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Higher Education: The Ultimate Winner-Take-All Market?

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Higher Education: The Ultimate Winner-Take-All Market?

Abstract
[Excerpt] John Maynard Keynes once compared investing in the stock market to picking the winner of a beauty contest. In each case, it's not who you think will win, but who you think *others* will pick. The same characterization increasingly applies to a student's choice among universities. This choice depends much less now on what any individual student may think, and much more on what panels of experts think. The *U.S. News & World Report*'s annual college ranking issue has become by far the magazine's biggest seller, and the same is true of *Business Week*'s biennial issue ranking the nation's top MBA programs. The size of a school's applicant pool fluctuates sharply in response to even minor movements in these rankings. In my remarks today, I'll discuss some of the reasons for the growing importance of academic rankings. I'll also explore how our increased focus on them has affected the distribution of students and faculty across schools, the distribution of financial aid across students, and the rate at which costs have been escalating in higher education.

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Higher Education: The Ultimate Winner-Take-All Market?

by

Robert H. Frank[1]

John Maynard Keynes once compared investing in the stock market to picking the winner of a beauty contest. In each case, it's not who *you* think will win, but who you think *others* will pick. The same characterization increasingly applies to a student's choice among universities. This choice depends much less now on what any individual student may think, and much more on what panels of experts think. The *U.S. News & World Report*'s annual college ranking issue has become by far the magazine's biggest seller, and the same is true of *Business Week*'s biennial issue ranking the nation's top MBA programs. The size of a school's applicant pool fluctuates sharply in response to even minor movements in these rankings.

In my remarks today, I'll discuss some of the reasons for the growing importance of academic rankings. I'll also explore how our increased focus on them has affected the distribution of students and faculty across schools, the distribution of financial aid across students, and the rate at which costs have been escalating in higher education.

How the Market for Higher Education Differs from Markets Portrayed in Economics Textbooks

The economist Gordon Winston has said that buyers in the market for higher education confront a decision more like a one-shot investment in a cancer cure than shopping for groceries. But this characterization actually understates the difference

between the typical market described in economics textbooks and the market for higher education. Shopping for groceries and shopping for a cancer cure in fact have far more in common with one another than with shopping for a spot in an American university.

If popular grocers or oncologists charge inflated fees, their high earnings will attract competitors who will drive prices back down. But that's not the way things work in the market for higher education. There, especially at the high end of the market, demand exceeds supply at the stated price—year in and year out—by an enormous margin. At one small, high-quality liberal arts institution in the East, for example, 4500 people apply each year for only 500 positions in the freshman class. At universities nearer the pinnacle of the academic pyramid, an even higher proportion of eager customers are routinely turned away.

In contrast, when excess demand arises in the market for an ordinary private good or service, it is almost always fleeting. Thus, when Porsche recently introduced its new Boxster, each new delivery was sold out more than a year in advance, yet anyone who really wanted this car could find one at a price. Not so in the upper reaches of the academic market. Despite the persistence of excess demand in this market, universities continue to turn qualified students away, while charging those they admit only about one third of what it costs to serve them. This pattern, needless to say, bears little resemblance to the one portrayed in economics textbooks.

For present purposes, the salient difference between a university and the producer of a sports car is that although the attractiveness of a sports car does not depend on the average driving skill level of its buyers, the attractiveness of a university depends

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[1] Goldwin Smith Professor of Economics, Cornell University. This paper was presented at the Forum for the Future of Higher Education, Aspen, Colorado, September 27, 1999.

strongly on the average intellectual ability of its students. Applicants want to be at a school whose students are accomplished, partly because they can learn more by interacting with such students, but also because that's where the best employers concentrate their recruiting. In short, the university's customers are one of the most important inputs in its production process, and this is not the case for producers of typical private goods and services.

If the ability to affiliate with elite institutions is so highly valued, why don't these institutions simply raise their tuition? The answer is that they need top students every bit as much as top students need them. A school without top-ranked students cannot hope to achieve elite status.

This co-dependence creates multiple positive-feedback loops that amplify the rewards for a university that succeeds in its efforts to move forward in the academic pecking order. And the same positive-feedback loops exacerbate the penalties on those who begin to slip in the rankings. When Cornell's Johnson Graduate School of Management jumped from 18th to 8th in the *Business Week* rankings in 1998 (the largest such advance in the poll's history), applications for the following year's class rose more than 50 percent. To an extent rivaled perhaps only by the market for trendy nightclubs, higher education is an industry in which success breeds success and failure breeds failure.

Why Does Rank Matter So Much More Now?

Hierarchy in education is nothing new, of course, and it has always been important. But as we are all keenly aware, it has become far more important than in the

past. Why this change? The short answer is that the economic reward for elite educational credentials has jumped sharply in recent decades.

Behind this jump lies the spread and intensification of what Philip Cook and I have called "winner-take-all markets." These are markets in which small differences in performance (or even small differences in the credentials used to predict performance) translate into extremely large differences in reward.

Such markets have long been familiar in entertainment and sports. The best soprano may be only marginally better than the second-best, but in a world in which most people listen to music on compact discs, there is little need for the second-best. In such a world, the best soprano may earn a seven-figure annual salary while the second-best struggles to get by. In similar fashion, new technologies allow us to clone the services of the most talented performers in a growing number of occupations, thereby enabling them to serve ever broader and more lucrative markets.

The market for tax advice, for example, was once served almost exclusively by a large army of local practitioners, but is increasingly served by the developers of a small handful of software programs. Scores of programs competed for reviewer approval in the early stages of this transition. But once opinion leaders anointed Intuit's "TurboTax" and Kiplinger's "TaxCut" as the most comprehensive, user-friendly programs, competing programs faced a nearly impossible task.

A constellation of factors helps us understand why similar shakeouts have occurred in industry after industry. The information revolution has made us more aware of product quality differences than ever and puts us in direct contact with the world's best suppliers. Sharply reduced transportation costs and tariff barriers enable these suppliers

to ship their products to us more cheaply than before. Research and development costs and other fixed costs now comprise a larger share of total costs, making it harder for small producers to achieve efficient scale.

Another important contributor to the winner-take-all trend is that the world's increasingly affluent buyers appear to care more than ever about product rank per se. For example, whereas the demand for any given make of car was once based largely on functional characteristics like size, reliability, and fuel economy, buyers increasingly search for something more. They want a fast car, or one that handles well, or one that stands out from the crowd. These characteristics are far more context-dependent than fuel economy and reliability. How fast does a car have to be to impress the potential buyer? If a car produced in 1925 could reach 60 mph *eventually*, the driver would have experienced it as breathtakingly exciting, a *really* fast car. Today if your car does not get from 0 to 60 mph in under 6 seconds, it doesn't *seem* like a fast car. Context-sensitive characteristics like speed and handling dictate an increasing share of purchase decisions in automobile markets. And when what people want is defined in relative terms, only a limited number of suppliers can deliver. In the extreme case, only a single company can truthfully claim to offer the fastest car in the market.

One result of the movement toward winner-take-all markets has been an explosion in the salaries paid to the handful of key players who are most responsible for an organization's success. American CEOs, for example, earned 419 times as much as the average worker last year, up from only 42 times as much in 1980. The top one-percent of US earners have seen their real incomes more than double since 1979, a period during which the median income has remained essentially unchanged.

The increase in financial stakes in the business community has spawned an extremely lucrative market for high-end services like business consulting, investment banking, and corporate law, three fields of particular interest in our efforts to understand the increased demand for elite educational credentials. Each field is one in which rank is of paramount importance.

Suppose you were the CEO of a financially distressed corporation and were looking for advice from a management-consulting firm. Which firm should you hire, McKinsey—widely thought to be first among equals in the management consulting field—or some lesser-ranked firm that is considerably cheaper, yet, in absolute terms, nearly as good? You know that in either case the advice you get may not eliminate your firm's financial woes, and if it doesn't, your board of directors will want to know why. If you had hired McKinsey, you could respond that you sought the best available advice and followed it. Critics might still second-guess you. But you would be far less vulnerable to their charges than if you had hired some lesser-ranked firm. And if McKinsey's advice worked, no one would ever complain that you paid too much for it.

The upshot is that McKinsey and a handful of other elite management-consulting firms are essentially able to set extremely high prices and still attract more business than they can handle. As employers, such firms also have their pick of the most able college graduates. When they post positions, mail sacks full of resumes arrive in their personnel offices day after day. And no wonder. If a new recruit survives the early rounds and becomes a partner, she'll reap an annual salary of many hundreds of thousands of dollars.

That such salaries persistently attract an enormous surplus of applicants might seem to suggest that the elite consulting firms are paying far too much. Why don't they

just offer less money and attract only the number of qualified applicants they need? The answer is not that they have failed to grasp the elementary logic of supply and demand. On the contrary, as in the case of elite universities, they understand that a very different logic governs the hiring decisions of organizations whose fate hinges on reputation and relative performance. These firms need the graduates of elite institutions just as much as those graduates need them. And the more applicants they attract, the better they do.

After all, they are selling advice, perhaps the most the most difficult of all services to evaluate. They send recruits who are barely out of school to advise seasoned professionals about what they should do with their businesses. Under the circumstances, establishing credibility is a tall order—perhaps an impossibly tall order for graduates of institutions with less than elite status. When the client knows that he is dealing with a graduate of an elite school, however, things are different. Every year more high school valedictorians apply to Stanford than there are positions in Stanford's freshman class. The client himself may have gone to Stanford in the 1950s, but he knows that if he had applied to Stanford in the last decade, he probably would have been rejected. Although this knowledge may operate completely below the level of conscious awareness, it nonetheless confers an unmistakable gloss on the advice given by the elite school graduate.

For our purposes, the important point is that even if McKinsey and the other elite consulting firms had time to interview everyone who submits an application, they would still have good reasons for confining their attention to the graduates of elite institutions. You might be exceedingly well qualified, but if you are not from one of these schools, odds are they won't even talk to you.

The logic is essentially the same in many other winner-take-all labor markets. Want to be a top mergers-and-acquisitions attorney? Better graduate with honors from an elite law school. Want to be an investment banker? Better go to one of the top-ranked business schools.

One consequence of the growing reward for attending a top-ranked professional or graduate program is that competition for admission into these programs has become much more intense. How can a student assure admission to such a program? In an earlier day, it was sufficient to compile a strong undergraduate record at almost any college or university. But no longer. A friend who teaches at Harvard described to me the case of a woman from a small Florida college who had applied to Harvard's graduate program in economics several years ago. She had scored within a few points of 800 on her GREs, both quantitative and verbal, and also had a very high score on the economics achievement test. She had straight A's and glowing recommendations from several senior professors, who described her as the best student they'd ever encountered. The admissions committee agonized long and hard over this woman's file, but in the end decided to reject her. They simply had too many other applicants who had compiled equally strong records at much more highly selective institutions.

Students, in short, confront an increasingly competitive environment. Between 1979 and 1989, the percentage of students who scored above 700 on the SAT verbal section and matriculated at one of the 33 "most competitive" schools on the Barron's list rose from 32 percent to 43 percent. And as more and more of the best students attend the most selective schools, the payoff for going to these schools gets ever higher.

The fact that elite schools are increasingly the gateway to professional positions offering six-figure starting salaries has fueled the explosive growth in demand for elite educational credentials. And the growth in demand for elite educational credentials explains the growing importance of academic rankings. The market for higher education, always a winner-take-all market, has become perhaps the quintessential example of such a market.

The Positional Arms Race

Contestants in virtually every winner-take-all market face strong incentives to invest in performance enhancement, thereby to enhance their chances of coming out ahead. As in the classic military arms race, however, many such investments prove mutually offsetting in the end. When each nation spends more on bombs, the balance of power is no different than if none had spent more. Yet that fact alone provides no escape for individual contestants. Countries may find it difficult to spend a lot on bombs, but they find it even more distasteful to be less well armed than their rivals.

In light of the growing importance of rank in the educational marketplace, universities face increasing pressure to bid for the various resources that facilitate the quest for high rank. These pressures have spawned a "positional arms race" that has already proved extremely costly, and promises to become more so.

Distinguished, highly visible faculty are one of the key ingredients in the effort to achieve and maintain elite educational status. And so it is no surprise that star faculty command ever higher salaries and require ever more elaborate and costly support. In one well-publicized case in 1997, Columbia University offered an annual salary of $300,000

in its effort to lure the Harvard economist Robert Barro to join its faculty. Columbia also offered Barro a large, heavily subsidized apartment near campus; created a high-profile job for his wife; secured a slot in an exclusive Manhattan private school for his son; and offered him the opportunity to hire six colleagues of his own choosing. Barro was sorely tempted by this offer, and indeed he initially accepted it. In the end, however, he apparently could not bring himself to overcome the gravitational pull of Harvard's own high rank.

Top students, as noted, are an essential ingredient of elite educational status, and efforts to attract these students have kept pace with efforts to attract star faculty. Schools up and down the academic totem pole are spending far more than ever on brochures, videos, mailings, multi-state tours by admissions officials, and other efforts to woo top students. Yet when all schools increase their expenditures on these activities, the effect is similar to an across-the-board increase in advertising by cigarette companies. The additional spending adds to the cost burden, but has little impact on the ultimate distribution of consumer choices.

Schools are spending more now not just to attract good students, but also to keep them happy once they arrive. For example, as the material living standards of affluent Americans have escalated in recent years, universities have felt increasing pressure to upgrade campus amenities. Yesterday's double-room occupancy standard in dormitories is giving way to apartment-like suites that house one student per bedroom. Centralized athletic complexes are giving way to in-dorm training facilities that resemble expensive private health clubs. Dining halls are being supplanted by facilities modeled after the food courts in up-market shopping malls. Multimillion-dollar, state-of-the-art classroom

facilities are increasingly part of the mix. Universities that fail to offer such facilities often fail in their efforts to attract the disproportionate share of high-achievement students who come from affluent families. But these facilities also create new financial hurdles for middle- and low-income parents.

Career counseling and job placement services are another important focus of the effort to attract top students. In business schools, for example, placement officers are now expected to assure that each MBA lands not only the job of his or her choice upon graduation, but also a prestigious summer internship between the first and second years of study. These demands have proven costly to meet. The staff of the Career Services Office at Cornell's Johnson School, for example, has more than doubled in the last ten years. Changes of this sort in business schools typically portend similar changes in the broader university environment.

If meeting demands for student services is costly, failure to meet these demands often proves even more costly. Student evaluations are one of the two most important components in the *Business Week* rankings formula, and as many top MBA programs have discovered to their chagrin, student dissatisfaction quickly translates into a drop in the rankings.

Implications for Need-Based Financial Aid

The new competitive climate has also produced sweeping changes in financial aid decisions. From the university's perspective, the merit scholar is an asset whose value has appreciated sharply. Other things equal, someone who scored 750 on both sections of the SAT always paid a lower net price at the bursar's window than someone who scored

only 700. But never before have we witnessed such intense bidding to attract the highest-scoring students.

Think of yourself as the admissions director of a school trying to move forward in the academic pecking order. On your desk sit the folders for two applicants. They have almost the same credentials, but one is just a little better than the other. She has a 4.2 average while the other has a 3.8. She got 790 on both SATs while the other got only 700. The applicant with better credentials comes from a family with an annual income of $500,000, while the other student's family earns only $30,000. Now, as in the past, you accept both students. In the past, your financial aid package for these students would have been tailored in a way that I think most of us would feel was just: The student from the family with limited means would have gotten a large aid package, and the student with no financial constraints would have gotten a much smaller package, or more likely no aid at all. In today's climate, however, such offers would almost guarantee that the better qualified student would go elsewhere. And that would make your university less attractive to other top students and faculty. In light of the feedback loops discussed earlier, the indirect effects of failure to land even a single top student can multiply many fold. And this, in a nutshell, explains the growing tendency for merit-based financial aid to displace need-based financial aid.

In sum, universities face increased pressure to pay higher salaries to star faculty, to spend more on marketing, more on student services and amenities, and more on financial aid to top-ranked students. It is little wonder, then, that their financial situations have grown more precarious, despite the record growth in the value of their endowment portfolios.

Positional Arms Control Agreements

Unlike expenditures on military armaments, not all expenditures in the battle for elite educational status are socially wasteful. Conveniently located workout rooms are better than distant ones, for example, and marketing expenditures in some instances may facilitate an improved match between students and schools. But the competitive dynamics that govern these expenditures virtually guarantee a measure of social waste. In the realm of marketing, for example, the socially optimal allocation would be to increase marketing expenditures until the social value of the improved match quality thus obtained was exactly equal to its cost. Individual universities have powerful incentives to push marketing expenditures past that point, however, because each dollar they spend creates the additional private benefit of helping lure a good student away from another school. The rub is that these private benefits sum to zero on the social scale, since one school's gain is offset by another's loss. From a social perspective, then, it would be better if all schools spent less. Yet no school dares cut its own expenditures unilaterally, just as no nation dares reduce its spending on armaments unilaterally.

Under these circumstances, it is often possible to generate socially preferred outcomes through what I call "positional arms control" agreements, pacts in which contestants pledge mutual restraint. Many elite institutions, for example, were once party to an agreement whereby they pledged to target limited financial aid money for those students with the greatest financial needs. This was essentially a cartel agreement to curb competition for students with elite credentials. Animated by its belief that unbridled competition always and everywhere leads to the best outcome, the Justice Department

took a dim view of this agreement. And it brought an antitrust suit that led to its termination.

Once we appreciate the logic of the financial incentives that confront participants in winner-take-all markets, however, we may feel less inclined to embrace the mantra that all outcomes of open competition must be good. The problem, as noted, is that when reward depends on rank, behavior that looks attractive to each individual often looks profoundly unattractive from the perspective of the group. Collusive agreements to restrain these behaviors can create gains for everyone. Of course, cooperative agreements to limit competition can also cause harm, as in the notorious price-fixing cases of anti-trust lore.

The challenge, of course, is to make informed distinctions. Anti-trust authorities might consider a retreat from their uncritical belief that unlimited competition necessarily leads to the greatest good for all. Manifestly it does not. Collective agreements should be scrutinized not on quasi-religious grounds, but according to the practical test of whether they limit harmful effects of competition without compromising its many benign effects. In my view, the collective agreement among universities regarding financial aid policy was a positional arms control agreement that clearly met this test.

Looking Ahead

In New York State the 90th-percentile earner earned 20 times as much as the 10th-percentile earner in 1997, the highest value of this ratio for any state and the highest in New York's history. That same year, the corresponding ratio for Utah was only 7. The economic forces that give rise to winner-take-all markets are here to stay. Years hence,

the ratio in New York will be still higher that it is today, and the ratio in Utah will be much closer to the ratio in New York. As the top jobs in society grow ever more lucrative, competition to land those jobs will grow steadily more intense, as will the competition for the educational credentials that are increasingly the prerequisite for landing even an initial interview.

No university, acting alone, can escape the powerful logic of the positional arms race. Yet there remain compelling ethical reasons both for limiting the escalation in the cost of acquiring higher education and for basing financial aid more heavily on need than on merit. Indeed, the growth in income and wealth inequality caused by spreading winner-take-all markets makes the case for cost containment and need-based aid more compelling than ever. But such goals can be met only through collective action. Positional arms control agreements may be the only practical way to keep higher education within reach for the average American family. To resist such agreements on the grounds that they are anti-competitive would make sense only if the market for higher education were just like the market for an ordinary private good or service.