

**Picking Winners:
The Redefinition of University Competition**
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The re-framing of the US economy over the last generation has gradually forced a redefinition of American college and university competition. While economic and trade shifts, along with the accelerating effect of large scale computing and the Internet, rapidly impacted the structure of business and labor in America, the ripple effects of these transformations have filtered through and into the higher education marketplace in much less visible and distinct patterns. Colleges and universities have always responded slowly to the larger forces of economic and social change, even as their work often serves to enable significant shifts in the world economy. By now, however, we can begin to see the impact of the larger economic transformations as the traditional structure of college and university marketplaces fracture and reform in new and often unanticipated ways. What remains constant is competition for the money to acquire sufficient numbers of quality students, faculty, staff, and facilities to compete against other institutions. This competition is made increasingly difficult, however, by the unclear mission-specific boundaries that define higher education market segments.

They keep asking me, "What's going to happen to the university?" "Where have the libraries gone?" "Will the Internet render us obsolete?" "Why is college so expensive?" "Will our football team win more games this year?" "Does everyone really need a college degree?" "Why is research so important to universities?"

This is the fate of all of us who work in America's colleges and universities, medical schools and business schools, and other higher education enterprises. People want simple answers to complicated questions, journalists want sensational stories that will get media attention, and politicians want to be on the news and referenced on twitter. But America's post-secondary landscape is as varied, difficult, attractive, and challenging as the country's physical environment. We can no more give a simple answer to the question "What is higher education in America?" than we can to the question "What is America like?"

And yet all is not lost, for one thing higher education offers is experience in answering complicated, difficult, and sometimes unanswerable questions. So let's see if we can capture what the future holds

for all of us for whom colleges, universities, medical schools, and other post-secondary institutions represent the best hope for the nation.

What Is a School

We often need to be a bit clearer when we talk about higher education. As a reflection of the confusion that surrounds this topic, we do not know what to call our institutions of higher education. To be sure, our places all have names. Amherst College, University of California San Francisco, Eastern Virginia Medical School, the Johns Hopkins University, Miami Dade College, each identifying a specific place, and each highlighting the difficulty of generalizing about higher ed.

Students and other commentators often solve this problem quickly and easily by calling everything a school.

“What school do you go to,” asks one undergraduate of another as they arrive in Florida on Spring break. “Oh, my school is Rice, what's yours?” “Me? I go to Reed College in Oregon.”

School is a universal identifier that encompasses everything from pre-kindergarten to medical school. While it is marvelously unspecific, it also contains an insight. Schools are there to teach, they give students an opportunity to learn something of value, and they require the engagement of teachers to succeed.

This simple formulation helps us sort through the multiple complexities of today's higher education world, but to understand it more clearly, we need to create a fuzzy taxonomy. This fuzzy taxonomy allows us to put different modalities of post-secondary education into more or less similar buckets, creating an imprecise but useful order out of the chaos of institutional mission, purpose, size, wealth, prestige, and geography. Institutions themselves generally do not like this fuzzy taxonomy because they would prefer to put themselves in what they think is the best and, if possible, unique bucket.

At one time in the past, which we now look back on with good feelings and selective memories, we remember a system of higher education with easily defined buckets.

1. We had a bucket filled with community colleges, institutions dedicated to the twin tasks of providing college level instruction and remediation to students not yet ready for the full four-year experience and providing multiple occupationally specific instructional programs in practical areas such as auto mechanics, refrigeration, welding, bookkeeping, or entry level nursing.
2. We had another bucket filled with state colleges, many originally teacher training schools that over time became general purpose undergraduate institutions and subsequently changed their names to university. These state colleges generally admitted almost all students who applied and put them through the standard liberal arts and sciences curriculum, transitioned them into majors, often of a pragmatic character with an employment focus in areas of business, engineering, sciences, public relations, nursing, and the like.
3. A third bucket included the major state flagship universities, whose range of curricular choices were vast, whose graduate programs were extensive, and whose research enterprises, medical schools and affiliated hospitals, and agricultural research activities defined them as standard bearers of exceptional public higher education.

These are the main buckets that defined the clusters of American public higher education institutions inherited from the mid-20th century after absorbing the boom of the post-war years and the GI bill. Tucked in between these fuzzily defined clusters we located additional, relatively smaller buckets. In one we put a significant number of small private four-year colleges ranging from sectarian institutions to prestigious heavily endowed elite colleges. In another we put a set of private universities of varying size, wealth, prestige, and profile. Some, exceptionally well endowed, had programs in every imaginable field including high performing professional schools in medicine, business, law, public health, or nursing. Others of similar type, but less elaborately provided for, emulated the performance of their larger and better endowed private counterparts. In a third, smaller bucket, we had a set of

standalone specialized institutions, some public and some private, focused on medicine and the health sciences, the fine arts, and other disciplines.

This frame of reference, with all its fuzziness, nonetheless gave everyone a sense of structural security. We thought we knew what to expect from a community college, from a state college or a flagship university, from a private college or university. We might argue about which was best for what purpose, but when confused we could look to the California Master Plan of the 1960s that offered us a blueprint for higher education differentiation and success. What a wonderful artifact that was! It told us what to expect from each level of institution, it told us what kind of investment would be required to deliver these institutions, and it scattered across the California countryside exemplars of these educational types available for emulation by other states seeking the achievement promised and often delivered by the California program.

Today, these traditional buckets no longer provide the comfort they once did. Miami-Dade community college, now with over 150,000 students in multiple locations is a four-year institution called Miami Dade College. The state colleges in California are all state universities, and although still restricted by the remnants of the Master Plan, offer Masters degrees and some doctoral degrees and their faculty pursue research grants and contracts in competition with the best in the country.

Private and the major public research institutions compete on equal terms for shares of the federal research pie. Their medical schools contribute heavily to their research profiles, their football teams appear on national television, and they sponsor not only highly compensated medical specialists and researchers but even more highly compensated coaches.

If we look out at the higher education world and focus on the key components of our main institutional marketplace we can see about 2,000 (1,947) not-for-profit, four-year institutions that take in undergraduates as freshmen. Of this group some 664 are public institutions of varying size and significance, representing perhaps one-third of the institutions (34%). The almost 1,300 (1,285) private colleges and universities comprise the other two thirds (66%). Given the high visibility of public institutions, it sometimes comes as a surprise to see so many four-year colleges in the private not-for-

profit sector, but most of these are small colleges. The rest of the marketplace is filled with community colleges and for-profit institutions that serve different constituencies.

The Changed Marketplace for Higher Education

All of this activity reflects significant changes in the competitive marketplace for higher education services. Many of us resist this conversation because we see ourselves as different from those in the crass world of dog-eat-dog competitive business, for we pursue a higher calling. Although we are not a business in many ways, our survival and prosperity, like that of a business enterprise, rests on our success in generating revenue by selling products to customers in widely varying marketplaces. Unlike most businesses, however, we generate revenue to spend it on the university, not to enhance the stock value of owners. We reinvest our revenue to increase the internal value of the academic enterprise.

We are nonetheless fundamentally revenue seekers since as a rule we spend what we get, and even if we save some into a reserve, we do so to ensure that we will have enough in the future to continue spending. This baseline revenue requirement is why we are, in the end, defined by our competition within the many marketplaces for higher education services. When we review the impact of the multiple changes in our environment, we are engaged in identifying opportunities and constraints for our services within these marketplaces.

As the world economy has transformed itself into a complex web of interconnected services, production processes, and markets it has also changed the dynamics of the labor market in the United States. In our educational world, this translates into a decline in the market value of primary and secondary education and an increase in the market value of post-secondary education. While we can argue about whether everyone needs a college education, the labor market data and the lifetime earnings statistics tell us unequivocally that those with a college education or more have a much greater chance at a good jobs and the good life than those without. This development places an unanticipated burden on America's post-secondary institutions.

The changes appear in the statistics in many ways. For example, if we look at the population between 25 and 29 years of age, we see that in 1970 about 55% had a high school diploma or above, while by 2014, 88% could claim this status. Clearly, high school achievement alone no longer distinguishes an exceptional educational attainment. A similar impact appears when we look at this same age group but for those with a Masters degree or above. In 1970 only 11% had a Masters degree or above, clearly a distinguishing feature in those days. By 2014, however, 32% of the population had achieved a Masters degree or above, reflecting the increased market value of advanced study extending beyond the traditional college degree.

From another perspective we can track the changes in the decade from 2003 to 2013 in the topics and subjects for which students have sought Masters degrees. Business Masters degrees are up from about 140 thousand to almost 190 thousand, an increase of 36%. Health professions are a big winner with Masters degrees growing from about 45 thousand to just over 97 thousand, an increase of 117%. Public administration and social services degrees grew by 57% and Engineering degrees by 30% over the decade, but Education declined with a decrease in Masters degrees of about 5%.

These changes reflect the impact of the external employment marketplace on student demand for advanced training in various fields of study.

Who Do We Serve?

College used to be a service provided to a relatively modest portion of the public between 18-24 years of age, but today we are expected to provide this service to very large proportions of high school graduates. Moreover, we used to imagine higher education as an opportunity offered to more or less qualified individuals. Today, we are expected to provide an educational product that serves every enrolled student consumer with a satisfactory result.

The burden of success in American post-secondary education falls not on the student who has an opportunity to succeed but on the institution that charges a price for an educational product and should be obligated to ensure student success. The fallacy underlying this conversation about the university

degree as a product is the definition of students as raw material whose interactions with an institution's standardized educational process leads to a quality controlled degree. Students, as everyone knows, are not a standardized raw material, but remarkably different individuals. They come from every imaginable background with an astounding variety of expectations and experiences, and with wide variation in their preparation for and commitment to the activity of learning. This misconception of the educational process leads to senseless arguments about faulty statistics such as graduation rates. They provoke demands for standardized results from non-standard populations that encourages lowered academic expectations that can be met by all.

Money

The impact of these changes is complicated by shifts in the revenue structure of higher education. The large volume producers of higher education in the public sector have seen a steady decline in public tax-based revenue and a corresponding increase in student fee-based revenue. While institutions have found ways to sustain their programs, with many efficiencies and changes in operations, the shift from primarily public funding to significant individual student funding underscores the commercial nature of higher education and reinforces the belief that those who pay for an education should be guaranteed a satisfactory result.

Within the higher education marketplace the pace of competitive behavior has also increased. Success as an institution requires the recruitment of reasonably qualified students (or consumers) at a price point that will cover the direct cost of instruction, the cost of operating and maintaining the college's physical plant, and in many cases subsidize the expenses of prestigious research enterprises. The competition for students is intense, with institutions engaging in high concept advertising, extensive recruiting, careful discounting of tuition for desirable students, and an endless effort to reduce expenses while increasing revenue from every possible source.

Within this context, the value of prestige or reputation as a recruitment tool looms large as institutions seek to demonstrate that their product is of exceptional value. But institutional value is a complex quality, difficult to define. Who can tell which university's programs are best? Most universities have

quite similar curricula, offering much the same majors and core courses, and so the competition shifts to visible amenities, to extra curricular or co-curricular enhancements, to investment in high visibility sports enterprises, to high profile research enterprises, and to external validation through methodologically suspect surveys and ranking systems.

The changes in our higher education marketplaces have different impacts on the various categories of institutions. Community colleges, small liberal arts colleges with modest endowments, and open admission state universities experience these changes in a much more significant fashion than the elite well-endowed liberal arts colleges or the substantial public and private research universities. Those at the bottom of the prestige hierarchy work constantly to stay close to the labor market with programs and activities that serve local constituencies and local business and industry, for their customers are primarily local or at best regional. They implement faculty structures that rely heavily on adjunct and part-time faculty both for savings in compensation and flexibility to meet the demands of dynamic business, service, and industry marketplaces. They develop innovative instructional programs, many with exit points short of degrees but with certificates and other tokens of accomplishment. They employ innovative instructional systems using technology to reduce cost and expand the size of their market. Because they often receive a significant portion of the least qualified and prepared of the high school graduates in their region, they find it difficult, even with extensive remedial programs, to produce the universal graduation results public opinion seems to expect.

At the other end of the scale, the elite private colleges, major private research universities, and flagship public campuses can select the best qualified high school graduates. They provide a premier, prestigious, higher education product that commands higher fees. With a reasonably well qualified student population they produce successful outcomes for most of their students. Their faculty remain primarily full-time and highly tenured, although many employ contingent faculty for some functions. And, most importantly of all, the research institutions focus much of their energy and resources on participating in the research competition that defines elite university status.

Research as Prestige Marker

In conversations we often hear our friends and neighbors complain about the research intensity and competition of the top institutions.

“What good does this do our students?” “Why should universities be so expensive to support specialized faculty research?” “Who needs these research people when we know most don't like students and rarely teach them?”

How do we respond? We could engage in an elaborate defense of the research university, emphasizing its economic value to the nation and the world and demonstrating its importance in maintaining American preeminence, but in truth, those arguments and their derivatives, while surely true, rarely convince. Instead, we might ask our friends,

“What are the ten universities you would want your child to attend?” So they list the ten which will include Stanford, Harvard, UCLA, Michigan, Illinois, Indiana, Duke, North Carolina, among others. Whatever ten they pick will almost certainly fall within the group we define as the Top American Research Universities, institutions distinguished by their success in competing for federal research. *“So,”* I say, *“you want your kid to go to a research university that is among the most dedicated and focused on research faculty, staff, facilities and programs. Why didn't you include the very good state universities that devote almost all their time and effort to teaching?”*

My friends squirm, and if they are honest, which of course all my friends are, they have to admit that they want their kids to go to the most prestigious institution they can get accepted into and that the parents can afford. They also admit that the prestige they seek belongs to those universities that have the highest performing research enterprises.

The preeminence of research universities within the context of a rapidly evolving higher education marketplace offers some indications of where we are headed. When primary and secondary education

are no longer the baseline preparation for economic survival, the lower tiers of the post-secondary enterprise come to take their place as the providers of entry level credentials. Those who in a previous time might have gone off to stable quality employment after high school must now go to some type of college to acquire sufficient skills to compete for reasonable jobs. Those who previously would have gone to college for a high quality job now must find a some higher level of post-secondary education. That usually means a more prestigious college or university and especially further training at the masters level or beyond. This shift in educational expectations has given the research university an even more prominent place in the higher education world.

Revenue, Research, and Competition

While research universities continue to maintain their preeminence in the American higher education landscape, they too face an endless series of competitive challenges. As always, it is about money. When we study research university competitiveness we can consider a wide range of institutional characteristics, but all successful institutions are ruthless revenue seekers. Research, whether federally funded or supported from other sources, is almost always a money loser. While top research universities, public or private, may spend \$400 to \$500 million of federal research grant money a year, they will lose money on all those grants. The difference between what the grants support and what the university must pay to complete the project can reach 50% or more in addition to the funded cost.

This money must come from somewhere. A large public university may well earn a surplus on its instructional programs that it can use to subsidize research. A private institution can use endowment earnings. A medical school can call on the revenue from a practice plan. Institutions can commercialize their research results and produce a modest return in support of future projects. Institutions can seek support from local and state governments for research with a regional interest. Public institutions can seek funding from the state to build research facilities. The list of possible sources of money is long, and successful research universities relentlessly pursue every possible revenue opportunity.

Some observers imagine that the university as an institution competes for the federal funding that supports research, but this is not necessarily correct. Most research funding is awarded based on the

proposals and credentials of individual faculty and staff who make up the research team. The grant, while it may be awarded through the university, is awarded because of the successful application created by faculty members with their teams. This makes the recruitment, retention, and care of exceptionally gifted research faculty one of the hallmarks of a top institution.

The institutional contribution to this process is the creation of an extensive and expensive platform in support of the individuals who will apply their talents to research projects that can win the various competitions for funding. Superb faculty members cannot succeed alone, and must have facilities, equipment, staff, graduate students, related colleagues, and other support personnel who combine to ensure that those creative faculty will have everything required to prosper. Research universities spend an inordinate amount of time and money on acquiring and keeping the best faculty in the world because without them, the institution cannot win the research competitions and produce the results that make the institution famous.

The standards and attitudes, the expectations and styles of research universities become the patterns that define academic excellence at all levels. Institutions of very modest distinction will nevertheless advertise and promote the research accomplishments of the few faculty in their university who have achieved some research distinction. The existence of any research component is regarded by most all universities and many small colleges as tokens of participation in the most prestigious part of the post-secondary marketplace.

Enhancing this research emphasis, nations around the world have accepted the notion that academic research preeminence is a required element for international significance and influence. Nation after nation invests heavily in its academic research establishments often copying models taken from the United States and Western Europe. They seek to measure their own research performance against that of leading US and Western European institutions, using various surveys and ranking schemes. This global expansion of the academic research commitment has made research universities even more significant within the context of the world economy. The competition within the US is driven by institutions seeking to surpass the performance of their counterparts. Universities and their various

departments and programs benchmark their work against the success of those who are better, seeking to improve their performance to beat the competition.

Within all of higher education, the federal research marketplace provides some of the clearest and most dramatic examples of competitive activity. Because of the importance of research as a prestige marker for so many institutions and consumers, it is useful to have a clear frame of reference.

If we measure an institution's federal research expenditures per year, the best indicator of research competitiveness, we can identify a variety of key dimensions. This is a big marketplace with a total value of about \$39 billion dollars. Almost 900 institutions seek some portion of this money, but the winners are highly concentrated. We can see this clearly if we divide the participating institutions into three groups: those that spend above \$40 million dollars per year, those that spend between \$20 and \$40 million dollars per year, and the rest.

Our first group with over \$40 million in expenditures has 163 institutions, 116 public (or 71%) and 47 private (or 29%). This group, with only 19 percent of the institutions, accounts for 92 percent of all federally funded research expenditures from the 900 institutions that receive federal research dollars. Clearly, this is a highly concentrated marketplace, with this top group receiving in total close to \$36 billion dollars of the \$39 billion available. Even among these institutions, the concentration of federal research spending is high. The median institution in the top category spends about \$133 million dollars per year of federal research funding, but the average of the institutions in the top half of the group spends just over \$354 million per year. The range among these elite institutions extends from a low of just over \$40 million to a high of almost \$2 billion dollars per year.

The next category of institutions, those spending between \$20 and \$40 million per year together spend about \$1.6 billion or 4% of the total from the 6% of the institutions in this group. The remaining 655 institutions that spend federal research dollars account for about \$1.8 billion dollars or about 4.5% of the total.

We can analyze in much finer detail this competitive context, but the key element we need to recognize is that this concentration of research performance reflects extensive and continuous investment by the top universities over a long period. The top category of institutions is quite stable, with only minor readjustment in rank over the years, and with the addition of relatively few institutions into the top end of this group. This stability also helps us understand why these premier universities set the standards for prestige and quality for most of American higher education, and why those standards remain significant even in a turbulent world with much change and readjustment in the marketplaces below the top. It is, as these examples illustrate, almost always dangerous to generalize about all of American higher education, for the differences in markets and in the nature of the competition within those markets are significant.

Driving Research Competition

Often we are asked what it takes to compete successfully and maintain or improve a university's position among research intensive institutions. Although there are many things that inform a campaign to improve an institution's research standing, I usually tell people to focus on three things:

1. Money matters. No matter how wonderful you are in any other dimension (location, facilities, charm, history, tradition), money matters. You can be a rich university with poor performance and fail to compete successfully. But you cannot be a poor university and expect to win. Money Matters.
2. Performance counts. You must perform as well as those above you. You must benchmark your performance to those better than you. And then you must improve your performance both relative to what you did and to what the best did last year. If the marketplace grows by 7%, your 5% increase represents a 2% loss of market share. Performance counts.
3. Time is the enemy. Since everyone is competing for the same set of limited resources (federal grants and contracts, endowment gifts, exceptional students, outstanding faculty), time is an enemy. If you do not apply for the grant today, someone else will apply and get it. If you do not

recruit the outstanding faculty member today, someone else will hire her. If you do not ask a donor for the gift today, someone else will ask and receive the gift. Time is the enemy.

It is not easy to win in any part of the post secondary marketplace. Successful competition in the many niches of the higher education world requires a careful analysis of each individual institution's context, and a clear understanding of what is required to win within that context. In each of these many marketplaces, some institutions will find space and opportunities to improve while others will fall behind.

Thank you.

Institutions	Not-for-profit 4-year Institutions with First-year Undergraduates	
Public	664	34%
Private	1,283	66%
Total	1,947	100%

Degrees High School and Above
 In 1970 about 55% of the population 25-29 had high school or above
 In 2014 about 88% of the population 25-29 had high school or above

Masters and Above
 In 1970 11% of the population 25-29 had Masters or above
 In 2014 32% of the population 25-29 had Masters or above

Masters Degrees Conferred in Some Fields 2003-2013

Field	2003	2013	Increase #	Increase %
Business	139,300	189,300	50,000	36%
Education	162,300	154,600	-7,700	-5%
Health Professions	44,900	97,400	52,500	117%
Administration	28,300	44,500	16,200	57%
Social Engineering	32,600	42,400	9,800	30%

Research University Federal Research Expenditures, 2012, \$ x1,000

(Includes Universities Spending Fed Research Money. University = degree granting institution)

	# Institutions	% Institutions	Total Fed Expenditures \$	Total Fed \$ in 40-above	% Fed \$ in 40-Above	Median Fed \$ per Institution	Average Fed \$ Per Top Half of Institutions	Total Fed \$ in Top Half of Institutions	% Federal \$ in Top Half of Institutions
Total	874	100%	\$39,010,110						
In 40 above									
Institutions	163	19%		\$35,588,398	91%	\$133,000	\$354,227	\$28,869,525	74%
Public	116	71.2%							
Private	47	28.8%							
In 20-40									
Institutions	56	6%		\$1,627,572	4%				
Public	45	80%							
Private	11	20%							
Below 20									
Institutions	655	75%		\$1,794,140	0.045991667				

Source Notes:

Degree and Institution Data, NCES, Digest 2014

http://nces.ed.gov/programs/digest/current_tables.asp

Research Data, MUP, 2016

<http://nces.ed.gov/programs/coe/>
<https://mup.asu.edu/University-Data>

