders and Corporate Finance." With A. Shapiro. *Financial Management*, Vol. 16, spring 1987, pp. 5–14.
51. "The Impact on Bank Stock Prices of Regulatory Responses to the International Debt Crisis." With A. Shapiro and W. Landsman. *Journal of Banking and Finance*, Vol. 3, 1987, pp. 161–178.
52. "Pricing Interest Rate Swaps: Theory and Empirical Evidence." *Proceeding of Conference on Swaps and Hedges*, Salomon Brothers Center, New York University, 1987.

Articles 53-68

53. "Forecasting the Eleventh District Cost of Funds." *Housing Finance Review*, Vol. 6, summer 1987, pp. 123–135.
54. "Commodity Own Rates, Real Interest Rates, and Money Supply Announcements." With K. French.
55. *Journal of Monetary Economics*, Vol. 18, July 1986, pp. 3–20.
56. "The Reaction of Bank Stock Prices to the International Debt Crisis." With A. Shapiro. *Journal of Banking and Finance*, Vol. 10, 1986, pp. 55–73.
57. "Inflation Measurement, Inflation Risk, and the Pricing of Treasury Bills." *Journal of Financial Research*, Vol. 9, fall 1985, pp. 193–202.
58. "Interest Rates and Exchange Rates: Some New Empirical Evidence." With A. Shapiro. *Journal of International Money and Finance*, Vol. 4, 1985, pp. 431–442.
59. "The Weekly Pattern in Stock Returns: Cash versus Futures." *Journal of Finance*, Vol. 40, June 1985, pp. 583–588.
60. "The Income Approach to Valuation." *Proceedings of the Wichita State University Conference on the Appraisal of Railroads and Public Utilities*, 1985.
61. "The Value of Rate Base Options in the Eurocredit Market." With O. Sand. *Journal of Bank Research*, Vol. 16, spring 1985, pp. 22–28.
62. "The Money Supply Announcements Puzzle: Review and Interpretation." *American Economic Review*, Vol. 73, September 1983, pp. 644–658.
63. "The Money Supply Announcements Puzzle: Reply." *American Economic Review*, Vol. 75, June 1985, pp. 565–566.
64. "Taxes and the Pricing of Stock Index Futures." With K. French. *Journal of Finance*, Vol. 38, June 1983, pp. 675–695; reprinted in *Proceedings of the Seminar for the Analysis of Securities Prices*, University of Chicago Press, 1983.
65. "Money Supply Announcements and Interest Rates: Another View." *Journal of Business*, Vol. 56, January 1983, pp. 1–25; reprinted in *Proceedings of the Seminar for the Analysis of Securities Prices*, University of Chicago Press, 1983.
66. "Monetary Policy and the Daily Behavior of Interest Rates." *Journal of Business and Economics*, Vol. 35, 1983, pp. 189–203.
67. "Managing Exchange Risk." With A. Shapiro. *Midland Corporate Financial Journal*, Vol. 1, fall 1983, pp. 16–31; reprinted in *New Developments in International Finance*, J. Stern and D. Chew, eds., Basil Blackwell, New York, 1988.
68. "The Pricing of Stock Index Futures." With K. French. *Journal of Futures Markets*, Vol. 3, fall 1983, pp. 1–14; reprinted in *Readings in Futures Markets*, Vol. 5 and in *Selected Writings on Futures Markets: Explorations in Financial Futures*; both published by the Chicago Board of Trade, 1984.

Articles 69 - 86

69. "Money Supply Announcements, Interest Rates, and Foreign Exchange." *Journal of International Money and Finance*, Vol. 1, 1982, pp. 201–208.
70. "Forward versus Futures Prices: Evidence from the Foreign Exchange Markets." With M. Reinganum. *Journal of Finance*, Vol. 36, December 1981, pp. 1035–1046.
71. "Taxation and the Pricing of Treasury Bill Futures." *Journal of Finance*, Vol. 36, December 1981, pp. 1169–1176.
72. "The Relationship between Volume and Price Variability in Futures Markets." *Journal of Futures Markets*, Vol. 1, fall 1981, pp. 303–316.
73. "Relative vs. Absolute Price Changes: An Empirical Study." *Economic Inquiry*, Vol. 16, April 1981, pp. 302–309.
74. "The Consumption Based Asset Pricing Model: A Note on Potential Tests and Applications."
75. *Journal of Financial Economics*, Vol. 9, March 1981, pp. 103–110.
76. "Strategies for Pairwise Competitions in Markets and Organizations." With R. Roll. *Bell Journal of Economics*, Vol. 12, spring 1981, pp. 201–216.
77. "What is the Future for Floating Rate Bonds?" *Chase Financial Quarterly*, Vol. 1, fall 1981, pp. 27– 38.
78. "The Denomination of Foreign Trade Contracts Once Again." *Journal of Financial and Quantitative Analysis*, Vol. 5, November 1980, pp. 933–945.
79. "Inflation, Relative Price Changes, and Exchange Risk." *Financial Management*, Vol. 9, spring 1980, pp. 30–35.
80. "Asymmetric Information and Investment Performance Measurement." *Journal of Financial Economics*, Vol. 7, December 1979, pp. 381–390.
81. "Treasury Bill Pricing in the Spot and Futures Markets." With D. Capozza. *Review of Economics and Statistics*, Vol. 61, November 1979, pp. 513–520; reprinted in *Interest Rate Futures: Concepts and Issues*, Robert Dame International, 1981.
82. "A Variance Forecasting Test of the Option Pricing Model." With D. Capozza. *Financial Review*, Vol. 7, 1979, pp. 381–390.
83. "Relative Price Changes and Deviations from Purchasing Power Parity." *Journal of Banking and Finance*, Vol. 3, 1979, pp. 263–279.
84. "A Note on Capital Asset Pricing and the Theory of Indexed Bonds." *Southern Journal of Economics*, Vol. 45, 1979, pp. 1239–1247.
85. "Do Money Supply Announcements Affect Short-term Interest Rates?" *Journal of Money, Credit, and Banking*, Vol. 11, February 1979, 80–86.
86. "Risk, Currency Substitution and the Exchange Rate." *Proceedings of the Fall 1978 Conference*, Federal Reserve Bank of San Francisco, 1978.

Articles 87 - 103

87. "Determinants of the Bid-Ask Spread on Forward Foreign Exchange Contracts Under Floating Exchange Rates." *Journal of International Business Studies*, Vol. 9, fall 1978, pp. 33–41.
88. "Using the Option Pricing Model to Measure the Uncertainty Producing Effect of Major Announcements." *Financial Management*, Vol. 7, spring 1978, pp. 54–59.
89. "Price as a Signal of Quality: Some Additional Experimental Results." *Economic Inquiry*, Vol. 16, April 1978, pp. 302–309.
90. "Mean Absolute Deviation versus Least-Square Regression Estimation of Beta Coefficients." With
91. J. Dietrich. *Journal of Financial and Quantitative Analysis*, Vol. 13, March 1978, pp. 123–131.
92. "Monetary Policy, Inflation Forecasting, and the Term Structure of Interest Rates." *Journal of Finance*, Vol. 33, March 1978, pp. 117–127.
93. "The Efficiency of the Market for Foreign Exchange Under Floating Exchange Rates." With J. Dietrich. *Review of Economics and Statistics*, Vol. 60, February 1978, pp. 111–120.
94. "Option Pricing in Bear and Bull Markets." *Journal of Portfolio Management*, Vol. 4, Summer 1978): 30–32.
95. "Spot Rates, Forward Rates, and Exchange Market Efficiency." *Journal of Financial Economics*, Vol. 5, August 1977, pp. 55–65; reprinted in *Frontiers in International Financial Management*, D. Lessard and J. Wiley, Eds., 1979, and in *International Finance: Concepts and Issues*, R. Kalb and
96. G. Gay, Eds., Robert F. Dame, 1982.
97. "Measuring the Informational Content of Consumer Price Announcements." *Nebraska Journal of Economics and Business*, Vol. 16, summer 1977, pp. 57–64.
98. "Which Inflation Rate Affects Interest Rates?" *Business Economics*, Vol. 12, May 1977, pp. 22–25. Reprinted in *Certified Financial Analysts Digest*, 1977.
99. "Are Deep Discount Convertibles Underpriced?" *Journal of Portfolio Management*, Vol. 3, spring 1977, pp. 55–57.
100. "Using the Goldsmith-Nagan Survey to Estimate the Liquidity Premium." *Journal of Economics and Business*, Vol. 2, February 1977, pp. 148–151.
101. "Managing Money in a Competitive Securities Market." *Arizona Review*, Vol. 25, September 1976, pp. 1–5.
102. "Asset Pricing Under Uncertain Inflation: A Note on the Work of Long and Roll." *Intermountain Economic Review*, Vol. 7, spring 1976, pp. 85–91.
103. "The Arizona Retirement System 1956–1975: An Investment Analysis." *Arizona Review*, Vol. 25, March 1976, pp. 1–9.

Book Reviews and Discussion Comments

“Statistical Analysis of Price and Basis Behavior: October 12–6, 1987,” *The Stock Market: Bubbles, Volatility, and Chaos*, E. Dwyer and R. Hafer, eds., Kluwer Academic Publishers, 1990.

Review of *Futures Markets*, *Journal of Monetary Economics*, M. Streit, ed., Vol. 16, July 1985, pp. 133–135.

Review of *Exchange Rates and International Macroeconomics*, *Journal of International Money and Finance*, J. Frenkel, ed., Vol. 4, 1985, pp. 212–214.

Review of *Exchange Rate Policy*, by Ray A. Batchelor and Geoffrey Wood, *Journal of Economic Literature*, Vol. 21, 1983, pp. 1027–1029.

Working Papers

“Assessing the Risk of Securities Lending Transactions.” 1999.

Social Decoding and Ethnic Discrimination, 1996, book length manuscript.

“Using the DCF Method to Estimate the Cross-Sectional Variation of Expected Returns.” With S. Cheng. 1995

“Testing the Tax Timing Option Theory: A New Approach.” 1984.

“Determinants of Corporate Capital Structure: An Empirical Analysis.” With J. Dietrich. 1979.

AWARDS AND HONORS

Bernstein, Fabozzi/Jacobs, Levy Award for outstanding research from *The Journal of Portfolio Management*, 2010.

Graham and Dodd Award for research on securities analysis and valuation (with Richard Roll), 2006.

I/B/E/S award for research in empirical finance (with W. Landsman and J. Conrad), 1999

Cited as one of the ten most prolific research authors in the field of finance, in “Most Frequent Contributors to the Finance Literature,” by Jean Louis Heck and Phillip L. Cooley, *Financial Management*, autumn, 1988

Financial Management Association Prize for Applied Research, 1987

Institute for Quantitative Research in Finance, Research Grant, 1984

Center for the Study of Futures Markets, Research Grant, 1983

Center for the Study of Futures Markets, Research Grant, 1981

Chicago Mercantile Exchange, Research Grant, 1979

Phi Beta Kappa, Stanford University, 1970

Exhibit 9

REPORT OF DR. CHARLES DIAMOND AND DR. DANIEL MILLIMET
IN RESPONSE TO DOE PROPOSED REGULATORY CHANGES,
FILED SEPTEMBER 9, 2010.

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I. EXPERT CREDENTIALS

Charles Diamond is a Managing Director at FTI Consulting, Inc., a firm primarily engaged in providing economic and statistical consulting, as well as forensic support, in the context of litigation. He holds a Ph.D. in Economics from Texas A&M University ('84). In addition to his Ph.D., he holds a M.A. in Economics from Clemson University ('75) and a B.A. in Political Science from Clemson University ('74). He is experienced in preparing economic and statistical assessments for class actions and other litigation. He has been qualified as an expert in cases involving employment practices, lost corporate profits and opportunities, and product liability. His academic research has been published in the *Journal of Labor Economics*, *Journal of Econometrics*, and *Journal of Development Studies*. For over 16 years, he taught both graduate and undergraduate courses in labor economics, econometrics, managerial economics, and microeconomics. Prior to joining FTI Consulting, he was a vice president at Analysis Group, Inc., and before that an associate professor at the American University in Cairo, Egypt. He has taught at Texas A&M University, Utah State University, Clemson University, and University of Louisville. Prior to returning to graduate school in 1981, he worked at Fluor-Daniel International Corporation, as a *Senior Site Consultant* from 1980 – 1981; Pickens County, SC Planning and Development Commission as *Executive Director* from 1978 – 1980; and South Carolina Appalachian Council of Government as *Industrial Development Specialist* from 1975 – 1978. His qualifications are summarized in his curriculum vitae, appended in Appendix A-1. This appendix includes a list of all publications he authored within the preceding ten years and a list of all cases in which he testified as an expert at trial or by deposition within the last four years.

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Neither author has any financial interest in the outcome of this regulation.

II. EXECUTIVE SUMMARY

The Higher Education Act requires certain programs at private sector, public sector, and vocational schools to provide training sufficient to prepare students for “gainful employment” in a recognized occupation in order to be eligible for Title IV funds (20 U.S.C. § 1002(b)(1)). To date, however, “gainful employment” has not been defined. The Department of Education (the “Department”) now proposes to amend 34 C.F.R. § 668.7 to specify two new metrics that will be used to determine whether educational programs are in compliance with the “gainful employment” standard.

The justifications for this proposal center on its alleged benefits for taxpayers and consumers, as well as its purported effects on the quality of postsecondary education in the U.S. While elimination of tax inefficiencies, protection of consumer welfare, and removal of inferior postsecondary programs are laudable goals, the proposed rules will likely *worsen*, not improve, the situation.

As detailed in this comment, the proposed metrics are flawed in concept and in practice. Conceptually, they are based on an erroneous, narrow-sighted definition of “gainfulness” from an economic perspective. The proposed definition encompasses too short of a time horizon, ignores many salient private and social returns to educational investments, and ignores the uncertainty and risk associated with any type of investment. As a result, quality educational programs will be deemed ineligible for Title IV funds, and the educational opportunities for consumers will be unnecessarily restricted. In practice, the proposed rules will have potentially disastrous consequences on taxpayers due to foregone tax receipts from elimination of quality educational programs, the higher cost to taxpayers from students attending public institutions, and the negative impact on tax-paying proprietary institutions. The proposed rules will also have severe, negative consequences for individuals attempting to improve their economic situation, particularly females and minorities, thereby conflicting with President Obama’s stated goal of having the highest percentage of college graduates in the world by 2020.

Instead of introducing further distortions into the U.S. system of higher education through the use of flawed metrics, attention should be focused on the direct monitoring of program quality to ensure a minimum level of adequacy in all postsecondary programs receiving Title IV funds. Fortunately, the infrastructure for this already exists: recognized accrediting agencies ensure a minimum level of quality for accredited schools thereby protecting both taxpayers and consumers. Thus, a properly functioning system of accreditation achieves the Department of Education’s goals discussed above without incurring needless costs or unleashing unintended consequences.

III. INTRODUCTION

We appreciate the opportunity to comment on the notice of proposed rulemaking (“NPRM”). Unfortunately, the proposed gainful employment rules are seriously flawed. First, the justifications underlying the proposed rules are based on faulty logic. Second, the rules are based on an erroneous definition of gainful employment from an economic perspective. Third, even given the definition of gainful employment proposed under the rules, there are numerous shortcomings of the suggested measures. Finally, the proposed rules are likely to have dire, unintended consequences, including: (i) Eliminating quality educational programs; (ii) Widening gender and racial gaps in educational attainment; (iii) Increasing income inequality in the U.S.; (iv) Failing to meet President Obama’s goal of having the highest percentage of college graduates in the world by 2020.

We discuss each of these points in turn.

IV. CONCEPTUAL ISSUES WITH THE JUSTIFICATIONS FOR THE PROPOSED REGULATIONS

The NPRM discusses three rationales for the proposed “gainful employment” rules. Each is based on flawed logic or unsupported and unwarranted claims.

1. *Protect Taxpayers.* Because federal financial aid loans are guaranteed, there is no doubt that defaults could represent a cost to taxpayers. However, the net impact of the proposed rules on taxpayers requires an accurate comparison of *total* taxpayer liability under the current system to *total* taxpayer liability if the proposed rules are implemented. Nowhere does the NPRM contain projections concerning these numbers. Nonetheless, the proposed rules will certainly impose enormous costs on taxpayers if implemented.

First, public institutions are not as low cost as suggested in the NRPM. It is reported in the NPRM that between 69,000 and 126,000 students would transfer to other institutions (75 Fed. Reg. at 43,668). Assuming for a moment that this is accurate, and that many students transfer to public institutions with significantly lower costs *to the student*, this is seen as a benefit to the taxpayers. However, this is grossly mistaken as it ignores the reason why tuition costs are generally much lower at public institutions: those institutions receive generous local, state, and federal subsidies, that are themselves paid by taxpayers.

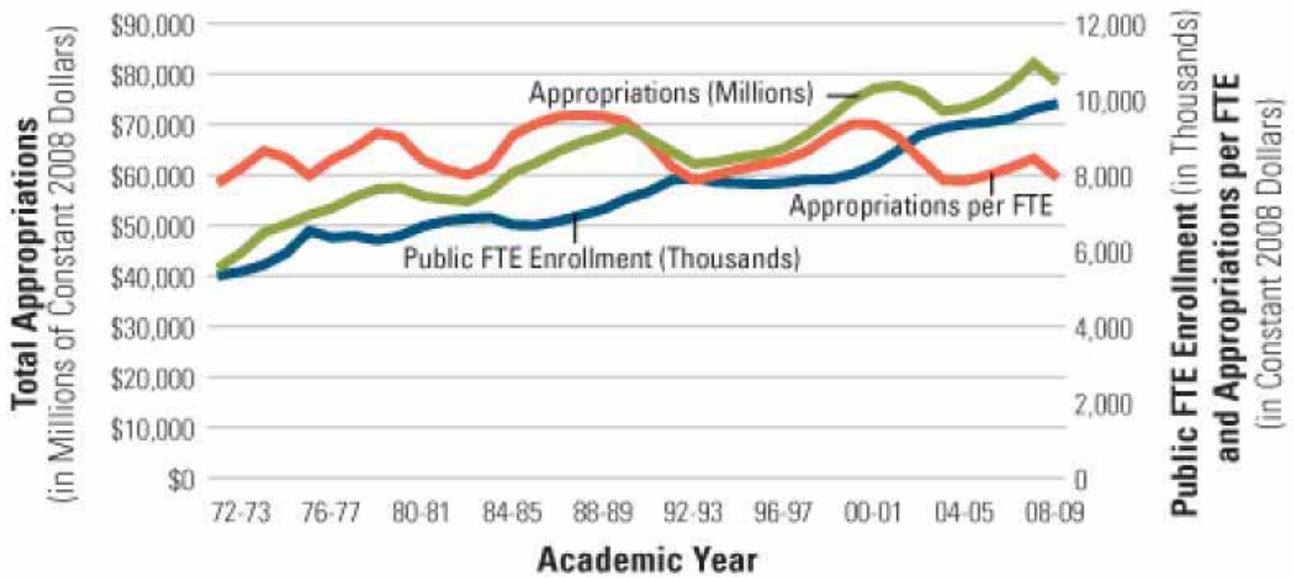
To illustrate this point, consider the following example. A student can enroll in a year-long program at a for-profit institution and pay \$10,300 completely covered by loans (\$7,300 in federal loans and the remainder in private loans). Alternatively, the student could enroll in a similar program at a public institution and pay \$2,900 completely covered by loans (\$2,300 in federal loans and the remainder in private loans).¹ If the student chooses the for-profit option and completely defaults on the loans, the taxpayer has lost \$7,300 (ignoring, for simplicity, issues associated with interest and discount rates). If the student chooses the public option, and we even assume that the student now does *not* default on the loans, the taxpayer still loses. Why? Because total aid alone is at about \$8,000 per year per full-time equivalent student at public institutions (see figure 1). Figure 2 shows that roughly \$7,100 is in the form of state and local aid. Moreover, figure 2 reveals that state and local aid per full-time equivalent student (“FTE”) varies significantly across states, with several states receiving more than \$10,000 in state and local aid.

This aid is equivalent – from the taxpayers’ perspective – to a student loan that has *zero probability* of being repaid. Thus, if the student has even a five percent probability of repaying the loan after attending the for-profit institution, then taxpayers are better off when the student attends the for-profit institution.² If the probability of default is greater than zero at the public institution, then the probability of repaying the debt incurred to attend the for-profit school can even be less than five percent and taxpayers will continue to be better off with students choosing the for-profit option.

¹ These figures are approximately equal to those reported in Table A-2 in the NPRM (75 Fed. Reg. at 43,649).

² The expected cost to taxpayers from the student attending the for-profit institution and having a 95 percent default rate is $0.95 * \$7,300 = \$6,935$.

Figure 1. State Tax Appropriations for Higher Education: 1972-1973 to 2008-2009.



Note: FTE = full-time equivalent students.

Source: http://www.trends-collegeboard.com/college_pricing/4_3_public_appropriations_b.html.

Figure 2. State and Local Financial Support for Higher Education, by State: 2005-2008.

State	2007-2008			Total state and local appropriations for higher education as a percent of state and local tax revenue, 2005-2006
	Full-time equivalent enrollment (thousands)	Educational appropriations (million dollars)	Educational appropriations per full-time equivalent enrollment (dollars)	
Total, 2008	10475.1	73940.7	7058.7	6.0
Alabama	186.3	1,413.1	7,586	11.0
Alaska	18.7	273.1	14,601	6.9
Arizona	223.9	1,704.4	7,614	5.4
Arkansas	107.4	696.2	6,481	8.6
California	1,731.8	12,429.5	7,177	6.3
Colorado	161.3	679.6	4,213	3.7
Connecticut	77.1	829.6	10,762	4.2
Delaware	31.6	228.5	7,226	6.0
Florida	537.9	3,487.5	6,483	5.2
Georgia	310.8	2,547.6	8,198	8.5
Hawaii	35.5	466.4	13,150	7.4
Idaho	44.0	381.9	8,685	8.1
Illinois	391.4	2,968.6	7,585	5.1
Indiana	229.3	1,245.3	5,430	6.2
Iowa	115.0	732.9	6,372	7.6
Kansas	129.7	794.7	6,125	7.4
Kentucky	142.4	1,088.2	7,643	8.9
Louisiana	165.8	1,284.5	7,748	8.2
Maine	35.5	241.8	6,804	4.2
Maryland	206.2	1,576.4	7,646	4.9
Massachusetts	144.6	1,258.5	8,705	4.0
Michigan	388.7	2,245.9	5,778	5.6
Minnesota	200.2	1,250.7	6,248	6.1
Mississippi	117.6	768.1	6,534	9.4
Missouri	179.4	1,082.0	6,032	5.2
Montana	35.6	175.6	4,940	5.7
Nebraska	75.5	575.1	7,622	8.3
Nevada	63.3	576.4	9,102	6.2
New Hampshire	34.1	120.7	3,541	2.6
New Jersey	238.0	1,894.7	7,960	4.3
New Mexico	85.2	817.8	9,598	12.0
New York	526.5	4,670.9	8,871	4.1
North Carolina	357.6	3,200.3	8,949	10.2
North Dakota	35.8	199.5	5,579	9.1
Ohio	391.7	1,957.9	4,998	5.0
Oklahoma	131.2	939.9	7,164	7.9
Oregon	129.3	730.2	5,647	5.0
Pennsylvania	339.0	1,995.6	5,886	4.2
Rhode Island	30.1	183.4	6,089	4.2
South Carolina	144.7	952.9	6,585	8.5
South Dakota	29.6	148.5	5,018	7.5
Tennessee	169.9	1,252.5	7,371	7.8
Texas	804.9	5,603.4	6,962	7.5
Utah	102.4	728.7	7,116	8.3
Vermont	20.0	63.2	3,167	3.0
Virginia	281.9	1,636.7	5,805	5.3
Washington	221.3	1,567.8	7,086	6.1
West Virginia	73.5	433.2	5,892	7.1
Wisconsin	219.0	1,491.5	6,810	5.1
Wyoming	23.1	349.3	15,151	9.4

Source: State Higher Education Executive Officers, Boulder, CO (copyright). 2010 Statistical Abstract. (<http://www.census.gov/compendia/statab/2010/tables/10s0281.pdf>).

Second, if the proposed “gainful employment” rules reduce the number of students investing in postsecondary education, then taxpayers are harmed due to the loss of the social returns to education. In the NPRM, it is reported that between 16,000 and 30,000 students will leave programs without immediately enrolling elsewhere if the proposed rules are implemented. As discussed below, we believe this number will be much higher as it is unlikely that 69,000 to 126,000 students will transfer to new institutions as projected in the NPRM. Regardless, even given the NPRM’s unsubstantiated and likely overly-conservative estimates, this represents a sizeable loss to taxpayers – as discussed in the next section – due to the foregone social benefits (e.g., lower tax receipts received from *both* students who complete their program *and* for-profit institutions).

2. *Protect Consumers.* The proposed rules are justified on the grounds that consumers allegedly need protection since there is a problem of asymmetric information: schools should know which programs are beneficial to which students, but students do not possess this information. As a result, institutions that “are legally obligated to make profitability for shareholders the overriding objective” seek to exploit consumers (75 Fed. Reg. at 43,618). In addition, the proposed rules are justified on the ground that they allegedly prevent the “over-supply” of credentialed workers (75 Fed. Reg. at 43,617).

There are several flaws to this argument. First, the fact that institutions receiving Title IV funding must be accredited by an agency approved by the Department of Education should ensure that any program attended by a student is of sufficient quality. Rather than injecting additional rules and inefficiencies in the U.S. educational system, a more direct approach to consumer protection is to ensure that accreditation standards are sufficient and enforced. This is the least intrusive and most comprehensive tool available to eliminate any sort of information deficit on the side of consumers.

Second, the proposed rules actually harm consumers by limiting opportunities for postsecondary education. As mentioned above, it is projected in the NPRM that between 16,000 and 30,000 students will exit schooling if the proposed rules are implemented. Indeed, much of the potential cost savings to taxpayers discussed in the NPRM is predicated on the decline in the number of students pursuing postsecondary education: “The estimated savings come from Federal loans and Pell Grants not taken by students who do not pursue an education in each scenario” (75 Fed. Reg. at 43,691).

However, the proposed rules will likely decrease the number of students pursuing postsecondary education by an even greater amount as many of the 69,000 to 126,000 students projected in the NPRM to switch to an alternative institution will simply forego the extra schooling. This belief is based on the indisputable fact that the U.S. has entered a period of significant contraction of student enrollments at many public institutions. Many schools now face binding capacity constraints on the number of students that may be enrolled. Ferrarri (2010) writes:

Across the nation, cash-strapped public universities have limited, capped or even reduced enrollment to cut costs. The 35,000-student University of Florida wants to shrink by 4,000 students. And the California State University system, with 23 campuses and 450,000 students, is trying to reduce enrollment by 40,000 students over two years.³

³ Accessed online at: <http://www.newsobserver.com/2010/05/29/505976/state-may-cap-uncs-growth.html>.

Given that the U.S. is currently in a period of shrinking enrollments at many public institutions, the NPRM's projections of 69,000 to 129,000 students being reallocated *every year* from for-profit to public institutions seems overly optimistic to say the least.

Even if such enrollment limits are relaxed in the future, one would expect the average subsidy per full time equivalent student to rise above the figures reported in figures 1 and 2. For example, additional funding will be necessary to build new classrooms and dormitories, hire additional faculty and support staff, etc. Thus, the assertion that the proposed rules will protect both taxpayers and consumers seems far-fetched.

By limiting students' opportunities to pursue postsecondary investments, the proposed rules preclude individuals from realizing the full private returns to education discussed in the next section: higher earnings over one's lifetime, other pecuniary benefits, more stable employment, etc. The flawed logic of the proposed rules is highlighted in the NPRM once it is admitted that many individuals may prefer to undertake an educational investment to secure a low-wage job rather than have no earnings at all. Despite this fact, a debt-to-earnings threshold of eight or twelve percent is rationalized as keeping students within a "manageable" debt burden (75 Fed. Reg. at 43,667, footnote 22). Thus, the implied effect of the proposed regulation would be to tell currently unemployed individuals, who want to better their employment prospects by attending school, that their current situation is more "manageable" than it would be if they obtained a low-wage job accompanied by some loan obligations.

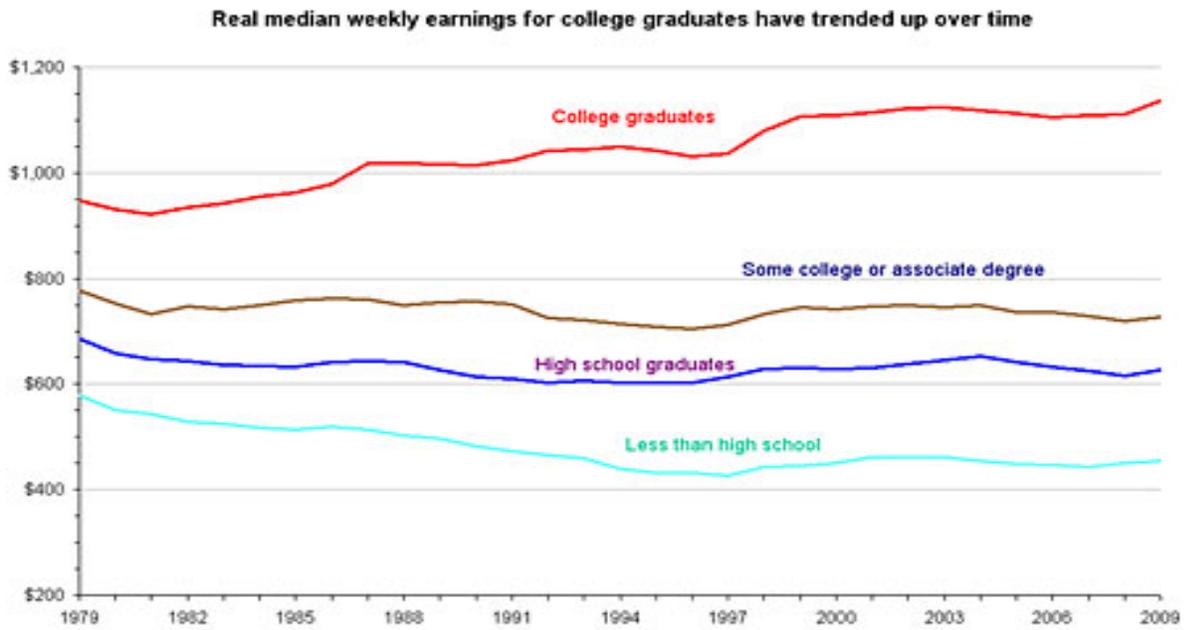
This is a clear case of government over-stepping its boundaries. Few would disagree that zero earnings is less "manageable" than a low-wage job with a, say, 15 or 20 or even 50 percent debt burden. How can eliminating these job prospects be for the good of the consumer? Consumers do not think it is. A survey conducted in October 2009 by Americans for Democratic Action found that 60 percent of respondents disagreed with the notion that the growth of the for-profit educational sector should be curtailed.⁴ In addition, the same logic applies to low-wage workers who enter an educational program seeking higher-wage employment.

Finally, the argument proposed in the NPRM that consumers are protected against an "over-supply" of individuals with postsecondary credentials is not supported by the data nor economic rationale. To begin, despite the large expansion of the for-profit sector in higher education and occupationally specific training at other institutions (nearly tripling from 673,000 to 1.8 million students between 2000 and 2008), the private returns to education continue to grow.⁵ Figure 3 plots relative earnings by education levels over the past four decades. Panel A plots median weekly earnings; Panel B uses average hourly wages. The premium for some college or an associate degree relative to a high school diploma has risen slowly over the past three decades, while the return to a college degree has risen sharply. Thus, at this point, concern about an over-supply of workers with college credentials causing a rapid decline in the market value of postsecondary degrees is unwarranted.

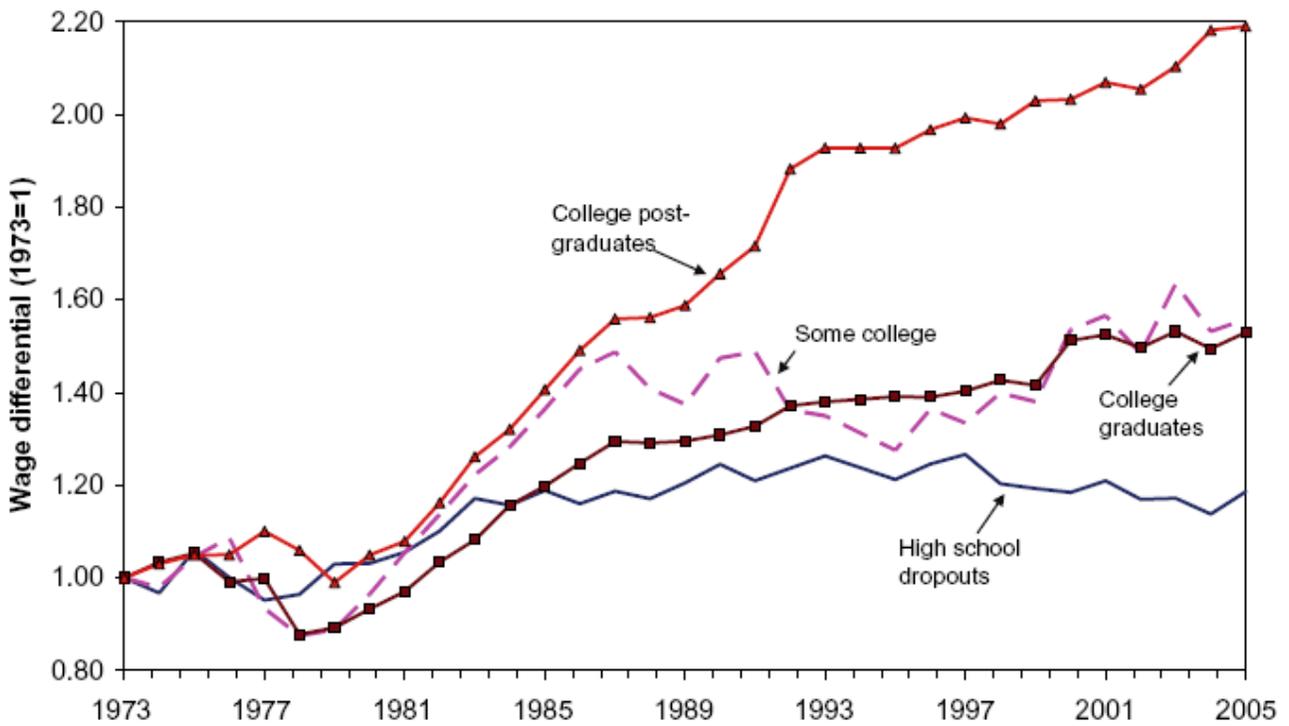
⁴ See <http://nexusresearch.org/1/NexusStudy8-31-10.pdf>.

⁵ See 75 Fed. Reg. at 43,617; <http://www.washingtonpost.com/wp-dyn/content/article/2010/06/13/AR2010061304605.html> accessed online on September 5, 2010.

Figure 3. Relative Earnings by Education, 1973-2009



Panel A



Panel B

Source: <http://economix.blogs.nytimes.com/2010/05/17/the-value-of-college-2/?ref=business> (Panel A): Lemieux, T. (2008), “The Changing Nature of Wage Inequality,” *Journal of Population Economics*, 21, 21-48 (Panel B).

Moreover, this line of thinking is not supported by economic rationale. The problem is that it fails to properly compare the current income distribution of *all* workers in the U.S. to the income distribution that would result if the proposed rules are implemented. In particular, even if earnings of individuals with higher education fall (or rise less steeply) in the future under the current system due to an increase in supply of workers with at least some postsecondary education, this increase in supply *reduces* the supply of workers in the economy with only a high school degree, thereby *raising* earnings (or leading to a less significant decline) for individuals in this group. In other words, if implemented, the proposed rules may “protect” the earnings of individuals who continue to invest in postsecondary education, but it does so at the expense of individuals with only a high school degree. Thus, the proposed rules are not a “win-win” for all consumers, but rather redistribute earnings from one class of individuals to another. Specifically, this redistribution benefits those obtaining a postsecondary degree after the implementation of the proposed rules at the expense of those with only a high school degree, leading to greater income inequality in the U.S.

3. *Eliminate Low Quality Educational Programs or Provide Incentives for Improvement.* It is hypothesized in the NPRM that the proposed rules will provide incentives for low quality programs to improve and/or reduce prices. Programs that do not will be eliminated (or, at least eliminated from Title IV eligibility). While these are worthwhile goals, the proposed rules will not achieve them. Even if they would, the proposed rules are not the most efficient means of doing so.

First, as stated above, a more direct mechanism already exists to eliminate low quality programs: accreditation. Taxpayer resources are better spent ensuring a rigorous accreditation process, rather than spent trying to determine program quality through complex, imprecise, back-door measures. Moreover, using accreditation as a tool to ensure program quality (as well as protect taxpayers and consumers) avoids the discriminatory nature of the proposed “gainful employment” rules. The proposed rules would only apply to for-profit institutions and select programs at other institutions. In the NPRM, it is stated that the inability to apply the “gainful employment” rules to other programs at public and private not-for-profit institutions is due to the original wording of the statute, but this should not prevent enforcement of the “regulation at the institutions where it can” (75 Fed. Reg. at 43,658). If the goal of the proposed rules is truly not to single out the for-profit sector, but eliminate all low quality educational programs, then accreditation should be the policy tool used.

Second, the argument that the proposed rules are needed to improve the quality of educational programs being offered ignores the incentives currently provided in the marketplace for institutions to offer quality programs at competitive prices. The recent growth cited above in the number of students in the for-profit sector along with a commensurate increase in the number of institutions and programs implies a competitive market. Thus, the “invisible hand” of competition properly incentivizes institutions to offer quality programs at prices equal to marginal costs.

Finally, the argument that many for-profit institutions “will adjust prices to attempt to bring programs into compliance” is flawed (75 Fed. Reg. at 43,672). The assumption that prices in the for-profit sector can be lowered without compromising quality is predicated on a comparison of profit margins and prices of programs at for-profit institutions relative to other institutions. However, the competitive nature of the industry discussed above suggests that *economic* profits are not high. More importantly, direct

comparisons of program prices at for-profit institutions and public institutions are flawed since they ignore state and local aid given to public institutions. For example, Table A-2 in the NPRM indicates that the average *annual* debt for a student obtaining a bachelor's degree from a for-profit school is roughly \$8,000 ($\approx \$31,678/4$); it is \$3,100 at a public school ($\approx \$12,321/4$). Yet, public schools also receive at least \$7,000 per full-time equivalent student in state and local aid according to figures 1 and 2. Thus, even using this conservative \$7,000 estimate concerning state appropriations to public institutions – and not even mentioning the fact that for-profit schools must *pay corporate taxes* for which public institutions are exempt – the for-profit school is already operating with less revenue per student than public institutions.⁶ It is simply not reasonable to expect for-profit institutions to lower prices if the proposed rules are implemented *and* continue to offer quality programs.

V. CONCEPTUAL PROBLEMS WITH THE PROPOSED MEASURES OF GAINFUL EMPLOYMENT

The proposed rules purport to measure gainful employment using two metrics: one based on debt-to-earnings (where earnings may represent annual income or discretionary income) and one based on repayment rates. Even assuming such metrics could measure gainful employment much less “preparation for gainful employment,” both metrics are conceptually flawed.

Let us focus on the first measure, debt-to-earnings. To evaluate this measure, it is very helpful to understand the classical economic model of investments in education.⁷ The model is extremely useful in clarifying the exact nature of the costs and benefits of educational investments, as well as the relevant time horizon over which these costs are incurred and the benefits are accrued.

In the classical model, individuals undertake an investment in postsecondary education if the *lifetime* benefits more than offset the *short-run* costs.⁸ For now, let us measure the lifetime benefits as simply the difference in earnings associated with the postsecondary investment; as discussed below, the benefits to schooling are much more extensive than differences in earnings. The costs reflect not only the monetary costs of the investment (tuition plus interest), but also the opportunity cost of the investment (i.e., the foregone wages that could have been earned by working instead). Because the benefits occur in the future and the costs are incurred immediately, to compare apples-to-apples, we must compare the discounted present value of the additional stream of earnings realized due to the investment relative to the discounted present value of the costs of the investment.

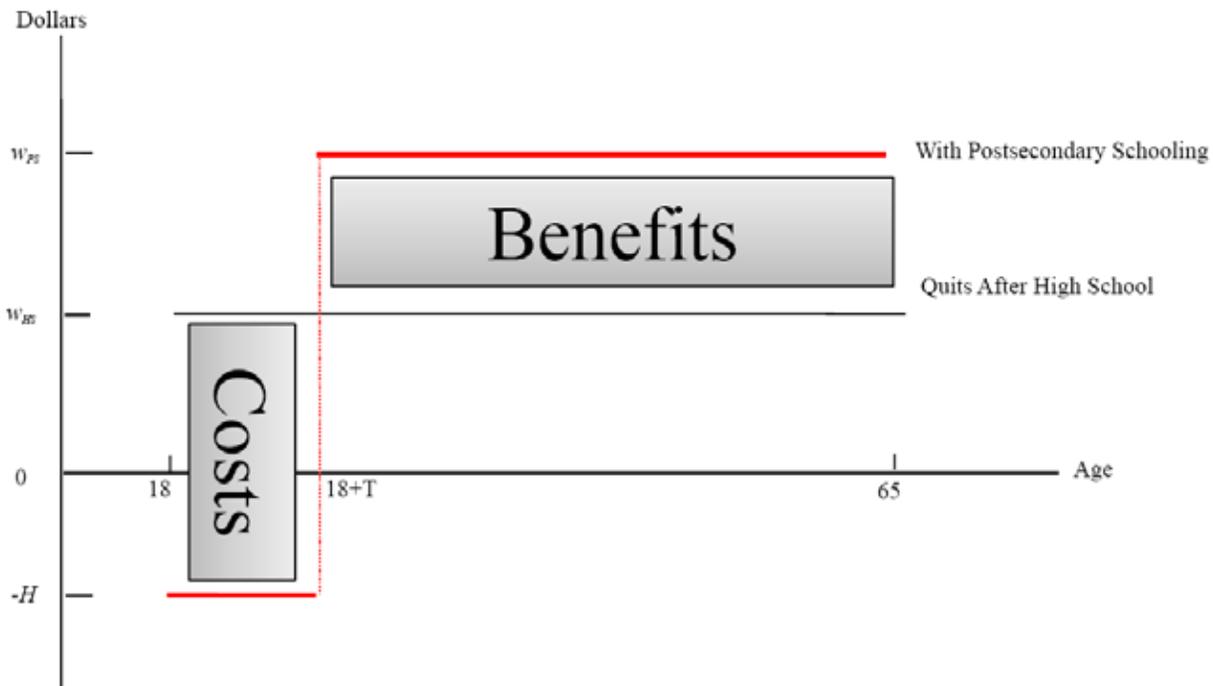
This comparison is illustrated in figure 4, where H represents the annual direct costs of the investment, w_{HS} represents annual earnings with only a high school diploma, w_{PS} denotes annual earnings with the postsecondary investment, the investment is undertaken immediately after high school (at age 18), and T is the length of the program. While the student is in the training program, the costs accruing are H , the direct program costs paid by the student, plus the area above H to the line marked w_{HS} , the earnings foregone while participating in the training program. The entire rectangle corresponds to the upfront costs to the student of entering and completing the training program.

⁶ Figure 14 indicates that state appropriations per full-time equivalent student are roughly \$8,000 in 2008-2009.

⁷ See, for example, Borjas, G.J. (2010), *Labor Economics*, Fifth Edition, McGraw-Hill/Irwin or Kaufman, B.E. and J.L. Hotchkiss (2006), *The Economics of Labor Markets*, Seventh Edition, Thomson South-Western.

⁸ For instance, Rubinstein and Weiss (2006, p. 39) summarize the near universality of this approach, stating: “Huge research effort, based on twin data, natural experiments, and using variety of instrumental variables methods has tried to identify the causal effect of schooling. These studies generally follow Becker’s scheme and assume that the individual level of schooling is determined by equating the marginal lifetime benefits of schooling with the marginal costs of financing it.” See Rubinstein, Y. and Y. Weiss (2006), “Post Schooling Wage Growth: Investment, Search, and Learning,” in E. Hanushek and F. Welch (eds.) *Handbook of the Economics of Education*, Vol. 1, Elsevier B.V.

Figure 4. Classical Model of Educational Investments

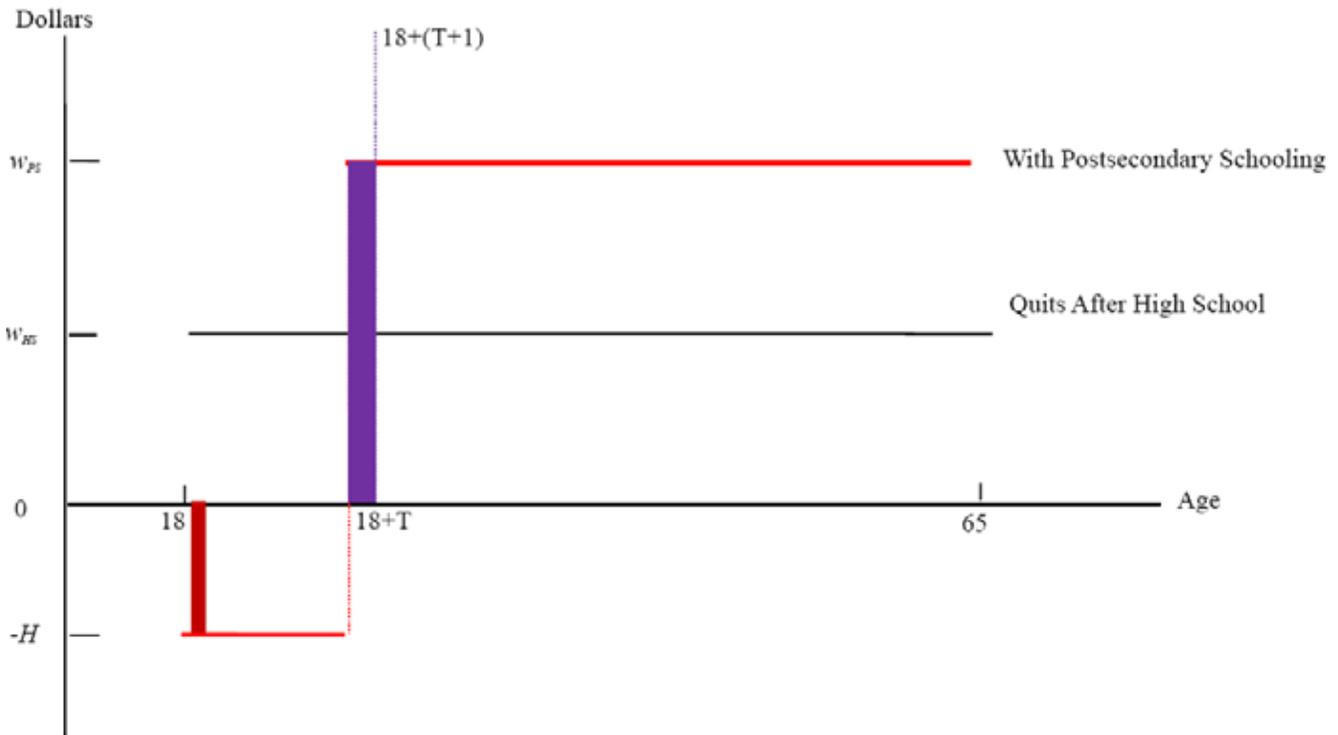


In the figure, several simplifying assumptions are made purely for expository purposes. First, all workers are assumed to retire at age 65. Second, wages are assumed to be fixed over one’s lifetime within each education group. Third, individuals are assumed to undertake the postsecondary investment immediately following high school. None of these simplifications alters the fundamental implications discussed below.

The model makes it clear that the benefits to the investment are given by the area between the solid red and black lines, from age $18+T$ until retirement. The costs are reflected by the area between the solid black and red lines, from age 18 until $18+T$. If the discounted present value of the former is greater than the discounted present value of the latter, it is optimal for an individual to undertake the investment. Notice that it will be considerable time before the benefits will exceed the costs according to figure 4. By focusing only on short time horizons, the NPRM does not account for this reality.

The proposed rules do not evaluate the “gainfulness” of programs by comparing the costs and benefits depicted in figure 4. Instead, the proposed metric uses annual debt-to-earnings ratios for students no more than six years removed from the program and in most cases only three years removed from completion. Using the Department of Education’s assumed ten-year window on loan repayments, this is equivalent to (i) computing the *ratio* of the area in the red rectangle to the area in the purple rectangle in figure 5 during each year within this time horizon and (ii) comparing this ratio to an *arbitrary* threshold. The red rectangle depicts one-tenth of the monetary costs of the postsecondary investment; the purple rectangle depicts annual earnings with the investment.

Figure 5. Illustration of Proposed Debt-to-Earnings Rule



The proposed debt-to-earnings measure is vastly different from the common sense, economic measure of the returns to an investment in postsecondary education depicted in figure 4. Among other differences, the costs of the investments are incurred over a much shorter window than that over which the benefits are reaped; see chart F in the NPRM (75 Fed. Reg. at 43,666). Thus, comparing one year of costs to one year of returns biases the measure against a finding of gainfulness.

It is important to realize that this bias occurs even assuming that the income gap between postsecondary schooling and only a high school degree remains constant over the lifecycle. In the NPRM, the fact that average differences in income across educational groups are roughly constant over the lifecycle is used to justify the proposed measures focus on only the first six years (see 75 Fed. Reg. at 43,666). However, the fact that the gaps are *constant* is not relevant; the relevant fact is that the gap is *strictly positive* even after six years has elapsed. While the income gaps are nearly constant over the lifecycle, that they are *not zero* implies the existence of benefits to educational investment over a worker's *entire* lifetime.

Beyond the flawed economic rationale for the proposed debt-to-earnings measure, there are other significant issues with the proposed measure based on the annual debt-to-earnings ratio.

1. *Validity of Income Measure.* The proposed rules call for income to be obtained from the Social Security Administration. This measure of income will miss many of the benefits implicitly incorporated into w_{PS} in the economic model discussed above (see figure 4). First, reported income will not reflect pre-tax deductions such as health insurance, dependent care allocations, contributions to health expenditure accounts, and contributions to retirement accounts. Second, reported income is notoriously unreliable as a measure of earnings for individuals who are self-employed. For example, Pissarides and

Weber analyze UK tax data and find that reported self-employed income must be multiplied by 1.55 to yield an accurate measure of earnings.⁹ In a U.S. context, Eisenhauer (2008, p. 59) writes: “[B]ecause there is no third-party withholding of their income tax, the self-employed clearly have ample opportunity to evade, especially in light of the low audit probabilities they face.”¹⁰ A 1994 GAO report concludes that while sole proprietors account for 13 percent of individual tax payers, they account for 40 percent of the total underreported income in the U.S.¹¹ This is particularly problematic for the current proposed rules because empirical evidence indicates that individuals with some college education or a two-year degree are the most likely to be self-employed. The proposal makes no adjustments for these realities.

2. *Failure to Account for the Full Private Returns to Education.* The U.S. Bureau of Labor Statistics finds that between 30 and 35 percent of a worker’s total compensation is derived from fringe benefits.¹² Moreover, economists have long recognized that individuals investing in higher education earn greater fringe benefits such as contributions to retirement accounts, subsidized insurance, paid vacations, etc.¹³ As a result, the proposed debt-to-earnings ratio ignores a sizeable component of the private returns to education. Haveman and Wolfe (1984, p. 377) warned long ago that such omissions dramatically undervalue the private returns to education:

Standard estimates of the economic value of additional schooling, based on earnings differences associated with differences in the level of schooling attained, cover only a portion of the total effects of education that are valued by citizens. We first identify a catalog of nonmarketed effects, many of which have been recently studied by economists, and then propose a procedure for estimating a willingness-to-pay value for these effects. Using empirical estimates of the magnitude of a selection of these effects found in the literature, we calculate willingness-to-pay values using our proposed procedure. These illustrative calculations suggest that standard estimates of the benefit of incremental schooling substantially understate the full value of such investments.

Moreover, the “full value” of investments in education must also account for the significantly greater employment stability enjoyed by those with higher education. For example, the most recent U.S. Bureau of Labor Statistics data finds individuals with an associate degree had an unemployment rate two percentage points lower than those with only a high school diploma (7.7 percent versus 9.7 percent) in August 2010; for individuals with a bachelor’s degree or higher, the unemployment rate was only 5.0 percent in August 2010.¹⁴

3. *Failure to Account for the Social Returns to Education.* Economists have long recognized the fact that an individual’s decision to invest in one’s own schooling yields benefits to the rest of society. Such external benefits arise from a number of sources, but perhaps the most relevant and immediately felt are the facts that better educated individuals earn higher wages, are more likely to work full-time, and have more stable employment. As a result, taxes paid by individuals increase significantly with

⁹ Pissarides, C.A. and G. Weber (1989), “An Expenditure-Based Estimate of Britain’s Black Economy,” *Journal of Public Economics*, 39, 17-32.

¹⁰ Eisenhauer, J.G. (2008), “Ethical Preferences, Risk Aversion, and Taxpayer Behavior,” *Journal of Socio-Economics*, 37, 45-63.

¹¹ U.S. General Accounting Office (1994), *Tax Administration: IRS Can Better Pursue Noncompliant Sole Proprietors*, GAO/GGD-94-175.

¹² See <http://www.bls.gov/news.release/pdf/ecec.pdf>.

¹³ See, e.g., Smeeding, T. (1983), “The Size Distribution of Wage and Nonwage Compensation: Employer Cost versus Employee Value.” In J. Triplett (ed.) *The Measurement of Labor Cost*, University of Chicago Press; Lucas, R.E.B. (1977), “Hedonic Wage Equations and Psychic Wages in the Returns to Schooling,” *American Economic Review*, 67, 549-558; Duncan, G.J. (1976), “Earnings Functions and Nonpecuniary Benefits,” *Journal of Human Resources*, 11, 464-483; Haveman, R.H. and B.L. Wolfe (1984), “Schooling and Economic Well-Being: The Role of Nonmarket Effects,” *Journal of Human Resources*, 19, 377-407; Wolfe, B.L. and R.H. Haveman (2003), “Social and Nonmarket Benefits from Education in an Advanced Economy,” in Y. Kodrzycki, (ed.) *Education in the 21st Century: Meeting the Challenges of a Changing World*, Boston: Federal Reserve Bank of Boston, 2003.

¹⁴ See <ftp://ftp.bls.gov/pub/suppl/empstat.cpscea17.txt>.

education. Moreover, as a further consequence of higher earnings and more stable employment, better educated workers are less likely to rely on government transfers (e.g., welfare, food stamps, subsidized school meals for children) and less likely to engage in criminal behavior.

4. *Failure to Account for Uncertainty.* The model presented in figure 4 ignores the fact that lifetime earnings with and without the investment are unknown at the time an individual is deciding whether to undertake an educational investment. Thus, individuals must compare the *expected* benefits of the investment to the *expected* costs (which are also uncertain – though roughly calculated – since they depend on a variable interest rate) to decide if it is optimal to undertake an investment in postsecondary education. The proposed rules likewise ignore this uncertainty. The proposal will (attempt to) determine whether an investment decision was sound – and thus resulted in something the Department of Education purports to call “gainful employment” – by comparing *realized* costs with (a portion of) *realized* benefits. As a result, it should be clear that investments that were warranted at the time an enrollment decision was made, based on the best possible forecasts of future benefits and costs, may be viewed unfavorably in hindsight if realizations differ significantly from expectations. In other words, if the *ex post* costs and benefits differ from the *ex ante* costs and benefits, an education program that was a wise investment at the time the decision was made may not yield immediate employment despite the program having prepared the student for “gainful employment” in a recognized occupation. Such deviations may occur, for example, due to adverse and unexpected changes in macroeconomic conditions, individual health, family circumstances, or from a host of other unexpected “shocks” to an individual’s earnings capabilities, not to mention changes in technology, trade policy, or other aspects of the labor market that lead to changes in demand for workers with particular skill sets. It should be obvious that none of these events speaks to program quality.

For instance, let us focus on just one aspect of uncertainty: future labor demand. Shellenbarger (2010) summarizes the difficulty in forecasting future demand for workers with particular skills.¹⁵ She notes that even the Department of Labor’s “Occupational Outlook Handbook,” which forecasts the hot jobs over the coming decade, can lead students astray. She writes:

The forecasts have limitations. The Labor Department’s macroeconomic model works on two noteworthy assumptions—that the economy will rebound to long-term growth and that there won’t be any more big shocks like the 2007-2008 recession. Thus its forecasts don’t predict the big job-market swings or sudden changes in the supply of workers that can easily happen in a volatile economy.

That means you could pick a job from the Labor Department’s ‘fastest-growing’ list when you enter college, only to find the field in a slump by the time you graduate. For example, a 2006 high-school graduate eyeing the government’s 2004-2014 forecast for nursing at that time would have read about excellent job prospects, with ‘thousands of job openings’ predicted because experienced nurses were expected to retire.

While that forecast is likely to hold for the long term, the job market for students graduating from college this year is headed in the opposite direction: Thousands of experienced nurses who had been inactive or retired have been re-entering the work force because of the recession.

Similarly, a high-school grad in 2000 might have picked computer programming—No. 8 at the time on a government list of fast-growing, high-paying jobs—only to graduate to the aftermath of the dot-com collapse.

¹⁵ Shellenbarger, S., “What Will Be the Hot Jobs of 2018?” *Wall Street Journal*, May 26. Accessed online at: <http://online.wsj.com/article/SB10001424052748704026204575266342935418962.html?KEYWORDS=hot+jobs+of+2018>.

And finally, no economic model can forecast growth in jobs that are still evolving. While the government's latest handbook contains a supplement on 'green occupations' in emerging industries such as biofuels and wind energy, it has no data on many of the jobs these industries are creating, such as fuel-cell technologists.

'Right now, all the projections we have are about a world that existed' in the past, says David Passmore, director of The Pennsylvania State University's Institute for Research in Training & Development. 'We are sitting on the precipice of the next big transformation' in energy production, 'and no one in the occupational-projections area knows how to handle that.'

Underscoring this point, Lacey and Wright (2009, p. 98) state:

In projecting occupational growth and decline, BLS makes assumptions about the size and makeup of the labor force, the size of the economy, demand for goods and services, and other factors that affect levels of employment. Changes in laws, business and consumer preferences, and technology may alter the BLS projections over time.¹⁶

Despite the difficulty in forecasting future labor demand, the proposed metrics concerning "gainful employment" do not allow such uncertainty. Thus, educational programs will be penalized based on the current labor market situation for graduates. This is especially problematic if the long-term employment prospects in a profession exceed current employment prospects. For example, despite the current labor market for nurses mentioned in the quote above, few would advocate eliminating nursing programs today on the basis of a failure to prepare students for "gainful employment." This perverse consequence of the proposed rules arises from the narrow time horizon upon which the metrics are based.

5. *Arbitrary Usage of Summary Statistics of Distributions.* The proposed measures of debt-to-earnings ratios are based on the median annual loan payment of program completers, but average annual earnings of program completers. This inconsistency is discussed briefly, but unsatisfactorily in the NPRM (75 Fed. Reg. at 43,667). We are of the firm conviction that the proposed rules are explicitly designed to have the most adverse impact on the for-profit industry. Support for this conclusion is provided in Figures A-1 and A-2 in the NPRM (75 Fed. Reg. at 43,647-50). In these tables, there is little difference in mean and median debt among completers of programs at for-profit institutions, but mean debt is significantly higher than median debt at public and private not-for-profit institutions. For example, in 2007-08 the median federal debt of completers of an undergraduate certificate was \$0, \$0, and \$7,145 for students attending public, not-for-profit, and for-profit institutions, respectively. Average debt, however, was \$2,292, \$5,145, and \$7,317, respectively. Thus, the decision to use median debt has little effect on the "gainfulness" of programs in the for-profit sector, but paints many programs in other sectors in a much more favorable light.

The use of *average* annual earnings of program completers to construct the debt-to-earnings ratios is also problematic in that it ignores other information in the *distribution* of earnings among completers. Specifically, the focus on average earnings ignores the fact that there is substantial variation in earnings even among individuals with the same educational background. Thus, while a particular educational program may appear to not lead to "gainful employment" using average earnings to compute debt-to-earnings ratios, the fact that a meaningful proportion of program completers do succeed in entering "gaining employment" may be obscured by the use of average earnings. The fact that earnings are

¹⁶ Lacey, T.A. and B. Wright (2009), "Occupational Employment Projections to 2018," *Monthly Labor Review*, 82, 82-123.

highly variable (and that this variability has increased over time) even *within* education levels – referred to by economists as within-group inequality – has been consistently documented by labor economists.¹⁷

To be precise, our objection here is not that the use of median versus mean is better or worse when measuring debt or earnings, but rather that the inconsistent usage of the two appears to be for the sole benefit of having the largest adverse effect of the for-profit sector. Moreover, *any* metric that uses only a single statistic to summarize a vast distribution of outcomes – whether that statistic is the mean or the median – obscures the diversity in student experiences and outcomes, thereby judging the quality of programs on the basis of insufficient information.

6. *Arbitrary Definition of the Appropriate Sample of Students.* The proposed debt-to-earnings ratios are based on average income for all program completers regardless of whether they use loans to cover the costs of the program. However, students incurring debt and those not incurring debt in order to attend a program do not constitute a homogeneous group. Obviously, they differ in the fact that one group can afford the costs of the program without resorting to loans. More importantly for the proposed rules, students not incurring debt to attend a program may be enrolled in the program for self-fulfillment and not its earnings potential. As a result, these individuals may not seek employment upon completion of the program. If a sufficient number of non-borrowers are included in a sample, the outcome will be biased toward a determination of “non-gainful employment.” Further study should be carried out to determine the implications of aggregating borrowers and non-borrowers in the determination of “gainful employment.”

7. *Arbitrary Inclusion of Private Loans.* The proposed debt-to-earnings ratios measure debt as inclusive of both private and public loans to students. The fact that private institutions are willing to loan money to students to cover (a portion of) the costs of the program reveals valuable information about the “gainfulness” of the educational investment as determined by the private sector. The proposed metric ignores this market signal. Indeed, it arguable turns a clear market signal that a program does prepare students for gainful employment into an indication that the program does not do so.

The discussion to this point has focused on the proposed debt-to-earnings measure of “gainful employment.” The measure based on repayment rates is equally, if not more, troubling. As with the debt-to-earnings measure, there are several issues with the proposed measure.

1. *Repayment Rates Depend on a Multitude of Factors.* Repayment rates reflect not just earnings or employment or, better yet, “gainful employment,” but also other sources of income that are independent of program quality such as family wealth, marital status and spousal attributes, etc. In addition, repayment rates have been shown to depend on personal attributes and post-graduation life-style choices that have little to do with the economic value of the educational investment. The crucial point is that these other factors have enormous influence on repayment rates, yet institutions have no control over them.

The NPRM addresses this point by citing the study by Guryan and Thompson (2010) and interpreting the results from this study as finding that “only about half of the difference in defaults could be explained by student characteristics” (75 Fed. Reg. at 43,654).¹⁸ This interpretation is *incorrect*. The *correct* interpretation is that the few observable student attributes included in the analysis –

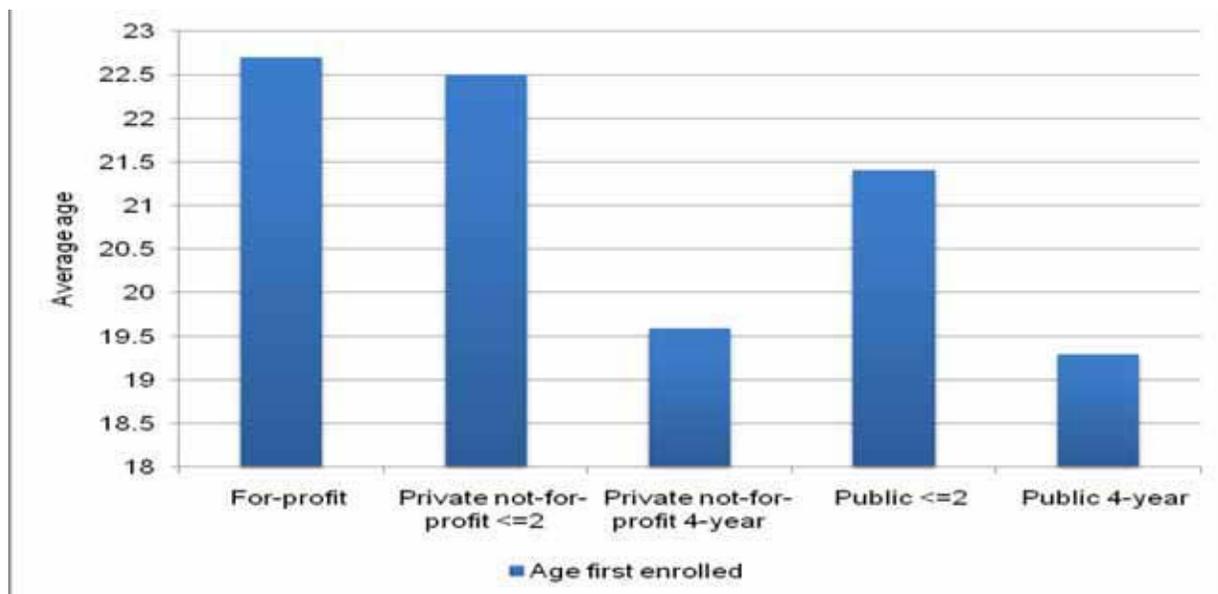
¹⁷ See, e.g., Couch, K.A. and M. Daly (2004), “The Improving Relative Status of Black Men,” *Journal of Income Distribution* (Fall-Winter 2003-2004), 56-78.

¹⁸ Guryan, J. and M. Thompson (2010), “Report on Gainful Employment: An Executive Summary,” Charles River Associates, March 29.

race/ethnicity, gender, program persistence and completion status, Pell Grant receipt, family welfare receipt, parent or own income, and dependency status – explain about half of the difference in default rates. A host of *other* student attributes – that have nothing to do with the quality of the educational program attended – are not included in the analysis and could possibly explain much of the remaining difference in default rates. Examples include student attributes such as age at matriculation, marital status, number of children, prior employment history, prior educational background, work ethic, determination, responsibility, computer skills, communication skills, immigration status, English language proficiency, parents’ educational background, etc. that are not included in the authors’ multivariate analysis.

For example, while not included in their regression analysis, Guryan and Thompson (2010) document significant differences in age at matriculation, the percentage of single parents, and parents’ educational background of students entering various types of institutions. See figures 6, 7, and 8.

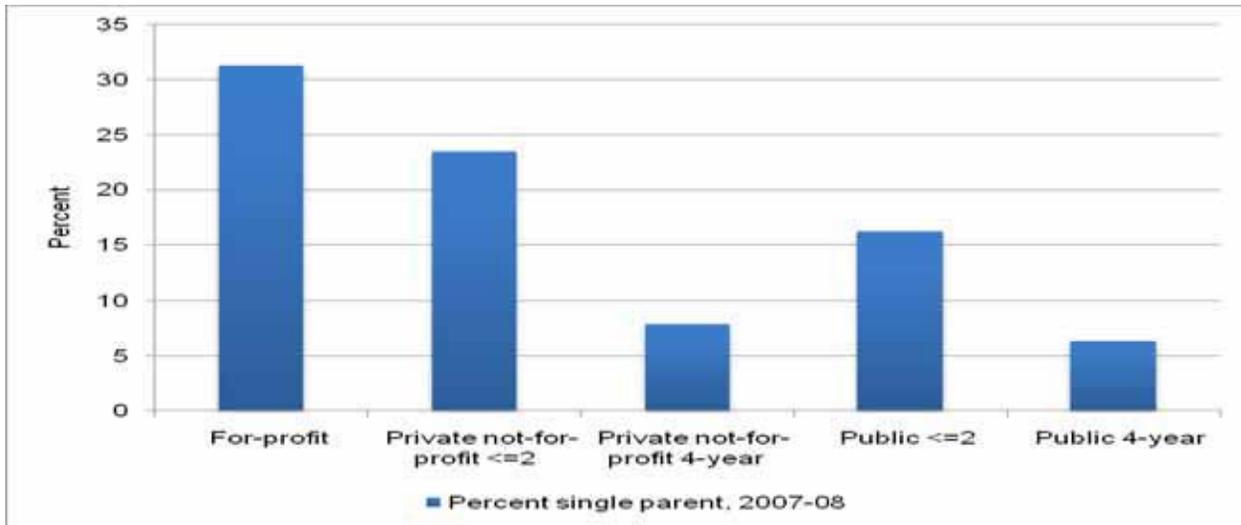
Figure 6. Average Age at Which Students First Enroll in Postsecondary Education, 2008



Source: Guryan and Thompson (2010). Original data from the National Postsecondary Student Aid Study, 2008.

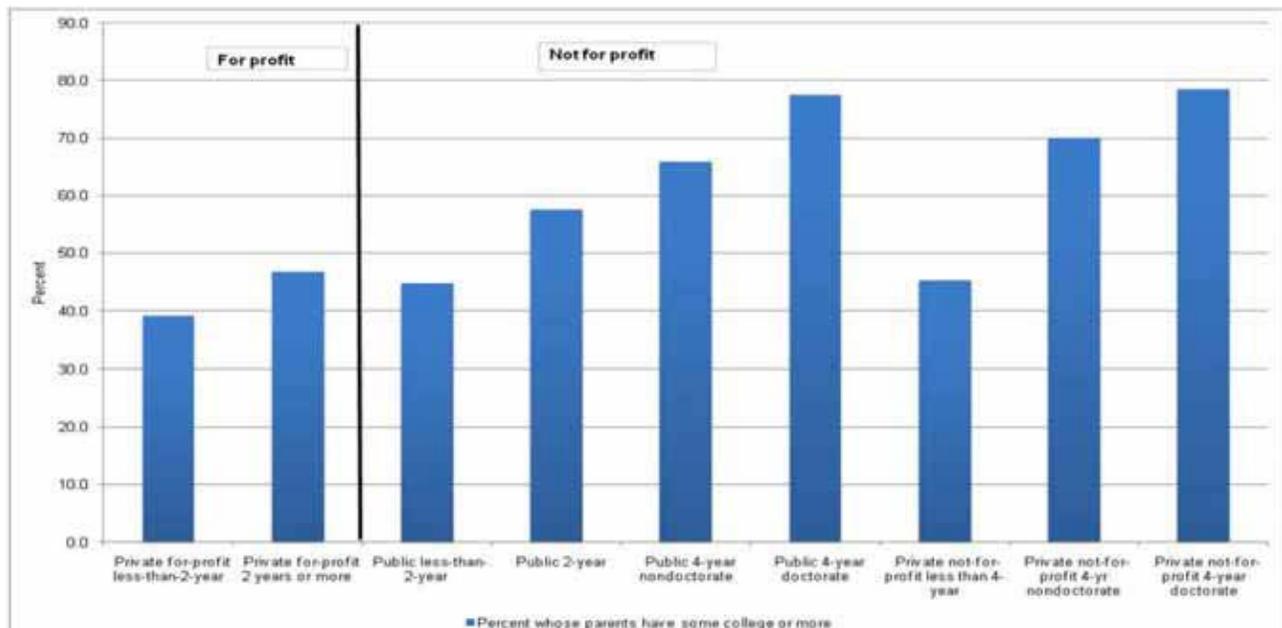
However, even ignoring these other student attributes that may differ across students at for-profit and public/private not-for-profit schools and that very well may explain additional differences in default rates, the fact that even *half* of the difference in defaults (and *more than half* of the total number of defaults of students from for-profit institutions) can be attributable to student attributes in the study by Guryan and Thompson (2010) implies that the proposed “gainful employment” rules based on repayment rates are largely determined by factors beyond the control of institutions of higher education. If loan repayment behavior is largely driven by factors beyond schools’ control, how can loan repayment be considered a valid measure of “gainful employment”?

Figure 7. Percent of Students Who Were Single Parents Prior to Matriculation, 2008



Source: Guryan and Thompson (2010). Original data from the National Postsecondary Student Aid Study, 2008.

Figure 8. Percent of Students Whose Parents Attended at Least Some College, 2008



Source: Guryan and Thompson (2010). Original data from the National Postsecondary Student Aid Study, 2008.

Given the importance of the findings in Guryan and Thompson (2010) in evaluating the proposed “gainful employment” regulation, similar evidence from other studies would be comforting. Fortunately, Guryan and Thompson’s (2010) findings are not unique; the predictive power of student attributes in statistical analyses of loan defaults has been documented for several decades. Knapp and

Seaks (1992) analyze default rates on federal student loans, concluding that student attributes swamped institutional attributes in terms of importance in explaining defaults. The authors (p. 404) state:

Based on a probit model of default for two thousand guaranteed student loans, we find that individual characteristics (including parents' income, presence of two parents at home, student's graduation, and student's race) have a significant impact on default rates, while institutional characteristics (four year vs. two year college, private vs. public, school size, and individual school dummies) have little significant effect. The results imply that proposals to penalize colleges with 'high' default rates are premature.¹⁹

Volkwein and Szelest (1995) combine data from three national databases, concluding:

Our findings erode the basis for current national policies and proposed SPRE legislation that hold institutions accountable for the loan defaults of former students. Loan repayment and default behavior can be substantially predicted by the precollege, college, and postcollege characteristics of individual borrowers In both populations (all borrowers and proprietary), we find virtually no evidence of a direct link between default behavior and type of institution or higher degree offered.²⁰

In a subsequent study, Volkwein et al. (1998) explore more deeply differences in student loan default rates across racial groups. Again, the authors (p. 224-5) find little role for institutional characteristics in explaining these differences:

Despite the demise of in loco parentis, colleges and universities are widely believed to exert considerable influence on the personal actions of their students, not only while the students are on campus pursuing their degree programs, but also after they cease attending the institution and leave the campus. Current student loan policy and national legislation is based substantially on this belief [W]e find only modest evidence that type of institution attended has an impact on student loan default. Rather, the effects of institution type appear to be outweighed by the level of degree earned by the borrower. Indeed, the small impact of institution type appears important only for White borrowers, but not for Blacks or Hispanics or other minorities [B]orrowers in every racial and ethnic group who have similar earned degrees, marital status, and family size exhibit almost identical records of earned income and loan repayment. The borrower's socioeconomic status, type of institution attended, grades earned, and choice of major appear to be less important than whether he or she has completed a degree, is married or single, and has dependent children or not. Blacks and Hispanics in this study, compared to Whites, have lower levels of degree attainment, lower levels of academic achievement, almost twice the number of dependent children, and almost twice the rate of separation and divorce. These circumstances, rather than race/ethnicity, appear to be the reasons for their repayment and default behaviors.²¹

¹⁹ Knapp, L.G. and T.G. Seaks (1992), "An Analysis of the Probability of Default on Federally Guaranteed Student Loans," *Review of Economics and Statistics*, 74, 404-411.

²⁰ Volkwein, J.F. and B.P. Szelest (1995), "Individual and Campus Characteristics Associated with Student Loan Default," *Research in Higher Education*, 36, 41-72.

²¹ Volkwein, J.F., B.P. Szelest, A.F. Cabrera, and M.R. Napierski-Prancel (1998), "Factors Associated with Student Loan Default Among Different Racial and Ethnic Groups," *The Journal of Higher Education*, 69, 206-237.

In line with these findings, Flint (1997) provides an in-depth review of studies conducted to that time.²² The author finds that many studies *fail* to find any effect of postcollege income on the probability of default. *Thus, the very premise of the proposed use of default rates to measure the quality of educational programs is flawed given the, at best, tenuous link between postsecondary earnings and repayment rates.*

Moreover, the author (p. 342-3) performs his own analysis of default, and finds:

Though student background characteristics are strongly related to default, very little additional predictive success is contributed by any of the blocks of variables entered after student background characteristics Two blocks of variables make no significant contribution to the performance of the model: institutional choice and exit counseling characteristics. Thus, none of the variables within those blocks – including institutional sector, selectivity, enrollment, exit counseling sources and timing, or repayment support from others – contributes to the prediction of these default cases.

In sum, a number of studies have assessed the relative importance of student versus institutional attributes on default rates. The totality of the evidence indicates that student characteristics swamp institutional variables in terms of predictive power

2. *Failure to Account for Post-Default Repayment.* Volkwein et al. (1998) find that two-thirds of students who defaulted on their student loan in the 1987 National Postsecondary Student Aid Study resumed payments on their loans, and almost one-third had completely repaid the loan.²³ *This astounding fact implies that reaching firm conclusions on the quality of educational programs based on default rates at a particular point in time is premature and unwarranted.* As suggested in the model depicted in figure 3, only a long-term (preferably lifetime) perspective is capable of properly assessing the merits of educational investments.

3. *Failure to Account for Uncertainty.* As in the preceding discussion regarding the flaws in the debt-to-earnings ratio, investments in education are undertaken despite the fact that future benefits (due to economy-wide shocks and individual-specific shocks) and costs (due to variable interest rates) are uncertain. While the decision to undertake an investment may be optimal at the time the decision was made, as with any investment, there is risk. As a result, default may occur due to unforeseen “shocks” (e.g., recession, poor health, changes in family circumstances, changes in characteristics of the labor market, etc.) despite the educational program being sound. The proposed measure based on default rates, however, penalizes institutions on the basis of hindsight.

In sum, the proposed “gainful employment” rules are deeply flawed. Most importantly, they do not measure the realized economic costs and benefits of educational investments, and they especially do not measure the expected economic costs and benefits of educational investments at the time enrollment decisions are made. They possess very little connection to whether students have secured, or more importantly whether they have been prepared to secure, gainful employment in a recognized occupation.

VI. PROPOSED DEFINITION OF GAINFUL EMPLOYMENT WILL HAVE UNINTENDED CONSEQUENCES

²² Flint, T.A. (1997), “Predicting Student Loan Defaults,” *The Journal of higher Education*, 68, 322-354.

²³ Volkwein, J.F., B.P. Szelest, A.F. Cabrera, and M.R. Napierski-Prancl (1998), “Factors Associated with Student Loan Default Among Different Racial and Ethnic Groups,” *The Journal of Higher Education*, 69, 206-237.

Many of the goals of the proposed rules are laudable. However, any change in the rules must consider the incentives created. Edward Glaeser, an economics professor at Harvard University, recently echoed this sentiment:

Perhaps the single most important policy-related insight in economics is that changes in policies lead to behavioral responses [I]nterventions that create an offsetting behavioral response can push the world in the wrong direction.²⁴

Unfortunately, the proposed rules are likely to have unintended consequences and “push the world in the wrong direction.”

First, the proposal will result in many quality educational programs no longer being eligible for Title IV funding. Programs that are “gainful” in terms of providing combined private and social returns that outweigh the costs will be ruled ineligible for Title IV funds if the “benefits” considered by the proposed rules do not outweigh the “costs” considered by the proposed rules (see figure 5). In addition, as discussed above, the proposed rules judge the “gainfulness” of programs in hindsight, ignoring the fact that programs may have been a wise investment at the time the enrollment decision was made, and are based on arbitrarily chosen single summary statistics of heterogeneous student experiences. Eliminating Title IV eligibility for quality education programs is particularly damaging since it will preclude many individuals from being able to undertake postsecondary education (given the difficulty of switching to public institutions discussed previously). Thus, President Obama’s goal of having the highest percentage of college graduates in the world by 2020 will be difficult to obtain if the proposal is implemented.

Second, the proposed rules will have dire consequences for the racial and gender composition of students enrolled in postsecondary programs. As discussed above with respect to determinants of student default rates, the proposed measures of “gainful employment,” as flawed as they are, confuse “low quality” programs with financial outcomes of high-risk and nontraditional students that are largely determined by choices and factors that are beyond an institution’s control. In the study by Guryan and Thompson (2010) cited in the NPRM, half of the default differential across sectors of higher education is explained by the *small set* of observable student attributes the authors include in their regression analysis. Even stronger evidence is provided in Knapp and Seaks (1992, p. 404), who find that institutional characteristics “have little significant effect.”²⁵ In short, individual student characteristics and choices drive default rates. Lowering default rates will therefore require increased institutional focus on individual characteristics that are significant predictors of future repayment rates. Accordingly, the type of efforts institutions might engage in to improve program quality are unlikely to be the same as those that are likely to improve programs’ performance on the Department’s proposed repayment metric.

Furthermore, the link between the “gainful employment” measures and student attributes is not confined to the repayment metric. Women and minorities have historically earned lower labor market returns to education investments, and women are more likely to exit the labor force for family reasons. Thus, programs with a higher concentration of female and minority students are less likely to meet either of the proposed “gainful employment” measures.

²⁴ See <http://economix.blogs.nytimes.com/2010/08/24/when-good-policy-goes-bad/>.

²⁵ Knapp, L.G. and T.G. Seaks (1992), “An Analysis of the Probability of Default on Federally Guaranteed Student Loans,” *Review of Economics and Statistics*, 74, 404-411.

For instance, Bailey et al. (2004, p. 7) write:

The pattern is unmistakable: Employment outcomes improve as individuals complete more years of education. For example, sub-baccalaureate students are more likely to be employed, work full-time, and have higher pay rates than high school graduates. However, at similar levels of education, men enjoy a clear advantage over women. At the sub-baccalaureate level, nearly 97 percent of men are currently employed whereas 85 percent of women are. In terms of pay rate, sub-baccalaureate men earn \$3 more per hour than women.²⁶

With respect to race, the authors (p. 10) state: “Black men earn on average 38 percent less than white men irrespective of level of education.”

More recent data confirms these findings. According to the U.S. Bureau of Labor Statistics (“BLS”), “In 2009, women who were full-time wage and salary workers had median weekly earnings of \$657, or about 80 percent of the \$819 median for their male counterparts.”²⁷ In terms of racial differences, the BLS reports:

Hispanics and Blacks have considerably lower earnings than Asians and Whites. In 2009, the median usual weekly earnings of full-time wage and salary workers were \$541 for Hispanics and \$601 for Blacks, compared with \$757 for Whites and \$880 for Asians. The earnings of Black men (\$621) and Hispanic men (\$569) were 65 and 60 percent, respectively, of the earnings of Asian men (\$952). Among women, the median earnings of Black women (\$582) and Hispanic women (\$509) were 75 and 65 percent, respectively, of the earnings of Asian women (\$779). The median earnings for White men and women were 89 and 86 percent of their Asian counterparts in 2009.”²⁸

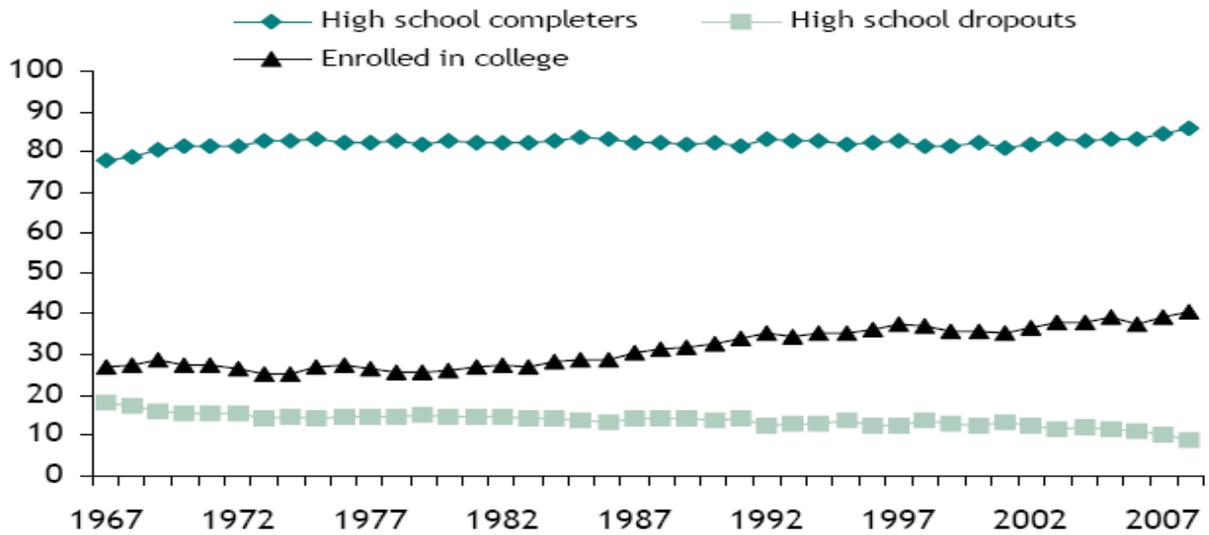
In light of these statistics, institutions are likely to shift the composition of students toward a higher concentration of white males. The adverse effect on college enrollments for minorities is particularly troubling since these groups already significantly lag behind whites. Figure 9 displays trends in college enrollment rates for whites, blacks, and Hispanics age 18-24. The figures indicate that whites are roughly ten percent more likely to attend college than either minority group. Moreover, it was only just recently that the rate of college enrollment exceeded the rate of high school dropouts among Hispanics.

²⁶ Bailey, T., G. Kienzl, and D.E. Marcotte (2004), “The Return to a Sub-Baccalaureate Education: The Effects of Schooling, Credentials, and Program of Study on Economic Outcomes,” National Assessment of Vocational Education, U.S. Department of Education.

²⁷ See <http://www.bls.gov/cps/cpswom2009.pdf>.

²⁸ See <http://www.bls.gov/cps/cpsrace2009.pdf>.

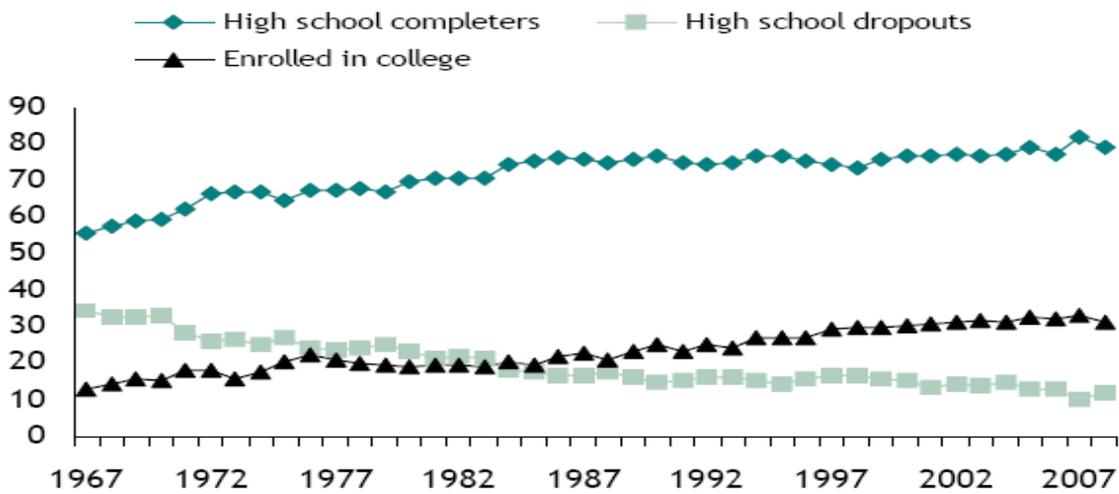
Figure 9. Percentage of 18-24-Year-Olds by Race and Educational Attainment.



Note: From 2003 onward white refers to those who identified as white alone.

Source: U.S. Census Bureau (October Current Population Survey data)

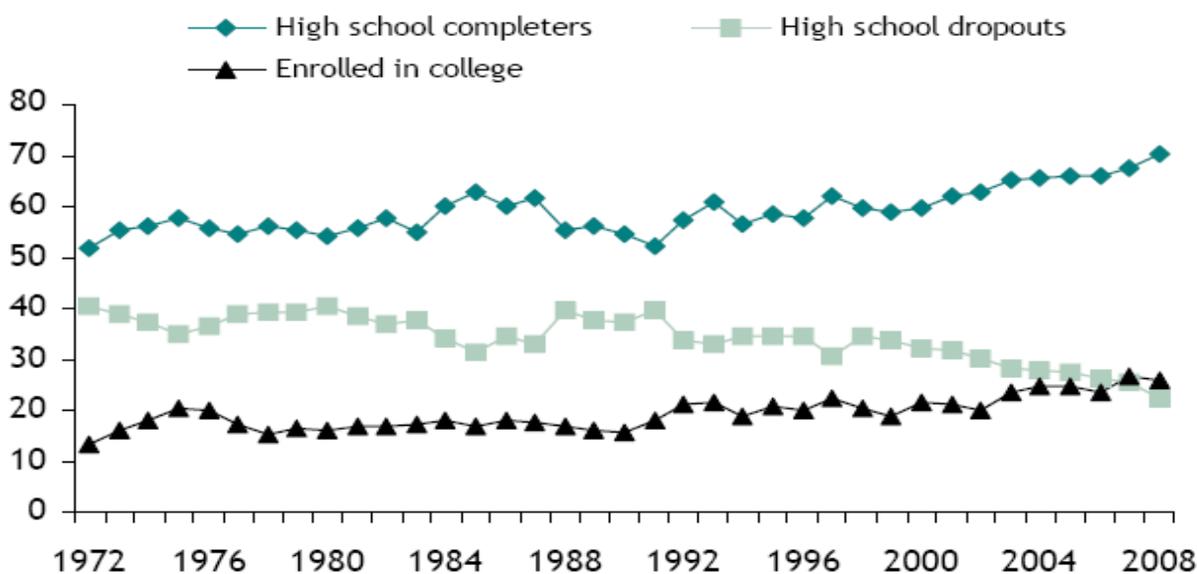
Panel A (Whites)



Note: From 2003 onward black refers to those who identified as black alone.

Source: U.S. Census Bureau (October Current Population Survey data)

Panel B (Blacks)



Source: U.S. Census Bureau (October Current Population Survey data).

Panel C (Hispanic)

Source: Fry, R. (2009), “College Enrollment Hits All-Time High, Fueled by Community College Surge,” Pew Research Center, October 29.

Finally, as discussed above, the proposed rules are likely to increase income inequality in the U.S. by limiting the postsecondary educational opportunities of individuals due to the displacement of the 16,000 to 30,000 students that will not enroll elsewhere (as conceded in the NPRM) and the 69,000 to 126,000 students that we do not believe will enroll elsewhere (as discussed previously). The resulting increase in the relative supply of workers with only a high school diploma will depress earnings for this group of workers while raising the returns to postsecondary education for those fortunate to obtain such a degree. The consequence will be a reallocation of earnings capabilities from the less educated to the more educated, thereby widening of the rich-poor gap in the U.S.

VII. CONCLUSION

In conclusion, the proposed rules regarding “gainful employment” are flawed on many grounds.

Conceptually, they fail to consider the proper counterfactual when designing the metrics and evaluating the pros and cons of the proposed rules. In terms of the metrics, “gainfulness,” even assuming it can be properly measured by repayment and debt-related statistics, is not measured in the NPRM based on a complete characterization of the costs and benefits to not only the student, but also society, over a student’s lifetime. In terms of the costs and benefits of the proposed rules, many salient factors are ignored. First, the tax ramifications are not based on a complete assessment of the tax receipts collected under the status quo versus what they would be under the proposed rules. In particular, the tax implications of a reduction in for-profit institutions, an increase in enrollment in public institutions (if displaced students are, in fact, served by public institutions), and a decrease in employment prospects for individuals who fail to undertake postsecondary investments are ignored. Second, the impact of the proposed rules on the composition of the student body in postsecondary institutions is not assessed. Finally, the effect of the proposed rules on the distribution of income is ignored. While the effects of an

increase in the supply of credentialed workers are discussed, there is no evidence of any over-supply of such workers, and even if there were, the proposal fails to address the ramifications of addressing any such over-supply for non-credentialed workers.

Aside from conceptual issues, the proposed rules are inefficient and likely to have unintended consequences. First, the proposed rules discriminate against the for-profit sector and certain other programs, are needlessly complex, and are burdensome to the industry and the government. In essence, the proposed rules attempt to reinvent the wheel, but manage only an inferior version. What is the wheel that currently exists to achieve the goals the Department of Education seeks? Accreditation. This is the most efficient and direct means to ensure that consumers are protected from “sham” programs. If the Department of Education is worried that accreditation is not adequately monitoring the quality of programs, regulations should focus on improving the accreditation process. Proposing new metrics that are, at best, tangentially related to program quality, as well as costly to compute, is a poor use of public resources.

Second, due to the fact that the metrics are tangentially related to program quality, the proposed rules will eliminate many quality educational programs. This, at best, weak relationship between the proposed measures arises from the failure of the Department to account for the wide range of student experiences after completing schooling, the impact of a whole host of student attributes on repayment rates, and the effects of volatility and uncertainty in labor demand.

Finally, the proposed rules will fundamentally alter the composition of students undertaking postsecondary investments. Women and minorities, groups that have made enormous strides in enrollment over the past several decades, would suffer disproportionately as a result of the proposed changes due to their lower labor force participation rates and returns to education.

Thank you.



Charles Diamond, Ph.D.



Daniel Millimet, Ph.D.

September 9, 2010
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Exhibit 10

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Professional Affiliations

American Economic Association

Western Economic Association International

Southern Economic Association

International Atlantic Economic Association

Referee – Binational Fulbright Commission
1997

Referee – Economic Inquiry, Applied Economics, Management Science

Education

Ph.D. in Economics,
Texas A&M University

M.A. in Economics,
Clemson University

B.A. in Political Science,
Clemson University

Dr. Charles Diamond is a Managing Director in FTI's Economic Consulting Services practice and is based in New York. Dr. Diamond specializes in the application of microeconomic theory and econometric methods to employment practices and damage calculations in employment disputes. He has prepared economic and statistical analyses for numerous Fortune 500 corporate clients facing class actions involving allegations of age, race and national origin discrimination in a wide variety of employment practices. Dr. Diamond assists clients with the preparation of pay equity studies in response to OFFCP glass ceiling audits, with quantitative assessments of FLSA and state wage and hours compliance, and with adverse impact analyses of workforce reductions.

Dr. Diamond's scholarly research has been published in the Journal of Labor Economics, Journal of Econometrics, and Journal of Development Studies. For over 16 years, he taught both graduate and undergraduate courses in labor economics, econometrics, managerial economics, and microeconomics. Prior to joining FTI Consulting, he was a Vice President at Analysis Group, Inc., before that an Associate Professor at the American University in Cairo, Egypt and taught at Texas A&M University, Utah State University, Clemson University, and University of Louisville.

Dr. Diamond has been qualified as an expert in legal cases involving employment practices, lost corporate profits and opportunities, and product liability.

Professional Experience

Lost Earnings (Wrongful Death & Wrongful Termination)

Estimated lost lifetime earnings for 46 individuals not participating in September 11th Victim's Compensation Fund. Work was done on behalf of multiple defendants as part of settlement negotiations for victims in Virginia and Pennsylvania.

Estimated lost lifetime earnings for families participating in September 11th Victim's Compensation Fund.

Estimated lost earnings derived from allegations of wrongful discharge brought by retail brokers and financial managers related to SEC violations in three recent mutual fund market timing broker cases.

Discrimination

Directed a statistical team analyzing test scores of candidates for admission to a state police academy. Case involved charges of racial discrimination from a neutral employment practice resulting in disparate impact on members of a protected class.

Directed numerous confidential pay equity studies for Fortune 500 Companies.

Directed a statistical team studying claims of disparate impact and treatment under ADEA and ERISA.

Constructed and executed a survey of eligible employee labor pool for assessment of employee interest in promotion to management position.

Wage and Hours

Directed a statistical team involved in damages claims using statistical methods to calculate damages and dollar awards. Designed reporting matrices and directed a team of consultants reviewing depositions and recording data on work hours and other employment behavior for more than 350 deponents and class members in an overtime case. Developed a model to test interviewer bias.

Supervised numerous cases using large data sets measuring employee clock-in/out with questions of missed breaks, missed meals and off-the-clock work.

Supervised teams for distribution of damage awards based on statistical methods. Created and applied small sample survey results and statistical Monte Carlo methods for distribution of settlement awards.

Statistical Analysis

Directed and testified in large class action involving fraudulent medical claims based on stratified random sampling and clustering methods.

Directed a team involved with statistical assessment of large medical database. Issues involved representativeness and impact of data collection practices.

Analyzed and reviewed a stochastic/risk model of construction cost estimates. The level of contingency funding as part of the mediated award was directly related to the proper statistical modeling of cost estimates.

Directed a statistical team to study call-in service data to determine product defect incidences related to class certification.

Testimony/Affidavits

Angela Jones Alexander, Plaintiff, -against- Ruben S. Martin III and Karen L. Yost, Defendant United States District Court, Eastern District of Texas, Marshall Division., Civil Action No. 2-08CV-400. Affidavits filed September 1 and December 2, 2009. Deposition testimony November 12, 13, 2009.

CIBC World Markets Corp., Claimant-against-Michael Sassano, Respondent FINRA Arbitration, Case No. 2005-02827. Affidavit filed May 2, 2008. Testimony given October 28, 2008.

United States of America, ex rel Toni R. Barron and Vicky J. Scheel vs. Deloitte & Touche, LLP, Deloitte Touche Consulting Group, LLC, Deloitte & Touche Group Holding, LLC, Medicaid Claim Solutions of Texas, and National Heritage Insurance Company. In U.S. District Court Western District of Texas San Antonio Division. Case involved analysis of statistical evidence involving fraudulent claims. Deposition testimony given January 16, 2008.

2200 M Street LLC, Plaintiffs v. Bovis Lend Lease, Inc. et al., Defendants. U.S. District Court of Columbia. Case involved statistical model and estimation of damages to luxury building condominium sales due to contractor error. Testimony given in mediation October 22, 2007.

Equal Employment Opportunity Commission et al., vs. Outback Steakhouse of Florida, INC. et al. In U.S. District Court for the District of Colorado. Case involved statistical survey of employee interest in promotions in employment discrimination matter. Expert Report filed September 4, 2007. Deposition testimony given October 16, 2007.

Brian Kaufmann against Maxim Healthcare Services, INC. United States District Court Eastern District of New York. Expert Report filed on behalf of Defendants, January 12, 2006. Case involved allegations of employment discrimination and retaliation. Expert witness testimony in court given May 30, 2007.

SR International Business Insurance Co., Ltd. vs. World Trade Center Properties LLC et al. & World Trade Center Properties LLC et al. vs. Allianz Insurance Company et al., U.S. District Court for the Southern District of New York, Case No. 01 Civ. 12738. Case dealt with construction estimate cost escalation for tenant improvements related to World Trade Center replacement. Expert Report filed March 3, 2007. Deposition testimony given April 10, 2007. Hearing testimony given May 10, 2007.

Art D. Blackcher vs. Sysco Food Services of San Francisco. Superior Court of the State of California in and for the County of Alameda Unlimited Jurisdiction. Case involved racial discrimination and retaliatory wrongful discharge. Deposition testimony given June 8, 2006.

SR International Business Insurance Co., Ltd. vs. World Trade Center Properties LLC et al & World Trade Center Properties LLC et al vs. Allianz Insurance Company et al, U.S. District Court for the Southern District of New York, Case No. 01 Civ. 12738. Case dealt with construction estimate cost contingency related to World Trade Center replacement. Expert Report filed January 20, 2006. Deposition testimony given February 1, 10, 2006. Hearing testimony given April 3, 4, and 5, 2006.

EEOC v. Thermal Foams, INC. United States District Court, Western District of New York. Expert Report filed on behalf of defendants February 27, 2006. Case involved allegations of discrimination under ADEA and wrongful termination of six individuals.

Joseph Robinson, on Behalf of Himself and all others Similarly Situated and on Behalf of the General public, Plaintiff, vs. Buffalo Technology USA, INC., and DOES 1-100, inclusive, Defendants. Superior Court of the State of California in and for the County of Los Angeles. Class Action. Report filed in support of opposition to certifying a class for the purpose of class wide proof of damages. November 14, 2005.

In the matter of *Joann Spreen, September 11th Victim Compensation Fund*. Deposition presented before Kenneth Feinberg, Special Master, on lost lifetime earnings due to diminished capacity. Affidavit on Potential Economic Loss submitted in May 2004. Deposition Given to Special Master Kenneth Feinberg May 24, 2004.

In the matter of *Theresa Tobin, September 11th Victim Compensation Fund*. Deposition presented before Kenneth Feinberg, Special Master, on lost lifetime earnings due to diminished capacity. Affidavit on Potential Economic Loss submitted in May 2004. Deposition given to Special Master Kenneth Feinberg May 25, 2004.

In the matter of *Estate of David E. Retik, September 11th Victim Compensation Fund*. Deposition presented before Kenneth Feinberg, Special Master, on lost lifetime earnings. Affidavit on Potential Economic Loss submitted in September 2003. Deposition given to Special Master Kenneth Feinberg March 23, 2004.

In the matter of *Estate of Kathleen Nicosia, September 11th Victim Compensation Fund*. Deposition presented before Kenneth Feinberg, Special Master, on lost lifetime earnings. Affidavit on Potential Economic Loss submitted in February 2004. Deposition given to Special Master Kenneth Feinberg March 23, 2004.

In the matter of *Estate of William Weems, September 11th Victim Compensation Fund*. Deposition presented before Kenneth Feinberg, Special Master, on lost lifetime earnings. Affidavit on Potential Economic Loss submitted in July 2003. Deposition given to Special Master Ken Feinberg October 2003.

In the matter of *Estate of Tom Kelly, September 11th Victim Compensation Fund*. Deposition presented before Kenneth Feinberg, Special Master, on lost lifetime earnings. Affidavit on Potential Economic Loss submitted in January 2003. Deposition given to Special Master Kenneth Feinberg July 2003.

In the matter of *Robert I. Ash and Ashworth Consultants, Inc. v. The Conkurs Group, Ronald Christman and Tauno Metisto*. Affidavit on Potential Economic Loss from Termination submitted on or about April 8, 2003. Deposition: May 7, 2003.

In the matter of *Citizens Fidelity Bank & Trust Company v. Ink Plus, et al.*, No. 91-CI 06217 (Jefferson Circuit Court (Kentucky)) regarding bankruptcy and wrongful and unlawful seizure of assets. Affidavit on potential economic loss from asset seizure submitted on or about October 10, 1993. Deposition testimony on October 15, 1993. Trial Testimony on March 15, 1994.

In the matter of *Lowell Collard, German Irizarry, and Edgar Tatum (separately) v. Owen-Illinois Glass Co., et al.*, regarding death and diminished capacities due to asbestosis. Affidavit on validity of expert reports regarding potential economic losses including household services submitted on or about January 24, 1994.

In the matter of *New Albany Professional Building Associates v. Floyd Memorial Hospital, et al.*, regarding lack and diminished serviceability of Professional Building. Affidavit on potential economic losses due to non-serviceable property submitted on or about December 13, 1993.

In the matter of *Zoeller Company v. Cooper Industries, Inc. No. 091-01310-A-L* regarding allegations of product liability due to faulty engineering design. Affidavit on potential economic losses from faulty design submitted on or about February 29, 1992.

In the matter of *Dorman v. Brown-Forman Corporation*, regarding allegations of sexual harassment, gender discrimination and unfair employment practices. Affidavit on salary, termination, and job replacement issues submitted on or about December 30, 1991.

In the matter of *Lisa D. McNary v. Westvaco Corporation No. C 90-0232-P(J) (US District Court W.D. of Kentucky)* regarding unfair dismissal and sexual harassment. Affidavit on potential economic loss from wrongful and unlawful constructive discharge submitted on or about August 28, 1991. Deposition testimony on October 1, 1991.

Publications

On Deviations Between Neoclassical and GFT-Based True Cost-of-Living Indexes Derived from the Same Demand System, Journal of Econometrics 30 (1985): 45-66. (With R. L. Basmann, J. C. Frentrup, and S.N. White). Reprinted in International Symposia in Economic Theory and Econometrics series New Approaches to Modeling, Specification Selection, and Econometric Inference, edited by W.A. Barnett and A.R. Gallant. Cambridge University Press. 1990.

Variable Consumer Preferences, Economic Inequality, and Cost of Living: Part Two. Advances in Econometrics 4, (1985): 1-85. (With R. L. Basmann, J. C. Frentrup and S. N. White.)

Estimating Employee's True Cost of Living Indexes in the Southwestern Region: Case of

Metropolitan Denver. Southwestern Review of Business and Economics, Vol. 5, No. 1, Spring, (1986): 81-90. (With P.J. Saunders.)

Evidence on the Fit of the Log-Linear Income Model Versus a General Statistical Specification. Economics Letters. Vol. 31, (1989): 293-298. (With C. J. Simon and J.T. Warner).

A Multinomial Probability Model of Size Income Distribution. Journal of Econometrics. Vol. 43, January/February, (1990): 43-61. (With C.J. Simon and J.T. Warner). Abstract in Journal of Economic Literature. June, (1990): 1000.

The Political Market for Real Income Redistribution through Choice of the Weights in COLAs. Public Choice. Vol. 64, (1990): 103-120. (With R.L. Basmann, G.W. Scully, and D.J. Slottje).

Cost-of-Living Indexes and Demographic Change. Applied Economics. Vol. 22 No. 6, June (1990): 739-757.

(27 pages and Lead Article). *Industrial Specialization and the Returns to Labor*. Journal of Labor Economics. Vol. 8, No. 2 April, (1990): 175-201. (With C.J. Simon).

(14 pages). *Sewage Treatment as an Industry Subsidy*. Economic Geography. Vol. 68, No. 2 April, (1992): 174-187. (With Bruce Yandle & Anand Bhansali).

The Effects of Relative Price Changes and COLAs on Some Welfare Indices. Models and Measurement of Welfare and Inequality, Wolfgang Eichhorn (ed.). Springer-Verlag. Berlin. (1994): 593-611. [With Esfandiar Maasoumi, Michael Nieswiadomy, and Daniel Slottje].

Flexible Form Methods for Measuring Rent Gradients. Journal of Regional Science. Vol. 35, no.2, 1995, pp.245-266. [With Mason Gerety].

Evidence on Substitutability of Adult and Child Labour. Journal of Development Studies. February 1998 vol.34, No. 3 pp. 62-70 [with Tammy Fayed].

Papers Presented at Professional Conferences

Western Economic Association International Annual Conference, July 2001. Paper: More on Openness and Growth: Uniform Policy or Targeted Deregulation?

International Atlantic Economic Association, European Conference, March 2001: Paper: Openness and Growth: Uniform Policy or Targeted Deregulation?

Western Economic Association International Pacific Rim Conference. January 2000. Paper: Indexing Human Capital Returns

Western Economic Association International Pacific Rim Conference. January 1998. Paper: Contingent Pay and Performance.

Southern Economic Association 1994 meetings. Paper: Human Capital Investment, Increasing Returns, and the Division of Labor: A Reinterpretation of Plato And Smith.

Western Economic Association 1993 meetings. Paper: Household Tastes Change in the 1980s.

Southern Economic Association 1990 meetings. Paper: Real Income and Expenditures as Welfare Measures.

American Economic Association 1988 meetings. Paper: Industrial Specialization and the Returns to Labor.

Southern Economic Association 1988 meetings. Paper: Relative Price Changes, Cost-of-Living Adjustments and their Redistributive Effects.

Western Economic Association 1985 meetings. Paper: Nonparametric Cost-of-Living Indexes and Demographic Change.

Western Economic Association 1984 meetings. Paper: Nonparametric Cost-of-Living Indexes Rationalized by the Generalized Fechner-Thurstone (GFT) Direct Utility Function.

Other Papers

"Models in ADEA Class Actions." (With Robert Fuite and Michael Kwak). Compensation & Benefits Review: The Journal of Total Compensation Strategies. September/October 2007, Vol. 39, Number 5, pp. 53-59.

"Why Is Prejudgment Interest in IP Cases Based on Risk-Free Treasury Bonds?" (with Michael Kwak and Robert Fuite) New York State Bar Association. "Bright Ideas." A Publication of the Intellectual Property Law Section of the New York State Bar Association. Fall 2006, Vol. 15 No. 2.

"Wrongful Termination, Damage Period Length and Mitigation." (with Damon Montal), New York State Bar Association. L&E Newsletter. A Publication of the Labor and Employment Law Section of the New York State Bar Association. Spring/Summer 2005, Vol. 30, No.1.

"Assessing Class-wide Claims of Unfair Employment Conditions." (with Elizabeth Becker). New York State Bar Association. L&E Newsletter. A Publication of the Labor and Employment Law Section of the New York State Bar Association. Summer 2003, Vol. 28, No.2.

"Another Free Lunch, Please." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. December 1998.

"Consumers Win in the Free Market for Flour." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. October 1998.

"The Hazardous Morality of Asian Values." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. April 1998.

"An Honest Wage for Honest Work." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. March 1998.

"The Myth of Equal Pay for Equal Work." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. January 1998.

"Scratch a Monopoly and Sniff Government." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. December 1997.

"It's Not the Managers." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. October 1997.

"Sustainable Development: Means never having to ask for outside cash." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. April 1997.

"Paying the Piper: Tiger-like growth doesn't come for free." Business Monthly. Journal of the American Chamber of Commerce in Cairo Egypt. March 1997.

"Louisville: A Hong Kong on the Ohio?" Business First. (Louisville, KY) Editorial. Week of May 2, 1994.

"Health Reform? Try Competition." The Courier-Journal. (Louisville, KY) Editorial. March 12, 1993.

Employment History

FTI Consulting, Inc., Managing Director	Present
Tinari Economics, Senior Economist-Affiliate	2004
Analysis Group, Vice President	2002 – 2004
Analysis Group/Economics, Senior Associate	2001 – 2002
The American University in Cairo, Associate Professor	1994 – 2001
University of Louisville, Assistant Professor	1991 – 1994
Clemson University, Assistant Professor	1986 – 1991
Utah State University, Assistant Professor	1984 – 1986
Texas A&M University, Graduate Teaching Assistant	1981 – 1984
Fluor- Daniel Construction Company, Senior Site Consultant	1980 – 1981
Pickens County Planning and Development Commission, Executive Director	1978 – 1980
South Carolina Appalachian Council of Government, Industrial Development Specialist	1975 – 1978

Exhibit 11



Curriculum Vitae
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EDUCATION

- 1999 Brown University, Ph.D., Economics
Dissertation: "Essays on Children and Intra-household Allocation"
Advisors: Mark Pitt, Andrew Foster, Moshe Buchinsky
- 1994 University of Michigan, B.A., Economics
Highest Distinction (overall)
High Honors (in Economics)
Thesis: "Natural Income Accounts: The Inclusion of Environmental Capital"

EMPLOYMENT & AFFILIATIONS

- 2009 – present Professor, Department of Economics, Southern Methodist University
- 2008 – present Research Fellow, IZA (Institute for the Study of Labor)
- 2004 – 2009 Associate Professor, Department of Economics, Southern Methodist University
- 1999 – 2004 Assistant Professor, Department of Economics, Southern Methodist University

EDITORIAL ACTIVITY

- 2008 – present Associate Editor, *Empirical Economics*
- 2005 – present Editorial Council Member, *Journal of Environmental Economics & Management*
- 2005 – 2007 Co-Editor, *Advances in Econometrics: Modeling and Evaluating Treatment Effects in Econometrics*, Volume 21 (with Jeffrey Smith and Ed Vytlačil)

GRANTS

1. US Department of Agriculture, "Dynamics of Childhood Obesity," Co-Investigator (2010-2012; PI: Rusty Tchernis); \$224,996.
2. US Department of Agriculture, "Effects on Childhood Obesity of Participation in Multiple Nutrition Assistance Programs," Co-Investigator (2008-2011; PI: Rusty Tchernis); \$200,000.
3. International Council for Canadian Studies Program, Faculty Research Program 2007-2008, "Does Destination Matter? The Impact of Inter- and Intranational Trade on Environmental Quality in Canada and the United States," Principal Investigator (2008-2009; co-PI: Carol McAusland); \$11,000.
4. SMU University Research Council International Travel Grant (2001).
5. Commission for Environmental Cooperation Research Grant, "Is There a Race to the Bottom in Environmental Policies? The Effects of NAFTA," Co-Investigator (2000; co-PI: Per Fredriksson); \$5,000.

SHORT-TERM RESEARCH VISITS

2007: Center for Applied Economics & Policy Research, Indiana University, September 3 – 7

HONORS

2010 [Gerald J. Ford Research Fellow](#) (SMU)

2008 [Kenneth J. Arrow Prize for Senior Economists](#) (Berkeley Electronic Press)

“The Market: Catalyst for Rationality and Filter of Irrationality,” with J.A. List. *Frontiers of Economic Analysis & Policy*, 2008, 8(1), Article 47, <http://www.bepress.com/bejeap/vol8/iss1/art47>.

2000 [Austin Robinson Memorial Prize](#) (Royal Economic Society)

“The Impact of Children on Wages, Job Tenure, and the Division of Household Labor.” *Economic Journal*, 2000, 110, C139–C157.

Brown University

Honorable Mention, Joukowsky Award for Best Dissertation in the Social Sciences, 1999

National Institute of Health NICHD Training Fellowship, 1998 – 1999

Mellon Fellowship, 1997

Stephen R. Ehrlich Research Fellowship, 1996

Graduate Council Research Fellowship, 1995

Department of Economics Assistantship, 1994 – 1995

University of Michigan

Phi Beta Kappa

Harold D. Osterweil Prize for Best Graduating Economics Major (shared), 1994

Honors Program in Economics, 1993 – 1994

James B. Angell Scholar, 1993 – 1994

Class Honors, 1992 – 1994

JOURNAL PUBLICATIONS

Forthcoming

1. “Is the Quantity–Quality Trade–off a Trade–off for All, None, or Some?” with L. Wang. *Economic Development & Cultural Change*.

2010

2. “School Nutrition Programs and the Incidence of Childhood Obesity,” with M. Husain and R. Tchernis. *Journal of Human Resources*, 2010, 45, 640–654.
3. “Detailed Estimation of Worklife Expectancy for the Measurement of Human Capital: Accounting for Marriage and Children,” with M. Nieswiadomy and D.J. Slottje. *Journal of Economic Surveys*, 2010, 24, 339–361.

2009

4. “On the Specification of Propensity Scores: with Applications to the Analysis of Trade Policies,” with R. Tchernis. *Journal of Business & Economic Statistics*, 2009, 27, 397–415

5. "Who Benefits from Marriage?" with D. Sarkar and E. Maasoumi. *Oxford Bulletin of Economics & Statistics*, 2009, 71, 1-33
6. "Institutional Arrangements in Educational Systems and Student Achievement: A Cross-National Analysis," with T. Collier. *Empirical Economics*, 2009, 37, 329-381
7. "Environmental Regulation and Economic Activity: Influence on Market Structure," with S. Roy and A. Sengupta. *Annual Review of Resource Economics*, 2009, 1, 99-117
8. "The Mythical 'Boy Crisis'?" with M.H. Husain. *Economics of Education Review*, 2009, 28, 38-48

2008

9. "Estimating High-Dimensional Demand Systems in the Presence of Many Binding Non-Negativity Constraints," with R. Tchernis. *Journal of Econometrics*, 2008, 147, 384-395
10. "Efficiency in Public Schools: Does Competition Matter?" with T. Collier. *Journal of Econometrics*, 2008, 145, 134-157.
11. "Is Gravity Linear?" with D.J. Henderson. *Journal of Applied Econometrics*, 2008, 23, 137-172.
12. "The Market: Catalyst for Rationality and Filter of Irrationality," with J.A. List. *Frontiers of Economic Analysis & Policy*, 2008, 8(1), Article 47, <http://www.bepress.com/bejeap/vol8/iss1/art47>. Awarded 2008 Arrow Prize for Senior Economists.
13. "Fertility and the Health of Children: A Nonparametric Investigation," with D.J. Henderson, C. Parmeter, and L. Wang. *Advances in Econometrics*, 2008, 21, 167-195.

2007

14. "Time to Learn? The Organizational Structure of Schools and Student Achievement," with O. Eren. *Empirical Economics*, 2007, 32, 301-332. Reprinted in C. Dustmann, B. Fitzenberger, and S. Machin (eds.), *The Economics of Education and Training*, Springer, 2008.
15. "Econometric Analysis of Copyrights," with D.J. Slottje and M.J. Buchanan. *Journal of Econometrics*, 2007, 139, 303-317.
16. "Pollution Abatement Costs and Foreign Direct Investment Inflows to U.S. States: A Nonparametric Reassessment," with D.J. Henderson. *Review of Economics and Statistics*, 2007, 89, 178-183.
17. "Do State Borders Matter for U.S. Intranational Trade? The Role of History and Internal Migration," with T. Osang. *Canadian Journal of Economics*, 2007, 40, 93-126.
18. "Strategic Competition Amongst Public Schools," with V. Rangaprasad. *Regional Science and Urban Economics*, 2007, 37, 199-219.
19. "Legislative Organization and Pollution Taxation," with P.G. Fredriksson. *Public Choice*, 2007, 131, 217-242.
20. "Changing Poverty or Changing Poverty Aversion?" with D.J. Slottje and P.J. Lambert. *Research in Economic Inequality*, 2007, 15, 251-288.

2006

21. "The Environmental Consequences of Trade: Evidence from Subnational Trade Flows," with P. Chintrakarn. *Journal of Environmental Economics and Management*, 2006, 52, 430-453.
22. "A Distributional Analysis of the Gender Earnings Gap in Urban China," with L. Wang. *Contributions in Economic Analysis & Policy*, 2006, 5(1), Article 5, <http://www.bepress.com/bejeap/contributions/vol5/iss1/art5>.

2005

23. "Class Size and Educational Policy: Who Benefits from Smaller Classes?" with E. Maasoumi and V. Rangaprasad. *Econometric Reviews*, 2005, 24, 333-368.

24. "Environmental Regulation and U.S. State-Level Production," with D.J. Henderson. *Economics Letters*, 2005, 87, 47-53.
25. "Robust Inference Concerning Recent Trends in U.S. Environmental Quality," with E. Maasoumi. *Journal of Applied Econometrics*, 2005, 20, 55-77.
26. "Job Search Skills, Employer Size, and Wages." *Applied Economics Letters*, 2005, 12, 95-100.

2004

27. "The Case of the Missing Pollution Haven Hypothesis," with J.A. List. *Journal of Regulatory Economics*, 2004, 26, 239-262.
28. "Effects of Environmental Regulation on Foreign and Domestic Plant Births: Is There a Home Field Advantage?," with J.A. List and W.W. McHone. *Journal of Urban Economics*, 2004, 56, 303-326.
29. "Chasing the Smokestack: Strategic Policymaking With Multiple Instruments," with P.G. Fredriksson and J.A. List. *Regional Science and Urban Economics*, 2004, 34, 387-410.
30. "Comparative Politics and Environmental Taxation," with P.G. Fredriksson. *Journal of Environmental Economics and Management*, 2004, 48, 705-722.
31. "Electoral Rules and Environmental Policy," with P.G. Fredriksson. *Economics Letters*, 2004, 84, 237-245.
32. "The Unintended Disincentive in the Clean Air Act," with J.A. List and W.W. McHone. *Advances in Economic Analysis & Policy*, 2004, 4(2), Article 2, <http://www.bepress.com/bejeap/advances/vol4/iss2/art2>. Reprinted in D. Fullerton (ed.), *The Economics of Pollution Havens*, Edward Elgar Press, 2006.

2003

33. "Estimating Worklife Expectancies: An Econometric Approach," with M. Nieswiadomy, H. Ryu, and D.J. Slottje. *Journal of Econometrics*, 2003, 113, 83-113.
34. "Credit Programs for the Poor and the Health Status of Children in Rural Bangladesh," with M.M. Pitt, Shahidur Khandker, and Omar Haider Chowdhury. *International Economic Review*, 2003, 44, 87-118.
35. "Inequality Aversion and the Natural Rate of Subjective Inequality," with P.J. Lambert and D.J. Slottje. *Journal of Public Economics*, 2003, 87, 1061-1090.
36. "Corruption, Environmental Policy, and FDI: Theory and Evidence from the United States," with P.G. Fredriksson and J.A. List. *Journal of Public Economics*, 2003, 87, 1407-1430.
37. "Effects of Environmental Regulations on Manufacturing Plant Births: Evidence from a Propensity Score Matching Estimator," with J.A. List, W.W. McHone, and P.G. Fredriksson. *Review of Economics and Statistics*, 2003, 85, 944-952. Reprinted in R. Brooks, N.O. Keohane, and D.A. Kysar (eds.), *Economics of Environmental Law*, Edward Elgar Publishing, 2008.
38. "The Environmental Kuznets Curve: Real Progress or Misspecified Models?" with J.A. List and T. Stengos. *Review of Economics and Statistics*, 2003, 85, 1038-1047.
39. "A Natural Experiment on the 'Race to the Bottom' Hypothesis: Testing for Stochastic Dominance in Temporal Pollution Trends," with J.A. List. *Oxford Bulletin of Economics and Statistics*, 2003, 65, 395-420.
40. "Assessing the Empirical Impact of Environmental Federalism." *Journal of Regional Science*, 2003, 43, 711-733.
41. "Effects of Air Quality Regulation on the Destination Choice of Relocating Firms," with J.A. List and W.W. McHone. *Oxford Economic Papers*, 2003, 55, 657-678. Reprinted in J. Geoghegan and W. Gray (eds.), *Spatial Aspects of Environmental Policy*, 2006.
42. "Industrial and Environmental Specialization," with D.J. Slottje. *Applied Economics Letters*, 2003, 10, 123-129.
43. "Bounding Lifetime Income Inequality Using a Cross Section of Data," with N. Podder, D.J. Slottje, and S. Zandvakili. *Review of Income and Wealth*, 2003, 49, 209-23.

44. "Environmental Abatement Costs and Establishment Size." *Contemporary Economic Policy*, 2003, 21, 281-296.
45. "Educational Impacts and Rising Inequality in the US," with D.J. Slottje, S. Yitzhaki, and S. Zandvakili. *Estadistica (Journal of the Inter-American Statistical Institute)*, 2003, 55, 231-256.

2002

46. "Strategic Interaction and the Determination of Environmental Policy Across US States," with P.G. Fredriksson. *Journal of Urban Economics*, 2002, 51, 101-122. Reprinted in R.N. Stavins and A. Pratt (eds.), *The Political Economy of Environmental Regulation*, 2004.
47. "An Environmental Paglin-Gini," with D.J. Slottje. *Applied Economics Letters*, 2002, 9, 271-274.
48. "Is there a 'California Effect' in US Environmental Policymaking?" with P.G. Fredriksson. *Regional Science and Urban Economics*, 2002, 32, 737-764.
49. "Environmental Compliance Costs and the Distribution of Emissions in the US," with D.J. Slottje. *Journal of Regional Science*, 2002, 42, 87-105.

2000

50. "The Impact of Children on Wages, Job Tenure, and the Division of Household Labor." *Economic Journal*, 2000, 110, C139-C157.

PAPERS (UNDER REVISION)

1. "Estimating Treatment Effects Without an Exclusion Restriction: With an Application to the School Breakfast Program," with R. Tchernis. NBER WP No. w15539. Revised version of IZA DP No. 3632. *Journal of Applied Econometrics*.
2. "Imposing and Testing for Monotonicity Nonparametrically in First Price Auctions," with D.J. Henderson, J.A. List, C.F. Parmeter, M.K. Price. *Journal of Econometrics*.

BOOK CHAPTERS

1. "It's All in the Timing: Assessing the Impact of Bilateral Tax Treaties on US FDI Activity," with A. Kumas, in L. Sachs and K.P. Sauvant (eds.), The Effect of Treaties on Foreign Direct Investment: Bilateral Investment Treaties, Double Taxation Treaties, and Investment Flows, Oxford University Press, 2008.
2. "Inequality Aversion, Income Inequality, and Social Policy in the US: 1947 – 1998," with D.J. Slottje and P.J. Lambert, in G. Betti and A. Lemmi (eds.), Advances on Income Inequality and Concentration Measures: Collected Papers in Memory of Corrado Gini and Max O. Lorenz, Routledge Publisher, 2008.
3. "Using Statistics in Copyright Cases," with M. Nieswiadomy and D.J. Slottje, in D.J. Slottje (ed.), Economic Damages in Intellectual Property: A Hands-On Guide to Litigation, New York: John Wiley & Son Publishing, 2006.
4. "Strategic Competition in Environmental and Fiscal Policies: Theory and Evidence from the United States," with P.G. Fredriksson and J.A. List, in L. Marsiliani, M. Rauscher, and C. Withagen (eds.), Environmental Policy in an International Perspective, Kluwer Academic Publishers, 2003.
5. "Environmental Regulation and Productivity Growth: An Analysis of U.S. Manufacturing Industries," with T. Osang, in C. Böhringer and A. Löschel (eds.), Empirical Modeling of the Economy and the Environment, ZEW Economic Studies, Vol. 20, Springer, 2003.
6. "Is There a Race to the Bottom in Environmental Policies? The Effects of NAFTA," with P.G. Fredriksson, The Environmental Effects of Free Trade, Committee for Environmental Cooperation of North America, Montreal, 2002, 241-261.

7. "Measuring the Effects of Environmental Regulations on Manufacturing Plant Births: A New Empirical Paradigm" with J.A. List, in L. Marsiliani, M. Rauscher, and C. Withagen (eds.), Environmental Economics and the International Economy, Kluwer Academic Publishers, 2002.

MANUSCRIPTS

1. "The Elephant in the Corner: A Cautionary Tale About Measurement Error in Treatment Effects Models."
2. "Do National Borders Matter? Intranational Trade, International Trade, and the Environment," with C. McAusland.
3. "Assessing the Pollution Haven Hypothesis in an Interdependent World," with D.M. Drukker.
4. "The Economic Consequences of Electoral Accountability Revisited," with D.M. Sturm and J.A. List.
5. "Reassessing the Effect of Bilateral Tax Treaties on U.S. FDI Activity," with A. Kumas.
6. "Subnational Trade Flows and State-Level Energy Intensity," with P. Chintrakarn.
7. "The Robustness of Parametric Estimates of Pollution Abatement Costs on Manufacturing Plant Births Across U.S. States," with J.S. Racine.
8. "Inferring Treatment Status when Treatment Assignment is Unknown: Detecting Collusion in Timber Auctions," with J.A. List and M.K. Price.
9. "Bounding the Impact of Market Experience on Rationality: Evidence from a Field Experiment with Imperfect Compliance," with J.A. List.

MISCELLANEOUS

1. "What is the difference between 'endogeneity' and 'sample selection bias'?" *Frequently Asked Questions (FAQ)* for Stata, Inc., <http://www.stata.com/support/faqs/stat/bias.html>.
2. Supplemental quantitative and econometric questions for Ehrenberg and Smith, *Modern Labor Economics*, 8th and 9th Editions, Addison-Wesley website.

CONFERENCE PRESENTATIONS & SESSIONS ORGANIZED

- 2010:** Texas Camp Econometrics XV, Montgomery, TX, February 20 – 21
 American Economic Association, Atlanta, GA, January 3 – 5
- 2009:** Fifth IZA Conference on Labor Market Policy Evaluation, Georgetown University, Washington, D.C.,
 October 2 – 3
 Econometric Society Winter Meetings, San Francisco, CA, January 3 – 5
 Association of Environmental and Resource Economics Winter Meetings, San Francisco, CA, January
 3 – 5 (session chair only)
- 2008:** Western Economic Association International, Honolulu, HI, June 29 – July 3 (session organizer, chair)
 Texas Camp Econometrics XIII, Kerrville, TX, February 16 – 17
 International Economic & Finance Society (at ASSA), New Orleans, LA, January 4 – 6 (discussant only)
- 2007:** NBER Summer Institute (Public Policy and the Environment), Cambridge, MA, July 23 – 24
 Texas Camp Econometrics XII, Houston, TX, February 17 – 18
 American Economic Association, Chicago, IL, January 5 – 7
- 2006:** Southern Economic Association, Charleston, SC, November 18 – 21
 "Use of Econometrics in Informing Public Policymakers," Rice University, Houston, TX, April 22 – 23
 Econometric Society Winter Meetings, Boston, MA, January 6 – 8
- 2005:** Conference on Econometrics and Experimental Economics, Princeton, NJ, April 1 – 2
- 2004:** Econometric Society Summer Meetings, Providence, RI, June 17 – 20
 11th International Conference for Panel Data, College Station, TX, June 4 – 6

- Society of Labor Economists, San Antonio, TX, April 30 – May 1
Texas Camp Econometrics IX, Fort Worth, TX, February 28 – 29
American Economic Association, San Diego, CA, January 4 – 7
- 2003:** Western Economic Association International, Denver, CO, July 11 – 15
Texas Camp Econometrics VIII, Fredricksburg, TX, February 22 – 23
- 2002:** Association for Public Policy Analysis and Management, Dallas, TX, November 7 – 9
- 2001:** European Science Foundation, Conference on “The International Dimension of Environmental Policy,” Acquafredda di Maratea (Italy), October 6 – 11
Western Economic Association International, San Francisco, CA, July 4 – 8
Texas Camp Econometrics VI, Montgomery, TX, February 17 – 18
- 2000:** Commission for Environmental Cooperation, Symposium on Assessing the Environmental Effects of Trade, Washington, D.C., October 11 – 12
Texas Camp Econometrics V, Boerne, TX, February 26 – 27
- 1999:** Royal Economic Society, Nottingham, England, March 29 – April 1
Econometric Society Winter Meetings, New York, NY, January 3 – 5

SEMINARS

- 2009:** University of Kentucky, Clemson University
- 2008:** University of Illinois, Georgetown University, University of California – Riverside
- 2007:** Indiana University
- 2006:** Indiana University, North Carolina State
- 2005:** Texas A&M University, Iowa State University, University of California – Santa Barbara
- 2004:** Rice University
- 2003:** University of Florida, University of Texas – Arlington, Georgetown University, Syracuse University, Michigan State University
- 2001:** University of Maryland, University of Texas – Dallas
- 1999:** University of California – San Diego, Southern Methodist University, Saint Louis University, Brandeis University, Columbia University, West Virginia University

TEACHING EXPERIENCE

Professor, Southern Methodist University

Ph.D.: Econometrics II, Econometrics III, Microeconometrics, Labor Economics

Master’s: Economics of Human Resources, Third World Development, Applied Econometrics

Undergraduate: Economics of Education, Labor Economics, International Trade Theory, Principles of Macroeconomics

Ph.D. Student Supervision

Current Students: Sanjeev Kumar (chair), Aditi Roy (chair), Manan Roy (chair), Aditi Sengupta, Narongchai Thitinanpong

2010: Jayjit Roy, “Empirical Essays in International Trade” (chair; first job: Appalachian State University)

Jian Hu, “Essays on Financial Markets Using Copula Models”

2009: Mehtabul Azam, “Essays on the Wage Structure in India” (chair; first job: World Bank)

2008: Muna Husain, “Essays on Gender Differences in Education” (chair; first job: Kuwait University)
Abdullah Kumas, “Withholding Tax Rates, Foreign Direct Investment, and Bilateral Tax Treaties” (chair)

- 2007:** Pandej Chintrakarn, “Essays on Consequences of Economic Integration” (chair; first job: Stock Exchange of Thailand)
Ozkan Eren, “Essays on Treatment Effect Models with Applications to Unionization and Educational Outcomes” (co-chair; first job: University of Nevada – Las Vegas)
Dipanwita Sarkar, “Essays on Differentials in Earnings Distributions across Population Subgroups” (chair; first job: University of Louisiana – Monroe)
- 2006:** Trevor Collier, “Essays on the Economics of Education” (chair; first non-SMU job: University of Dayton)
Le Wang, “Essays on the Economics of Family” (chair; first job: Post-Doctoral Research Associate, University of Minnesota Population Center)
Liye Zhu, “Three Essays on the US Health Insurance Market” (chair; first job: PriceWaterhouseCoopers)
Jeff Brimhall, “Empirical Applications of Corporate Finance and Industrial Organization”
Jeffry Jacobs, “Three Essays in Micro and Macro Determinants of Development”
- 2005:** George Kaltchev, “Three Essays in Corporate Governance”
Khawaja A. Mamum, “Three Essays on Cigarette Addition, Taxation and Health”
- 2004:** Vasudha Rangaprasad, “Essays on the Determinants of School Quality and Student Achievement” (chair; first job: Center for Disease Control)
Limin Lin, “Structural Change Analysis and Forecasting of Time Series Data in Three Empirical Applications”
- 2003:** Keith Phillips, “An Analysis and Application of Statistical Techniques to Predict and Measure Business Cycles”

Teaching Fellow, Brown University

Undergraduate: Intermediate Microeconomic Theory, Introduction to Labor Markets

Teaching Assistant, Brown University

Ph.D.: Microeconomic Theory

Undergraduate: Intermediate Microeconomic Theory, Economic Development, Statistics & Econometrics

UNIVERSITY SERVICE

SMU Center for the Environment, Executive Board member, 2007 – present

Dedman College (Division II) Advisory Committee for Promotion to Associate Professor, member, 2007 – present

Academic Research Computing Committee, member, 2007 – present
Director of Undergraduate Studies, Department of Economics, 2006 – present

Dedman College Dean Search Committee, 2009 – 2010

University Commencement, Faculty Marshal, 2009

Texas Camp Econometrics XIV, Conference Organizer, 2009

Center for the Study of the Presidency Committee, member, 2007

Recruiting Committee, Department of Economics, 2005 – 2007

Mustang Madness, Participant, October 2006, November 2006, February 2007

Undergraduate Committee, Department of Economics, 2005 – 2006

Faculty Senate Subcommittee on the Economic Status of Faculty, 2004 – 2006

APEC Review Committee of the Department of Mechanical Engineering, 2004

40th Women’s Symposium, Panel Member, 2004

Texas Camp Econometrics IX, Conference Co-Organizer, 2004

Seminar Coordinator, Department of Economics, 2002 – 2005

PROFESSIONAL EXPERIENCE

Referee for: Agricultural and Resource Economics Review, American Economic Review, American Journal of Agricultural Economics, American Journal of Political Science, Canadian Journal of Economics, Demography, Ecological Economics, Econometric Reviews, Economic Development and Cultural Change, Economic Inquiry, The Economic Journal, Economics of Education Review, Education Finance and Policy, Empirical Economics, Environment and Development Economics, Environment and Planning A, Environmental and Resource Economics, European Economic Review, European Journal of Development Research, European Journal of Operational Research, International Journal of Industrial Economics, International Regional Science Review, International Review of Environmental and Resource Economics, International Tax and Public Finance, Journal of the American Statistical Association, Journal of Business and Economics Statistics, Journal of Comparative Economics, Journal of Development Economics, Journal of Econometrics, Journal of Economic Growth, Journal of Economic Education, Journal of Economic Surveys, Journal of Environment and Development, Journal of Environmental and Ecological Statistics, Journal of Environmental and Ecological Statistics, Journal of Environmental Economics and Management, Journal of Environmental Management, Journal of the European Economic Association, Journal of Forensic Economics, Journal of Human Resources, Journal of Policy Analysis and Management, Journal of Political Economy, Journal of Population Economics, Journal of Public Economics, Journal of Public Economic Theory, Journal of Regional Science, Journal of the Royal Statistical Society (Series A), Journal of Urban Economics, Oxford Bulletin of Economics and Statistics, Population Studies, Regional Science and Urban Economics, Regional Studies, Review of Economic Studies, Review of Income and Wealth, Review of International Economics, Scandinavian Journal of Economics, Social Choice and Welfare, Social Service Review, Southern Economic Journal, World Development, Dutch Programme for Educational Research, Dutch Social Science Research Council, Economic and Social Research Council, National Science Foundation, Social Science and Humanities Research Council of Canada, Addison-Wesley, Houghton Mifflin, Routledge Press, Wiley Consultant, World Bank, project on the "Social Action Project in Pakistan o An Evaluation," 1998 – 1999 Consultant, World Bank, project on the "Impact of Targeted Credit Programs on Consumption Smoothing and Nutrition in Bangladesh," 1996 – 1997

PROFESSIONAL MEMBERSHIPS:

American Economic Association, Canadian Economics Association, Econometric Society, Society of Labor Economists, Royal Economic Society

Exhibit 12

**U.S. Department of Education
Public Comment**

Assessment of Missouri Estimate of Impact

Submitted by:

Dr. Roger Brinner

The Parthenon Group

200 State Street

Boston, MA 02109

September 9th, 2010

I. Executive Summary

The Department of Education's (ED) proposed "gainful employment" (GE) regulations represent an effort to ensure that students attend quality programs and that both students and taxpayers receive good value for their joint investment in post-secondary education. This comment in no way challenges these admirable policy goals; indeed, our aim is to point out that the regulations as proposed may accidentally frustrate these policy goals. In their current form, the regulations are likely to:

- Cause 400,000 students to leave post-secondary education each year
- Reduce lifetime incomes for these students by approximately 15%, leading to \$400MM in lost annual tax revenues
- Cause 90,000-100,000 job losses
- Lead to a \$5.3B annual burden on taxpayers due to lower tax receipts from students who leave post-secondary education, employees who lose their jobs, along with higher subsidies for public colleges

The analysis that yielded these conclusions focused on three key questions:

- 1) When data limitations in the Missouri sample driving ED's analysis are taken into account, how many students will find themselves enrolled in ineligible programs?
 - a. Whereas ED's analysis estimated that 9.6%¹ of students under GE jurisdiction would be enrolled in ineligible programs, our analysis concludes that 30% will be enrolled in ineligible programs—constituting over 1 million students²
 - b. This change is primarily driven by: 1) the inclusion of private loans into debt levels (required by regulations) and; 2) the inclusion of completers who make zero income into income levels

- 2) How many students enrolled in ineligible programs are likely to find suitable alternatives?
 - a. Whereas ED concluded that 90% of students enrolled in ineligible programs would continue their post-secondary education, our analysis concludes that approximately 60% is a reasonable estimate—meaning that approximately 400,000 students would be caused to leave post-secondary education
 - b. We believe ED's original transfer assumptions were optimistic for the following reasons:
 - With 30% of programs set to close, the assumption that one-third of affected students will re-enroll in the same institution is not feasible
 - For many major programs, such as Medical Assistant Services, Cosmetology, and Culinary Arts, over 60% of program capacity is currently in for-profit institutions,

¹ U.S. Department of Education, "Notice of Proposed Rulemaking," p. 131

² An additional 26% of students would fall into 'restricted' status. While the ultimate ability of institutions to meet the stringent requirements of restricted status is unclear, it is reasonable to assume that some relevant proportion of these 26% of students would ultimately lose Title IV eligibility

making it difficult for community colleges to absorb capacity in the near term in many areas

- In many regions, community colleges are located outside of reasonable commuting distances of for-profit campuses, which will reduce re-enrollment rates
- Community colleges are already struggling with budget constraints and lack of faculty resources, likely hampering efforts to absorb students displaced by GE

3) What will be the likely employment, income and budgetary impacts on the US economy and taxpayers should GE be implemented?³

- a. We conclude that taxpayers will face an incremental burden of \$5.3B should the regulations be implemented in their current form. This burden will be caused by a combination of factors:
 - i. 45,000 - 50,000 direct college and university job losses due to program closures
 - ii. 45,000 - 50,000 secondary job losses due to program closures (e.g. suppliers to post-secondary institutions)
 - iii. Increased unemployment rates and reduced wages among students no longer enrolled in post-secondary studies
 - iv. Increased demands on public colleges

In sum, despite an admirable purpose, the result of ED's proposed gainful employment approach would be the following: **\$5.3B in annual taxpayer burden to reduce \$1.9B in possible losses stemming from federal student loan defaults.**⁴

The details behind all analyses referenced above are included in the main body of this public comment.

³ Economic impacts are built for subsequent years of the GE regulations with zero students completing their degree in an ineligible program. The first year has an inflated number of students remaining in post-secondary education because they can finish out the degree before the regulations are put into effect

⁴ Of the \$38B in loans disbursed by the government, approximately \$1.9B is never repaid. 88% of loans are never defaulted (US ED Federal Student Aid 2009 Annual Report), 7% of loans are defaulted and eventually repaid (Student Aid Administration FY10 Budget), while ~5% are never recovered, and hence constitute the federal loan expenditure at risk

II. Addressing Methodology Gaps in ED’s Missouri Analysis

The Missouri sample used by ED has several data limitations, each of which, when included, could increase or decrease the estimated impact. In this analysis, we have revised debt-to-income calculations to account for these data limitations where reasonable methodology and high-quality supplemental data could be found. These factors include:

- *Demographic factors*—Missouri age, ethnicity, gender, income levels and debt levels differ from national averages
- *Omitted data*—the Missouri sample did not include out-of-state students, students without federal loans, students who earned no income, or any private loan data
- *Timing*—projecting likely GE impact should take into account changing macroeconomic conditions, such as recent increases in debt levels and income levels per employed worker, as well as worsened economic conditions that have increased unemployment rates

Debt Level Adjustments

- ED’s proposed regulations specify that all loans be included in the calculation, but the Missouri sample only includes federal debt
 - o Adjusted calculations use debt figures grossed up to include private loans. Estimates are based on the National Post-Secondary Student Aid Survey (NPSAS)⁵, which reports that private loans constitute 6%-25% of total student debt, depending on the type of institution and degree type
- ED’s Missouri data omitted students with zero federal loans
 - o Adjusted calculations include an estimate for students with no federal loans. Interviews with loan officers indicate that ~10% of students have no federal loans but do have private loan debt.⁶ The remaining 90% of omitted students are assumed to have no debt
- Missouri debt levels differ from national averages. These differences vary by institution type
 - o Adjusted calculations scale the debt level by the difference between Missouri tuition and national tuition by institution type⁷. By adjusting debt to national levels, demographic biases in the Missouri sample are accounted for
- Missouri debt levels reflect 2008 levels. In forecasting impact, the calculations should account for increased debt levels in recent years
 - o Adjusted calculations scale the debt level to likely 2010 levels. According to NPSAS, the total debt burden per student increased by 8.2% annually from 2004 to 2008. Using this benchmark, debt levels were increased by the same annual rate for 2008-2010⁸

⁵ U.S. Department of Education, National Post-Secondary Aid Study, 2008

⁶ Interview with executive at SimpleTuition, Inc., a longtime private student loan industry leader, conducted August 30, 2010

⁷ U.S. Department of Education, Integrated Post-Secondary Education Data System, 2007-2008

⁸ Although total student loan data is not available for time periods since 2008, the Bureau of Labor Statistics Education Price Index tracks inflation rates for college tuition and fees, and technical and business school tuition and fees. On a seasonally adjusted basis, the college tuition and fees price index has increased by 9.6% since the end of 2008. On a seasonally adjusted basis, the technical and business school tuition and fees price index has

Income Level Adjustments

Missouri income levels omitted roughly 24% of students for whom no income was reported. The level of omitted data varies significantly by school. Where possible, adjusted calculations added back an estimate for omitted income data. Remaining unexplained missing income data continues to be omitted

- While the Missouri data accounts for students unemployed for part of a year, the Missouri data does not account for students unemployed for an entire year. BLS estimates that 1.7% of the workforce is unemployed and seeking a job for greater than one year⁹. As such, 1.7% of students are added back in with zero income
- The Missouri data does not include students who left the workforce. BLS estimates that 17% of 25-34 year olds are not part of the labor force. As such, 17% of students are added back in with zero income¹⁰
- The Missouri data does not include students who left the state for post-completion employment. Public data does not exist to estimate this population. However, since omitting this group would artificially depress income levels, 10% of students were added back to the sample as average earners for four-year institutions, and 3% were added back for two-year institutions, based on estimates from the BPS 2004/06 survey of out-of-state enrollments by institution type¹¹
- Missouri income levels are not representative of national averages
 - o Adjusted calculations reflect comparison of county-level Missouri average wages to national averages¹². By adjusting income to national levels, inherent demographic biases in the Missouri sample are accounted for. Income levels moved up or down differently depending on the county in Missouri
- Missouri income levels reflect 2008 levels. In forecasting likely GE impact, calculations should account for current income levels
 - o Income is grossed up to reflect 2008-2010 wage inflation of 3%¹³ during that time
 - o Income is adjusted to reflect an increase in the unemployment rate between 2008-2010 from 10% to 15% among 20-24 year-olds¹⁴

increased by 6.8% since the end of 2008: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index, Series ID CUSR0000SEEB01, Series ID CUSR0000SEEB04

⁹ 16.3% of workers were unemployed for at least 52 weeks, and the 2008 average unemployment rate was 10.2%

¹⁰ This estimate is likely low due to the fact that females represent a majority of for-profit students, and have a higher non-participation rate in the workforce. However, as an undetermined quantity of those not in the workforce are likely absent for less than one year, and therefore included in the Missouri data, the gender adjustment was not made

¹¹ U.S. Department of Education, National Center for Education Statistics, 2003-04 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:04/06)

¹² U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages and Occupational Employment Statistics

¹³ U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics

¹⁴ U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey

Repayment Rate Adjustments

- While repayment rate adjustments cannot be made at the institution level, it is important to account for the fact that Missouri for-profit institutions fail the repayment test far more frequently than the national average
 - o Overall GE ineligibility rates are adjusted to reflect that while 76% of Missouri programs subject to GE fail the 35% repayment test, only 47% of national OPEIDs subject to GE fail the test

Conclusions

When these various adjustments are made, the percentage of students in ineligible programs rises from 9.6% to 30%, leading to over 1MM students enrolled in ineligible programs¹⁵.

Institution Type Subject to Gainful Employment Regulation	Number of Students			
	Eligible	Disclosure	Restricted	Ineligible
For-Profit	324,792	954,266	911,285	1,025,836
Public	39,971	203,539	0	0
Total	364,763	1,157,805	911,285	1,025,836

Institution Type Subject to Gainful Employment Regulation	Percentage of Students			
	Eligible	Disclosure	Restricted	Ineligible
For-Profit	10%	30%	28%	32%
Public	16%	84%	0%	0%
Total	11%	33%	26%	30%

¹⁵ The percentage of students that fall in each eligibility bucket was applied to national estimates of for-profit enrollments and public certificate enrollments. For-profit enrollment headcount is based on a figure released August 2010 by ED (<http://nces.ed.gov/pubs2010/2010161.pdf>). Public certificate enrollment was estimated using the Missouri dataset based on the percentage of students in public certificate programs

III. Estimating the Social and Economic Impact of GE Implementation

Estimating the social and economic impact depends largely on two critical questions:

1. *What percentage of students displaced by GE is likely to continue post-secondary education?*
2. *How will GE implementation impact the economy and taxpayers?*
 - a. What is the impact of students who leave post-secondary education?
 - b. What is the impact of employees who are laid off?
 - c. What is the impact of the higher public cost of public college enrollments?

What percentage of students displaced by GE is likely to continue post-secondary education?

- ED estimates that 48%¹⁶ of ineligible students will re-enroll within the for-profit sector. This estimate is likely too optimistic
 - o Revised calculations reveal that 30% of students will be enrolled in ineligible programs, meaning that capacity will often not exist to absorb this proportion of the displaced students, putting an increased burden on community colleges
- In many geographies, community colleges are in locations with unattractive commuting distances for students displaced by GE
 - o It is unreasonable to expect many students to drive 20-plus minutes to a new school
 - o See Appendix for examples
- For many programs, community colleges lack the program expertise to quickly ramp up to serve displaced students

Medical Assistant Services	22,243	90,929
Cosmetology	12,696	78,469
Vehicle Maintenance	27,121	26,326
Culinary Arts	8,596	14,488

- Community colleges are already struggling with budget pressures and lack of faculty resources, calling into question their ability to handle significant additional capacity
 - o “Community colleges remain on the receiving end of the ‘do more with less and do it better’ mantra that typically accompanies budget cuts and economic upheaval.”¹⁸
 - o According to a 2010 survey of community college presidents, 62% of responding schools reported enrollment growth of over 10%. This compares to only a quarter of

¹⁶ U.S. Department of Education, “Notice of Proposed Rulemaking,” p. 131

¹⁷ National Center for Education Statistics-Integrated Postsecondary Education Data System

¹⁸ Campus Computing Project, “Winter 2010 Survey of Community College Presidents,” March 30, 2010, <http://www.campuscomputing.net/winter-2010-survey-community-college-presidents> (Accessed 9/8/10)

respondents last year reporting growth of 10% or more. While the number of community colleges reporting budget cuts declined slightly over last year, the number of campuses experiencing budget cuts exceeding 10% more than doubled, from 7% to 18%

- According to another recent survey, at least 20 states indicate that their community colleges do not have “sufficient capacity to serve current and projected numbers of older returning adults... including five megastates—California, New York, North Carolina, and both of Georgia’s systems (University System and Technical Colleges), and many with fast-growing Latino populations such as Arizona and Nevada, and states with high unemployment such as Michigan”¹⁹
 - Public flagship university enrollments have been capped in 12 states, including the nation’s five largest states: California, Texas, New York, Florida, and Illinois²⁰
 - Public regional university enrollments have been capped in 7 states, including four of the nation’s five largest states: California, Florida, Illinois, and New York²¹
- ED estimated that 30% of students in ineligible programs would be able to complete the program the following year. While this may be true, it underestimates the full magnitude of the impact in subsequent years because there will be no students completing many programs

While it is difficult to quantify the exact amount of students likely to cease their post-secondary education, based on the factors above, ED’s estimate of 10% is likely too low. Approximately 40% seems more likely, which would translate into **400,000 displaced students based on revised GE calculations presented earlier.**

		Original ED Assumptions	Revised Assumptions	Revised Student Impact Estimates
Students Enrolled in Ineligible Programs		9.6%	30%	1,025,836
<i>Outcome for These Students</i>		<i>Share of 9.6%</i>	<i>Share of 30%</i>	
Students able to transfer	Students Completing Programs	34%	0%	0
	Students Enrolling in Another Program at the Same Institution	30%	25-30%	230,000-310,000
	Students Enrolling at Another Institution in the Same Sector	18%	15-20%	150,000-220,000
	Students Leaving Sector	8%	10-15%	85,000-130,000
Students No Longer Enrolled	Net: Students Caused to Leave Post-secondary Education	10%	30-50%	300,000-500,000

¹⁹ Education Policy Center, “Funding and Access Issues in Public Higher Education: Findings from the 2009 Survey of the National Council of State Directors of Community Colleges,” <http://www.insidehighered.com/content/download/317858/4098893/version/1/file/report.pdf> (Accessed 9/8/10)

²⁰ Ibid.

²¹ Ibid.

How will GE implementation impact the economy and taxpayers?

What is the impact of students who leave post-secondary education?

- The 400,000 students no longer enrolled would experience 15% lower income levels in their careers due to decreased earning power and increased likelihood of unemployment
 - o Using for-profit ethnicity-weighted²² 2nd quintile wage data from the Bureau of Labor Statistics, high school graduates earn 13% less per year than individuals with some college or an associate's degree²³
 - o Using for-profit ethnicity-weighted unemployment rates from the Bureau of Labor Statistics, high school graduates have a 2% higher unemployment rate than individuals with some college or an associate's degree²⁴

The decrease in income levels for students that leave post-secondary education will decrease tax revenues by \$400MM²⁵

What is the impact of employees who are laid off?

- Approximately 45,000 - 50,000 jobs would be lost directly due to institutions closing post-GE implementation
 - o Using benchmark data from 6 publicly traded for-profit institutions, it is estimated that there are 9.2 full time equivalent students for every employee at for-profit institutions
- Approximately 45,000 - 50,000 additional jobs would be lost from secondary impact of program closures
 - o Examples of secondary impacts would be job losses from primary suppliers to institutions. This analysis was conducted using the Bureau of Economic Analysis RIMS II model multipliers²⁶

The loss of 90,000 – 100,000 jobs will cause a \$2.9B decline in tax revenues²⁷

²² National Center for Education Statistics-Integrated Postsecondary Education Data System (IPEDS)

²³ Bureau of Labor Statistics, Table 8: Quartiles and selected deciles of usual weekly earnings of full-time wage and salary workers by selected characteristics, 2009 annual averages, <http://www.bls.gov/news.release/wkyeng.t08.htm> (Accessed 9/8/10)

²⁴ Bureau of Labor Statistics, Table 7: Employment status of the civilian noninstitutional population 25 years and over by educational attainment, sex, race, and Hispanic or Latino ethnicity, <http://www.bls.gov/cps/cpsaat7.pdf> (Accessed 9/8/10)

²⁵ Assumes federal tax rate of 15.2% and state/local tax rate of 7.6%. Congressional Budget Office, Total income and total federal tax liabilities for all households, by household income category, 1979-2005

²⁶ The BEA Regional Input-Output Modeling System estimates how much a one-time or sustained increase in economic activity in a particular region will be supplied by industries located within the region

²⁷ 90,000 – 100,000 job impact was converted to a \$10.1B GDP impact using the RIMS II multipliers. CBO estimates 18.7% federal tax burden as a percent of GDP in 2012 and a 9.8% gross-up for state and local taxes as a percent of GDP. Using these reported tax rates, the total tax revenue decline is calculated

What is the impact of the higher cost of community college enrollments?

- The shift in service base from for-profits to community colleges will result in an **additional \$2B in increased tax burden**
 - o The cost per completion is much lower in the for-profit sector than not-for-profit. The cost to taxpayers is Federal Funding and State/Local Funding, which is comprised of grants that do not get paid back. Student loans are included in the Tuition and Fees segment; 95% ²⁸ of which are paid back

<i>Cost per Completion (inclusive of all institution types)²⁹</i>	Private For Profit	Public and Private Not-for-Profit
Tuition and Fees	\$ 20,770	\$14,593
Federal Funding (includes Pell)	\$6,441	\$9,585
State/Local Funding	\$184	\$22,049
Other	\$1,499	\$10,649
Total	\$28,895	\$56,876

In sum, the economic impacts directly attributable to GE are likely to include:

Job Losses	Increased Tax Burden
90,000 - 100,000	\$5.3B

²⁸ 5% of loans are never recovered

²⁹ Revenue by type and institution analyzed and aggregated by type of institution. Pell grants manually moved from Tuition and Fees to Federal Funding to accurately reflect the amount of government funding. National Center for Education Statistics-Integrated Postsecondary Education Data System.

IV. Appendix A – Background

The Department of Education (ED) proposed to define ‘gainful employment’ (GE) through a combination of principal repayment rate and debt to income metrics³⁰:

		Debt Burden		
		Above 12% of Total Income and Above 30% of Discretionary Income	Between	Below 8% of Total Income or Below 20% of Discretionary Income
Repayment Rate	Rate Above 45%	Fully Eligible	Fully Eligible	Fully Eligible
	Between 35% and 45%	Restricted	Restricted	Fully Eligible
	Rate Below 35%	Ineligible	Restricted	Fully Eligible

To estimate the national impact, ED applied these metrics to a sample of students in Missouri. The Missouri results can be summarized as:

- 84% of students eligible for Title IV
- 8% of students restricted for Title IV
- 8% of students ineligible for Title IV³¹

³⁰ U.S. Department of Education, “Frequently Asked Questions,” <http://www2.ed.gov/policy/highered/reg/hearulemaking/2009/ge-faq.doc> (Accessed 9/8/10)

³¹ U.S. Department of Education, “Notice of Proposed Rulemaking,” p. 129

The above estimate refers to the results published by ED in the NPRM, but is not reflective of only students attending programs that would be subject to the proposed GE rules. When the analysis is applied only to the 34,927 students in the public Missouri dataset under GE jurisdiction—specifically all for-profit programs and any not-for-profit certificate programs—a different story emerges:

- 5% of students in programs eligible for Title IV
- 51% of students in programs eligible, but with warnings for Title IV
- 31% of students in programs restricted from Title IV
- 14% of students in programs ineligible for Title IV³²

ED also estimates that 90% of students in a program that becomes ineligible due to GE would continue as students³³:

- 34% would complete programs
- 30% would enroll in another program at the same institution
- 18% would enroll at another institution in the same sector
- 8% would enroll at an institution in another sector
- 10% would leave post-secondary education³⁴

V. Appendix B – Additional Methodology Issues

When no reliable methodology could be found to address a data issue, no adjustment was made. It is worth noting the following data issues that were not treated:

1. Cosmetology programs were not included in the Missouri data. Cosmetology programs fail the GE repayment test at twice the frequency of the average program. If properly included, impact estimates would increase
 - a. Cosmetology programs comprise approximately 38% of Missouri’s for-profit programs³⁵
 - b. Nationwide, there are 27,253 students with federal loan balances in repayment from institutions with the word “cosmetology” in their institution name, according to ED’s repayment rate data³⁶
 - c. For the 188 institutions with the word “cosmetology” in their institution name included in ED’s repayment rate data, the weighted-average repayment rate is 40%³⁷

³² Ibid. Figures add to 101% due to rounding

³³ Numbers refer to the NPRM’s scenario 2 for transfer assumptions

³⁴ U.S. Department of Education, “Notice of Proposed Rulemaking,” <http://www2.ed.gov/legislation/FedRegister/proprule/2010-3/072610a.pdf> (Accessed 9/8/10), p. 43,632

³⁵ U.S. Department of Education, “Gainful Employment Analysis: Missouri Methodological Notes,” <http://www2.ed.gov/policy/highered/reg/hearulemaking/2009/ge-analysis-missouri.doc> (Accessed 9/8/10), p.4

³⁶ U.S. Department of Education, “Cumulative Four-Year Repayment Rate by Institution,” <http://www2.ed.gov/policy/highered/reg/hearulemaking/2009/ge-cumulative-rates.xls> (Accessed 9/8/10)

³⁷ Ibid.

2. Over 90% of omitted students were accounted for in the analysis. If the remaining omitted students were included, the impact on the GE estimates would be unclear
3. Repayment rate data supplied by ED is available only at the institution level³⁸. The impact of applying a program-level analysis would have unclear impact on GE estimates
4. Missouri's mix of degree type (i.e. certificate programs vs. bachelors' programs) differs from the nation. Nearly 60% of the Missouri for-profit students are in certificate programs³⁹, while more than the 37% are nationally⁴⁰. Although certificate programs tend to have higher ineligibility rates, it is difficult to quantify the effect of this bias since it is partially accounted for when the Missouri sample is adjusted to reflect the national distribution of repayment rates

VI. Appendix C – Selected Drive Time Maps

The following maps illustrate selected MSAs in which a number of for-profit institutions will be declared ineligible or restricted based on current GE repayment rate thresholds. The existing community colleges (represented by a square on each map) indicate that it is often the case that community colleges are either a 20 minute drive away from the nearest for-profit institution or outside of city limits. Should ED enforce its stated repayment rate thresholds, the lack of nearby community colleges would make it challenging for many students to continue their post-secondary education

Key to interpreting the following maps:

Drive times: Drive time estimates are based on the distance from the nearest public institution. The shade of rings corresponds to the drive time; the lightest band of rings represents areas that are in a 15 minute drive time radius from the nearest public institution, the second band of rings represents a 17.5 minute drive time, and the darkest band of rings represents a 20 minute drive.

Symbols:

An X indicates a for-profit institution that will be declared ineligible or restricted based on GE repayment rate thresholds

A circle indicates a for-profit institution that will remain eligible for Title IV funding based on GE repayment rate thresholds

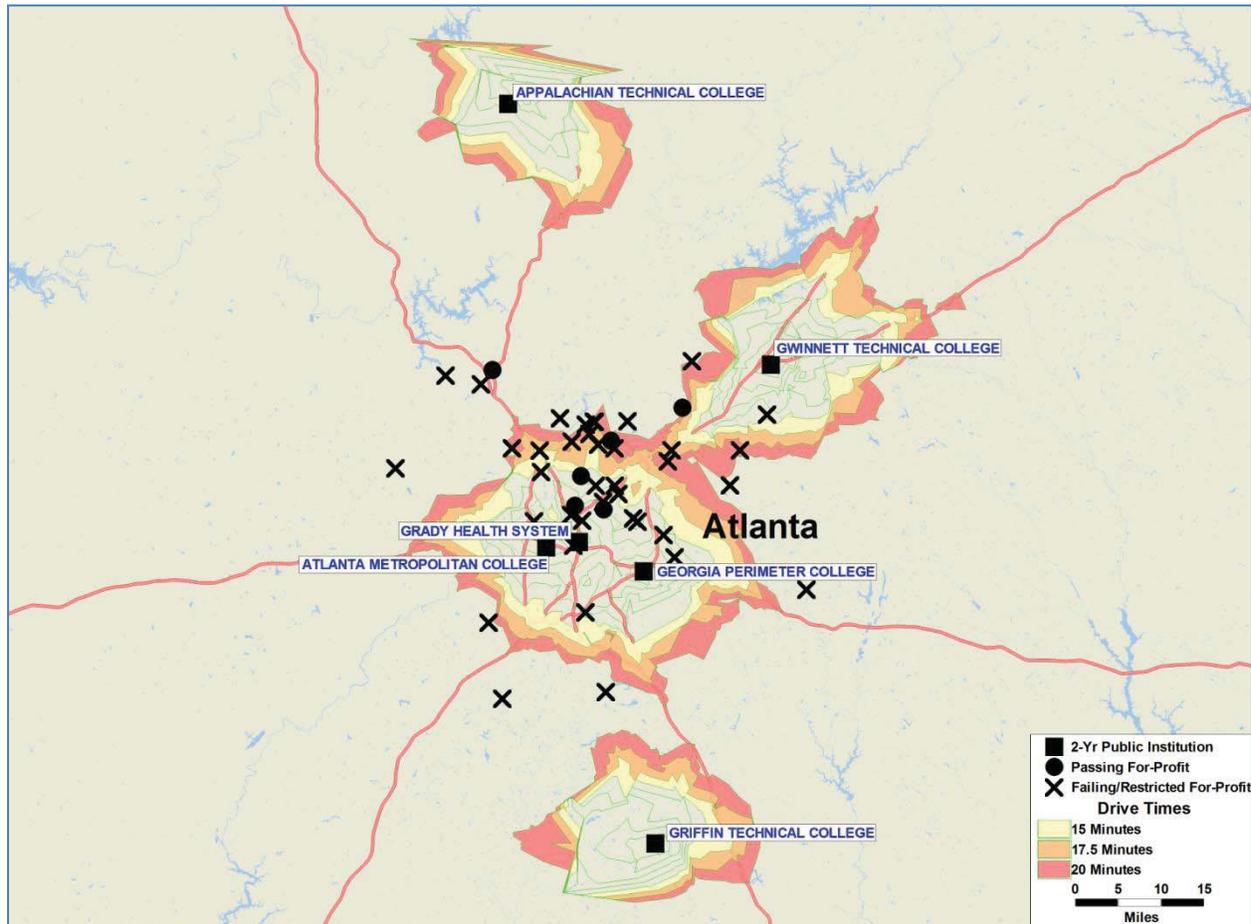
³⁸ U.S. Department of Education, "Cumulative Four-Year Repayment Rate by Institution," <http://www2.ed.gov/policy/highered/reg/hearulemaking/2009/ge-cumulative-rates.xls> (Accessed 9/8/10)

³⁹ U.S. Department of Education, "Data Used to Model the Effects of the Program Integrity (Gainful Employment) NPRM," <http://www2.ed.gov/policy/highered/reg/hearulemaking/2009/ge-data-model.xls> (Accessed 9/8/10)

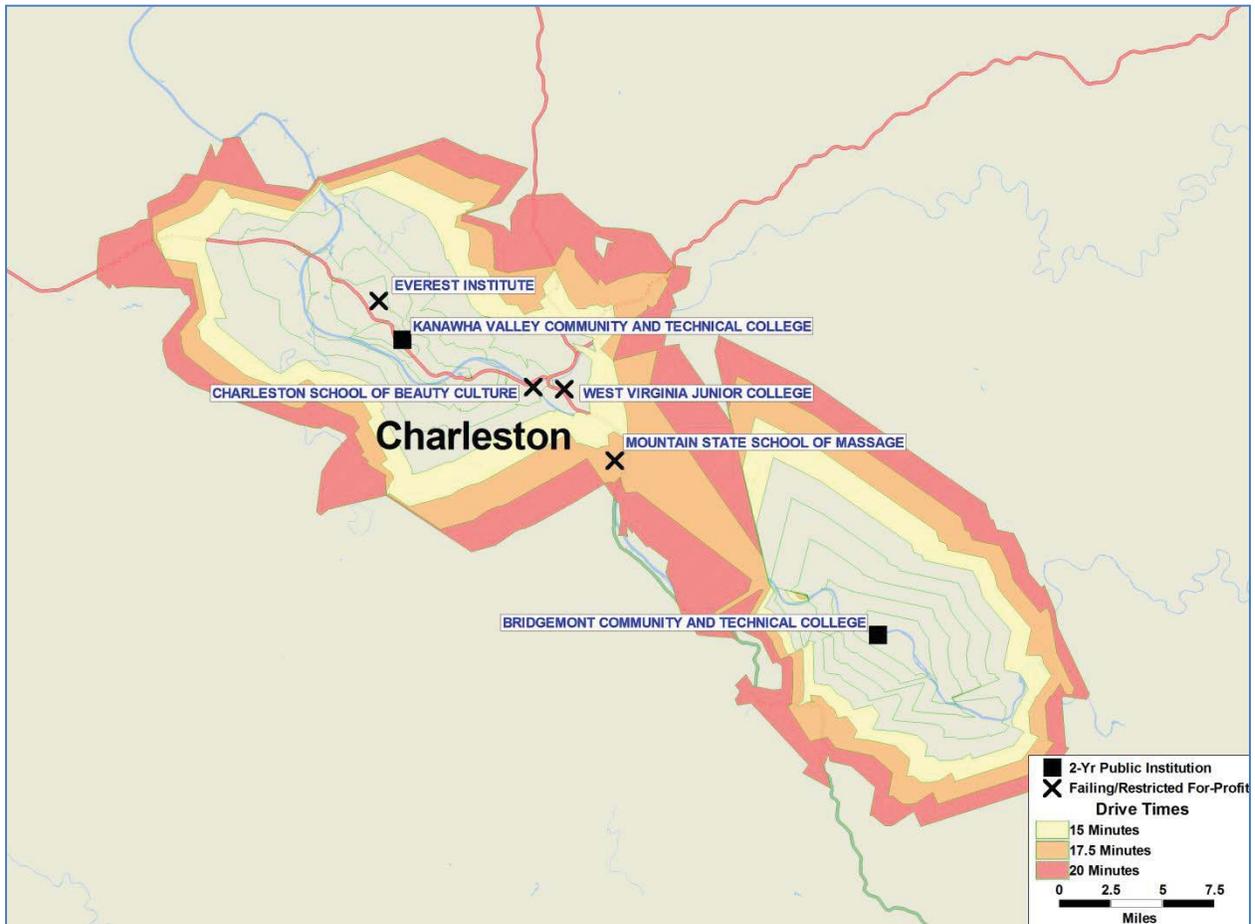
⁴⁰ U.S. Department of Education, Integrated Postsecondary Education Data System, 2008-2009

A square indicates a 2-year public institution (assumption is that these will remain in operation after ED passes GE regulations)

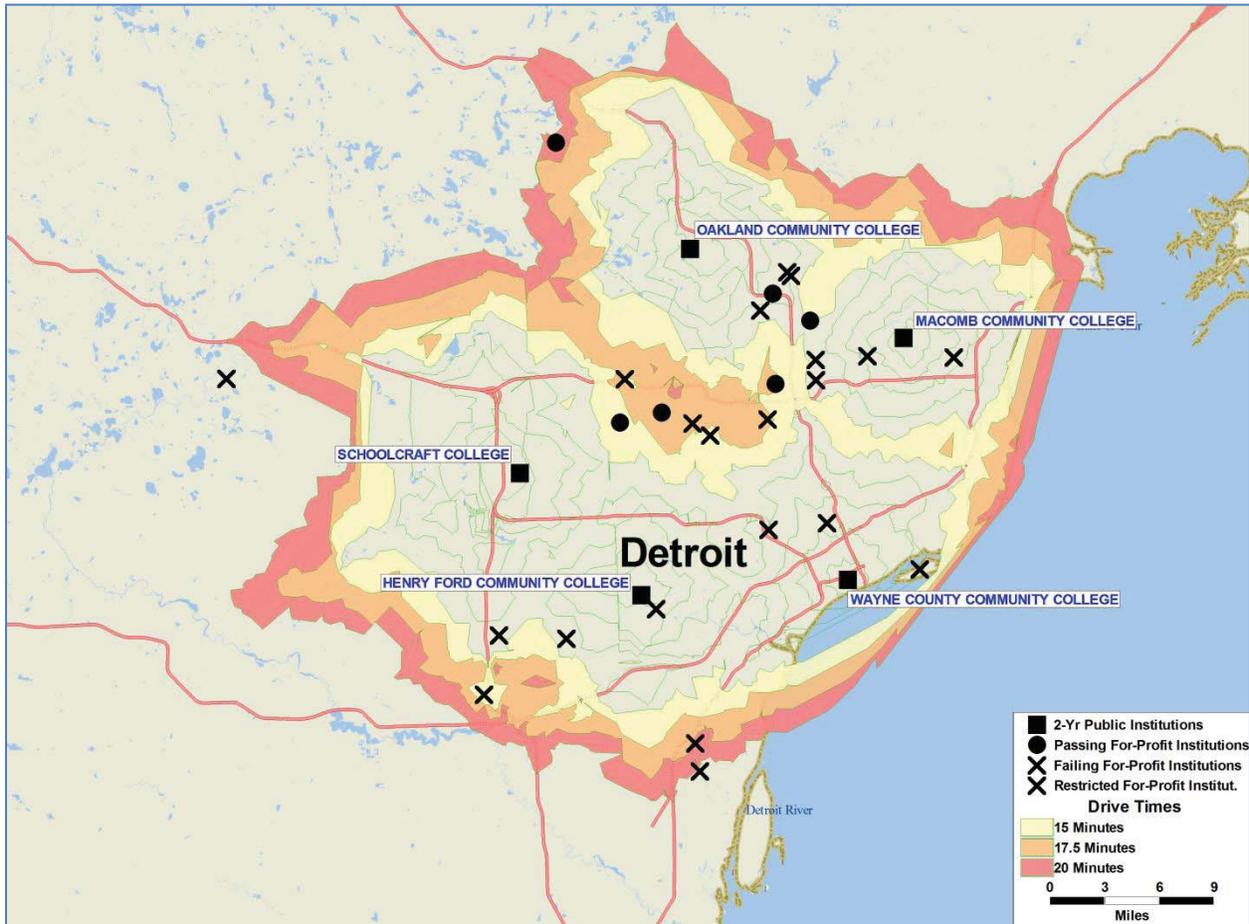
Atlanta, GA: Most of the centrally located for-profit institutions will be declared ineligible or restricted based on GE repayment rate thresholds. Half of remaining community colleges are located outside of city limits with a 20-plus minute drive time.



Charleston, WV: All of the for-profit institutions will be declared ineligible or restricted based on GE repayment rate thresholds. Two community colleges are located in the Charleston MSA; only one is located within 20 minutes drive time.



Detroit, MI: Community colleges are located at a distance of 17-20 minutes drive time from for-profit institutions that will be declared ineligible or restricted based on GE repayment rate thresholds.



Nashville, TN: The majority of for-profit institutions on the east side of the city will be declared ineligible or restricted. The closest community colleges are 20-plus minutes away.

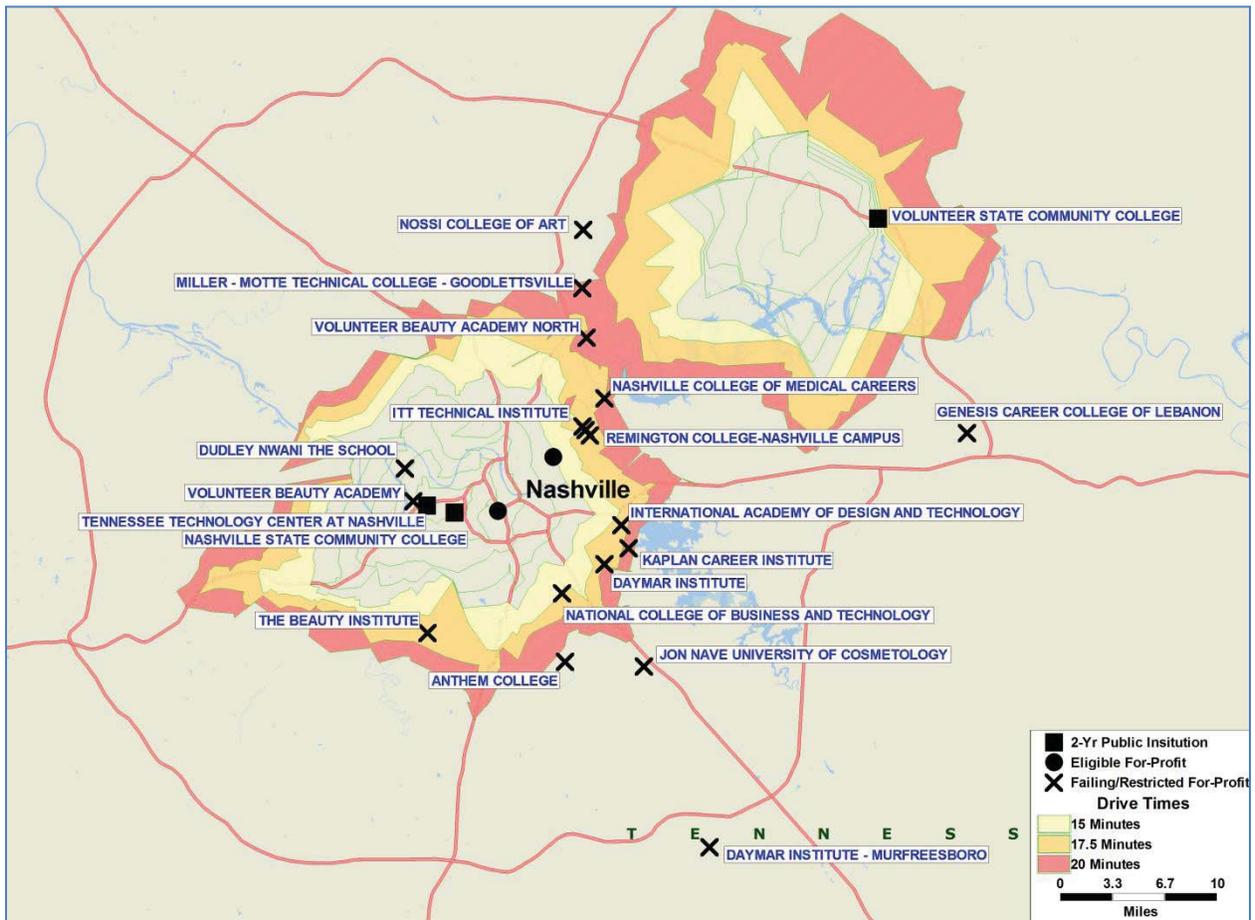


Exhibit 13



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Firm Leadership

Roger Brinner

Partner and Chief Economist



Dr. Brinner is the Chief Economist of The Parthenon Group. He is well known as an expert economist and articulate analyst of the U.S. and international economies. Roger has many long-term relationships with corporate clients on issues relating to their strategies, market growth, pricing and equity valuation. Dr. Brinner's experience includes senior positions at respected business, academic, and government institutions. Dr. Brinner has been an economics professor at Harvard University and the Massachusetts Institute of Technology, and for more than 20 years, led the preeminent economic research group Standard & Poors / Data Resources. Roger has also served as a Senior Economist with the President's Council of Economic Advisors and a Visiting Fellow with the Federal Reserve. Dr. Brinner received a B.A. in Economics from Kalamazoo College and a Ph.D. in Economics from Harvard University.

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Exhibit 14

Impact of Gainful Employment on Public and For-Profit Colleges according to the Missouri Data Set

Mark Kantrowitz

Publisher of Fastweb.com and FinAid.org

October 11, 2010

EXECUTIVE SUMMARY

The US Department of Education has estimated that the proposed gainful employment regulations will cause 5% of programs (representing 8% of student enrollments) to become ineligible for federal student aid and 7% of programs (representing 8% of student enrollments) to become restricted. This is consistent with the overall statistics from the Missouri data set published by the US Department of Education on August 13, 2010, which shows that 6.2% of programs will become ineligible and 9.0% will become restricted. However, the Missouri data yields different results when disaggregated by type of college:

- The impact on public colleges will be negligible, causing 0.3% of programs to become ineligible and 2.7% to become restricted.
- The impact on for-profit colleges will be much more severe, causing 26.1% of programs (15.6% if exiter-weighted) to become ineligible and 30.1% (33.2% if exiter-weighted) to become restricted. Only 43.8% (51.2% if exiter-weighted) would be fully eligible.
- At for-profit colleges, 15.9% of Certificate programs, 38.0% of Associate's degree programs and 21.7% of Bachelor's degree programs will become ineligible.
- At for-profit colleges, 20.3% of Certificate programs, 35.4% of Associate's degree programs and 47.9% of Bachelor's degree programs will become restricted.

The Missouri data, however, may not be predictive of national statistics. There are some aspects of the Missouri data set that suggest that the national statistics may be more severe and there are some aspects that suggest that the national statistics may be less severe.

The Missouri data may also be used to understand the impact of changes in the debt-service-to-income ratio and loan repayment rate thresholds on program eligibility:

- Each 1% increase in the debt-service-to-income ratio threshold from 6% to 15% decreases the percentage of programs that are ineligible by about 4%.
- Each 1% increase in the debt-service-to-income ratio threshold from 6% to 15% increases the percentage of programs that are fully eligible by about 6%.
- Increasing the loan repayment rate threshold above 45% has no impact on the status of for-profit college programs because for-profit colleges with a high loan repayment rate almost always also satisfy the debt-service-to-income ratio thresholds. Only at lower loan repayment rates do the debt-service-to-income ratios differentiate among for-profit colleges. Increases in the loan repayment rate thresholds, however, would affect the eligibility of programs at public colleges.

IMPACT OF THE MISSOURI DATA ON FOR-PROFIT AND PUBLIC COLLEGE PROGRAMS

The US Department of Education estimated that the gainful employment proposals¹ will result in 5% of programs becoming ineligible and 7% becoming restricted, with 8% of students enrolled in programs that would become ineligible and 8% of students enrolled in programs that would become restricted. These estimates are for all programs affected by the proposed rule, including all programs at for-profit colleges (except for liberal arts programs) and only non-degree certificate programs at public and non-profit colleges, representing roughly two-thirds and one-third of student enrollments in affected programs, respectively. The impact on public college programs is much less severe and the impact on for-profit college programs is much more severe, however, than suggested by the overall averages.

The following table lists the percentage of affected programs that are ineligible (triple fail), restricted or fully eligible based on the Missouri state data released by the US Department of Education on August 13, 2010.² The US Department of Education states that the Missouri data is “an appropriate and generally applicable lens to assess the potential effects nationally” because “the state’s distribution of educational institutions is broadly similar to the nation.” (The Missouri data does not include data about non-profit colleges, but vocational programs at non-profit colleges represent only about 5% of the national data.)

Program Status	For-Profit Colleges		Public Colleges		All Colleges	
	# Programs	# Exitters	# Programs	# Exitters	# Programs	# Exitters
Ineligible	26.1%	15.6%	0.3%	0.1%	6.2%	4.1%
Restricted	30.1%	33.2%	2.7%	0.7%	9.0%	9.2%
Fully Eligible	43.8%	51.2%	97.0%	99.2%	84.8%	86.6%

Thus the Missouri state data suggests that the gainful employment proposals will have a negligible impact on public colleges but a much more severe impact on for-profit colleges. If the Missouri data is predictive of national performance, a quarter of programs at for-profit colleges will be ineligible, affecting almost one sixth of students enrolled at for-profit colleges. An additional three-tenths of programs at for-profit colleges will be in the restricted zone, affecting about one third of students enrolled at for-profit colleges.

The following table provides additional detail according to degree program at for-profit colleges. It demonstrates that Associate’s degree and Bachelor’s degree programs are affected more severely than Certificate programs. Nearly two-fifths of Associate’s degree programs and more than a fifth of Bachelor’s degree programs at for-profit colleges will be ineligible. More than a third of Associate’s degree programs and almost half of Bachelor’s degree programs will be in the restricted zone.

For-Profit Colleges Program Status	Certificate		Associate's Degree		Bachelor's Degree	
	# Programs	# Exitters ³	# Programs	# Exitters	# Programs	# Exitters
Ineligible	15.9%	9.0%	38.0%	27.6%	21.7%	15.1%
Restricted	20.3%	22.3%	35.4%	51.3%	47.9%	45.8%
Fully Eligible	63.8%	68.7%	26.6%	21.1%	30.4%	39.1%

¹ *Program Integrity: Gainful Employment*, Notice of Proposed Rulemaking (NPRM), Federal Register 75(142):43616-43708, July 26, 2010.

² ifap.ed.gov/eannouncements/081310ReleaseGainfulDataTechDocNPRM.html and www2.ed.gov/policy/highered/reg/hearulemaking/2009/integrity-analysis.html

³ The term 'exitters' includes students who drop out and students who graduate.

In contrast, the following table demonstrates a minimal impact on Certificate, Associate's degree and Bachelor's degree programs at public colleges.

Public Colleges Program Status	Certificate		Associate's Degree		Bachelor's Degree	
	# Programs	# Exiters	# Programs	# Exiters	# Programs	# Exiters
Ineligible	0.0%	0.0%	0.0%	0.0%	0.5%	0.1%
Restricted	0.0%	0.0%	2.1%	0.4%	3.9%	1.0%
Fully Eligible	100.0%	100.0%	97.9%	99.6%	95.6%	98.9%

MISSOURI DATA MAY NOT BE PREDICTIVE OF NATIONAL STATISTICS

The Missouri state data may not be nationally representative.

National statistics may demonstrate a more severe impact on for-profit colleges than the Missouri state data suggest. Missouri has 27.5% minority student enrollment, compared with the national average of 41.0%. As demonstrated in a previous paper, the percentage minority student enrollment correlates strongly with average loan repayment rates.⁴ Accordingly, the national average loan repayment rates may be about 5.3% lower than in Missouri, potentially yielding a similar reduction in eligibility especially at colleges with significant minority student enrollment. Missouri is also more heavily weighted toward graduate student enrollment with 18.8% graduate student enrollment compared with 14.0% nationally. Missouri also has lower enrollment in for-profit colleges (5.2% vs. 7.8%) and the for-profit college enrollment is more heavily weighted toward 2-year colleges, with the for-profit college enrollment split 50% at 4-year colleges vs. 62% nationally, 38% at 2-year colleges vs. 22% nationally, and 12% at less-than-2-year colleges vs. 16% nationally. The Missouri data also excludes non-profit colleges and cosmetology programs. The Missouri data set also excludes small programs with 5 or fewer exiters.

On the other hand, the Missouri data includes data for only 41 of the 136 colleges in Missouri. The average loan repayment rate for colleges excluded from the Missouri data set is 48.5%, higher than the 45.2% average for Missouri colleges included in the Missouri data set. The overall average loan repayment rate for Missouri is 47.0%. The following table illustrates the loan repayment rates by college type for colleges included and excluded from the data set, and overall.

Loan Repayment Rate (Missouri Colleges)							
College Type	Included	Excluded	Total	College Type	Included	Excluded	Total
Public 4-year	53.9%	56.5%	54.2%	on-Profit 4-year	NA	48.1%	
Public 2-year	37.6%	41.4%	37.9%	on-Profit 2-year	NA	48.0%	
Public (All)	52.0%	54.6%	52.3%	on-Profit (All)	NA	48.1%	
For-Profit 4-year	22.6%	52.5%	23.3%	All 4-year	46.9%	48.9%	48.0%
For-Profit 2-year	27.9%	16.7%	26.8%	All 2-year	34.2%	35.3%	34.3%
For-Profit (All)	23.7%	36.2%	24.7%	All Colleges	45.2%	48.5%	47.0%

Even adjusting for the colleges that were excluded from the Missouri data set, the average loan repayment rates in Missouri are lower than in the nation as a whole. For example, the national average loan

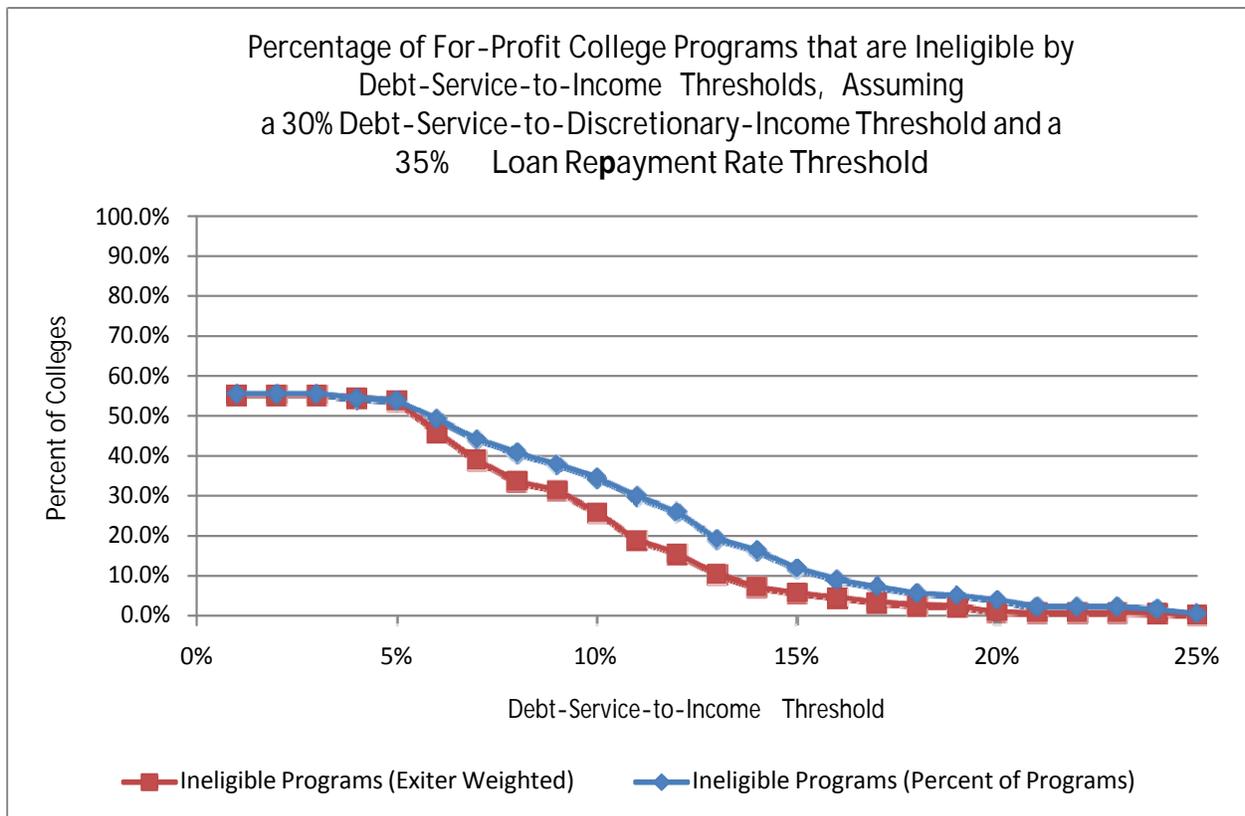
⁴ Mark Kantrowitz, *The Impact of Loan Repayment Rates on Minority Students*, September 27, 2010. www.finaid.org/educators/20100927gainfulemploymentimpactonrace.pdf

repayment rate for all colleges is 51.3%, compared with 47.0% in Missouri, the national average loan repayment rate for public colleges is 53.7%, compared with 52.3% in Missouri, and the national average loan repayment rate for for-profit colleges is 36.4%, compared with 24.7% in Missouri.

Given that the Missouri demographics suggest that the national gainful employment metrics will have a more severe impact on for-profit colleges than the Missouri data set, while the loan repayment rates in Missouri are lower than the national averages, it is unclear whether the Missouri data set is predictive of national statistics.

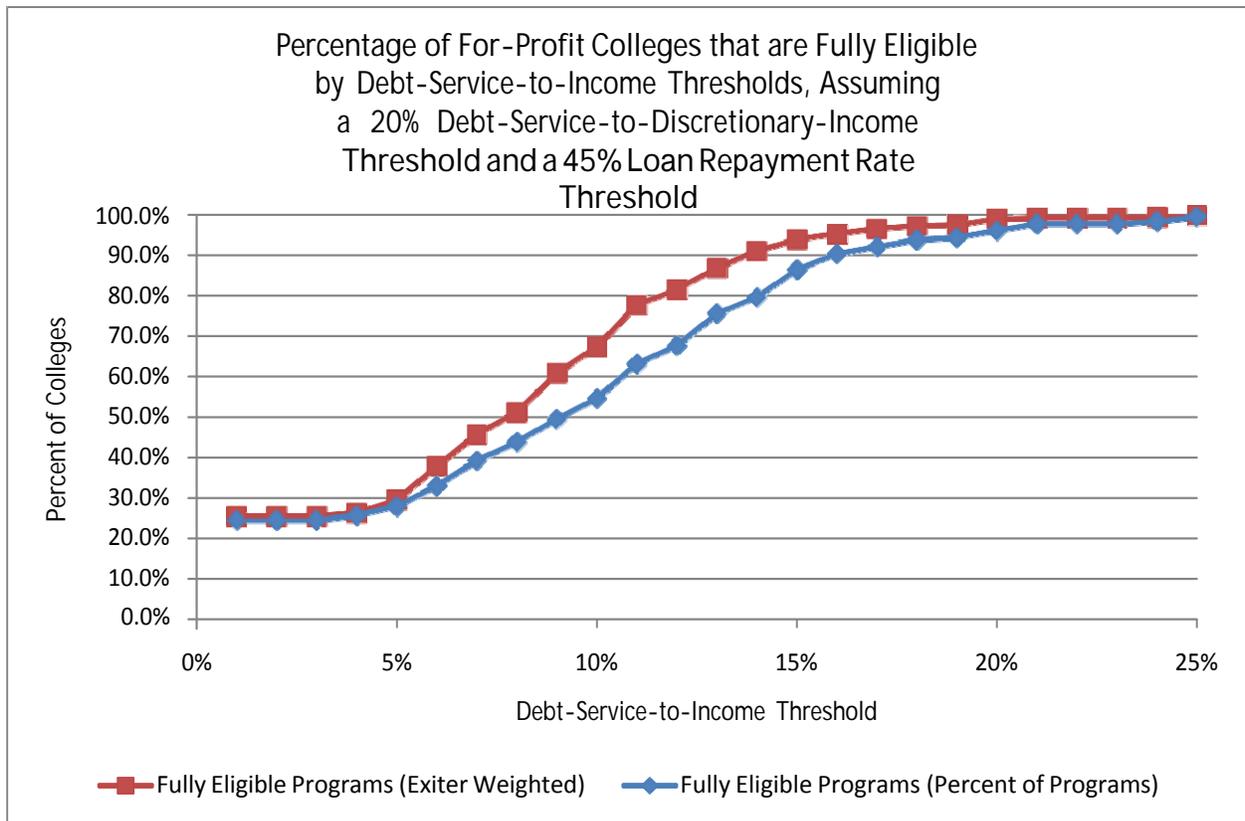
IMPACT OF CHANGES IN THRESHOLDS ON PROGRAM ELIGIBILITY/INELIGIBILITY

The following chart shows the percentage of for-profit colleges in the Missouri data that are ineligible according to changes in the debt-service-to-income thresholds, assuming a 30% threshold for the debt-service-to-discretionary-income metric and a 35% loan repayment rate threshold.



This demonstrates that the debt-service-to-income threshold has a significant impact on the percentage of for-profit college programs that are ineligible for thresholds between 6% and 20%, inclusive. Each 1% increase in the threshold from 6% to 15% decreases the percentage of programs that are ineligible by about 4%. At a 6% threshold 49.4% of programs (46.0% of exiter) are ineligible. This drops to 40.9% of programs (33.8% of exiter) at an 8% threshold, 34.7% of programs (25.9% of exiter) at a 10% threshold, 26.1% of programs (15.6% of exiter) at a 12% threshold and 11.9% of programs (5.8% of exiter) at a 15% threshold.

The next chart shows the percentage of for-profit colleges that are fully eligible according to changes in the debt-service-to-income thresholds, assuming a 20% threshold for the debt-service-to-discretionary-income metric and a 45% threshold for the loan repayment rate metric.

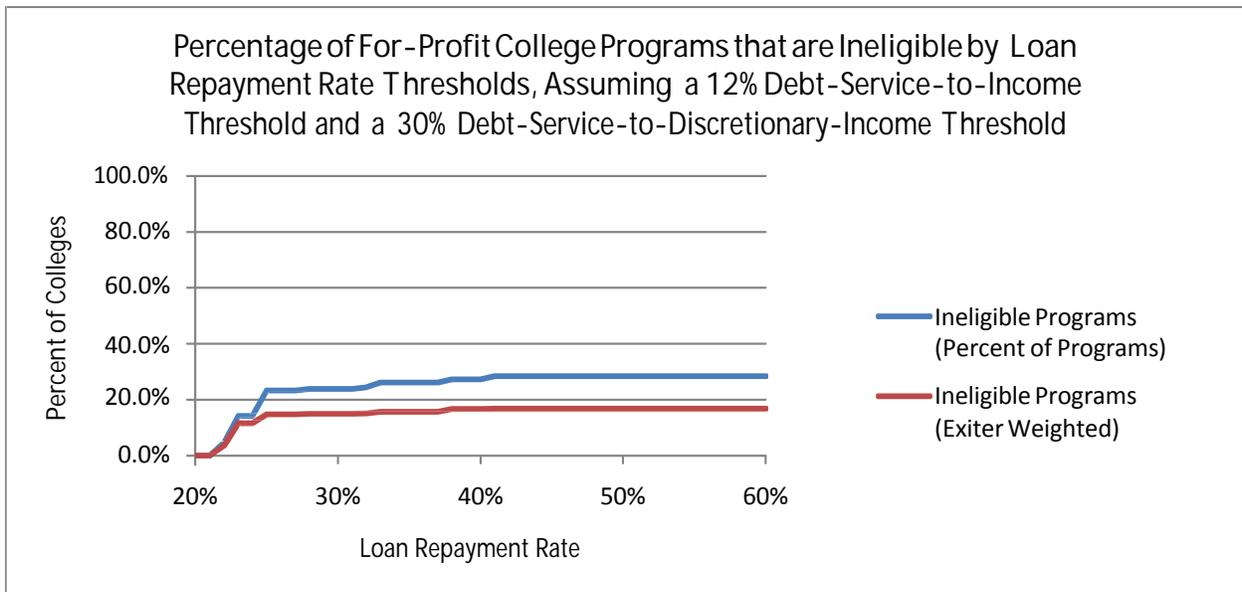


This demonstrates that the debt-service-to-income threshold has a significant impact on the percentage of for-profit college programs that are fully eligible for thresholds between 6% and 20%, inclusive. Each 1% increase in the threshold from 6% to 15% increases the percentage of programs that are fully eligible by about 6%. At a 6% threshold 37.8% of programs (33.0% of exiter) are fully eligible. This increases to 43.8% of programs (51.2% of exiter) at an 8% threshold, 54.5% of programs (67.3% of exiter) at a 10% threshold, 67.6% of programs (81.5% of exiter) at a 12% threshold and 86.4% of programs (93.8% of exiter) at a 15% threshold.

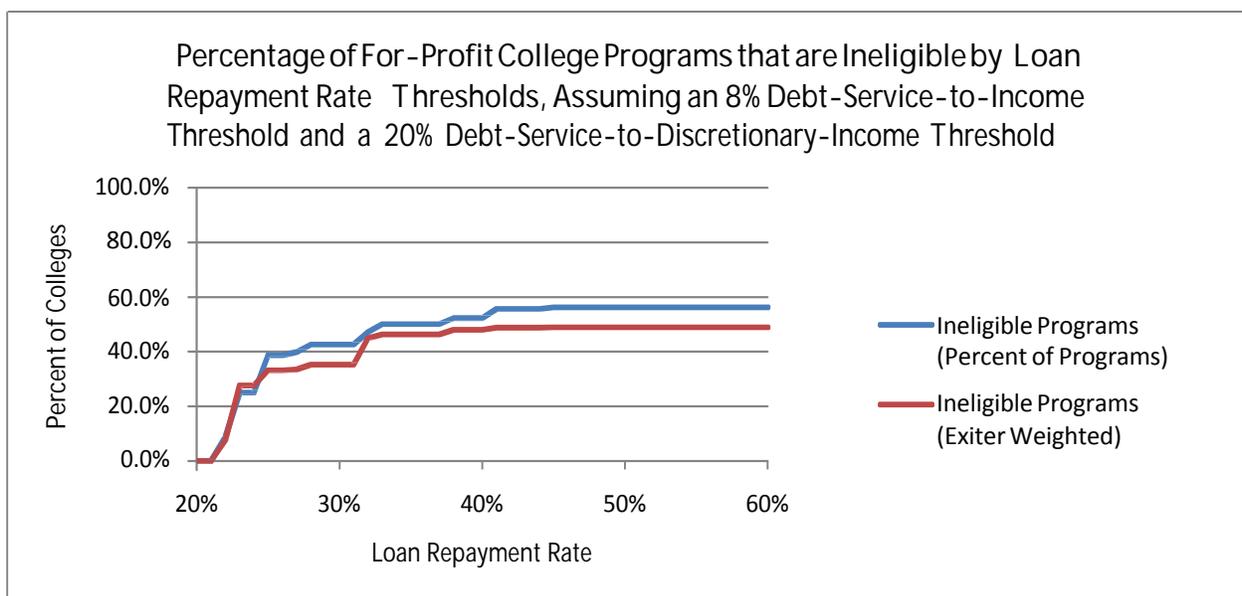
The next two charts, on the other hand, demonstrate that changes in the loan repayment rate threshold do not have a significant impact on eligibility. For example, there is no difference in the percentage of for-profit colleges that are eligible or ineligible for loan repayment rate thresholds above 45%. Colleges with a high loan repayment rate almost always also satisfy the debt-service-to-income ratio thresholds. The debt-service-to-income thresholds only differentiate among colleges at lower loan repayment rates.

The first chart shows the percentage of programs at for-profit colleges that are ineligible according to changes in the loan repayment rate threshold, assuming a 12% threshold on the debt-service-to-income metric and a 30% threshold on the debt-service-to-discretionary-income metric. The chart shows a sharp increase from 21% to 25%, reaching 23.3% ineligible programs (14.7% of exiter) at the 25% loan repayment rate threshold. It then levels off, with 26.1% ineligible programs (15.6% of exiter) at the 35%

threshold and 28.4% ineligible programs (16.8% of exiters) at the 45% threshold. (There is no change in the percentage ineligible programs or the exiter-weighted percentage ineligible programs after the loan repayment rate reaches 41%.)



The second chart shows the percentage of programs at for-profit colleges that are ineligible according to changes in the loan repayment rate threshold, assuming an 8% threshold on the debt-service-to-income metric and a 20% threshold on the debt-service-to-discretionary-income metric. The chart shows a sharp increase from 21% to 25%, reaching 38.6% ineligible programs (33.2% of exiters) at the 25% loan repayment rate threshold. It then levels off somewhat, with 50.0% ineligible programs (46.3% of exiters) at the 35% threshold and 56.3% ineligible programs (48.8% of exiters) at the 45% threshold. (There is no change in the percentage ineligible programs after the loan repayment rate reaches 45% and the exiter-weighted percentage ineligible programs after the loan repayment rate reaches 41%.)



Thus, any proposals calling for an increase in the 45% loan repayment rate threshold would be ineffective at regulating for-profit colleges, as increasing the loan repayment rate threshold above 45% does not have a significant impact on program eligibility at for-profit colleges, assuming that the national data reflects the trends in the Missouri data. Most for-profit colleges with a loan repayment rate of 41% or higher also satisfy the debt-service-to-income ratio thresholds. Changing the 35% loan repayment rate threshold would have more of an impact, but still relatively modest compared with changes in the debt-to-income ratio thresholds.⁵

There is, however, more differentiation when public colleges are included alongside for-profit colleges in the analysis. For example, the triple fail rate for all colleges in the Missouri data set is 6.2% (4.1% exiter-weighted) when the loan repayment rate threshold is 35%, assuming a 12% debt-service-to-income threshold and a 30% debt-service-to-discretionary-income threshold. The triple fail rate increases to 7.5% (4.7% exiter-weighted) when the loan repayment rate threshold is 45% and to 9.2% (5.6% exiter-weighted) when the loan repayment rate threshold is 55%, and starts leveling off around 10.3% (6.4% exiter-weighted) when the threshold reaches 65%. Similarly, the triple fail rate is 12.1% (12.3% exiter-weighted) when the loan repayment rate threshold is 35%, assuming an 8% debt-service-to-income threshold and a 20% debt-service-to-discretionary-income threshold. The triple fail rate increases to 15.2% (13.4% exiter-weighted) when the loan repayment rate threshold is 45% and to 21.2% (17.5% exiter-weighted) when the loan repayment rate threshold is 55%, and starts leveling off around 24.7% (20.0% exiter-weighted) when the threshold reaches 65%. Thus increasing the 45% loan repayment rate threshold would make more public college programs ineligible without affecting the eligibility of for-profit college programs.

IMPACT OF MISSOURI DATA ON PROGRAMS BY CIP FAMILY

The following table shows the failure rates in the Missouri data set according to CIP Family. Only four of the CIP families have 50 or more programs in the data set (highlighted in yellow). This means a difference in just one program failing in the other CIP families yields a change in the triple fail rate of at least 2% and by 21% on average. Thus, aside from Business, Health Professions, Engineering and Education, the Missouri data set is unlikely to be predictive regarding program eligibility on a national level since small changes in the number of programs failing can have a big impact on the triple fail rate.

Missouri Data Set	number of Programs in Data Set	Fail All Three Tests	Fail Debt Service to Income	Fail Debt Service to Discretionary Income	Fail loan Repayment Rate
Communications Technologies/Technicians and Support Services	4	75.0%	75.0%	75.0%	100.0%
Precision Production	3	33.3%	33.3%	66.7%	66.7%
Mechanic and Repair Technologies/Technicians	14	28.6%	28.6%	28.6%	57.1%
Legal Professions and Studies	12	25.0%	41.7%	33.3%	50.0%
Computer and Information Sciences and Support Services	46	17.4%	26.1%	26.1%	43.5%
Security and Protective Services	22	13.6%	18.2%	22.7%	40.9%
Business, Management, Marketing, and Related Support Services	103	9.7%	11.7%	19.4%	25.2%
Parks, Recreation, Leisure, and Fitness Studies	11	9.1%	18.2%	45.5%	9.1%

⁵ Note that the analysis in this paper is focused on current data. After the gainful employment regulations become effective, there may be changes in loan repayment rates and debt-to-income ratios. Also, the loan repayment rates in the Missouri data set are institutional loan repayment rates, not program specific loan repayment rates. It is possible that program-specific loan repayment rates may be more or less likely to differentiate among programs.

Health Professions and Related Clinical Sciences	159	7.5%	13.2%	42.1%	50.3%
Psychology	15	6.7%	6.7%	46.7%	6.7%
Engineering Technologies/Technicians	30	3.3%	10.0%	6.7%	40.0%
Social Sciences	35	2.9%	17.1%	40.0%	2.9%
Engineering	54	1.9%	5.6%	3.7%	22.2%
Education	59	0.0%	1.7%	0.0%	5.1%
Visual and Performing Arts	37	0.0%	27.0%	73.0%	8.1%
Liberal Arts and Sciences, General Studies and Humanities	22	0.0%	0.0%	4.5%	31.8%
Agriculture, Agriculture Operations, and Related Sciences	19	0.0%	0.0%	5.3%	5.3%
Communication, Journalism, and Related Programs	19	0.0%	5.3%	42.1%	5.3%
English Language and Literature/Letters	18	0.0%	22.2%	50.0%	0.0%
Public Administration and Social Service Professions	17	0.0%	0.0%	5.9%	5.9%
Biological and Biomedical Sciences	16	0.0%	6.3%	25.0%	0.0%
Family and Consumer Sciences/Human Sciences	14	0.0%	7.1%	42.9%	7.1%
History (new)	10	0.0%	10.0%	70.0%	10.0%
Physical Sciences	9	0.0%	0.0%	33.3%	0.0%
Foreign languages, literatures, and linguistics	7	0.0%	0.0%	71.4%	0.0%
Philosophy and Religious Studies	7	0.0%	28.6%	85.7%	0.0%
Natural Resources and Conservation	6	0.0%	16.7%	100.0%	0.0%
Mathematics and Statistics	5	0.0%	0.0%	0.0%	0.0%
Personal and Culinary Services	5	0.0%	0.0%	40.0%	100.0%
Construction Trades	4	0.0%	0.0%	25.0%	75.0%
Multi-/Interdisciplinary Studies	4	0.0%	0.0%	50.0%	0.0%
Transportation and Materials moving	2	0.0%	0.0%	50.0%	0.0%
Area, Ethnic, Cultural, and Gender Studies	1	0.0%	100.0%	100.0%	0.0%
Health-related Knowledge and Skills	1	0.0%	0.0%	100.0%	100.0%
Science Technologies/Technicians	1	0.0%	0.0%	0.0%	0.0%

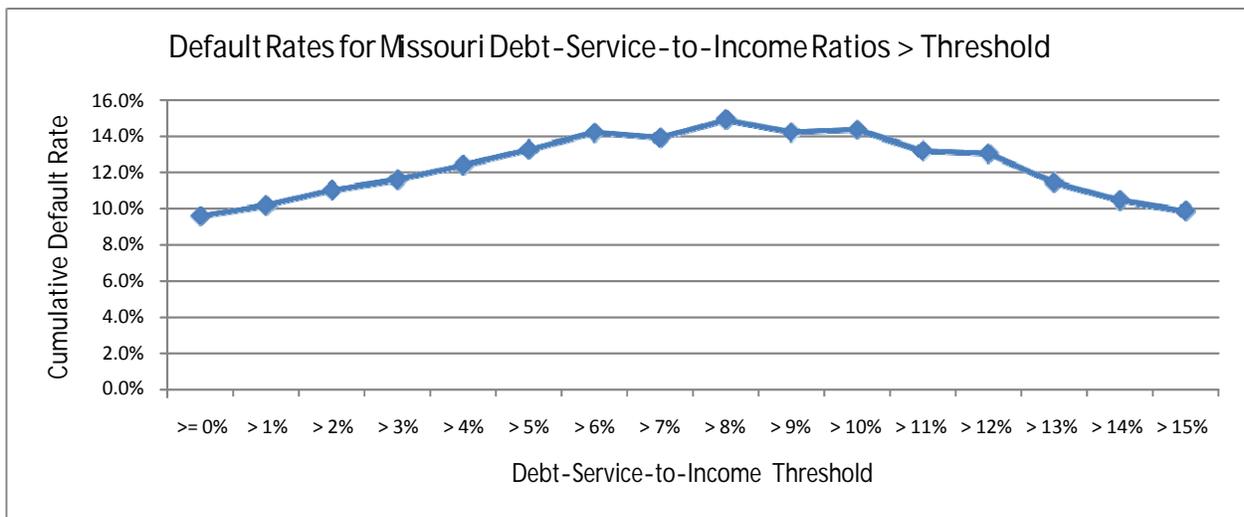
A similar analysis of the Missouri data according to CIP4 code descriptions is included in the appendix at the end of this paper. The Missouri data set is even less predictive of national trends when the data is disaggregated by CIP4 code, since the sample sizes are smaller.

The following table shows a comparison of the program triple fail rate with the exit-weighted program triple fail rate for the 13 programs with non-zero triple fail rates. Most programs have a lower triple fail rate when exit-weighted, except for computer and engineering programs. That suggests that larger computer and engineering programs are more likely to fail all three metrics than smaller programs.

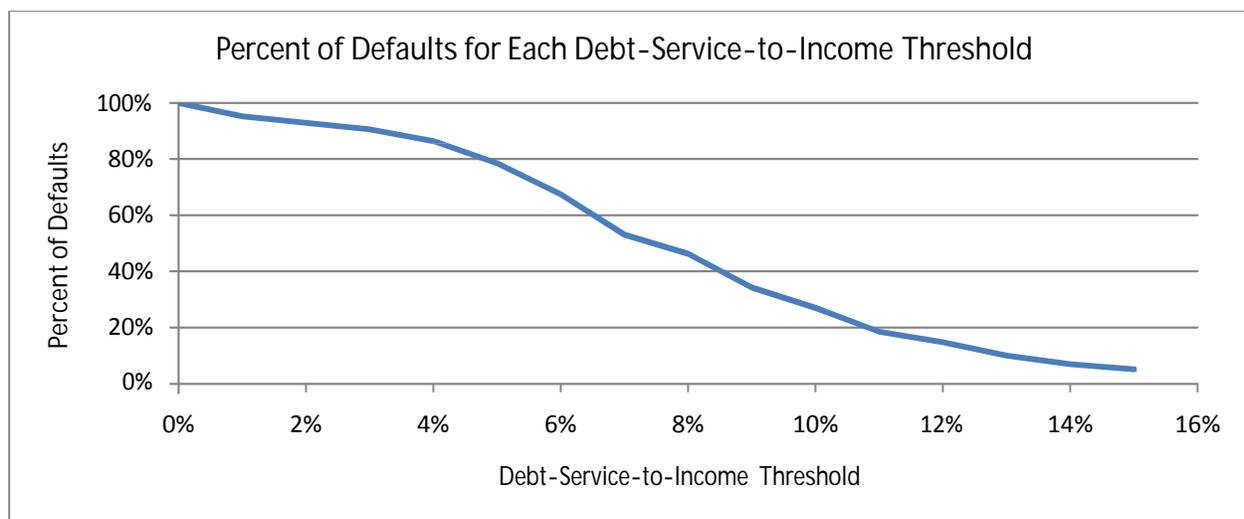
Missouri Data Set CIP Family	Exit-weighted Triple Fail Rate	Program Triple Fail Rate
Communications Technologies/Technicians and Support Services	47.0%	75.0%
Computer and Information Sciences and Support Services	22.7%	17.4%
Precision Production	17.5%	33.3%
Legal Professions and Studies	13.6%	25.0%
Mechanic and Repair Technologies/Technicians	13.3%	28.6%
Engineering Technologies/Technicians	12.2%	3.3%
Security and Protective Services	10.9%	13.6%
Health Professions and Related Clinical Sciences	6.8%	7.5%
Engineering	5.4%	1.9%
Parks, Recreation, Leisure, and Fitness Studies	4.7%	9.1%
Business, Management, Marketing, and Related Support Services	2.5%	9.7%
Psychology	1.1%	6.7%
Social Sciences	0.7%	2.9%

CUMULATIVE DEFAULT RATES BY DEBT-TO-INCOME RATIOS IN THE MISSOURI DATA

The following chart shows the cumulative default rates in the Missouri data set for programs with a debt-service-to-income ratio above various thresholds. Curiously, it demonstrates a peak at the 8% debt-service-to-income threshold. While default rates tend to increase with increasing debt-service-to-income ratios, as shown in a previous paper,⁶ the data becomes sparse and noisy above a 14% debt-service-to-income ratio. This causes the cumulative default rate to become diluted as the threshold increases. The noisy data has more of an impact with higher thresholds because it is given greater weight in the overall cumulative default rate, since the more reliable data is removed as the threshold increases. With national data the peak would likely shift higher or perhaps be replaced with a graph that increases monotonically.



The next chart shows the percentage of all defaulting borrowers corresponding to each debt-service-to-income ratio threshold. For example, 46% of all defaults occur with an 8% or higher debt-service-to-income threshold, 27% with a 10% threshold, 15% with a 12% threshold and 5% with a 15% threshold.



⁶ Mark Kantrowitz, Relationship of Default Rates to Debt and Income, August 17, 2010. www.finaid.org/educators/20100817affordabilitymeasures.pdf

METRIC-SPECIFIC MISSOURI FAILURE RATES

The Missouri data suggests that 93.8% of for-profit college programs (96.0% if exiter-weighted), 28.3% of public college programs (24.3% if exiter-weighted) and 43.3% overall (43.0% if exiter-weighted) will fail to satisfy the 45% loan repayment rate threshold. The Gainful Employment NPRM, on the other hand, reported that 40% of for-profit colleges⁷ and 18% of public colleges⁸ would fail to achieve a 45% loan repayment rate threshold. Thus the failure rates for the Missouri data set differ significantly from the estimates presented by the US Department of Education in the Gainful Employment NPRM.

The following table presents a summary of the failure rates for each of the three gainful employment metrics.

Metric Failure Rates Missouri Data Set	Loan Repayment Rate		Debt Service to Income Ratio		Debt Service to Discretionary Income Ratio		Triple Fail Rate		Gainful Employment		
	< 35%	< 45%	> 12%	> 8%	> 30%	> 20%	35/12/30	45/8/20	Eligible	Restricted	Ineligible
For-Profit Colleges	75.6%	93.8%	32.4%	61.4%	64.2%	79.0%	26.1%	56.3%	43.8%	30.1%	26.1%
Public Colleges	11.0%	28.3%	6.7%	20.1%	20.9%	28.8%	0.3%	3.0%	97.0%	2.7%	0.3%
All Colleges	25.7%	43.3%	12.6%	29.5%	30.8%	40.3%	6.2%	15.2%	84.8%	9.0%	6.2%

APPENDIX: FAILURE RATES BY CIP4 CODE

The following table presents an analysis of the failure rates in the Missouri data according to CIP4 codes. None of these results are statistically significant at the national level.

Failure Rates by CIP4 Code Missouri Data Set	Number Of Programs in Data Set	Fail All Three Tests	Fail Debt Service to Income	Fail Debt Service to Discretionary Income	Fail Loan Repayment Rate
Environmental Control Technologies/Technicians	1	100.0%	100.0%	100.0%	100.0%
Computer Software and Media Applications	4	75.0%	75.0%	75.0%	75.0%
Graphic Communications	4	75.0%	75.0%	75.0%	100.0%
Specialized Sales, Merchandising and Marketing Operations	2	50.0%	50.0%	50.0%	50.0%
Business Operations Support and Assistant Services	10	40.0%	40.0%	60.0%	60.0%
Vehicle Maintenance and Repair Technologies	5	40.0%	40.0%	40.0%	60.0%
Computer Systems Networking and Telecommunications	11	36.4%	45.5%	54.5%	81.8%
Legal Support Services	9	33.3%	33.3%	44.4%	66.7%
Electrical/ Electronic Maintenance and Repair Technology	3	33.3%	33.3%	33.3%	66.7%
Precision Metal Working	3	33.3%	33.3%	66.7%	66.7%
Allied Health and Medical Assisting Services	24	25.0%	25.0%	75.0%	70.8%
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/ Technician (HAC, HACR, HVAC, HVACR)	4	25.0%	25.0%	25.0%	50.0%
Hospitality Administration/ Management	4	25.0%	25.0%	50.0%	25.0%
Computer/Information Technology Administration and Management	5	20.0%	40.0%	20.0%	60.0%
Health and Physical Education/Fitness	5	20.0%	20.0%	40.0%	20.0%
Health and Medical Administrative Services	26	19.2%	26.9%	69.2%	65.4%
Criminal Justice and Corrections	20	15.0%	20.0%	25.0%	40.0%

⁷ Federal Register 75(142):43634, Column 3, July 26, 2010: “therefore 40 percent of the 2,086 proprietary institutions with programs that prepare students for gainful employment or 834 institutions would have a loan repayment rate less than 45 percent”

⁸ Federal Register 75(142):43635, Column 1, July 26, 2010: “therefore 18 percent of the 2,139 public institutions with programs that prepare students for gainful employment or 385 institutions would have a loan repayment rate less than 45 percent”

Sociology	9	11.1%	22.2%	66.7%	11.1%
Business Administration, Management and Operations	29	10.3%	13.8%	20.7%	31.0%
Psychology, General	13	7.7%	7.7%	46.2%	7.7%
Somatic Bodywork and Related Therapeutic Services	15	6.7%	6.7%	86.7%	80.0%
Accounting and Related Services	21	4.8%	4.8%	14.3%	14.3%
Nursing	39	0.0%	0.0%	0.0%	28.2%
Liberal Arts and Sciences, General Studies and Humanities	22	0.0%	0.0%	4.5%	31.8%
Allied Health Diagnostic, Intervention, and Treatment Professions	20	0.0%	0.0%	10.0%	55.0%
English Language and Literature, General	15	0.0%	26.7%	53.3%	0.0%
Teacher Education and Professional Development, Specific Levels and Methods	14	0.0%	0.0%	0.0%	14.3%
Teacher Education and Professional Development, Specific Subject Areas	14	0.0%	0.0%	0.0%	0.0%
Biology, General	13	0.0%	7.7%	23.1%	0.0%
Dental Support Services and Allied Professions	13	0.0%	0.0%	53.8%	76.9%
Business/Commerce, General	10	0.0%	0.0%	0.0%	10.0%
Communication and Media Studies	10	0.0%	0.0%	20.0%	0.0%
Design and Applied Arts	10	0.0%	10.0%	40.0%	30.0%
Fine and Studio Art	10	0.0%	30.0%	80.0%	0.0%
History	10	0.0%	10.0%	70.0%	10.0%
Social Work	10	0.0%	0.0%	10.0%	0.0%
Political Science and Government	9	0.0%	22.2%	33.3%	0.0%
Special Education and Teaching	9	0.0%	0.0%	0.0%	0.0%
Computer and Information Sciences, General	8	0.0%	0.0%	12.5%	0.0%
Chemistry	7	0.0%	0.0%	14.3%	0.0%
Economics	7	0.0%	0.0%	0.0%	0.0%
Information Science/Studies	7	0.0%	0.0%	0.0%	28.6%
Management Information Systems and Services	7	0.0%	14.3%	14.3%	28.6%
Marketing	7	0.0%	0.0%	0.0%	14.3%
Music	7	0.0%	28.6%	71.4%	0.0%
Romance Languages, Literatures, and Linguistics	7	0.0%	0.0%	71.4%	0.0%
Civil Engineering	6	0.0%	0.0%	0.0%	0.0%
Drafting/Design Engineering Technologies/Technicians	6	0.0%	0.0%	0.0%	66.7%
Educational Administration and Supervision	6	0.0%	0.0%	0.0%	0.0%
Human Development, Family Studies, and Related Services	6	0.0%	0.0%	50.0%	16.7%
Industrial Production Technologies/Technicians	6	0.0%	0.0%	0.0%	33.3%
Mechanical Engineering	6	0.0%	0.0%	0.0%	0.0%
Student Counseling and Personnel Services	6	0.0%	16.7%	0.0%	16.7%
Agricultural Business and Management	5	0.0%	0.0%	0.0%	0.0%
Communication Disorders Sciences and Services	5	0.0%	0.0%	20.0%	0.0%
Computer Systems Analysis	5	0.0%	20.0%	20.0%	20.0%
Electrical Engineering Technologies/Technicians	5	0.0%	20.0%	20.0%	40.0%
Finance and Financial Management Services	5	0.0%	0.0%	0.0%	0.0%
Mathematics	5	0.0%	0.0%	0.0%	0.0%
Philosophy	5	0.0%	40.0%	80.0%	0.0%
Public Administration	5	0.0%	0.0%	0.0%	0.0%
Animal Sciences	4	0.0%	0.0%	25.0%	0.0%
Anthropology	4	0.0%	25.0%	75.0%	0.0%
Computer Engineering Technologies/Technicians	4	0.0%	25.0%	0.0%	75.0%
Drama/Theatre Arts and Stagecraft	4	0.0%	50.0%	100.0%	0.0%
Education, General	4	0.0%	0.0%	0.0%	0.0%
Electrical, Electronics and Communications Engineering	4	0.0%	0.0%	0.0%	0.0%
Parks, Recreation and Leisure Studies	4	0.0%	25.0%	75.0%	0.0%
Plant Sciences	4	0.0%	0.0%	0.0%	0.0%
Agriculture, General	3	0.0%	0.0%	0.0%	33.3%
Apparel and Textiles	3	0.0%	33.3%	66.7%	0.0%
Computer Programming	3	0.0%	0.0%	0.0%	33.3%
Film/Video and Photographic Arts	3	0.0%	0.0%	100.0%	0.0%
Geography and Cartography	3	0.0%	33.3%	33.3%	0.0%
Health Professions and Related Clinical Sciences, Other	3	0.0%	0.0%	0.0%	33.3%
Industrial Engineering	3	0.0%	0.0%	0.0%	0.0%

Journalism	3	0.0%	33.3%	66.7%	33.3%
Multi/Interdisciplinary Studies, Other	3	0.0%	0.0%	66.7%	0.0%
Public Relations, Advertising, and Applied Communication	3	0.0%	0.0%	33.3%	0.0%
Wildlife and Wildlands Science and Management	3	0.0%	33.3%	100.0%	0.0%
Biochemistry, Biophysics and Molecular Biology	2	0.0%	0.0%	0.0%	0.0%
Chemical Engineering	2	0.0%	0.0%	0.0%	0.0%
Computer Engineering, General	2	0.0%	0.0%	0.0%	0.0%
Computer Science	2	0.0%	50.0%	0.0%	50.0%
Construction Management	2	0.0%	0.0%	0.0%	0.0%
Cosmetology and Related Personal Grooming Services	2	0.0%	0.0%	100.0%	100.0%
Criminology	2	0.0%	0.0%	0.0%	0.0%
Culinary Arts and Related Services	2	0.0%	0.0%	0.0%	100.0%
Culinary Arts and Related Services	2	0.0%	0.0%	0.0%	100.0%
Curriculum and Instruction	2	0.0%	0.0%	0.0%	0.0%
Dance	2	0.0%	100.0%	100.0%	0.0%
Education, Other	2	0.0%	0.0%	0.0%	0.0%
Electrical and Power Transmission Installers	2	0.0%	0.0%	0.0%	50.0%
Engineering-Related Fields	2	0.0%	0.0%	0.0%	0.0%
Fire Protection	2	0.0%	0.0%	0.0%	50.0%
General Sales, Merchandising and Related Marketing Operations	2	0.0%	0.0%	50.0%	100.0%
Health Services/Allied Health/Health Sciences, General	2	0.0%	0.0%	100.0%	50.0%
Heavy/Industrial Equipment Maintenance Technologies	2	0.0%	0.0%	0.0%	50.0%
Housing and Human Environments	2	0.0%	0.0%	0.0%	0.0%
Human Services, General	2	0.0%	0.0%	0.0%	50.0%
Law	2	0.0%	100.0%	0.0%	0.0%
Mechanical Engineering Related Technologies/Technicians	2	0.0%	0.0%	0.0%	0.0%
Medicine (MD)	2	0.0%	100.0%	100.0%	0.0%
Natural Resources Conservation and Research	2	0.0%	0.0%	100.0%	0.0%
Parks, Recreation and Leisure Facilities Management	2	0.0%	0.0%	0.0%	0.0%
Radio, Television, and Digital Communication	2	0.0%	0.0%	100.0%	0.0%
Rehabilitation and Therapeutic Professions	2	0.0%	50.0%	0.0%	0.0%
Religion/Religious Studies	2	0.0%	0.0%	100.0%	0.0%
Social and Philosophical Foundations of Education	2	0.0%	0.0%	0.0%	0.0%
Speech and Rhetorical Studies	2	0.0%	0.0%	0.0%	0.0%
Advanced/Graduate Dentistry and Oral Sciences (Cert)	1	0.0%	0.0%	0.0%	0.0%
Aerospace, Aeronautical and Astronautical Engineering	1	0.0%	0.0%	0.0%	0.0%
Agricultural Mechanization	1	0.0%	0.0%	0.0%	0.0%
Agricultural/Biological Engineering and Bioengineering	1	0.0%	0.0%	0.0%	0.0%
Air Transportation	1	0.0%	0.0%	100.0%	0.0%
Applied Horticulture and Horticultural Business Services	1	0.0%	0.0%	0.0%	0.0%
Archeology	1	0.0%	0.0%	100.0%	0.0%
Architectural Engineering	1	0.0%	0.0%	0.0%	0.0%
Area Studies	1	0.0%	100.0%	100.0%	0.0%
Atmospheric Sciences and Meteorology	1	0.0%	0.0%	100.0%	0.0%
Building/Construction Finishing, Management, and Inspection	1	0.0%	0.0%	0.0%	100.0%
Business, Management, Marketing, and Related Support Services,	1	0.0%	0.0%	0.0%	0.0%
Cell/Cellular Biology and Anatomical Sciences	1	0.0%	0.0%	100.0%	0.0%
Ceramic Sciences and Engineering	1	0.0%	0.0%	0.0%	0.0%
Civil Engineering Technologies/Technicians	1	0.0%	0.0%	0.0%	0.0%
Clinical/ Medical Laboratory Science and Allied Professions	1	0.0%	0.0%	0.0%	0.0%
Communication, Journalism, and Related Programs, Other	1	0.0%	0.0%	100.0%	0.0%
Construction Engineering Technologies	1	0.0%	0.0%	0.0%	0.0%
Data Processing	1	0.0%	0.0%	0.0%	0.0%
Dentistry (DDS, D D)	1	0.0%	100.0%	0.0%	0.0%
Dietetics and Clinical Nutrition Services	1	0.0%	0.0%	100.0%	0.0%
Engineering Technology, General	1	0.0%	0.0%	0.0%	0.0%
Entrepreneurial and Small Business Operations	1	0.0%	0.0%	0.0%	0.0%
Family and Consumer Economics and Related Studies	1	0.0%	0.0%	0.0%	0.0%
Family and Consumer Sciences/Human Sciences, General	1	0.0%	0.0%	100.0%	0.0%
Food Science and Technology	1	0.0%	0.0%	0.0%	0.0%

Foods, Nutrition, and Related Services	1	0.0%	0.0%	0.0%	0.0%
Forestry	1	0.0%	0.0%	100.0%	0.0%
Funeral Service and Mortuary Science	1	0.0%	0.0%	0.0%	100.0%
Geological and Earth Sciences/Geosciences	1	0.0%	0.0%	100.0%	0.0%
Gerontology	1	0.0%	0.0%	0.0%	0.0%
Ground Transportation	1	0.0%	0.0%	0.0%	0.0%
Health-Related Knowledge and Skills	1	0.0%	0.0%	100.0%	100.0%
Industrial and Organizational Psychology	1	0.0%	0.0%	0.0%	0.0%
Insurance	1	0.0%	0.0%	0.0%	0.0%
Legal Professions and Studies, Other	1	0.0%	0.0%	0.0%	0.0%
Management Sciences and Quantitative Methods	1	0.0%	0.0%	0.0%	0.0%
Nuclear and Industrial Radiologic Technologies/Technicians	1	0.0%	0.0%	0.0%	0.0%
Optometry (OD)	1	0.0%	100.0%	100.0%	0.0%
Pharmacy, Pharmaceutical Sciences, and Administration	1	0.0%	100.0%	0.0%	0.0%
Philosophy and Religious Studies, Other	1	0.0%	0.0%	100.0%	0.0%
Plumbing and Related Water Supply Services	1	0.0%	0.0%	100.0%	100.0%
Public Administration and Social Service Professions, Other	1	0.0%	0.0%	0.0%	0.0%
Public Health	1	0.0%	0.0%	100.0%	0.0%
Quality Control and Safety Technologies/Technicians	1	0.0%	0.0%	0.0%	0.0%
Social Psychology	1	0.0%	0.0%	100.0%	0.0%
Technical and Business Writing	1	0.0%	0.0%	100.0%	0.0%
Veterinary Medicine (DV)	1	0.0%	100.0%	100.0%	0.0%
Visual and Performing Arts, General	1	0.0%	0.0%	100.0%	0.0%

Exhibit 15

file

ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 3 PAGES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER MAY 21, 2010	2. CONTRACT NO. (If any) ED-OPE-10-P-0025	5. SHIP TO: OPE YN		
3. ORDER NO.	4. REQUISITION/REFERENCE NO. EDOOPE-10-000052	a. NAME OF CONSIGNEE		
5. ISSUING OFFICE (Address correspondence to) U.S. Department of Education, OPE, ATTN: Yvonne Navalaney, 1990 K Street NW Room 7156 Washington, DC, 20006-8503, USA		b. STREET ADDRESS ATTN: Yvonne Navalaney 1990 K Street NW Room 7156		
7. TO: 00031689 TIN: 300249822		c. CITY Washington	d. STATE DC	e. ZIP CODE 20006-8503

a. NAME OF CONTRACTOR HIGHER EDUCATION, MISSOURI DEPARTMENT OF		8. TYPE OF ORDER		
b. COMPANY NAME		<input checked="" type="checkbox"/> a. PURCHASE <input type="checkbox"/> b. DELIVERY -- Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.		
c. STREET ADDRESS 3515 AMAZONAS DR		REFERENCE YOUR _____ Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.		
d. CITY JEFFERSON CITY	e. STATE MO	f. ZIP CODE 651096821	10. REQUISITIONING OFFICE OOPE	

9. ACCOUNTING AND APPROPRIATION DATA See Schedule	Obligated Amount: \$5,000.00
--	------------------------------

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT Destination	
<input type="checkbox"/> a. SMALL	<input type="checkbox"/> b. OTHER THAN SMALL	<input type="checkbox"/> c. DISADVANTAGED	<input type="checkbox"/> d. SERVICE-DISABLED VETERAN-OWNED		
<input type="checkbox"/> e. WOMEN-OWNED	<input type="checkbox"/> f. HUBZone	<input type="checkbox"/> g. EMERGING SMALL BUSINESS			

13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	16. DISCOUNT TERMS Net 30
a. INSPECTION	b. ACCEPTANCE			

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
See Continuation Page For Line Item Details						

Obligated

18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	17(h) TOT. (Cont. pages) \$5,000.00
21. MAIL INVOICE TO: OPE YN			
a. NAME			17(i) GRAND TOTAL \$5,000.00
b. STREET ADDRESS (or P.O. Box) ATTN: Yvonne Navalaney 1990 K Street NW Room 7156			
c. CITY Washington	d. STATE DC	e. ZIP CODE 20006-8503	

22. UNITED STATES OF AMERICA BY (Signature) 	(b)(6)	23. NAME (Typed) Yvonne M. Navalaney (202) 502-7743 TITLE: CONTRACTING/ORDERING OFFICER
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SCHEDULE Continued

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE \$	AMOUNT \$
	Accounting and Appropriation Data: 0202X2010.A.2010.EPAC0000.6B3.2572A.0AC.000.0000.000000 Cost Applied: \$5,000.00	000000			
0001	For Data Analysis Services of Student Data by the Missouri Department of Higher Education - MDHE contact is Timothy J. Wittmann. Agreed upon cost of services NTE \$5000.	1.00	SE	5,000.00	5,000.00

DATA HANDLING SERVICE AGREEMENT

THIS DATA HANDLING SERVICE AGREEMENT ("Agreement") is made this 21st day of May, 2010, between the Missouri Department of Higher Education, with its principal place of business at 3515 Amazonas Drive, Jefferson City, MO 65109 (MDHE) and the U.S. Department of Education, with its principal place of business at 400 Maryland Avenue, SW, Washington, D.C. 20202 (the "Department") (collectively, the "Parties").

This Agreement is being made to permit the Department's to obtain wage data analysis for certain students that received federal student aid funds, in connection with steps the Department is taking to propose regulations that will be implemented under the Higher Education Act of 1965, as amended.

1. Term. The term of this Agreement shall be for 12 months from the date hereof; provided, however, that any party may terminate this Agreement for any reason upon thirty (30) days prior written notice to the other parties. Notwithstanding the above, any party may terminate this Agreement immediately without notice if:

- (a) Any law is passed or a court of competent jurisdiction or regulatory agency issues or interprets any law, consent decree, or government regulatory agency opinion to cause the Services described hereunder to be a violation of applicable laws or regulations;
- (b) MDHE has materially breached any of its obligations hereunder; or
- (c) The Department has materially breached any of its obligations hereunder.

2. Background. MDHE and the Department each maintain distinct databases that contain information needed for MDHE to perform a data analysis the Education has asked MDHE to perform:

- (a) MDHE maintains separate and distinct databases consisting of Missouri public and proprietary sector student records. The University of Missouri is under contract with MDHE to maintain a secure data server for the storage and transmission of sensitive data. This server houses encrypted UI wage records, which MDHE may access using security protocols authorized by the Missouri Department of Labor and Industrial Relations under MDHE's contract with said entity. The University of Missouri is also under contract with MDHE to execute security protocols ensuring that natural identifiers are never explicitly associated with wage records provided by the Missouri Department of Labor and Industrial Relations.
- (b) The Department maintains the National Student Loan Data System ("the Student Loan Data System"), which is a repository of information about student loans or grants made, insured, or guaranteed by the Federal Government.
- (c) The Department maintains the Student Aid Internet Gateway (SAIG) as a secure system that provides access to certain student information for authorized users through the ED Connect software.
- (d) MDHE has employees that are authorized to use the ED Connect software and SAIG system to obtain student information from the Department.

3. Services. In providing assistance to the Department for research related to student debt and wages, the Parties agree as follows:

- (a) MDHE will provide information to the Department as detailed in Exhibit A.
- (b) The Department will provide information to MDHE as detailed in Exhibit B.
- (c) MDHE will use the information from the Department to perform a data analysis and provide the results of that analysis to the Department as detailed in Exhibit C.
- (d) MDHE may undertake additional analysis of this data for the duration of this Agreement so long as the additional research is provided to the Department. Any other use of the information from the Department by MDHE is not authorized without prior written consent from the Department.
- (e) MDHE staff that have access to the Department information, including staff from the University of Missouri, will apply for an appropriate security clearance from the Department within 10 days after the date this Agreement is signed. MDHE must monitor the applications for the Department clearance, and immediately terminate access to that information for any staff that do not obtain the Department clearance.

4. Authority. The Department is authorized to disclose Privacy Act data from its system of records entitled "National Student Loan Data System" (18-11-06) as published at 64 Fed. Reg. 72395-97 (December 27, 1999), as a routine use to support research and policy analysis to State agencies. This disclosure is also authorized under 20 U.S.C. §1092b

MDHE will not disclose data in individually identifiable form for any of the analysis using information from the Department provided in connection with this Agreement.

5. Conditions on MDHE use of data provided by the Department.

- (a) MDHE will use both the NSLDS data which the Department provides and the data to which MDHE merges the NSLDS data for research and statistical purposes only. Demographic and/or merged data that MDHE prepares under the Agreement will be in the form of statistical summaries that do not permit the identification of an individual or family.
- (b) Except as otherwise required by law, MDHE agrees that it will not provide the NSLDS data supplied by the Department hereunder, including any data inadvertently disclosed under subparagraph (c), below, to any third party, will hold such data in strict confidence, will only disclose such data to those employees within its organization with a need to know, and will not copy or duplicate such information in any manner whatsoever unless required to carry out the purposes of this Agreement and only with the prior consent of the Department. For purposes of this Agreement, the services performed by the University of Missouri staff referenced in Paragraph 2(a) above do not constitute providing or disclosing the information to a third party. This restriction does not apply to the results of the MHED analysis described in Paragraph 3(d).
- (c) If MDHE discovers that there has been a breach of personally identifiable information in the NSLDS data provided by the Department, it will report that breach to the

Department within one hour of discovery of the breach, using the contact information provided in Exhibit D. MDHE will return to the Department any information and/or media inadvertently disclosed and/or supplied by the Department hereunder. If the Department determines that its procedures require notification to affected borrowers, MDHE will carry out the notification. In addition, if the Department determines that an offer of credit monitoring to affected borrowers is appropriate, MDHE agrees to provide them with a credit monitoring service.

6. Charges. The Department will pay MDHE for services under this Agreement up to but no more than \$5,000 to reimburse for approximately 50 hours of programming, data cleaning, and data analysis.

7. Disclaimer and Limitation of Liability.

EXCEPT AS EXPRESSLY STATED IN THIS AGREEMENT, THERE ARE NO EXPRESS WARRANTIES BY ANY PARTY AND NO IMPLIED WARRANTIES OR CONDITIONS, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

NO PARTY HERETO SHALL BE LIABLE TO THE OTHERS FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, DAMAGE TO BUSINESS REPUTATION, LOST BUSINESS, LOST PROFITS, WHETHER FORESEEABLE OR NOT, EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES), HOWEVER CAUSED, WHETHER BY THE NEGLIGENCE OF SUCH PARTY OR OTHERWISE, AND ARISING OUT OF THIS AGREEMENT OR THE USE OF ANY MATERIALS AND SERVICES PROVIDED HEREUNDER.

8. Independent Contractor. Nothing contained in this Agreement shall be interpreted to evidence a joint venture, partnership, or principal/agent relationship as between or among MDHE and the Department. No Party shall have any right or authority to act for, or to assume, create or incur any obligation, liability, or responsibility of any kind, whether express or implied, against, in the name of, or on behalf of the other Party.

9. Waiver. The waiver by one Party of any covenant, condition, obligation, representation, warranty, or promise in this Agreement shall not invalidate this Agreement or be deemed a waiver by such Party of any other covenant, condition, obligation, representation, warranty, or promise. The waiver by a Party of the time for performing any act or condition hereunder does not constitute a waiver of the act or condition itself. The rights and remedies provided each Party shall be cumulative and in addition to any other rights and remedies provided by law or otherwise.

10. Separate Contracts. Nothing in this Agreement shall abrogate any rights or obligations of a Party or the Parties under contracts in effect as of the date that this Agreement enters into force or in any way limit recovery under any representations, warranties, or indemnities provided in those contracts. This Agreement contains the entire and exclusive

agreement of the Parties with respect to its subject matter. This Agreement supersedes any agreements and understandings, whether written or oral, entered into by the Parties prior to its effective date and relating to its subject matter.

11. Modification. No modification or claimed waiver of any of the provisions hereof shall be valid unless in writing and signed by authorized representatives of each of the Parties. If any provision of this Agreement is held illegal or unenforceable, such provision shall be severed and the remainder of the Agreement shall remain in full force and effect. This Agreement may not be assigned by any Party by operation of law or otherwise. The Parties acknowledge it is their intent that this Agreement is being executed in accordance with all applicable laws at the time of signing, and agree to work with one another to modify this Agreement and ratify any activity performed under the Agreement if subsequent amendments are required for this purpose.

12. Publicity. Neither MHED nor the Department may use the name of the other party in any advertising, promotional material, or other publication, or otherwise publicize or communicate its relationship with one another without prior written consent of the other party.

13. Notices. All notices and other communications required or permitted to be given under this Agreement shall be in writing and shall be effective when delivered personally, or upon deposit in the U.S. mail, postage prepaid, addressed to the other party at their respective addresses set forth on the first page hereof, unless by such notice a different address shall have been designated for giving notice hereunder.

14. Counterparts. This Agreement may be executed in counterparts.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

MDHE

Department of Education

(b)(6)

(b)(6)

By:

By:

Dr. Robert Stein
Commissioner of Higher Education
Missouri Department of Higher Education
3515 Amazonas Drive
Jefferson City, MO 65109
Phone: 573-751-1876

David Bergeron
Acting Deputy Assistant Secretary
for Policy, Planning and Innovation
Office of Postsecondary Education
U.S. Department of Education
1990 K Street, NW
Washington, DC 20006
Phone: 202-502-7950

Date: _____

Date: 5/21/2010

Exhibit A to the Data Handling Service Agreement
Information originating from MDHE

MDHE will provide NSLDS with the following data elements for the study through the ED Connect software using the SAIG system:

SSN
First Name
Last Name
DOB
School Code (6-digit OPEID)
Begin Date for Aid Information
End Date for Aid Information

Exhibit B to the Data Handling Service Agreement
Department of Education Data Elements

The Department will use the information provided by MDHE to obtain a data match from the NSLDS on the following items:

****Match Criteria**

- '1' - match on the Social Security Number (SSN), first 3 letters of the first name, and Date of Birth (DOB)
- '2' - match on SSN and first 3 letters of the first name only
- '3' - match on SSN and DOB only
- '4' - match on SSN only
- '5' - no match

The loan types included in the extract are FFEL and Direct subsidized, unsubsidized, and Grad PLUS.

A row of data will be provided for the data elements outlined above for the student/borrower provided at the OPEID and time frame provided.

A row of data will be provided for the data elements outlined above for the student/borrower provided at the OPEID that is NOT within the time frame provided.

Additional rows of data will be provided for the data elements outlined above for the student/borrower provided for other aid information NOT at the OPEID provided.

For the students identified by MDHE, NSLDS will make the following information available to MDHE through the ED Connect software using the SAIG system, with the following information set out in an excel template that the parties have agreed to use:

Student/Borrower SSN

Column R - 'Number of Federal Borrowers': Flag ('Y' or blank) indicating whether or not the student received a loan at that institution

Column S - 'Median Cumulative Federal Loan Amount': A cumulative dollar disbursed for the borrower.

Column T - 'Median Cumulative Federal Loan Amount at Awarding Institution': A cumulative dollar disbursed for the borrower at the 8-digit OPEID for the time period (either provided or retrieved from the loan)

Column V - 'Number in Default': A count of borrowers Defaults

Column W - 'Number in Repayment': A Count of borrowers in Repayment

Column X - 'Number of Pell Recipients': Flag ('Y' or blank) indicated whether or not the student received a Pell Grant at that institution

Column Y - 'Cumulative Pell Awarded': A cumulative dollar of Pell Grant disbursed for the student at the 8-digit OPEID for the time period (either provided or retrieved from the grant)*

Additional Field - 'Match/Discrepancy Flag': Flag to indicate if a match** was made for the student/borrower provide ('Y') or if the student/borrower received aid at the same provided institution, but outside the time frame provided ('D'). Values for field are 'Y', 'D', or blank

Additional Field - 'Match Criteria'**: The level of match made for the student/borrower provided by DHE. Values for field are '1', '2', '3', '4', or '5'

Additional Field - 'Begin Date': Either provided or extracted for the begin date of the time period for which aid is received Additional Field - 'End Date': Either provided or extracted for the end date of the time period for which aid is received

Exhibit C to the Data Handling Service Agreement
MDHE system security and data analysis.

MDHE will use the following procedures with the information obtained from the Department:

Confidentiality/Limitation of Use

Confidential Information will be stored in an area that is physically safe from access by unauthorized persons at all times. Confidential Information that is maintained in electronic format, will be stored on a secure server in the state data storage center in such a way that unauthorized persons cannot obtain the information by any means. Access via individual user terminals will be limited to primary research investigators. Terminal access is restricted by strong password.

Description of Analyses:

ED Analysis

MDHE will utilize federal borrowing (NSLDS) data matched to students who have exited a Missouri postsecondary institution as a basis for aggregate reporting to ED. For every unique combination of (1) institution/OPE ID and sector, (2) award level, (3) four-digit classification of instructional program, and (4) graduate (completer) / non-graduate (drop-out/stop-out) status, MDHE will report aggregate Missouri wage and employment outcomes, as well as federal borrowing data, including medians and percentiles. Minimum reporting standards are met if and only if a given group of students contains at least 6 observations; if this standard is not met for a particular group or groups, statistics on those groups will be censored.

MDHE-Specific Analysis

MDHE may continue to perform student loan and wage data analysis on the information provided by the Department for the term of this Agreement. Confidential data will be stored in the secure state data storage center described above. The additional MDHE analysis will consider additional policy variables related to the presence or absence of a state scholarship. The end result would be a summary table containing aggregate federal borrowing, employment, and educational outcomes information by institution, crossed with other categorical variables. Statistics calculated on groups containing fewer than 6 students will be censored, and the final report will contain only aggregate, rather than individually-identifiable student data. The MDHE-specific analysis will be provided to the Department throughout the term of this Agreement.

For both the ED and MDHE-specific analyses, MDHE may require technical assistance from University of Missouri contractors for the purpose of encrypting identifiers. This process requires secure transmission of identifiable MDHE and NSLDS data, using an SCP or Telnet client, to a password-protected FTP server. This server may only be accessed using authorized credentials from a terminal with an approved IP address, and data are encrypted during file uploads to and downloads from the server. Once the data is securely stored on the FTP server, any identifying information (SSNs) will be immediately encrypted using a substitution algorithm accessible only by authorized University of Missouri researchers, resulting in a surrogate key in place of any identifying information. The process will destroy the dataset containing confidential information after a very brief work period, eliminating any confidential information from the server. The original, identifiable student records associated with NSLDS data will be stored in MDHE's secure data server for either the term of this Agreement or through the conclusion of the MDHE-specific analyses, whichever comes first.

Disposition of Data

MDHE will dispose of individual federal borrower data in the timeframe and manner prescribed by ED. MDHE will notify the Department when the NSLDS data has been destroyed.

Deliverable to ED

The aggregate data described above will be stored in a summary table format and transmitted to ED using either the ED Connect software described above or any other procedure deemed appropriate by ED. Since the summary data will not contain individually-identified information, transmission via electronic mail may be permissible.

Exhibit D to the Data Handling Service Agreement
Department of Education Contact for Data Breach

Barbara Cobbs
FSA NSLDS System Security Officer
Federal Student Aid
U.S. Department of Education
830 First Street, N.E.
Washington, D.C. 20202
(202) 377-3555
Barbara.cobbs@ed.gov

SOLE SOURCE JUSTIFICATION

Data Analysis with the Missouri Department of Higher Education

The Missouri Department of Higher Education (MDHE) is the only State in the U.S. that has a postsecondary student unit record data system with for-profit institutions and a UI wage record match. They are working on behalf of the Department of Education (ED) to generate data that provide the only source of information available on the relationship among borrowing, program of completion, and subsequent wages -- permitting ED to understand debt in to income in public and for-profit institutions.

The Missouri Department of Higher Education is providing ED with a file of approximately 80,000 exiters from their institutions of higher education (graduates and dropouts). The Department are matching the file to our NSLDS data, and returning it to them. MDHE is taking this and matching it to its postsecondary student unit data, and then linking it to UI wage data, carrying out an analysis of the data, and returning to ED tables that will be used in its analysis. MDHE is undertaking about 80 hours of meetings, planning, data transfer, data matching, data cleaning, data analysis, and table creation for ED.

This work is being directed by Timothy Wittmann of the Missouri Department of Higher Education. His contact details are below.

Timothy J. Wittmann
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