ACCESS, AFFORDABILITY, AND SUCCESS

HOW DO AMERICA'S COLLEGES FARE AND WHAT COULD IT MEAN FOR THE PRESIDENT'S RATINGS PLAN?

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Last fall, President Obama unveiled a plan to promote college affordability by changing the way the federal government distributes student financial aid. The proposal calls for a federal college ratings system that appraises colleges on measures of access, affordability, and student success. These ratings would then govern the allocation of federal student aid dollars, with schools that perform well receiving larger Pell Grants and more generous student loans. Schools that lag behind would get less.

The proposal is a dramatic departure from the government's traditional approach to aid policy, under which loan and grant monies flow to any accredited college that enrolls students, so long as the institution passes minimal standards of financial health and student loan default rates. The new plan would challenge colleges to perform on all three sides of higher education's "iron triangle": access, affordability, and quality. According to a 2008 report by Public Agenda, most college presidents believe the three sides of the triangle are "linked in an unbreakable reciprocal relationship, such that any change in one will inevitably impact the others."[1] Through this lens, enrolling more disadvantaged students is a worthwhile goal, but it will likely lead to a drop in completion rates. Similarly, reducing costs will boost affordability and encourage access, but it could compromise the quality of the education provided. Meanwhile, spending more and raising tuition prices has historically helped colleges rise in the rankings and attract better students, but doing so limits access. Never before has a reform targeted all three sides of the iron triangle at the same time.

Since the ratings plan was announced, college leaders, advocacy groups, and researchers have asked whether these three dimensions can be measured accurately and whether existing databases could collect the necessary data. Accepted measures of "quality" are notoriously absent, and capturing affordability and access is not straightforward either. Others have voiced concerns about the consequences the ratings may have for particular groups of institutions like open-access and for-profit colleges, where completion rates are usually low.

But while it's easy to hypothesize about which institutions and students would win and lose under the new ratings scheme, an informed debate requires an empirical look at how America's colleges and universities currently fare on the three sides of the triangle. Is the iron triangle an iron law? Or are there colleges hitting high marks on all three sides? How many colleges might be in trouble under a new ratings scheme? And how are students distributed across the different levels of performance?

This policy brief provides such a snapshot. The precise measures and methods that will govern the ratings system are not yet known—indeed the Department of Education will convene a panel of experts this week to discuss these issues. However, using details from the White House's description of the proposal and data from the federal Integrated Postsecondary Education Data System (IPEDS), we can take a look at the pre-ratings status quo. Admittedly, existing measures of

access, affordability, and student success are imperfect at best. But even so, they can help us better understand the implications of the proposed ratings scheme.

The Data

We limited the analysis here to just over 1,700 four-year colleges with complete data on all three measures.[2] As suggested in the White House plan, access is measured by the percent of undergraduate students who receive Pell Grants. This is clearly an imperfect measure of access. The number of Pell-eligible students is finite and is often a function of a college's surroundings, meaning it would be unrealistic to expect every college to have a similarly high proportion of low-income students. Nonetheless, in the absence of a better measure, we used percent Pell as a proxy.

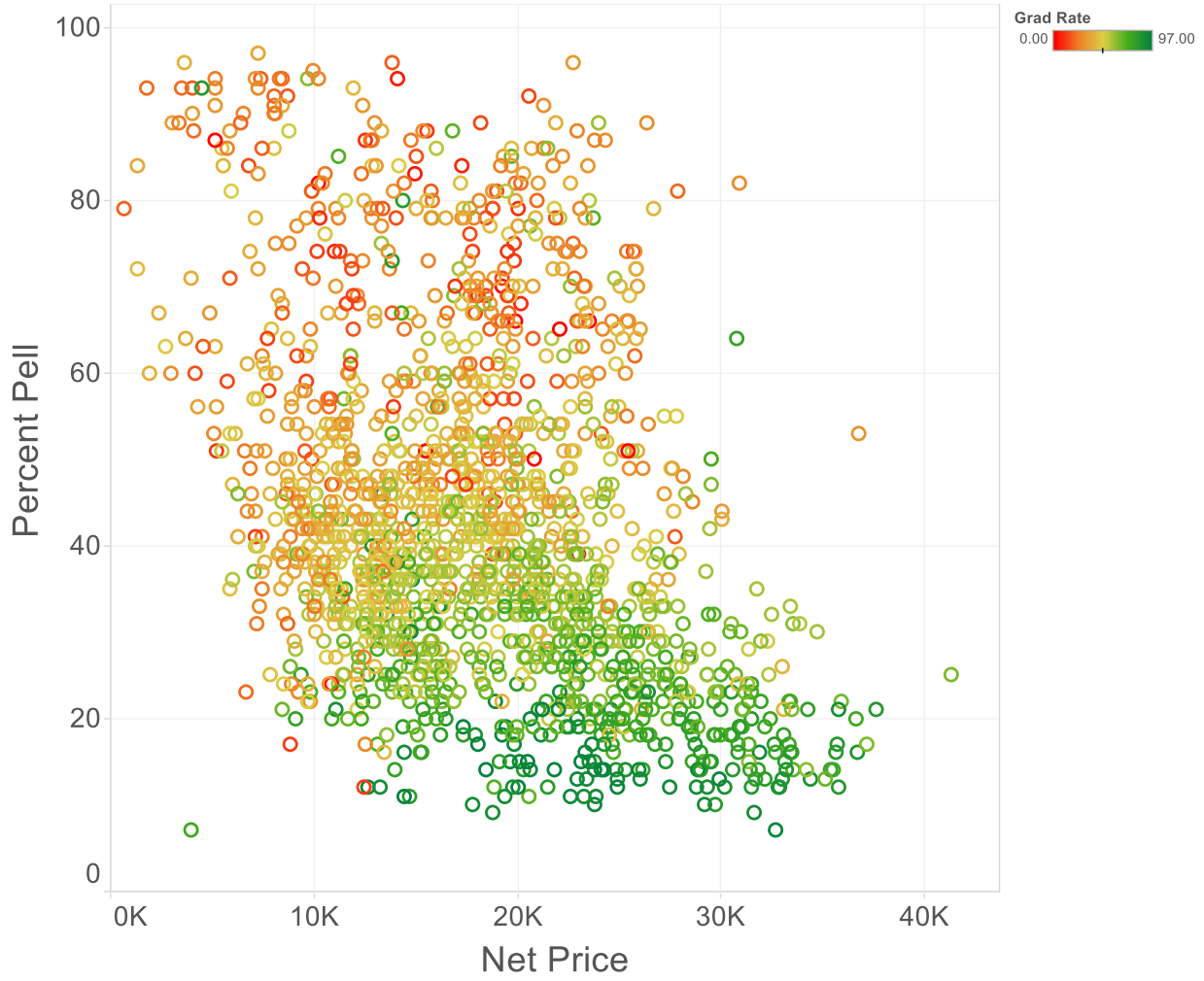
For student success, we used the official 6-year graduation rate for first-time, full-time students. The flaws in this measure are well known, but it provides a consistent benchmark across institutions. Affordability is a more challenging concept to measure. We ultimately settled on the average net price[3], since it represents the out-of-pocket costs, after grants and scholarships, that the average aid recipient paid in a given year. While this measure is far from perfect, it fits with conventional notions of "affordability" in other markets.

The Results

Figure 1 (next page) plots where these colleges fall on each of the three measures. Affordability is on the x-axis, and percent Pell recipients on the y-axis. The colors correspond to graduation rates: like a traffic light, red corresponds to low graduation rates and green to high. Ideally, an institution would be green and in the upper left quadrant. This would mean they had high graduation rates, were accessible to low-income students, and had a low net price. The concentration of red and green in the top left and bottom right corners, respectively, indicates that access and affordability are negatively correlated with student success.

The good news is very few institutions are terrible on all three marks: there are not many red dots in the lower right corner. The bad news is very few institutions appear to have broken the iron triangle. More discouraging, most institutions would need to make significant progress to land in the top left corner with a green circle.[4] Not surprisingly, many of the institutions with the highest graduation rates (i.e., dark green) are those that enroll a low percentage of low-income students. The converse is also true—the institutions with the highest proportion of low-income students have low graduation rates. This relationship is relatively consistent across the net price axis; red dots in the top half of the graph appear across a wide range of the x-axis.

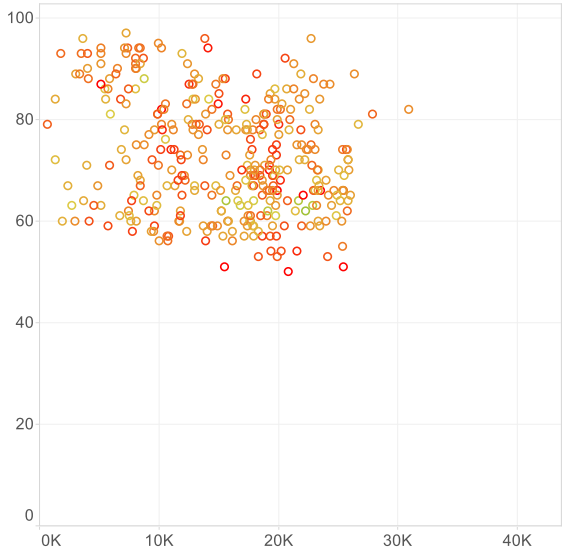
Figure 1. Scatterplot of Four-Year Colleges by Access, Affordability, and Completion



Institution Types

The figure above hints at some clusters of institutions that look similar on the three measures (i.e., the patch of dark green in the bottom right, the mass of yellow in the middle). To further flesh out these clusters, we used a technique called latent profile analysis to find the patterns in the data and categorize institutions based on their similarities.[5] The end-result was four major categories of institutions within the sample.[6] Figures 2 through 5 simply decompose Figure 1 into these distinct groups. The axes and colors are identical to those used in Figure 1. It is important to note that this is not to a "ranking" of any kind; rather, it is a description of how different institutions perform on all three dimensions.[7]

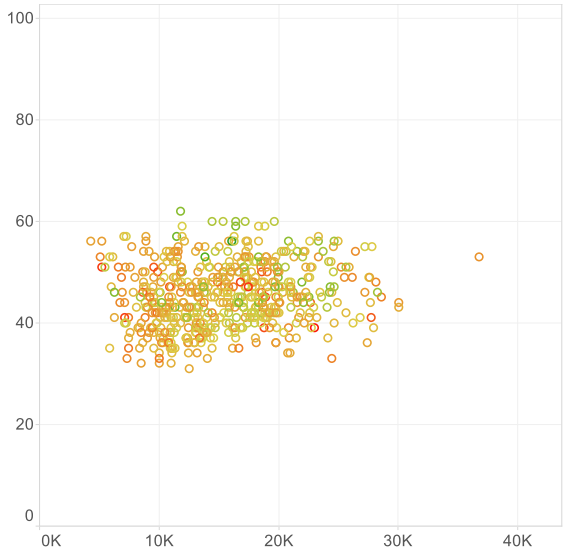
Figure 2. High Access, High to Average Affordability, Low Completion



You can get in, but you can't get out. This group makes up 20% of colleges and 14% of student enrollments. It is a mix of 39% private nonprofits (e.g., University of Sacred Heart, The College of New Rochelle) and 39% for-profits (e.g., University of Phoenix, Argosy University).

Several of the institutions in this category cater to distance learners, while others enroll high shares of African American and Latino students. With high rates of access (73% Pell students, on average) and average net prices ($16,000), many of these institutions may meet two out of the three criteria. However, their below-average graduation rates (28% among schools in the category) would leave them in a precarious position if the new accountability measures take effect.

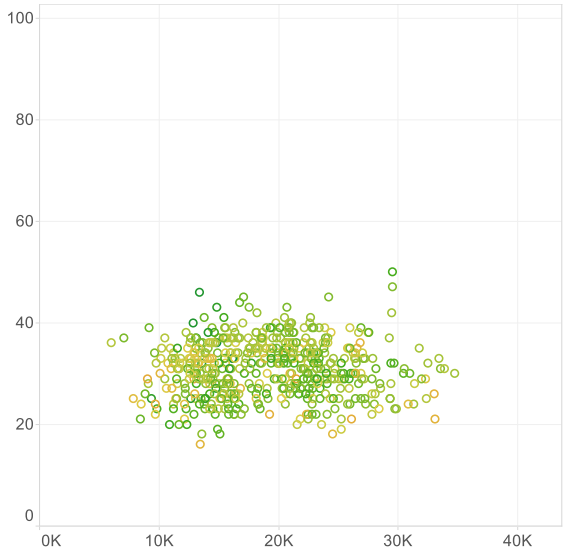
Figure 3. Average Across the Board



Muddle in the Middle. These institutions are middling performers when it comes to access, affordability, and completion. The category is mostly made up of moderately selective public institutions (e.g., UC Riverside, CUNY Baruch College, Arizona State) and smaller private nonprofits (e.g., Salem College)—46% and 48% of the schools in the category, respectively. This category represents one-third of all institutions (33%) and undergraduate enrollments (33%) in this sample.

Arguably, the President's proposed policies could have the greatest impact here. With a lackluster average graduation rate of 41%, a performance-based funding model could lead institutions at the lower end of this measure (the red dots) to receive less grant money, generating higher net prices and causing them to tumble even further. However, the fact that other colleges will receive lower ratings could affect this category of institutions. They would most likely absorb surplus demand from lower-performing schools like those in Figure 2.

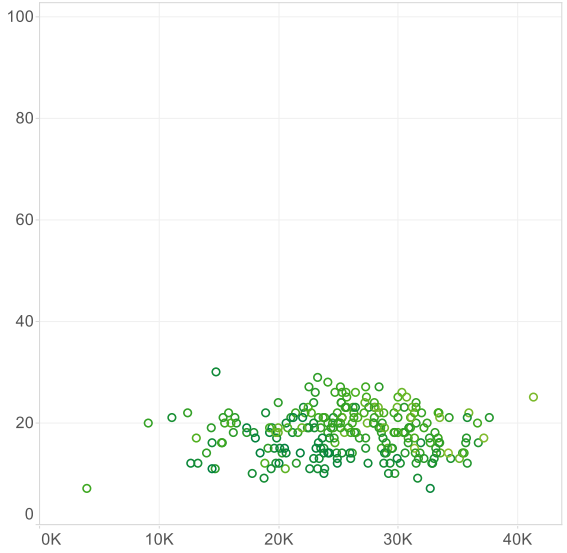
Figure 4. Average Access, Below Average Affordability, Above Average Completion



Pretty Good, But Pretty Expensive. The institutions in this third category serve sizeable shares of low-income students (30%, on average) and enjoy higher than average graduation rates (60%). There is wide variation on net prices ($6,000 to $35,000) with the average net price hovering around $19,000. The wide range reflects the group's composition of roughly two parts private nonprofit (62%) and one part public (37%).

Collectively, this group represents about one-third of the 1,700 institutions (30%) and one-third of undergraduate enrollments (37%). The dark green dots located in the upper left of the cluster would stand to benefit from the ratings scheme. These include less expensive public institutions with strong student outcomes (e.g., University of Washington, University of Florida, University of Georgia, and several of the University of California schools), and a small handful of private nonprofits with reasonable net prices (e.g., Brigham Young).[8]

Figure 5. Low Access, Low Affordability, High Completion



Great Outcomes, But Restricted Access. Nearly 14% of institutions boast high graduation rates (group average: 81%) but admit few low-income students (group average: 18% Pell eligible), and have some of highest net prices. These institutions serve 15% of undergraduate students in four-year institutions. Nearly 9 out of every 10 institutions in the category are private nonprofit (e.g., Oberlin, Middlebury, Yale) and one-tenth are public flagships or honors colleges (Penn State, The College of New Jersey, University of Maryland – College Park).

There are some good bargains (institutions with low net price and high graduation rates) for in-state students if they can get in: University of Virginia, Georgia Institute of Technology, Texas A&M, and College of William and Mary. However, there is little evidence that these institutions currently have much incentive to enroll Pell-eligible students. As such, providing even smaller Pell Grants as a punishment might depress that incentive even further.

Implications

What do these data suggest about the President's proposed ratings plan? A few implications stand out.

First, whether or not the iron triangle is indeed an iron law, **very few institutions are actually performing well on all three dimensions**. Indeed, the latent profile analysis was not able to identify a cluster of high performing institutions across all three measures. If we select only those colleges from the full sample that serve at least one-quarter Pell-eligible students, have at least a 50% graduation rate, and have a net price less than $10,000, it yields only 19 colleges, including City University of New York (CUNY) and California State University schools, University of Washington's Seattle and Bothell Campuses, West Virginia University, and San Diego State university. Together, these institutions serve only 3% of undergraduates in our sample. A full list of the 19 colleges and their performance on the three measures appears in the appendix.

To be sure, these schools do fairly well on all three. But the lack of exemplars shows just how rare this kind of well-rounded success is in American higher education. Presumably, this status quo is what the President hopes to improve on. The analysis here suggests it will not be easy.

Second, in thinking through the potential reactions of colleges to these new incentives, it is worth keeping in mind a basic pattern in higher education: **it is generally easier for a college to change who they admit than it is to change the success rates of the students already there**. The clustering of green and red in Figure 1 makes this apparent; student success has a lot to do with the kinds of students that schools enroll.

This pattern has implications for which institutions can most readily respond to and benefit from new incentives. On the one hand, smaller, more selective schools that are rated poorly because they have a low percentage of students receiving Pell Grants could register large increases on that proportion relatively easily. Not only do they often have large endowments that enable them to take on more low-income students; they are also often smaller in size, meaning small gains in the number of Pell-eligible students will translate to large gains in percentages. Each additional Pell student they enroll also lowers their average net price. Finally, the larger Pell Grants these institutions earn as a reward will offset the "cost" of the increase in Pell-eligible enrollments. These are by no means bad outcomes for the students involved, but these schools serve only a small slice of the undergraduate population.

Contrast that with the path to improvement for large, less selective schools with low rates of student success, where nearly half of all students in the sample enroll (Figures 2 and 3). These institutions will have a choice to make. They can embark on the hard, uncertain work of improving teaching and learning to boost student success. Or they can take the easier route and admit fewer low-income students. But becoming too selective would damage their access rating, and it is no sure thing that they'll be able to attract better students. Either way, if they are large

institutions, even substantial gains in the number of graduates will register as smaller increases in completion rates.

All of this is to say that the relative ease of improving on the different measures will lead some schools to disproportionately benefit from the new system. If improvement is quicker and easier for low access/high success schools than it is for high access/low success schools, then rewards will accrue to the former, reinforcing their place atop the higher education hierarchy. Increased access to these rarified campuses for low-income students is surely a good thing. But to the extent we wish to increase rates of educational attainment, the latter category will have to improve considerably.

Third, the grouping exercise shows that colleges are generally at four different starting points, meaning that **improvement on the ratings will entail very different behavioral changes for different institutions**. For some schools, moving up will require cost containment and/or more generous aid that will improve access and affordability; for others, it will mean improving rates of student success.

The Department of Education's "Request for Information" suggests that colleges could be rated on a "single dimension."[9] Presumably, the same policy would govern rewards and sanctions for institutions falling at various points on this dimension. Imagine two schools with identical ratings that have completely different areas in need of improvement. One has high rates of student success but is expensive and enrolls few low-income students, while the other is cheap and open access but has very low rates of student success. Policymakers presumably want the first college to increase access and affordability and the second to boost student success. But should policymakers expect the same incentive—eligibility for larger Pell Grants, for instance—to drive both kinds of behavior?

Perhaps. But it seems plausible that carrots might work better for some goals (increasing the enrollment of Pell Grant students) and sticks for others (compelling cost containment and tuition reduction), even among schools with the same rating. Punishing schools with already-low Pell enrollments by providing smaller grants may make them even less likely to take on Pell students. More generally, it is not clear which will be more effective: rewarding institutions that are already performing at a high level or sanctioning those that are performing poorly.

The broader point is that a one-size accountability system could lead us down the well-worn path of unintended consequences experienced in K-12. Accountability for outcomes is long overdue in higher education. But shortsighted accountability systems often lead schools to focus overmuch on the chosen performance metrics and less on goals that are not measured. Likewise, high expectations for access and success are worthwhile. But setting unrealistic expectations does little to help students; instead it primes colleges for failure on one or more metrics and could lead to the kind of ad-hoc waiver activity we have seen in K-12.

Fourth, it will **prove challenging to define measures and determine thresholds such that the ratings do not lead to perverse consequences**. For instance, coarse measures of access, like the percentage of students receiving Pell Grants, are problematic. Setting an arbitrary standard on this

measure ignores the fact that it would be impossible for all colleges to have the majority of their enrollments be Pell-eligible students. But the thorniest measurement issue is how to gauge the value that colleges add to the students they admit rather than the absolute level of student success. The "value-added" approach will reward schools that help students build human capital but is hard to measure; the "level of success" approach is easier to measure but would reward colleges more for their admission process (the inputs) than the quality of the education they provide. There is a reason why the dark green is clustered at the bottom of the graph. Most importantly, the level of success approach is more easily controlled by colleges via their admission policies, and will reward those already at the top of the heap.

In thinking through these issues, the President and his advisers must acknowledge that a poorly designed accountability system will likely do more harm than good, providing critics with the ammunition they need to roll back future efforts to hold colleges accountable. Designers would be wise to learn from the past and anticipate some of these potential pitfalls ahead of time. We still don't know exactly what the ratings will measure and how the policy will work, but the data discussed here show just how much progress we have to make in order to create the high-quality, affordable postsecondary opportunities that Americans need.

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Appendix. Nineteen four-year colleges in the sample with: graduation rates greater than 50 percent, a net price lower than $10,000 and more than 25 percent Pell enrollment.

Institution Name	Location	Net Price	Pct. Pell	6-Yr Grad Rate	Undergrad Enrollment
Dewey University	Hato Rey, Puerto Rico	$4,518	93	84	2,198
University of Washington-Seattle Campus	Seattle, WA	$9,395	25	81	28,289
San Diego State University	San Diego, CA	$9,214	39	66	25,982
Appalachian State University	Boone, NC	$8,874	26	66	15,728
The University of Texas at Dallas	Richardson, TX	$7,111	37	64	12,031
University of Washington-Bothell Campus	Bothell, WA	$9,645	34	64	3,626
CUNY Bernard M Baruch College	New York, NY	$6,285	46	63	13,943
Michigan Jewish Institute	W Bloomfield, MI	$9,733	94	62	1,635
California State University-Long Beach	Long Beach, CA	$8,466	45	57	30,930
West Virginia University	Morgantown, WV	$9,100	28	57	22,710
CUNY Queens College	Flushing, NY	$6,019	36	55	16,360
University of North Carolina at Asheville	Asheville, NC	$9,768	32	55	3,693
University of North Carolina at Greensboro	Greensboro, NC	$9,628	44	54	14,679
Wayne State College	Wayne, NE	$9,814	40	53	3,021
CUNY Brooklyn College	Brooklyn, NY	$5,485	51	53	13,060
University of Michigan-Dearborn	Dearborn, MI	$8,940	43	52	7,328
California State Polytechnic University-Pomona	Pomona, CA	$9,707	44	51	20,551
California State University-Fullerton	Fullerton, CA	$7,125	40	51	32,379
Tougaloo College	Tougaloo, MS	$8,779	88	51	969

[1] John Immerwahr, Jean Johnson, Paul Gasbarra, 'The Iron Triangle: College Presidents Talk About Costs, Access, and Quality," Public Agenda, October 2008. http://www.publicagenda.org/files/iron_triangle.pdf.

[2] Because two-year colleges differ from four-year institutions in their tuition and fees structure, the types of students who attend, and their graduation rates, we restricted the sample to four-year colleges and universities (research, doctoral, master's, and baccalaureate).

[3] For public institutions, IPEDS calculates the average net price for full-time, first-time degree-seeking undergraduate students receiving grant aid and *paying in-state tuition*. For private institutions (including for-profits), average net prices is calculated for all full-time, first-time degree-seeking undergraduate students receiving grant aid.

[4] The "top" of the graph should be thought of loosely, as the goal is not for all institutions to serve 100% low-income students.

[5] We used latent profile modeling to create a typology of institutions by grouping colleges that exhibit similar patterns across

the continuous measures of access, affordability and completion. This was accomplished using a mixture model in Mplus, which modeled the probability of a college's membership in a group as the product of the conditional probabilities of the three indicators above (specifically, percent Pell, net price, and graduation rate). We used Akaike information criterion (AIC), Sample-Size Adjusted Bayesian information criterion (SABIC), and entropy measures (i.e., how distinct the classes are from one another) along with conceptual grounding to determine the best fitting model and the resultant number of groups. Generally, models with smaller AICs and SABICs are considered a better fit. In addition, the entropy measure ranges between 0 and 1, with a value of 0.80 or greater indicating an acceptable model fit. Our model resulted in 7 distinct institutional categories (Entropy = 0.829).

[6] The latent profile analysis yielded seven categories. However, the two smallest categories combined were less than 2% of enrollments and are not discussed here. In addition, two categories were joined to create Figure 2 because the schools were quite similar, with the exception that one group enrolled a higher proportion of Pell-eligible students than the other (see the colleges in the top left of Figure 2).

[7] Indeed, it is not immediately clear which of these groups would fare the best on a ranking, given that each falls short on one or more of the chosen dimensions.

[8] Other colleges are pricier but still serve large shares of low-income students and have respectable graduation rates (e.g., Spelman College). They would benefit from a rating that heavily weighted access.

[9] See:
http://www.regulations.gov/contentStreamer?objectId=09000064814c4c10&disposition=attachment&contentType=pdf