

Yale
International Center for Finance
Working Paper No. 99-13

Yale
Law School
Program for Studies in Law,
Economics, and Public Policy
Working Paper No. 99-15

September 1999

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HIGHER EDUCATION AS AN ASSOCIATIVE GOOD

Henry Hansmann

Abstract

Education, and particularly higher education, has an important characteristic that distinguishes it from most other goods and services: it is an “associative” good. The essential characteristic of an associative good is that, when choosing which producer to patronize, a consumer is interested not just in the quality and price of the firm’s products, but also in the personal characteristics of the firm’s other customers. When choosing among undergraduate colleges, for example, a student is interested not just -- or even primarily -- in the colleges’ faculty, curriculum, and facilities, but also in the intellectual aptitude, previous accomplishments, sociability, athletic prowess, wealth, and family connections of the colleges’ other students. The reason is obvious: these and other attributes of a student’s classmates have a strong influence on the quality of the student’s educational and social experience, the relationships (including marriage) that the student will have later in life, and the student’s personal and professional reputation.

Markets for associative goods do not function like markets for other goods and services. This is especially true when the producing firms are all nonprofit or governmental, as is the case in the upper reaches of higher education. Most importantly, when nonprofit firms produce associative goods, there is a particularly strong tendency for customers to become stratified across firms according to their personal characteristics. Those customers who are most desirable as fellow customers will tend to cluster at one firm, the next most desirable at another, and so on down.

This essay surveys the implications of the associative character of higher education for the ownership and control structure of universities, both past and future, for the efficiency and equity of markets for higher education, for the market power of elite universities, and for collusive behavior and antitrust policy.

HIGHER EDUCATION AS AN ASSOCIATIVE GOOD

Education, and particularly higher education, has an important characteristic that distinguishes it from most other goods and services: it is an “associative” good.

The essential characteristic of an associative good is that, when choosing which producer to patronize, a consumer is interested not just in the quality and price of the firm’s products, but also in the personal characteristics of the firm’s other customers. And so it is with education. When choosing among undergraduate colleges, for example, a student is interested not just -- or even primarily -- in the colleges’ faculty, curriculum, and facilities, but also in the intellectual aptitude, previous accomplishments, sociability, athletic prowess, wealth, and family connections of the colleges’ other students. The reason is obvious: these and other attributes of a student’s classmates have a strong influence on the quality of the student’s educational and social experience, the relationships (including marriage) that the student will have later in life, and the student’s personal and professional reputation. In short, the thing that a college or university is selling to its students is, in large part, its other students. Harvard College would be nowhere near so attractive to a prospective applicant if Harvard’s faculty, curriculum, and facilities were to remain as they are, but its other students -- past, present, and future -- were no different from those of an undistinguished state college with open enrollment.

I. Stratification

Markets for associative goods do not function like markets for other goods and services. This is especially true when the producing firms are all nonprofit or governmental, as is the case in the upper reaches of higher education. Most importantly, when nonprofit firms produce associative goods, there is a strong tendency for customers to become stratified across firms according to their personal characteristics. Those customers who are most desirable as fellow customers will tend to cluster at one firm, the next most desirable at another, and so on down.

The reason for this stratification is that a customer’s own personal characteristics – what we might term the customer’s “quality” – constitute an important part of the price that the customer pays for an associative good. As between two customers who would like to patronize a given firm, and who are going to pay the same price for the firm’s services, the firm will always prefer to serve the customer who is of higher quality, since that will make the firm more attractive to its other customers. Consequently, producers of associative goods have an incentive to pick and choose among their customers, serving only those that are of highest quality.

This incentive is particularly strong for nonprofit firms, which are effectively constrained to charge their customers, on average, no more than the cost of producing the service that the firm provides. The cost of providing a given quality of a service,

such as education, to high-quality customers is generally no different than the cost of providing it to low-quality customers. Consequently, nonprofit firms will charge the same price regardless of the quality of their customers. But, given that the price charged by different firms is the same, customers would prefer to patronize the firm with the highest-quality customers. Since the customers can't offer to pay a higher price, the only currency that customers can offer the firm is their own quality. The result is simple clustering: everyone wants to patronize the firm with the highest-quality customers, but only the highest-quality customers will be accepted as patrons, since they have the most to offer the firm. In effect, the high-quality customers are paying to associate with each other, using their own quality as currency. And once the highest-quality customers cluster at a given firm in this way, the highest-quality customers among those that remain will cluster at a second firm, and so forth, until customers are sorted among firms in hierarchical fashion.¹

This kind of stratification is very evident in higher education. The highest-quality students tend to cluster at a few elite institutions, the next-highest stratum at another set of institutions, and so on down. Indeed, among the elite institutions, there tends to be fairly pronounced stratification even from school to school. If the readers of this essay were asked to rank the eight schools in the Ivy League in terms of their desirability as places to seek an undergraduate education, there would probably be a fairly high degree of correlation among the responses.

II. Competition

An important consequence of stratification is to dampen considerably the degree of competition among educational institutions. Although there are more than 3000 colleges and universities in the United States, higher education is a far less competitive industry than such large numbers would normally suggest. Very few of those 3000 institutions are even potential competitors for Harvard, Yale, or Stanford, in the sense that they could attract students away from the latter schools simply by lowering their tuition.

A critical factor in preventing competition is the difficulty of quickly changing the character of a college's student body. Since undergraduates are commonly admitted for four years, it is possible to change the quality of at most one-fourth of the student body in any one year. Moreover, much of the attraction of attending a given college depends on the qualities of the college's *former* students, who contribute strongly to the college's (and hence all future students') reputation. But a college can do virtually

¹For more detailed analysis of markets for associative goods and the organization of the firms that produce them, see Henry Hansmann, "A Theory of Status Organizations," 2 Journal of Law, Economics, and Organization 119-30 (1986), and chapter 10 in Henry Hansmann, The Ownership of Enterprise (The Belknap Press of Harvard University Press, 1996). For analysis of associative phenomena in primary and secondary education, see Dennis Epple & Richard Romano, "Competition Between Private and Public Schools, Vouchers, and Peer-Group Effects," 88 American Economic Review 33-62 (1998).

nothing to change the character of the students that it has already graduated in past decades – or centuries. The consequence is a very high degree of inertia in the general character of any given college's student body, and in turn a high degree of inertia in the relative attractiveness of colleges to prospective undergraduates. It is this inertia that is largely responsible for the striking fact that the relative ranking of undergraduate colleges in the United States has remained relatively constant for three centuries, despite enormous growth in the industry and the entry of thousands of new institutions. No other industry exhibits this kind of stability.

Although we have been focusing so far on undergraduate education, graduate and professional education are associative goods too – indeed, even more clearly so than undergraduate education. Teaching on a university faculty is also an associative good. Physicists and historians generally want to be at universities where their fellow physicists and historians are as strong as possible, and this associational aspect of teaching and research often weighs much more heavily in choosing where to work than does salary or other material forms of compensation. The result is that colleges and universities show a strong tendency to stratify, not just in terms of the quality of their undergraduate and graduate students, but also in terms of the quality of their faculty. Since professors like to teach good students, and students like to have good teachers, there is also an associational link between students and faculty, which tends to lead strong faculty and strong students both to cluster at the same institutions. And since academic tenure makes it very difficult to change the quality of a university's faculty quickly, the associational character of university faculties further diminishes the effectiveness of competition among institutions of higher education.

III. The Nonprofit Form

I noted earlier that the tendency toward stratification among educational institutions is accentuated by the fact that they are nonprofit. A proprietary college would have a stronger incentive to use price, rather than students' own personal qualities, as the basis for rationing admissions, since it might increase its profits by admitting some low-quality students who were willing to pay very high tuition for the privilege of associating with other students who are of higher quality.

The relationship between stratification and the colleges' nonprofit status also works the other way, however: the fact that education is an associative good provides a strong reason for organizing educational institutions as nonprofit organizations. To see this, imagine that Harvard were suddenly to be converted to a for-profit firm. Then, even if it were not to change the character of its student body, Harvard would have both the incentive and the ability to raise its tuition considerably, since it could do so with little effect on the demand for admission: many students would willingly pay a good deal more to Harvard rather than attend another college. In effect, Harvard is a monopolist: it has a (near) monopoly on the best undergraduates in America, and can thus offer prospective students a group of fellow students of higher quality than competing institutions can offer. A for-profit Harvard could therefore charge a monopoly price. This would of course make Harvard's students worse off. And this monopolistic

exploitation would be all the more galling to Harvard's students because the thing for which they would be paying a monopoly price would be their own personal excellence! By attending a nonprofit institution, Harvard's students can, at least in part, avoid this kind of exploitation.²

IV. Institutional Size

The associative character of higher education also helps explain why private colleges and universities remain relatively small. When demand for admission to an elite college increases – as it has at most of the elite institutions over recent decades -- the colleges rarely respond, as they could, by keeping the quality of their student body constant while increasing its size. Rather, they tend to keep the size of the student body relatively constant, and increase its quality. This reluctance to expand is evidently not because the colleges face important diseconomies of scale, in terms of facilities or curriculum, if they were to expand their student bodies. In fact, it seems likely that most private colleges operate well below the efficient scale for an appropriately varied set of curricular and extracurricular offerings. As some evidence of this, one need simply note the enormous size of many state university campuses.

Rather, the reason for remaining small is that increasing the size of the student body reduces its quality, and this reduces the welfare of the students who attend the college, of the college's faculty, and probably of its administration as well (since administrators would generally like to be known for managing a highly selective institution). To maintain high quality, a college therefore has an incentive to operate with a student body that is well below the size that minimizes the average cost of producing an appropriately designed college experience. This incentive is particularly pronounced if, as is often effectively the case, a college cannot charge different prices to different students according to their personal qualities. It is even further pronounced when the colleges are nonprofit, since a nonprofit is likely to be particularly sensitive to the interests of currently enrolled students, alumni, and current faculty and administrators – and not to the welfare of those students who would like to attend the institution and are willing to pay its tuition, but are rejected.

²There are, of course, other reasons why institutions of higher education are nonprofit. The most obvious is to be able to attract donations. The reason why donative financing is so pronounced among these institutions is, in turn, an interesting question, particularly since nearly all of the donations that a college receives come from its graduates – i.e., its (former) customers. Why don't the colleges just raise their prices, and get the money from the students up front rather than after they graduate? One plausible answer is that the donations are part of an implicit loan program, whereby the college effectively lends impecunious undergraduates part of the cost of their education, in return for the implicit promise that the students will voluntarily repay the loan later if they are successful in life. See Henry Hansmann, "The Role of Nonprofit Enterprise," 89 Yale Law Journal 835, 859-62 (1980), reprinted in Susan Rose-Ackerman, ed., The Economics of Nonprofit Institutions (Oxford University Press, 1986). This means, of course, that as the availability and flexibility of educational loan programs improves, the need for donative financing, and hence for the nonprofit form, diminishes.

V. The Size of the Market

Students' geographic mobility clearly affects the degree of educational stratification. If students prefer not to attend an institution that is far from home, then stratification will tend to be limited to institutions that are geographically close, and economies of scale will force institutions to serve a fairly diverse group of students.

In recent years, the market for higher education has become increasingly national, as costs of transportation and communication have fallen and families have become wealthier. The result is that the world of higher education has become much more intensely stratified. Students from Illinois who once would have wished to attend the best possible college in that state, or in the Middle West, now want to attend the best possible college in the country as a whole. Elite institutions, in turn, can choose the best students from a national pool, not just from a regional or local pool.

VI. Homogeneity of Preferences

The pattern and degree of stratification of students across institutions of higher education also depends on the extent to which students differ in the weights they place on the various characteristics of their fellow students. If those weights were the same for everyone – that is, if all students were to place the same relative weight on their fellow students' aptitude for mathematics, knowledge of French poetry, skill at soccer, fondness for beer, etc. -- then it would be possible to sort all students according to a simple linear ranking from most desirable to least desirable, and stratification of students across universities according to that ranking would be extremely pronounced.

As it is, of course, students do not all have the same preferences about the fellow students they find most desirable. Some students put most weight on intellectual aptitude and motivation, others weigh sociability more heavily, while yet others put special emphasis on religious commitment or theatrical and musical performance. The result is that institutions tend to specialize somewhat in the types of students they attract, and stratification is most pronounced only among institutions that specialized in similar types of students.

Here too, however, recent years seem to have brought increasing convergence, and hence increasing stratification. The increasingly meritocratic character of our society is one important reason for this. Today, economic success, and hence social status, goes increasingly to individuals who have strong intellectual aptitude and the motivation to use it. Other personal attributes that once might have contributed importantly to success – such as good family connections, inherited wealth, sociability, and athletic prowess – are becoming less important. And, rightly or wrongly, a limited set of general measures – such as SAT scores and grades achieved in previous schooling – are now widely accepted as the best measures of intellectual aptitude and motivation. The result is that it is becoming increasingly easy for all of the nation's college applicants (or applicants to a given type of graduate or professional school) to

be ranked according to a common metric that is widely shared. All universities therefore tend to rank their applicants in the same way, and all applicants tend to rank the student bodies at those universities -- and hence the universities themselves -- in the same way. A tendency toward ever more intense nationwide stratification of students across universities is the result.

This process is receiving a strong boost today from the advent of prominently published rankings of academic institutions, such as those put out by U.S. News and World Report. Partly as a reflection of the stratification of educational institutions that has already occurred, and partly perhaps because everyone enjoys a contest and because of the need for simplification in popular journalism, these rankings typically involve little more than simple listings of institutions in linear order from best to worst. Students who have no better information will of course have an incentive to apply to the highest-ranked institutions that they believe might accept them, and then to attend the highest-ranked institution to which they are admitted. The result is further stratification of students among the institutions, and hence a tendency for the rankings to further solidify the hierarchical ordering that they initially portray.

These consequences of this process are conspicuous from the experience of the Yale Law School, where I teach. For many years, the Yale Law School's take-up rate -- that is, the percentage of students who choose to attend Yale among those to whom Yale offers admission -- remained fairly constant at around 50 percent. Then, in the early 1990s, the take-up rate rose rapidly to around 80 percent, where it has remained. Given that many students among the 20 percent who today decline Yale's offer of admission do so to attend graduate school or pursue some other career, this means that very few students who are admitted to Yale choose to attend another law school instead.

Why did Yale suddenly emerge as everyone's top choice among law schools? I would like to think that the answer lies at least partly in a real change in the quality of the institution as compared to its competitors. Some of the popularity may also be due to publicity about the Yale Law School's graduates that, whatever it says about the school's real quality, has focused considerable attention on the institution. But I suspect that a particularly important factor was the advent of U.S. News and World Report's nationwide rankings of law schools. When those rankings were first published, in 1987, the Yale Law School was ranked number 2, behind Harvard. When the rankings were next published, in 1990, Yale was ranked number 1, while the Harvard Law School had the misfortune to be ignominiously dropped to number 5. In the rankings published in 1991 and annually since then, Yale has held steady at number 1, while Harvard rebounded to the number 2 spot and has likewise remained there. Not surprisingly, the big jumps in Yale's take-up rate came with the classes entering in 1992 and 1993.

Before the U.S. News rankings, the choice between going to the Yale Law School and the Harvard Law School was a complex decision on which opinions might reasonably differ. Once the rankings were published, however, students were choosing between attending the best and the second-best law schools -- or at least between the schools that *other* people thought were the best and second-best law schools. Who

wouldn't choose (what other people thought was) the best? Moreover, the rankings made choosing Yale quite rational. Whether or not Yale was the best law school before the rankings, after the rankings were published Yale would surely attract an even larger share of the best applicants, and hence it would *become* the best by virtue of having the best collection of fellow law students. The rankings are a self-fulfilling prophecy.

These rankings have been a mixed blessing even for the Yale Law School. Before the rankings, students would sort themselves among law schools according to their particular interests. Very roughly speaking, for example, Yale Law School tended to attract students with more academic interests in the law or whose orientation was more toward careers in the public interest, while Harvard tended to attract the more commercially minded students. The rankings may be breaking down this segmentation, causing students to sort themselves among schools simply according to their Law School Aptitude Test Scores and college grade point averages. Of course, the Yale Law School can try to preserve its special character by giving preference in admissions to students who appear more academically minded or more oriented toward public interest careers. But admissions applications offer only crude evidence of an applicant's real interests and ambitions. Truly effective sorting on these dimensions must be done by the applicants themselves. The rankings may be undercutting that kind of self-sorting, thus depriving educational institutions of an important degree of diversity.

To be sure, published evaluations of academic institutions could in principle be subtle and complex, providing a wealth of detail about individual schools that actually promotes rather than defeats the tendency of institutions to differentiate themselves along a number of dimensions. And perhaps as the evaluations mature they will place less emphasis on simple hierarchical rankings of institutions. But I suspect that the economics of information is such that simple rankings will have unusual salience for some time to come, that students will tend to sort themselves among institutions according to that measure, and that the quality of the students at an institution -- as measured by some simple linear index -- will therefore itself become an ever greater element of the published rankings of institutions. Consequently, stratification of students among institutions will continue to be a strongly self-reinforcing process. The result may be a degree of stratification that is far higher than one would choose if one could assign students to institutions simply with an eye to maximizing the quality of the education they receive.

VII. Internationalization

The increasing hierarchical stratification of higher education has to date been largely a national phenomenon. But higher education is rapidly becoming an international industry, and the hierarchical stratification of institutions is becoming international as well. To continue with the example I know best, one sees this process even in a field as traditionally parochial as law. Both the number and quality of applicants to the Yale Law School's graduate program, from countries all over the world, have gone up noticeably in recent years, as has the take-up rate among those

who are admitted. When asked why they wish to come to the Yale Law School, what do foreign applicants say? A surprising number mention the rankings in U.S. News and World Report.

This rapid internationalization of the market for higher education is, of course, a very good thing for the United States. The best institutions of higher education in the world, in nearly every discipline, are today found in the U.S. This is probably a consequence, in large part, of the highly competitive character of U.S. higher education, which differentiates it strongly from the centralized systems found in most other nations. But, whatever the reason for their current strength, the result is that U.S. institutions are likely to end up at the top of an emerging world-wide market that is highly stratified. And, given the dynamics of hierarchical competition that I described earlier, those positions at the top of the hierarchy may prove to be secure for a long time. Consider, for example, the internationally dominant position that Oxford and Cambridge maintained for decades after the rest of the English economy had become relatively uncompetitive in world markets.

VIII. Is Stratification a Good Thing?

Once we recognize that the associative character of higher education has a strong tendency to drive the industry toward hierarchical stratification, it is natural to ask whether that stratification is desirable, and thus whether public policy – and educational institutions themselves – should assist or resist it.

One potentially unfortunate consequence of hierarchy is that – as we have already noted – it tends to reduce substantially the degree of effective competition among institutions of higher education, and this in turn provides room for a good deal of slack in the management of those institutions. An elite college or university can survive many years of mediocre management without losing its ability to attract top-flight students and faculty, since the students and faculty are largely coming for each other and not for the other amenities and services that the university's administration provides them, including instruction. This may be one reason why professionalization of the administration of higher education has come relatively slowly, even though – when measured by assets, income, or employment -- the leading universities rank among the largest corporations in the U.S.

But even in terms of the sorting of students among universities, the tendency toward hierarchical stratification may have some unfortunate consequences. One of those consequences, which I have already noted, is that the limited information available to student applicants may cause stratification of institutions to become excessively unidimensional.

Another potential problem is that, even if students are perfectly informed about the qualities of different universities, they may have strong incentives to stratify themselves too severely across institutions. Suppose, for example, that while all students find it advantageous to attend an undergraduate college where their classmates are strong students, the degree of this advantage is greater for relatively

weak students than it is for strong students. That is, students whose educational background, motivation, or even aptitude is relatively weak may gain more by going to school with classmates who are already strong in these respects than would other strong students, since strong students will generally learn quickly in any environment. The aggregate effectiveness of education, then, will be maximized by some mixing, within individual universities, of students of varying strengths. But the dynamics of competition for an associative good like education, particularly when the providers are nonprofit, will tend to sort the students quite strictly according to their qualifications, and thus frustrate the optimal mixing. Of course, if it is the other way – if strong students gain the most from being with other students who are strong – then the kind of sorting that results from unregulated competition is a good thing. As it is, we simply do not know what is the optimal degree of mixing, and thus whether we have too much hierarchical stratification in higher education.

Another problem is distributional. Even if a high degree of hierarchical stratification of students across universities maximizes the average efficiency of higher education, it may strongly reinforce social inequality. Students who are intellectually talented, highly motivated, and well organized and disciplined are likely to end up in the higher reaches of American society no matter where they go to school. If all the students who are strongest in these respects cluster at the same colleges and universities, they will not only reinforce their prospects for success but also form an elite that is strongly socially connected. And, for better or for worse, the elite institutions that educate those students will come to play an ever more important role in society.

IX. Public Versus Private Education

Future decades will probably bring substantial privatization of our university system (and of those in other countries), as public institutions come to be operated more like private ones, with higher fees and greater autonomy, and as private institutions come to replace public institutions.¹ A likely consequence will be a

¹There are several reasons for this. One is that the large market share held by the public institutions is largely a product of the surge in the demand for higher education that the country experienced in the decades immediately following World War Two. Up to 1950, the percentage of college and university students enrolled in public institutions had long held steady at roughly 50%. The post-war demand surge was the result of the baby boom and the simultaneous increase in the percentage of high school graduates going on to college and graduate school. That increase in demand could not be accommodated by the existing private nonprofit institutions, which lacked the capital necessary for rapid expansion. Moreover, even if government had offered them the capital -- which to some extent it did -- the private institutions also had very little incentive to expand, partly because of the associative phenomena we have been exploring here. Consequently, the best way to triple the capacity of the country's higher education system -- which is what happened between 1950 and 1975 -- was for the state governments simply to build and operate the campuses themselves. But such a rapid surge in demand is unlikely to be repeated in coming decades.

Another reason why public institutions will be less important in the future is that, in education as in health care, we are replacing supply-side subsidies (such as the Hill-Burton capital grants to hospitals

dramatic increase in the tendency toward hierarchical stratification in higher education. The state-owned universities, which today account for nearly 80% of American higher education, have served as a check on the overall amount of stratification in the U.S. higher education system. Whether it is because very large institutions are more cost efficient (because of economies of scale), more educationally efficient (because mixing students of different abilities increases the average rate at which students learn), or less distributionally distasteful (because they avoid concentration of elites), the state universities are generally much larger, and their student bodies much less stratified, than is the case with the private universities.

The problems of equity and efficiency that are presented by stratification are therefore likely to become ever more pressing. For example, we can expect debate in the world of higher education -- following the lines of the debate already taking place in primary and secondary education -- about the desirability of tying public subsidies to a willingness on the part of private institutions to accept a diverse student body. But, even more for higher education than for primary and secondary education, diversity goes well beyond the issues of ethnicity, gender, and parents' wealth and social status that are the usual foci of attention under that label. In future years, the most important and controversial dimension of diversity is likely to be intellectual aptitude and accomplishment.

X. Competitive Strategies

Examples of private colleges and universities that have successfully bootstrapped themselves up the educational hierarchy are relatively rare. One thinks of Stanford in the 1950s and 60s, Brown in the 1970s, and New York University in the 1980s and 90s. Because the associative aspect of higher education imposes such immense inertia on the quality of colleges and universities, a school that wishes to advance itself must adopt bold and imaginative strategies.

One strategy for improving faculty, for example, is to give prominence to lackluster departments by seeding them with academic superstars who are offered exceptional salaries and perquisites. Another is to hire faculty in groups through coordinated offers to professors at other institutions who would like to work together.

in the 1940s and 1950s, and the federal grants for university construction that were common in the 1960s) with demand-side subsidies (such as the Medicare and Medicaid health insurance programs, and the now-extensive federally-funded student grants and loans for higher education and the competitive research grants given to faculty by the NSF and the NIH). Since students and faculty can take those demand-side subsidies to any institution they wish – whether public, private nonprofit, or even private for-profit – the effective demand for private colleges and universities is now high, and is likely to be much higher in coming years as state governments, too, move more toward demand-side subsidies.

I explore these issues at greater length in Henry Hansmann, "The Changing Roles of Public, Private, and Nonprofit Enterprise in Education, Health Care, and Other Human Services," in Victor Fuchs, ed., Individual and Social Responsibility: Child Care, Education, Medical Care, and Long-Term Care in America (University of Chicago Press, 1996).

The quality of an institution's student body can sometimes be improved by artful gaming of published rankings. When, some years ago, guides for prospective students included, as an index of admissions standards, only the average aptitude test scores of the institutions they were ranking, it was said that some colleges and professional schools strategically chose, for several years, to admit students almost exclusively on the basis of those test scores. The result was a drop in the actual quality of the institution's student body – since test score alone is a worse predictor than test score together with a measure of previous accomplishment – but a dramatic increase in the *apparent* quality of the student body as shown in the consumer guides. The end result was then a substantial increase in the actual quality of the student body, as truly qualified students were induced to come to the institution by its improved ranking.

A change in the nature of the institution and its students can also be effective. The quality of Brown's student body shot up in the 1970s as a consequence of its more flexible "new curriculum," which cost the university nothing but proved highly attractive to many of that generation's independent-minded students. And the talented students that were thus attracted to Brown in turn made Brown more attractive to students of all interests, and allowed the university to leapfrog up the conventional status hierarchy.

XI. Coordination of Tuition and Admissions Policies

One method of competing for the best students is to offer special scholarships to individual students of exceptional promise. This form of competition is pervasive among graduate schools in the arts and sciences. It was long rare, however, in undergraduate education. Indeed, from the 1950s until recently, various groups of colleges that compete with each other for students -- including, conspicuously, the Ivy League schools -- entered into formal agreements in which they committed themselves not to offer merit scholarships, but rather to offer scholarships based only on the students' ability to pay.

An important consequence of such agreements is to lock in the status hierarchy among the schools involved. Since, owing to the agreements, any given student will pay the same tuition regardless of which school she attends, the incentives for strict stratification of students across schools become very strong. It is interesting to ask, then, what is the motivation for these agreements. Consider, for example, the Ivy League schools. One can well understand why Harvard would want Dartmouth to agree not to offer merit scholarships, since by doing so Dartmouth renounces one of the few means it has for competing effectively with Harvard for exceptionally talented students. But why would Dartmouth wish to go along?

A plausible answer is that the no-merit-scholarship agreement permits the Ivy League schools as a group to improve the quality of their student bodies. By virtue of the agreement, Dartmouth agrees not to compete with Harvard on the basis of price for students who are both talented and prosperous. As a consequence (with apologies to Dartmouth, which is a superb institution), the best of those students will generally go to

Harvard, and Harvard will charge them a high price. Then, with the proceeds of that high price, Harvard can offer large scholarships to highly talented students who are relatively impecunious, who will also come to Harvard (since they would be offered a deal that is no more attractive at Dartmouth). This means that Harvard will get all the most talented students, regardless of income. But this also means that Harvard will not need to reach so far down in the talent hierarchy among prosperous students in order to fill its classes. Dartmouth will thus have no competition for the latter students, to whom it will be able to charge full tuition – since other schools in the Ivy League that might, in turn, compete on price for those students with Dartmouth have also agreed not to do so. And Dartmouth, too, will be able to take advantage of the high tuition it charges prosperous students to offer more scholarships to the talented poor.

The end result is that Dartmouth consigns itself to a student body that is clearly below Harvard's on the status hierarchy, but by this means ends up with a higher-quality student body overall than it could have obtained through unrestricted competition. In effect, the Ivy League schools are agreeing to charge monopoly prices to talented students who are prosperous, and using the proceeds to improve their student bodies by attracting larger numbers of talented students who are impecunious.

This works, however, only because the Ivy League schools *as a group* have some monopoly power that derives from the stratification of higher education. If there were other schools outside of the Ivy League's agreement that were close competitors to those schools in the eyes of applicants, the Ivy League schools could not get away with charging monopoly prices to talented students who are prosperous. Indeed, the Ivy League schools were always frustrated that they could not induce Stanford, which they saw as a close competitor, to join their agreement.

Since 1991, the courts and the Congress have been struggling to decide whether the kind of price-fixing that the Ivy League has pursued should be permitted under the antitrust laws. From the preceding discussion, we can see why the issue is so difficult. For it depends, among other things, on the virtues and vices of permitting our system of higher education to become ever more highly stratified in terms of talent.²

XII. The Unstratified Portion of the Educational Market

Although the upper reaches of higher education are becoming increasingly stratified, the same does not seem to be happening at the lower levels of the higher education system, and particularly where students are non-resident. Among these schools, education is becoming increasingly a commodity. Moreover, the individual course -- rather than the four-year degree -- is becoming the basic unit of consumption and of competition among schools. Students take one course at one school and another course at another school, as convenience dictates. And then, when they have

²These issues are discussed further in Henry Hansmann and Alvin Klevorick, "Competition and Coordination in Markets for Higher Education and Other Associative Goods" (working paper, 1998).

taken enough courses, they submit the accumulated credits for a degree at one or another institution. As a consequence, the associative aspect of education at these institutions is relatively inconspicuous. A commuter student taking a single evening class from a school has much less interest in the qualities of the school's other students than does a student who is entering a four-year residential college. The result is a system in which large numbers of schools – public, nonprofit, and for-profit -- compete for students intensely with respect to price, curriculum, facilities, and faculty.

An interesting question is whether the increasing technological sophistication of our society, which is fueling the trend toward stratification among the elite educational institutions, will someday produce technologies that make it less important for elite higher education to be a residential experience, and hence remove much of the associative character of higher education. If that happens, then the elite institutions, like the non-elite schools today, may come to be much less clearly stratified and more highly competitive. Until that happens, however, it appears that we will have a dual system of higher education, with ever more uniform competition at the lower end and ever more hierarchical stratification at the top.