Student Aid Policy Analysis

Consequences of the 90/10 Rule

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OVERVIEW

The 90/10 rule requires for-profit colleges to get at least 10% of their revenues from sources other than federal student aid. Proponents argue that the "skin in the game" rationale behind the rule ensures that the programs are of sufficient quality that students are willing to invest some of their own money in their education. But low-income students may be incapable of contributing any funds to the cost of their education, even if they are willing to do so, because they lack financial resources. Accordingly, colleges that enroll significant numbers of low-income students may be at greater risk of violating the 90/10 rule.

This paper analyzes the characteristics of students and institutions that help or hurt a college's compliance with the 90/10 rule. For example, Federal Pell Grant recipients, low-income students, students with a low Expected Family Contribution (EFC) (especially zero EFC), students with greater utilization of federal unsubsidized Stafford loans, underrepresented minority students (especially Black and Hispanic students), female students, independent students, GED recipients, first-generation college students, part-time enrollment, and students with lower high school GPAs and test scores may hurt compliance with the 90/10 rule.

Colleges¹ may have a tendency to discriminate against these characteristics as the percentage of revenue from federal student aid approaches the 90% threshold. This type of discrimination may not be readily apparent, since these characteristics tend to be over-represented at the institutions that are subject to the 90/10 rule. For example, colleges with about 62% or more of their enrollment receiving the Federal Pell Grant are at higher risk of non-compliance with the 90/10 rule. With only about a quarter of the students at public and private non-profit colleges receiving a Federal Pell Grant,² for-profit colleges could reduce their share of Federal Pell Grant recipients and still enroll a greater proportion of Federal Pell Grant recipients than the traditional colleges. Similarly, adopting a more selective admissions policy might improve compliance with the 90/10 rule.

Counting military student aid in addition to Title IV federal student aid would increase the percentage of revenue from federal student aid by about 2 percentage points on average. While this is not much of a change overall, individual colleges that are more reliant on military student aid might be more significantly impacted by such a change in the scope of the 90/10 rule. This includes colleges that have a high military student enrollment because they are better at addressing the needs of servicemembers and veterans. The 90/10 rule might then preclude some veterans from enrolling in these colleges.

Counting education tax benefits, such as the American Opportunity Tax Credit, Lifetime Learning Tax Credit and Tuition & Fees Deduction, as part of federal student aid would have a greater impact than counting military student aid, increasing the percentage of revenues from federal student aid by about 7

¹ The term "colleges" as used in this paper is intended to include both colleges and universities.

² 23.0% and 26.3%, respectively.

percentage points overall. The increase would be 5 percentage points at private for-profit colleges, 4 percentage points at private non-profit colleges and 10 percentage points at public colleges.

Some opponents of the 90/10 rule have argued that the rule should be applied to all colleges, not just forprofit colleges, since the government should seek to improve the quality of all colleges. Overall, almost two-thirds of institutional revenue across all types of colleges comes from federal student aid. The figures are 42% for private non-profit colleges, 70% for private for-profit colleges and 82% for public colleges (98% at community colleges and 77% at public 4-year colleges).

The percentage of Title IV revenue is highest at public colleges in part because they charge lower tuition and fees. Generally, colleges that charge less than \$8,000 in tuition and fees have a much higher 90/10 percentage than colleges that charge \$8,000 or more. The lower tuition and fees means that the federal student aid covers more of the cost, making it more difficult for the college to comply with the 90/10 rule. Most public colleges would not be able to comply with the 90/10 rule if it applied to them, especially if state appropriations and grants were included in the percentage of revenue from government aid. More than 90% of the real cost of education at public colleges and universities comes from federal aid, state aid and state appropriations.

RECOMMENDATIONS

As is, the 90/10 rule is ineffective at measuring educational quality. Instead, it depends heavily on the demographics of each college's student population, measuring *ability* to pay more than *willingness* to pay.

There are several possible approaches to addressing the shortcomings of the 90/10 rule, ranging from repeal, to excluding high-risk students from the scope of the metric to normalizing the metric according to student demographics or the EFC distribution. One could use these solutions alone or in combination.

- **Repeal the 90/10 rule.** The 90/10 rule is one of several financial proxies for perceived institutional quality, including cohort default rates and gainful employment. But aside from limiting federal investment in postsecondary education, the 90/10 rule acts in conflict with key public policy goals, such as reducing college costs and increasing enrollment by underrepresented minority students, low-income students and other high-risk populations. Substituting direct measurement of institutional quality, such as licensing rates on state licensing exams and pass rates on independent competency tests, might be more effective.
- Exclude student loans from the 90/10 rule if the college has a low cohort default rate.³ After all, if a loan is repaid, it represents skin in the game. Loans also aren't really financial aid, since they are usually repaid with interest. Alternately, one could count only the college's annual dollar default volume as part of the revenue from federal student aid, so colleges with a higher default rate would be penalized in the 90/10 rule.
- Exclude low-income students, such as Pell Grant recipients or zero-EFC students, from the 90/10 rule calculation. By excluding low-income students, the 90/10 rule would measure the extent to which students who are capable of contributing financially to their education actually do so. This would eliminate much of the influence of demographics on a student's ability to have skin in the game. Most low-income students are generally incapable of contributing to the cost of their education. When a student has a very low EFC, the government is effectively saying that

³ It might be better to base this requirement on the college having a high loan repayment rate, since the cohort default rate is prone to manipulation by colleges.

they cannot and should nor pay out of pocket for any percentage of their college costs. Most Federal Pell Grant recipients are incapable of contributing 10% or more in funds from sources other than federal student aid.

- Count only revenue from students whose EFC exceeds 10% of net tuition revenue or the unsubsidized Stafford loan limits. If the EFC is below the annual unsubsidized Stafford loan eligibility limits, the student is very unlikely to contribute to the 10% because the student can pay for their share of college costs entirely with federal student loans.
- Waive the 90/10 rule for colleges that have below-average tuition rates,⁴ below-average tuition inflation rates and/or below-average dollar tuition increases as compared with public colleges, CPI-U or some other index. This would provide the colleges with an incentive to offer an affordable college education.
- Use a weighted measure, where the 90/10 percentage is weighted by the student's EFC. This would count contributions to the 90/10 percentage from high-income students more heavily than contributions from low-income students. For example, one could calculate a simple weighting of the students' contributions to the 90/10 percentage by EFC as follows where f(x) = x:

$$\frac{\sum_{i=1}^{n} f(EFC_i) * Contribution to \frac{90}{10} Percentage_i}{\sum_{i=1}^{n} f(EFC_i)}$$

A more sophisticated weighting would set f(x) = x for x > 5,000 and f(x) = 0 otherwise. This would count the contribution toward the 90/10 percentage of only those students who had an EFC greater than 5,000.

METHODOLOGY

The analysis in this report is based on data from the 2007-08 National Postsecondary Student Aid Study (NPSAS:08) and the 2010-11 Integrated Postsecondary Education Data System (IPEDS). The NPSAS is a large survey conducted every four years by the National Center for Education Statistics (NCES) at the U.S. Department of Education. The 2007-08 NPSAS surveyed 114,000 undergraduate students about how they paid for college. The analysis of NPSAS data was performed using the data analysis system⁵ and the PowerStats system.⁶

HISTORY OF THE 90/10 RULE

The 90/10 rule requires private for-profit colleges⁷ to get no more than 90 percent of their revenues from Title IV federal student aid. The rule is intended to ensure that students have "skin in the game" – that the college is of sufficient quality that the students and their families (or another source) are willing to pay part of the cost from their own funds. It is argued that the 90/10 rule's restriction on the percentage of revenue from federal student aid yields an indirect metric of program quality. For example, The Institute for College Access and Success (TICAS) wrote "Someone other than the federal government will have to

⁴ Below-average costs would include tuition and all required fees to prevent colleges from manipulating their compliance by increasing non-tuition charges.

⁵ <u>http://nces.ed.gov/dasol</u>

⁶ <u>http://nces.ed.gov/datalab/powerstats/</u>

⁷ The 90/10 rule applies only to private for-profit colleges. Public and private non-profit colleges are not required to comply with the 90/10 rule.

be willing to pay for its programs. This will happen only if the school is offering a quality education worth paying for."⁸

The 90/10 rule currently appears in section 487(a)(24) and (d) of the Higher Education Act of 1965 [20 USC 1094(a)(24) and (d)]. The statutory language states:

In the case of a proprietary institution of higher education (as defined in section 1002(b) of this title), such institution will derive not less than ten percent of such institution's revenues from sources other than funds provided under this subchapter and part C of subchapter I of chapter 34 of title 42, as calculated in accordance with subsection (d)(1), or will be subject to the sanctions described in subsection (d)(2).

The 90/10 rule was originally introduced as the 85/15 rule by the Higher Education Amendments of 1992 (P.L. 102-325, 7/23/1992), effective October 1, 1992.

A similar 85/15 student ratio rule for Veterans Affairs (VA) funding was introduced at about the same time. The student ratio rule, which was enacted by the Veterans' Benefits Act of 1992 (P.L. 102-568, 10/29/1992) and which appears in 38 USC 3680A(d)(1), requires that no more than 85 percent of a program's students be receiving funding from the Department of Veterans Affairs. A similar requirement appeared previously in 38 USC 1673(d), which was enacted as part of the Veterans' Readjustment Assistance Act of 1952, also known as the Korean Conflict GI Bill (P.L. 82-550, 7/16/1952).

The 85/15 rule for federal student aid was subsequently changed to become the 90/10 rule by the Higher Education Amendments of 1998 (P.L. 105-244, 10/7/1998), effective October 1, 1998. This legislation also moved the language for the 90/10 rule from section 481(b) of the Higher Education Act of 1965 [20 USC 1088(b)] to section 102(b)(1)(F) [20 USC 1002(b)(1)(F)]. The Higher Education Opportunity Act of 2008 (P.L. 110-315, 8/14/2008) subsequently moved the language to section 487(a)(24) of the Higher Education Act of 1965 [20 USC 1094(a)(24)] and replaced the regulations for calculating the percentage of revenues with a statutory encoding in a new section 487(d).

There are several pending legislative proposals for fixing flaws in the 90/10 rule:

- Loopholes in the types of aid that are counted as part of federal student aid
 - Some proponents of the 90/10 rule want military student aid, such GI Bill and Tuition Assistance funds, to be counted as part of federal student aid alongside Title IV federal student aid. Military student aid is not currently counted as part of the percentage Title IV revenue. Some for-profit colleges recruit members of the military to help them comply with the 90/10 rule.
 - Some proponents of the 90/10 rule want education tax benefits, such as the American Opportunity Tax Credit, Lifetime Learning Tax Credit and the Tuition & Fees Deduction, counted as part of federal student aid.⁹

⁸ *Q&A on the For-Profit College "90-10 Rule"*, TICAS, October 30, 2011.

⁹ This proposal is least likely to be enacted because of practical considerations. Education tax benefits are received long after the start of the academic year. Education tax benefits are also received directly by the family, not the colleges, so data on student utilization of education tax benefits is not available to the colleges. It might also be difficult to calculate the financial benefit, especially if a taxpayer claims benefits for two or more students.

- Tighter thresholds on the percentage of revenues from federal student aid
 - Some proponents of the 90/10 rule would like to see a return to the 85% threshold that was in effect when the 85/15 rule was first adopted in 1992.
 - Some proponents of the 90/10 rule have proposed a ban on using federal student aid funds for marketing, recruiting and lobbying activities. This would be the equivalent of an 80/20 rule, since many of the largest for-profit colleges currently spend about 20% of revenues on student recruiting, marketing and lobbying efforts.

Opponents of the 90/10 rule argue that the 90/10 rule forces colleges that are close to the threshold to increase tuition to compensate for increases in federal student aid. The Government Accountability Office (GAO) issue a report¹⁰ that showed no "relationship between a school's tuition rate and its likelihood of having a very high 90/10 rate." Colleges with lower tuition rates did not have higher 90/10 percentages. However, the GAO study compared absolute tuition levels with absolute percentage Title IV figures, but did not study the correlations between changes in tuition levels and changes in the availability of federal student aid.

The analysis in this paper refutes the GAO study by demonstrating an inverse relationship between tuition levels and the percentage Title IV federal student aid. The GAO study did find that colleges with a higher percentage of low-income students (e.g., Federal Pell Grant recipients) were more likely to have a higher 90/10 rate, consistent with the findings of the present paper.

IMPACT OF THE 90/10 RULE

There is very little prior analysis of the impact of student characteristics on compliance with the 90/10 rule. Most previous analyses evaluate the impact of the rule on postsecondary educational institutions, not students.

It is possible to calculate the contribution of student and institutional characteristics to compliance with the 90/10 rule. Characteristics for which the percentage of revenue from federal student aid ("90/10 percentage") is below 90% will contribute to a postsecondary educational institution's compliance with the 90/10 rule, while characteristics for which the 90/10 percentage is 90% or greater will make it more difficult for the institution to comply with the 90/10 rule.

The 90/10 percentage for a characteristic can be approximated by calculating the ratio of the mean¹¹ total Title IV federal student aid to the difference between mean tuition and fees and mean institutional grants.¹² This is roughly the percentage of net tuition revenue that is attributable to Title IV federal student aid.

For example, given mean tuition and fees paid of \$5,801 across all types of colleges, mean institutional grants of \$989, and mean total federal Title IV aid of \$3,071, the percentage of revenues from Title IV

¹⁰ Government Accountability Office (GAO), *For-Profit Schools: Large Schools and Schools that Specialize in Healthcare Are More Likely to Rely Heavily on Federal Student Aid*, GAO-11-4, October 4, 2010. http://www.gao.gov/cgi-bin/getrpt?GAO-11-4

¹¹ The mean divides the total by all students (with zeros), not just the average across the students who received the particular form of financial aid.

¹² Institutional grants are not counted because a college could reduce its 90/10 percentage by raising tuition and refunding part of tuition to all or some students in the form of institutional grants.

student aid is 3,071 / (5,801 - 989) = 64%. Including the mean veterans benefits and DOD of 127 as part of federal student aid would increase the percentage to 66%.

So overall, almost two thirds of institutional revenue across all types of colleges comes from federal student aid. The figures disaggregated by institution type are 42% for private non-profit colleges, 70% for private for-profit colleges and 82% for public colleges.¹³ The percentage of Title IV revenue is highest at public colleges in part because of their lower tuition rates.

Tables 1-16 show the impact of other demographic variables on the 90/10 percentage. These figures are for undergraduate students at all institutions, not just for-profit colleges and universities. Tables 17-28 disaggregate the data by institutional control.

Table 1 shows that Federal Pell Grant recipients do not contribute to a college's compliance with the 90/10 rule. The percentage of Title IV revenue exceeds 100% because the aid received by low-income students also pays for other components of the college's cost of attendance, such as room and board, books and supplies, transportation, and personal/miscellaneous expenses, not only tuition and fees.

Table 1 Characteristic	90/10 Percentage	90/10 Percentage with Military Aid Adjustment	Ratio of Institutional Grants to Tuition
Overall	64%	66%	17%
Federal Pell Grant			
None	39%	42%	17%
Some	<mark>121%</mark>	124%	17%

Even among Federal Pell Grant recipients, there are differences according to the Expected Family Contribution (EFC). Students with lower EFCs receive more Title IV aid and so are less likely to contribute to the college's compliance with the 90/10 rule. A college could improve compliance while still enrolling the same number of Federal Pell Grant recipients by shifting the mix of recipients to those with higher EFCs.

Table 2		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition
Overall	64%	66%	17%
EFC			
Zero	<mark>100%</mark>	104%	12%
1 to 2,499	<mark>98%</mark>	102%	19%
2,500 to 4,999	76%	80%	19%
5,000 to 7,499	62%	66%	21%
7,500 to 9,999	57%	61%	20%
10,000 or more	35%	37%	17%

¹³ These figures consider only federal student aid, not state grants or direct state appropriations to public colleges. Few public colleges would be able to comply with the 90/10 rule if it applied to them and counted *all* government funding, not just *federal* aid.

Table 3 shows a similar effect when the 90/10 percentage is disaggregated by the student's family Adjusted Gross Income (AGI). There is a strong correlation between family AGI and the contribution to a college's compliance with the 90/10 rule. Students from higher-income families contribute more to a college's compliance with the 90/10 rule.

Table 3 Characteristic	90/10 Percentage	90/10 Percentage with Military Aid Adjustment	Ratio of Institutional Grants to Tuition
Overall	64%	66%	17%
Income (AGI)			
Very Low Income (< \$25K)	98%	102%	13%
Low Income (< \$50K)	89%	93%	15%
Middle Income (\$50K to \$100K)	51%	53%	21%
High Income (\$100K or more)	30%	30%	17%

Family income influences the choice of college, with students from low-income families tending to choose lower-cost colleges, as illustrated in the next chart.



Despite this trend, the net price (cost of attendance after subtracting grants) represents a greater percentage of family income among lower-income students. The next chart shows the net price as a percentage of family AGI flattening out after family income reaches about \$70,000.



Clearly, the concept of "skin in the game" is not valid when students are so poor that they cannot contribute any financial resources to their education. This forces them to enroll at lower-cost colleges where the federal student aid including loans covers most of the cost and at colleges with more generous institutional financial aid policies. Accordingly, colleges that enroll many low-income students are less likely to comply with the 90/10 rule.

The next chart shows the relationship between family AGI and the percentage of revenue from Title IV federal student aid. It demonstrates that the contribution to compliance with the 90/10 rule improves with increasing family income, providing colleges with an incentive to discriminate against low-income students.

The blue line reflects the percentage of revenues from Title IV federal student aid while the red line adds in the impact of military student aid. The disparity is greatest among low-income students, where it is as much as 5%. While on average the inclusion of military student aid does not affect the percentage of revenues significantly, some colleges may vary significantly from the average. Community colleges, for example, have a 9 percentage point increase in the percentage of revenues from federal student aid when military student aid is included.



The 90/10 rule's "skin in the game" metric is only meaningful to the extent to which the students are capable of contributing financially to their education. As the *Percentage Revenue from Federal Student Aid by Family AGI* chart demonstrates, low-income students are largely incapable of contributing to the cost of their education. For most colleges, the percentage of revenue from federal student aid measures the extent to which the college serves low-income students, not the students' willingness to pay for their education.

This practice may provide an incentive for colleges to discriminate against low-income students and Federal Pell Grant recipients because it may help their institutions comply with the 90/10 rule.

The 90/10 rule would be a more meaningful metric if the results were normalized according to the student's ability to contribute to the cost of his/her education. It would then measure the student's willingness to pay all or part of the cost of his/her education. There are several possible approaches that base the 90/10 calculation on the student's EFC or the student's status as a Federal Pell Grant recipient or non-recipient:

- Exclude Zero EFC students from the calculation because they have no ability to pay.
- Exclude Federal Pell Grant recipients from the calculation. The percentage of revenue from federal student aid would then be based only on students who do not receive a Federal Pell Grant.
- Count only students whose EFC exceeds 10% of net tuition revenue or the unsubsidized Stafford loan limit.
- Weight the percentage of revenue from federal student aid for each student by the student's EFC.

Table 4 demonstrates that underrepresented minority students contribute a higher percentage of revenue from federal student aid (78%) than Caucasian students (56%), perhaps a reflection of the greater tendency for underrepresented minority students to come from low-income families. Black or African American students have the highest percentage of revenue from federal student aid (96%), followed by

Hispanic or Latino students (82%). This provides an incentive for colleges to discriminate against minority students since it may help them comply with the 90/10 rule.

Table 4		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
Race			
White	56%	59%	18%
Black or African American	<mark>96%</mark>	99%	14%
Hispanic or Latino	82%	84%	15%
Asian	42%	43%	18%
American Indian or Alaska Native	69%	73%	12%
Native Hawaiian / Pacific Islander	63%	67%	14%
Other	63%	68%	11%
More than One Race	72%	76%	19%
Minority	78%	81%	16%

Female students have a higher 90/10 percentage than male students, potentially leading to discrimination against women.

Table 5	90/10 Percentage	90/10 Percentage with Military Aid	Ratio of Institutional Grants
Overall	64%	66%	17%
Gender	0470		1770
Male	57%	61%	17%
Female	69%	70%	17%

Table 6 shows the impact of dependency status on the 90/10 percentage.

Table 6		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
Dependency Status (2 Categories)			
Dependent	54%	54%	21%
Independent	83%	90%	6%
Dependency Status (3 Categories)			
Dependent	54%	54%	21%
Independent without Dependents	77%	85%	8%
Independent with Dependents	89%	94%	5%

Independent students¹⁴ have a higher 90/10 percentage. Independent students are also much more common at private for-profit colleges, in contrast with public and private non-profit colleges.¹⁵

Table 7 illustrates the impact of academic performance on compliance with the 90/10 rule. Students who have a higher high school GPA or higher admissions test scores tend to have lower 90/10 percentages. This may cause colleges to adopt more selective admissions policies to help them comply with the 90/10 rule.

Table 7		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
High School GPA			
0.5-1.9 (D- to C)	80%	83%	9%
2.0-2.4 (C to B-)	73%	76%	10%
2.5-2.9 (B- to B)	71%	74%	12%
3.0-3.4 (B to A-)	62%	64%	15%
3.5-4.0 (A- to A)	53%	54%	25%
SAT/ACT Composite Score			
< 600	85%	87%	6%
600 to 799	88%	90%	11%
800 to 999	71%	73%	16%
1000 to 1199	56%	58%	21%
1200 to 1399	39%	41%	27%
1400 or more	21%	22%	27%
< 1000	75%	78%	14%
1000 or more	47%	49%	23%

A similar phenomenon is seen with high school degree type. Students with a GED tend to hurt a college's compliance with the 90/10 rule, so some colleges might decide to stop admitting students with only a GED.

¹⁴ Independent student status is defined in the Higher Education Act of 1965 at 20 USC 1087vv(d). It includes students who are 24 years old as of December 31 of the award year, married students, students with dependents other than a spouse, graduate and professional school students, veterans, servicemembers serving on active duty for other than training purposes, and orphans, among other criteria. Any student who is not independent is considered dependent.

¹⁵ It is unclear why independent student enrollment is disproportionately high at for-profit colleges and disproportionately low at public and private non-profit colleges. Independent students are more likely to work full-time while enrolled, especially those who enroll at for-profit colleges. Based on data from the 2007-08 NPSAS, 51.0% of independent students work full-time while in college, compared with 15.5% of dependent students.

Table 8		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
High School Degree Type			
High school diploma	64%	67%	18%
GED or other equivalency	<mark>93%</mark>	97%	5%
High school completion certificate	62%	64%	8%
Attended foreign high school	21%	21%	15%
No high school degree or certificate	64%	64%	5%
Home schooled	63%	70%	27%

Curiously, students from larger families contribute more toward a college's compliance with the 90/10 rule, but there is little difference among students who do and do not have siblings in college. Since the 90/10 percentages are similar for families of 3 or more, this effect may be due to the impact of independent students and students from single-parent households.

Table 9		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition
Overall	64%	66%	17%
Family Size			
1	81%	88%	8%
2	76%	79%	13%
3	63%	65%	17%
4	56%	58%	20%
5	56%	57%	20%
6+	60%	61%	20%
Have Siblings in College			
No	55%	56%	21%
Yes	51%	51%	22%

Students who are the first in their family to attend college have a much higher 90/10 percentage than students who are not first-generation college students. First-generation college students are defined as having both parents with a highest education level below a Bachelor's degree.

Table 10		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
Parent's Highest Education Level			
Less than Bachelor's Degree	79%	83%	15%
Bachelor's Degree or Higher	46%	48%	20%

Students who enroll part-time have a higher 90/10 percentage than students who enroll full-time. So despite these students having higher income and reduced eligibility for need-based aid, they do not help the college comply with the 90/10 rule. This may be due to the students being independent students who need to support themselves and their families in addition to paying for college expenses.

Table 11	22/42 2	90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
Attendance Intensity in Fall			
Full-Time	60%	62%	19%
Part-Time	80%	84%	6%

Similar results are demonstrated by the Persistence and Attainment Risk Index, which counts the number of risk factors that are known to affect retention and completion. These risk factors include delayed enrollment, lack of a high school diploma, part-time enrollment, financial independence, having dependents other than a spouse, single parent status and working full-time while enrolled (35 or more hours a week). As Table 12 illustrates, students with more risk factors are less likely to help a college comply with the 90/10 rule. At-risk students need more financial support to succeed, which provides colleges with a disincentive to enroll such students.

Table 12		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Characteristic	90/10 Percentage	Adjustment	to Tuition
Overall	64%	66%	17%
Index of Risk			
None	51%	52%	24%
One	66%	68%	15%
Тwo	74%	80%	8%
Three	79%	86%	5%
Four	84%	90%	5%
Five	<mark>90%</mark>	95%	4%
Six	<mark>101%</mark>	106%	4%
Seven	<mark>108%</mark>	109%	2%
Two or Less	57%	58%	20%
Three or More	85%	91%	5%

Table 13 shows that veterans have a higher 90/10 percentage than students who have not served in the military. The 90/10 percentage for students on active duty or in the Reserves is lower, perhaps because of the use of GI Bill and ROTC money to help pay for school.

Table 13 Characteristic	90/10 Percentage	90/10 Percentage with Military Aid Adjustment	Ratio of Institutional Grants to Tuition
Overall	64%	66%	17%
Military Service			
None	64%	64%	17%
Active Duty	43%	91%	5%
Reserves	10%	89%	11%
Veteran	74%	136%	5%

Institutional Characteristics

Institutional characteristics also correlate with compliance with the 90/10 rule. Table 14, for example, demonstrates that colleges that charge less than \$8,000 in tuition and fees have a higher 90/10 percentage than colleges that charge \$8,000 or more. The lower cost means the federal student aid covers more of the cost, making it more difficult for the college to comply with the 90/10 rule.

Table 14		90/10 Percentage with Military Aid	Ratio of Institutional Grants
Institutional Characteristics	90/10 Percentage	Adjustment	to Tuition & Fees
Overall	64%	66%	17%
Tuition & Fees Paid			
Less than \$500	<mark>151%</mark>	173%	27%
\$500-999	<mark>98%</mark>	110%	8%
\$1,000-1,999	<mark>104%</mark>	115%	5%
\$2,000-3,999	<mark>104%</mark>	109%	9%
\$4,000-7,999	92%	94%	13%
\$8,000-11,999	65%	67%	13%
\$12,000-15,999	54%	55%	13%
\$16,000-19,999	45%	46%	20%
\$20,000 or more	32%	33%	25%
< \$8,000	<mark>98%</mark>	103%	11%
\$8,000 or more	43%	45%	21%

The type of college has an impact on the 90/10 percentage. The 90/10 percentage is 82% at public colleges and universities (98% at community colleges and 77% at public 4-year colleges), 42% at private non-profit colleges and universities and 70% at private for-profit colleges. The 90/10 percentage is higher at public colleges than at private for-profit colleges because the costs are lower. Lower tuition and fees yields a higher 90/10 percentage because the denominator is smaller while the numerator (the per-student utilization of federal student aid funds) is similar.

Many public colleges would not be able to comply with the 90/10 rule if it applied to them, especially if state appropriations and grants were included in the percentage of revenue from government aid. More than 90% of the real cost of education at public colleges and universities comes from federal aid, state aid and state appropriations.

Table 15		90/10 Percentage	Ratio of
		with Military Aid	Institutional Grants
Institutional Characteristics	90/10 Percentage	Adjustment	to Tuition
Overall	64%	66%	17%
Undergraduate Degree Program			
Certificate	65%	67%	2%
Associate's Degree	82%	88%	4%
Bachelor's Degree	59%	61%	21%
Institution Control			
Public	82%	86%	13%
Private Non-Profit	42%	43%	27%
Private For-Profit	70%	72%	1%
Institution Type			
Public 4-Year	77%	80%	14%
Public 2-Year	<mark>98%</mark>	107%	7%
Public < 2-Year	55%	57%	1%
Private Non-Profit 4-Year	42%	43%	27%
Private Non-Profit 2-Year	57%	59%	4%
Private Non-Profit < 2-Year	52%	52%	2%
Private For-Profit 4-Year	73%	75%	1%
Private For-Profit 2-Year	70%	72%	0%
Private For-Profit < 2-Year	61%	62%	2%
Institution Control x Degree Level			
Public Bachelor's	77%	80%	15%
Public Associate's	<mark>101%</mark>	110%	7%
Public Certificate	62%	67%	6%
Private Non-Profit Bachelor's	42%	43%	28%
Private Non-Profit Associate's	54%	56%	5%
Private Non-Profit Certificate	40%	40%	3%
Private For-Profit Bachelor's	75%	77%	1%
Private For-Profit Associate's	67%	70%	1%
Private For-Profit Certificate	68%	69%	1%

Using IPEDS data, it is possible to estimate the number of colleges that would comply with the 90/10 rule if the 90/10 rule applied to all colleges. The data in Table 16 is based on a comparison of the sum of total Federal Pell Grant and federal education loan funding received by the college with the total gross tuition revenue. It may understate the actual 90/10 percentage due to discounting and due to the exclusion of FSEOG grants and Federal Work-Study funding from the analysis.

Table 16	
Institutional Characteristics	Percentage Complying with 90/10 Rule
Overall	68%
Institution Control	
Public	<mark>37%</mark>
Private Non-Profit	92%
Private For-Profit	84%
Institution Type	
Public 4-Year	<mark>60%</mark>
Public 2-Year	<mark>20%</mark>
Public < 2-Year	70%
Private Non-Profit 4-Year	92%
Private Non-Profit 2-Year	87%
Private Non-Profit < 2-Year	81%
Private For-Profit 4-Year	86%
Private For-Profit 2-Year	80%
Private For-Profit < 2-Year	89%

90/10 PERCENTAGES BY INSTITUTION TYPE

Tables 17-28 disaggregate the 90/10 percentages by institution type.

Differences according to control of college are partly due to differences in college costs and partly due to differences in enrollment patterns. Public colleges tend to be less expensive, yielding higher 90/10 percentages.

Table 17			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Federal Pell Grant			
None	45%	30%	55%
Some	<mark>209%</mark>	89%	78%
EFC			
Zero	<mark>148%</mark>	73%	76%
1 to 2,499	<mark>138%</mark>	72%	73%
2,500 to 4,999	<mark>97%</mark>	59%	64%
5,000 to 7,499	72%	50%	64%
7,500 to 9,999	68%	43%	61%
10,000 or more	42%	26%	57%
Income (AGI)			
Very Low Income (\$0K to \$25K)	<mark>144%</mark>	69%	74%
Low Income (\$0K to \$50K)	<mark>123%</mark>	64%	72%
Middle Income (\$50K to \$100K)	58%	39%	62%
High Income (\$100K or more)	38%	23%	57%

Table 18 shows differences by control and race. Notice how the private non-profit colleges have much lower 90/10 percentages than for-profit colleges for white and Asian students than for Black or African American and Hispanic or Latino students. This may be due to differences in socio-economic status within each minority student group at each type of college.

Table 18			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Race			
White	71%	38%	68%
Black or African American	<mark>145%</mark>	67%	74%
Hispanic or Latino	<mark>115%</mark>	63%	70%
Asian	53%	25%	69%
American Indian or Alaska Native	<mark>113%</mark>	41%	44%
Native Hawaiian / Pacific Islander	<mark>90%</mark>	42%	73%
Other	<mark>95%</mark>	36%	58%
More than One Race	<mark>95%</mark>	50%	71%
Minority	<mark>108%</mark>	38%	71%

Female students have a greater contribution to the 90/10 percentage than male students, especially at public colleges.

Table 19			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Gender			
Male	71%	38%	66%
Female	<mark>92%</mark>	45%	71%

Note how the differences between dependent and independent students in Table 20 are much greater at the public and private non-profit colleges than at the private for-profit colleges. Independent student enrollment at for-profit colleges tends to be disproportionately higher than at other types of institutions, perhaps because these colleges better address the needs of students who work full-time.

Table 20			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Dependency Status (2 Categories)			
Dependent	69%	37%	64%
Independent	<mark>115%</mark>	61%	72%
Dependency Status (3 Categories)			
Dependent	69%	37%	64%
Independent without Dependents	<mark>101%</mark>	56%	68%
Independent with Dependents	<mark>131%</mark>	66%	75%

Table 21			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
High School GPA			
0.5-1.9 (D- to C)	<mark>103%</mark>	55%	70%
2.0-2.4 (C to B-)	88%	51%	71%
2.5-2.9 (B- to B)	87%	47%	70%
3.0-3.4 (B to A-)	77%	41%	68%
3.5-4.0 (A- to A)	72%	36%	68%
SAT/ACT Composite Score			
< 600	<mark>128%</mark>	78%	64%
600 to 799	<mark>115%</mark>	58%	74%
800 to 999	86%	51%	67%
1000 to 1199	68%	42%	63%
1200 to 1399	53%	30%	65%
1400 or more	38%	18%	N/A
< 1000	94%	53%	69%
1000 or more	62%	34%	63%

Table 22				
90/10 Percentage Comparison	Public	Non-Profit	For-Profit	
Overall	82%	42%	70%	
High School Degree Type				
High school diploma	83%	43%	69%	
GED or other equivalency	<mark>146%</mark>	66%	74%	
High school completion certificate	70%	43%	77%	
Attended foreign high school	22%	12%	60%	
No high school degree or certificate	85%	22%	66%	
Home schooled	84%	58%	46%	

There is more variation according to family size at public and private non-profit colleges than at private for-profit colleges, especially for family size 1 and 2. This may be due to the greater prevalence of independent students at private for-profit colleges.

Table 23			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Family Size			
1	<mark>110%</mark>	57%	68%
2	<mark>98%</mark>	52%	71%
3	77%	43%	71%
4	74%	37%	66%
5	73%	36%	73%
6+	74%	41%	72%
Have Siblings in College			
No	71%	38%	65%
Yes	66%	36%	61%

Parent's highest education level has more of an impact on the 90/10 percentage at public and private non-profit colleges than at private for-profit colleges, perhaps because parents have less influence on the educational choices of independent students.

Table 24			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Parent's Highest Education Level			
Less than Bachelor's Degree	<mark>103%</mark>	56%	71%
Bachelor's Degree or Higher	59%	32%	67%

Regardless of the type of college, part-time students have a higher 90/10 percentage than full-time students.

Table 25				
90/10 Percentage Comparison	Public	Non-Profit	For-Profit	
Overall	82%	42%	70%	
Attendance Intensity in Fall				
Full-Time	80%	41%	67%	
Part-Time	<mark>90%</mark>	60%	74%	

Higher-risk students are more likely to have a higher 90/10 percentage, especially at public colleges. The 90/10 percentages for students at private for-profit colleges is more uniform, regardless of risk index.

Table 26			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Index of Risk			
None	68%	37%	59%
One	78%	45%	67%
Тwo	<mark>93%</mark>	51%	66%
Three	<mark>104%</mark>	55%	71%
Four	<mark>117%</mark>	62%	75%
Five	<mark>124%</mark>	71%	76%
Six	<mark>146%</mark>	82%	74%
Seven	<mark>168%</mark>	<mark>124%</mark>	75%
Two or Less	74%	39%	65%
Three or More	<mark>115%</mark>	62%	74%

Table 27				
90/10 Percentage Comparison	Public	Non-Profit	For-Profit	
Overall	82%	42%	70%	
Military Service				
None	82%	42%	70%	
Active Duty	43%	21%	59%	
Reserves	11%	5%	N/A	
Veteran	<mark>102%</mark>	53%	66%	

Tuition and fees are a key driver of the 90/10 percentages. At all types of colleges, the 90/10 percentages decrease with increasing college costs. This may serve as a disincentive for colleges that are subject to the 90/10 rule to cut their costs below \$8,000 a year.

Table 28			
90/10 Percentage Comparison	Public	Non-Profit	For-Profit
Overall	82%	42%	70%
Tuition & Fees Paid			
Less than \$500	<mark>148%</mark>	N/A	<mark>1890%</mark>
\$500-999	<mark>97%</mark>	80%	<mark>444%</mark>
\$1,000-1,999	<mark>104%</mark>	72%	<mark>198%</mark>
\$2,000-3,999	<mark>102%</mark>	86%	<mark>140%</mark>
\$4,000-7,999	89%	89%	<mark>103%</mark>
\$8,000-11,999	56%	68%	78%
\$12,000-15,999	42%	50%	63%
\$16,000-19,999	24%	53%	49%
\$20,000 or more	15%	33%	36%
< \$8,000	<mark>96%</mark>	88%	<mark>112%</mark>
\$8,000 or more	42%	38%	56%

As the next graph demonstrates, the 90/10 percentages converge when tuition and fees exceed \$8,000 per year. Private for-profit colleges are more likely to be affected by high 90/10 percentages at lower costs, possibly because of greater enrollment of independent students who borrow to pay for living expenses.



IMPACT OF AID ON 90/10 PERCENTAGES

It may seem obvious, but students who use more federal student aid hurt a college's compliance with the 90/10 rule by increasing the percentage of revenues from federal student aid. Table 1 above shows the relationship between Pell Grant recipient status and the 90/10 percentage. Table 2 shows that increases in financial need, as evidenced by lower EFC scores, lead to increases in the 90/10 percentage. The next table, Table 29, shows that greater utilization of the federal unsubsidized Stafford loan leads to a higher 90/10 percentage, and that federal unsubsidized Stafford loan amounts of \$2,500 or more tend to hurt a college's compliance with the 90/10 rule. Use of the federal unsubsidized Stafford loan is subject to the student's discretion. Approximately 15% of undergraduate students borrow \$2,500 or more in federal unsubsidized Stafford loans, representing two thirds of students with federal unsubsidized Stafford loans.

Table 29		90/10 Percentage with Military Aid	Ratio of Institutional Grants		
Characteristic	90/10 Percentage	Adjustment	to Tuition		
Overall	64%	66%	17%		
Unsubsidized Stafford Loan					
None	42%	45%	19%		
\$1 to \$2,499	86%	88%	12%		
\$2,500 to \$4,999	<mark>103%</mark>	105%	12%		
\$5,000 to \$7,499	<mark>120%</mark>	122%	16%		
\$7,500 to \$9,999	<mark>147%</mark>	152%	10%		
\$10,000 or more	<mark>133%</mark>	142%	12%		

Table 30 demonstrates that students receiving \$7,500 or more in total federal Title IV student aid tend to hurt a college's compliance with the 90/10 rule. Generally, the greater the amount of total federal Title IV student aid, the greater the 90/10 percentage.

Table 30		90/10 Percentage with Military Aid	Ratio of Institutional Grants			
Characteristic	90/10 Percentage	Adjustment	to Tuition			
Overall	64%	66%	17%			
Total Federal Title IV Aid						
None	0%	3%	13%			
\$1 to \$2,499	54%	59%	16%			
\$2,500 to \$4,999	73%	76%	17%			
\$5,000 to \$7,499	88%	90%	21%			
\$7,500 to \$9,999	<mark>107%</mark>	109%	17%			
\$10,000 or more	<mark>141%</mark>	142%	19%			

MAXIMUM PREVALENCE

This data can be used to calculate the maximum potential prevalence of a characteristic with a high 90/10 percentage before an institution risks failing to comply with the 90/10 rule. To the extent that a characteristic correlates with a college's compliance with the 90/10 rule, the 90/10 percentage will increase monotonically with increasing prevalence of the characteristic in the student population. The maximum prevalence of a characteristic is the highest percentage of the student population that can demonstrate the characteristic while still permitting the college to comply with the 90/10 rule.

Let C be a set of mutual exclusive characteristics including H and L. Let H be the 90/10 percentage of the characteristic with the highest 90/10 percentage and let L be the 90/10 percentage of the characteristic with the lowest 90/10 percentage. Let P be the maximum prevalence of H. Then H x P + L x $(1 - P) \le$ 90% sets the criteria for compliance with the 90/10 rule, with equality occurring at the limit. Note that H must be greater than 90%, otherwise any combination of H and L will be compliant with the 90/10 rule. Transforming this equation yields P = (90% - L) / (H - L).

For example, given H = 121% and L = 39% for Federal Pell Grant recipients, we have P = 51% / 82% = 62%. Of course, individual colleges will differ in the maximum prevalence of Federal Pell Grant recipients due to differences in the high and low 90/10 percentages, but on average a college can have no more than 62% Federal Pell Grant recipients and still comply with the 90/10 rule.

The maximum prevalence for other characteristics includes:

•	Federal Pell Grant Recipient	62%
•	Very Low Income (< \$25,000)	88%
•	Zero EFC	85%
•	Black or African American	85% (vs. White)
•	Tuition < \$500	49%
•	Risk Index (7)	68%

Colleges seeking to comply with the rule might do so by changing the mix of students enrolled at the college to one that is more likely to help the college reduce its 90/10 percentage. This, in turn, may lead to discrimination according to particular student characteristics, such as income, race, Federal Pell Grant recipient status, gender, dependency status, academic performance, receipt of a GED, first-generation college students, students who enroll on a part-time basis, military service and risk index.

APPENDIX: 90/10 RULE FORMULA

The formula for calculating the revenue percentages is specified in 20 USC 1094(d)(1):

- d. Implementation of non-title IV revenue requirement
 - 1. Calculation

In making calculations under subsection (a)(24), a proprietary institution of higher education shall —

- A. use the cash basis of accounting, except in the case of loans described in subparagraph (D)(i) that are made by the proprietary institution of higher education;
- B. consider as revenue only those funds generated by the institution from
 - i. tuition, fees, and other institutional charges for students enrolled in programs eligible for assistance under this subchapter and part C of subchapter I of chapter 34 of title 42;
 - ii. activities conducted by the institution that are necessary for the education and training of the institution's students, if such activities are
 - I. conducted on campus or at a facility under the control of the institution;
 - II. performed under the supervision of a member of the institution's faculty; and
 - III. required to be performed by all students in a specific educational program at the institution; and
 - iii. funds paid by a student, or on behalf of a student by a party other than the institution, for an education or training program that is not eligible for funds under this subchapter and part C of subchapter I of chapter 34 of title 42, if the program —
 - I. is approved or licensed by the appropriate State agency;
 - II. is accredited by an accrediting agency recognized by the Secretary; or
 - III. provides an industry-recognized credential or certification;
- C. presume that any funds for a program under this subchapter and part C of subchapter I of chapter 34 of title 42 that are disbursed or delivered to or on behalf of a student will be used to pay the student's tuition, fees, or other institutional charges, regardless of whether the institution credits those funds to the student's account or pays those funds directly to the student, except to the extent that the student's tuition, fees, or other institutional charges are satisfied by

- i. grant funds provided by non-Federal public agencies or private sources independent of the institution;
- ii. funds provided under a contractual arrangement with a Federal, State, or local government agency for the purpose of providing job training to low-income individuals who are in need of that training;
- iii. funds used by a student from savings plans for educational expenses established by or on behalf of the student and which qualify for special tax treatment under title 26; or
- iv. institutional scholarships described in subparagraph (D)(iii);
- D. include institutional aid as revenue to the school only as follows:
 - i. in the case of loans made by a proprietary institution of higher education on or after July 1, 2008 and prior to July 1, 2012, the net present value of such loans made by the institution during the applicable institutional fiscal year accounted for on an accrual basis and estimated in accordance with generally accepted accounting principles and related standards and guidance, if the loans —
 - I. are bona fide as evidenced by enforceable promissory notes;
 - II. are issued at intervals related to the institution's enrollment periods; and
 - III. are subject to regular loan repayments and collections;
 - ii. in the case of loans made by a proprietary institution of higher education on or after July 1, 2012, only the amount of loan repayments received during the applicable institutional fiscal year, excluding repayments on loans made and accounted for as specified in clause (i); and
 - iii. in the case of scholarships provided by a proprietary institution of higher education, only those scholarships provided by the institution in the form of monetary aid or tuition discounts based upon the academic achievements or financial need of students, disbursed during each fiscal year from an established restricted account, and only to the extent that funds in that account represent designated funds from an outside source or from income earned on those funds;
- E. in the case of each student who receives a loan on or after July 1, 2008, and prior to July 1, 2011, that is authorized under section 1078-8 of this title or that is a Federal Direct Unsubsidized Stafford Loan, treat as revenue received by the institution from sources other than funds received under this subchapter and part C of subchapter I of chapter 34 of title 42, the amount by which the disbursement of such loan received by the institution exceeds the limit on such loan in effect on the day before May 7, 2008; and
- F. exclude from revenues-

- i. the amount of funds the institution received under part C of subchapter I of chapter 34 of title 42, unless the institution used those funds to pay a student's institutional charges;
- ii. the amount of funds the institution received under subpart 4 of part A;
- iii. the amount of funds provided by the institution as matching funds for a program under this subchapter and part C of subchapter I of chapter 34 of title 42;
- iv. the amount of funds provided by the institution for a program under this subchapter and part C of subchapter I of chapter 34 of title 42 that are required to be refunded or returned; and
- v. the amount charged for books, supplies, and equipment, unless the institution includes that amount as tuition, fees, or other institutional charges.