Resurveying the Terrain

Refining the Taxonomy for the Postsecondary Market

When the Institute for Research on Higher Education (IRHE) first proposed a market taxonomy for postsecondary education (*The Landscape*, *Change*, November/December 1997), the key data for defining market segments were to be institutional admit and yield rates. The IRHE team quickly discovered, however, that the market segments were misclassified because nearly 10 percent of the institutions had reported inflated admissions data. (These were the campuses that NCPI researcher Susan Shaman came to call the taxonomy's "out-liars.") What the IRHE team needed was a screen to help re-sort those institutions whose inflated rates had placed them in the wrong market segments. The measure the team ultimately used was the percentage of an institution's freshmen graduating within five years of enrollment.

In the three years since the taxonomy's publication, IRHE has worked with a wide range of colleges and universities both to test the taxonomy's mettle and to explore how it might be used in institutional settings. Two lessons emerged from these discussions, which were often attended by the institutions' senior leadership. First, the idea and structure of the taxonomy resonated intuitively with these institutional leaders, who, for the most part, felt that their campuses had been assigned the right market segment. Second—and more important as well as surprising—the discussions often centered on the taxonomy's use of five-year graduation rates to augment the traditional measures of admit and yield rates when estimating demand and predicting price.

Curious about why a measure originally introduced to clean up the data should have occasioned so much discussion, the IRHE team reran its basic analysis, asking this time what proportion of the variance in the tuition charged by individual institutions could be explained by differences in five-year graduation rates. The answer was a whopping 44 percent. Based on this surprising second look, the team recast the taxonomy itself in three fundamental ways: five-year graduation rates became the taxonomy's fundamental organizing principle; a better measure of price was introduced to account for financial aid and public appropriations; and slightly different segment boundaries were used to delineate both public and private institutions.

This issue of *The Landscape* reports on the broad outlines of this resurvey. A more complete documentation of the refined taxonomy can be found in the forthcoming book, *When Markets Matter*, to be published by Jossey-Bass.

Realigning Sights

As the original taxonomy made clear, what institutions seeking to reposition themselves in the market—from a *Core* to a *Name Brand* segment, for example—had to do first was to improve their retention rates and, hence, graduation rates. It was not that prospective students necessarily asked about the five-year graduation rate when shopping for colleges, but rather that institutions with lower graduation rates had lower rates of retention and needed to admit more students to meet enrollment goals. The more applicants an institution admitted, the less demand that

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Chart 1.
Refined Market Segment Definitions.

Market Segment	Definition by Institutional Control: Public	Private
User-Friendly/Convenience	Fewer than 15% of all undergraduates receive a bachelor's degree in a given year, and more than 25% attend on a part-time basis. In this segment, graduation rates tend to be low, so the five-year graduation rate is not used as a criterion.	
Good Opportunity (Core)	Fewer than 40% of entering freshmen graduate within 5 years of matriculation.	Fewer than 35% of entering freshmen graduate within 5 years of matriculation.
Good Buy (Core)	At least 40% but not 65% of entering freshmen graduate within 5 years of matriculation.	At least 35% but not 60% of entering freshmen graduate within 5 years of matriculation.
Name Brand	At least 65% but not 75% of entering freshmen graduate within 5 years of matriculation.	At least 60% but not 75% of entering freshmen graduate within 5 years of matriculation.
Medallion	At least 75% of the entering freshmen graduate within 5 years of matriculation.	At least 75% of the entering freshmen graduate within 5 years of matriculation.

institution enjoyed relative to the size of its freshman class. On the other hand, when an institution improved student retention, it needed to offer admission to fewer candidates and, in the process, become more attractive to those it most wanted to enroll.

It is this insight that helps to explain why an institution's five-year graduation rate corresponds so closely with the tuition it charges and, not so incidentally, how that institution is likely to score in the *U.S. News & World Report* rankings. The five-year graduation rate is really an aggregate measure of an institution's student body—the kinds of students it attracts, their commitment to completing a college education, and their willingness to pay. When an institution graduates more than 75 percent of its freshmen within five years, it is a signal that most students entering that institution are almost certain they will graduate both on time and from that institution. Institutions with five-year graduation rates closer to 50 percent attract more tentative learners.

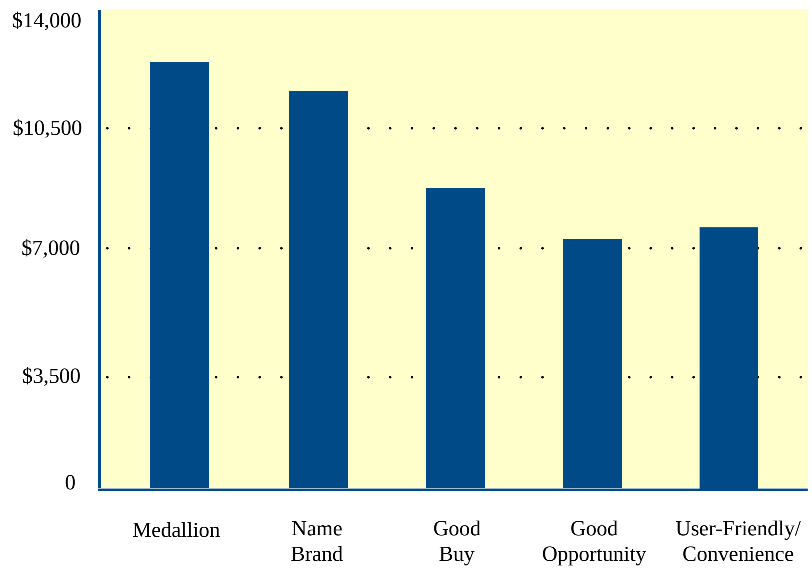
To help make sense of the numbers, the IRHE team drew on one of the most basic lessons of high school physics: Individual students, like moving bodies, will maintain momentum until something either blocks their way or provides an accelerating boost. High school students with a high propensity to succeed in college—that is, those with substantial momentum—are attracted to institutions with higher barriers to admission and programs that accelerate as well as focus their ambitions. Students with less momentum most likely know they have insufficient speed to gain entry to the most selective and, hence, competitive institutions. They are also the students most likely to wonder whether the most competitive institutions are worth the high prices they charge.

Adjusting Prices

The second adjustment to the original taxonomy was to develop a better measure of price. In the taxonomy's initial presentation, price equaled an institution's "sticker price"—tuition and fees in the case of private institutions and out-of-state tuition in the case of public institutions. A number of commentators focused on the inappropriateness of this pair of definitions. Most public institutions, they observed, had relatively few out-of-state students. For private institutions, sticker price mattered far less than the discounted prices more and more students were actually paying. Then there was the role public appropriations played as price subsidies.

The next step was to use this feedback to redefine the taxonomy's definition of price. For each of the 968 institutions with complete data, the IRHE team derived a *calculated price* equal to the sum of each institution's stated tuition rate (in-state for publics) plus any state appropriations per FTE student, minus all institutionally funded student financial aid per FTE. For public appropriations and institutionally funded student financial aid, the IRHE team had to assume that the overall funds reported had been allocated proportionally to undergraduate, graduate, and professional students based on FTE enrollments. While the actual amount spent on undergraduates was unknown, the additional accuracy introduced into the analysis by using this calculated price, the IRHE team argued, outweighed the risk of imprecision.

Chart 2.
Mean Calculated Price for Private Institutions, by Market Segment.



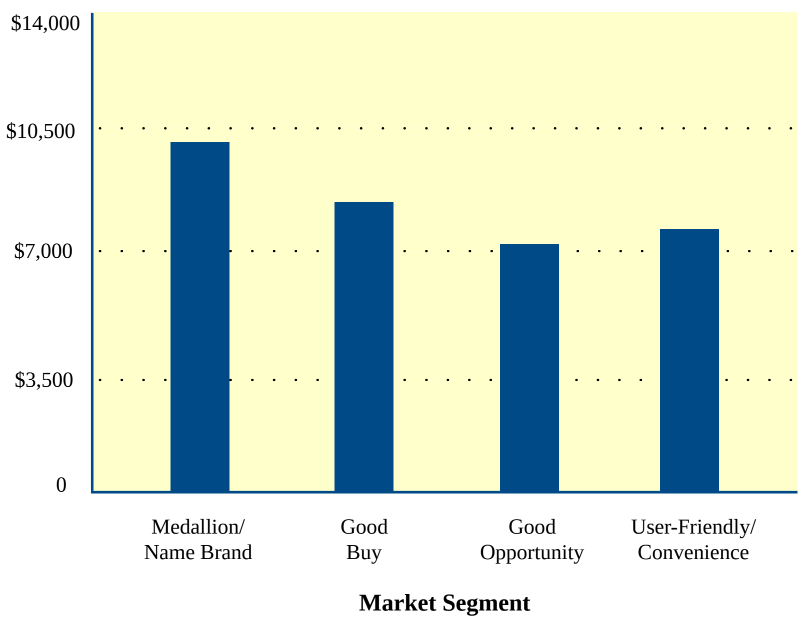
Remapping Terrain

The IRHE team also took this opportunity to specify separate models for each sector. The result was a set of parallel specifications that takes better account of the differences between public and private institutions. Constructing two different regression models—one for private and one for public institutions—the team defined five market segments for each sector that, while having the same basic shape, were indexed slightly differently. In both sectors, the newly defined *calculated price* was seen to increase as admit rate decreased. In the public sector, as in the private, the more highly specialized an institution was the more likely it was to charge higher prices. Again, in both sectors larger institutions were able to charge higher prices than smaller institutions. Finally, five-year graduation rates behaved in roughly the same way in both sectors: the *calculated price* increased with the five-year graduation rate.

Using a new set of definitions, the original seven regions in the taxonomy were redefined as five pairs of market segments—one set for each sector (Chart 1). The public sector market segments parallel those of the private sector, with only one exception: The *Name Brand* and *Medallion* market segments are combined for public institutions, because the number of public institutions falling into the *Medallion* category was insufficient to warrant a separate segment, though there were 20 public universities among the 329 public institutions included in the analysis with graduation rates greater than or equal to 75 percent.

Once again, it is important to note that the taxonomy represents a description of the postsecondary market and not rankings. The student customers who shop in one segment are substantially different from those who shop in another; hence, the institutions they consider for enrollment are different as well. To further dispel the notion that the market taxonomy is simply a dressed-up ranking system, the IRHE team renamed each segment according to its dominant competitive characteristic, each time selecting a title that conveys what is attractive to students who shop in that particular segment. Reading from the taxonomy's right wing to its left, the IRHE team recast

Chart 3.
Mean Calculated Price for Public Institutions, by Market Segment.



the five market segments as follows:

• ***User-Friendly/Convenience***—the one segment in which part-time as well as intermittent learners seem to dominate. Students in this segment often shop for a friendly environment at an institution that understands their special needs, including the need to take courses at convenient times.

• ***Good Opportunity***—a segment comprised of institutions and students who see higher education as a special opportunity. Many students who shop in this segment are the first in their families to attend college.

• ***Good Buy***—a segment comprising a variety of institutions, for the most part offering full-scale undergraduate programs at prices substantially less than those of institutions practicing selective admissions.

• ***Name Brand***—a segment populated by well-known institutions, hence the moniker "*Name Brand*." Most practice selective admissions, though their appeal is more likely to be regional than national. Many, but not all, of these institutions would like to be considered as *Medallions*.

• ***Medallion***—a segment consisting of the nation's most competitive institutions and students; a segment for which prestige-based rankings like those annually published by *U.S. News & World Report* have played an ever-increasing role in defining institutional ambitions and hence, quality.

The Complete Picture

Is the recast market taxonomy—with its new definition of *calculated price*—as consistent in explaining price differentials as the original version? The answer is reflected in Charts 2 and 3, which present the mean calculated price for each of the five market segments, first for private institutions and then for public institutions. As one would expect, the average price for each segment increases when moving right to left, with the exception of the *User-Friendly/Convenience* segment, which is on average more expensive than the *Good Opportunity* segment. Learners in the *User-Friendly/Convenience* segment are more likely to purchase their educations "by the glass" (attending part-time) than "by the bottle" (attending full-time), thus spending less per semester than the typical student in the *Good Opportunity* segment but more per unit of instruction.

The real test lies in whether mean *calculated price* for each market segment corresponds for public and private institutions. Across the board, the private figure for a given market segment is within $430 (and often within $230) of the figure for the same public market segment. In other words, public and private institutions competing against each other in the same market segment have roughly the same amount of student-provided plus government-appropriated funds to spend on their undergraduates. The only exceptions to this rule are the private *Medallion* institutions, who demonstrate a clear advantage over institutions in the other market segments in terms of aggressive pricing. □