

Background paper

December, 2002

Allowing the Market to Rule: The Case of the United States*

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Abstract

There are increasing calls in the UK and other countries for deregulating universities so that they can better compete in the global market for higher education. Frequent allusions are made to the superiority of the US market-oriented system. But is market competition for first degrees in the US efficient for the larger society? Do the constantly increasing social expenditures for higher education in the US benefit the public interest or do they advantage certain students and faculty members? Two recent economic studies provide greater insight into the impacts of market competition on US higher education. The results of these studies are discussed and their possible implications for higher education policy making in other countries are explored.

Introduction

Over the last decade the institutional framework within which most universities operate has undergone a major transformation. Part of that transformation is due to changing technology, which has helped to foster the growth of cross-border academic programs both by conventional universities and by internet-based distance learning providers. Part of the change has been initiated by national governments themselves through the deregulation of their higher education sectors as well as the adoption of new market-based policies designed to make universities more efficient and effective.

These changes have led to concern about the impacts of the growing “marketization” (Williams, 1995) of higher education – the increasing influence of market competition on academic life. At the same time in the face of expanding global competition in higher education, established university leaders throughout the world are calling for freedom from the “shackles” of excessive government regulation. A former Vice-Chancellor of

* A revised version of this paper appeared in *Higher Education Quarterly*, 2003, 57(2): 136-157. I am indebted to Alberto Amaral, Ben Jongbloed, Maria João Rosa, and Pedro Teixeira for their valuable comments on an earlier draft of this paper.

Cambridge University for example recently was quoted as saying “it was time to eliminate the [Quality Assurance Agency] external assessment process and allow ‘the market’ to rule” (Maslen, 2000).

An important question often left unanswered in the intense academic debate about markets in higher education is what effect will market competition have on the public interest? Several recent economic studies of the US system of higher education provide intriguing if incomplete insights into the strengths and weaknesses of market competition as a means of coordinating higher education. As is often noted, US higher education is the most market-oriented system in the world. Market competition has been promoted by the existence of a large number of privately-funded colleges and universities, by public universities supported by the fifty states that compete nationally with the private institutions for students and research funds, and by federal policies that provide student and research support to individuals rather than to institutions. That is, federal financial support for students is offered in a voucher-like manner consisting of subsidized loans and tax credits and the vast majority of federal research support is awarded through a competitive grant process to individual researchers and research teams.

Recent research by economists in the US has applied frameworks derived from the field of industrial economics (IE) (Scherer and Ross, 1990) to assess the impacts of competitive markets in higher education (see for example, Feller, 1996; Hoxby, 1997 and 2002; and Brewer, Gates and Goldman, 2002).¹ From the IE perspective an industry is defined as a set of organizations competing in the offering of similar goods and services. In this sense, US colleges and universities can be considered as part of a common industry providing academic degrees, research, and service. Colleges and universities thereby compete for students, research support, faculty members and financial contributions and this competition is becoming both increasingly aggressive and global.

While it would be unwise to generalize the US experience with market coordination of higher education to other countries and cultures, the recent “massification” of higher education in other nations and the effects of “globalization” are encouraging increased experimentation with quasi-market and market forms of regulation outside the US. Consequently an assessment of the relative social costs and benefits of market competition in the US system may prove of interest to university leaders and policy makers in other countries as they debate the appropriateness of market-based policies. The paper that follows first introduces the industrial organization perspective, and then reviews in some detail the work of two recent studies of the impacts of the changing market structure on US higher education. Following this review, the potential implications of this research for universities and policy makers in other countries will be briefly explored.

Higher Education Markets and Public Policy: An Industrial Economics Perspective

There are a number of rationales for public policies that introduce competitive markets and/or market-like structures to higher education systems. Foremost is a desire for economic efficiency understood as “value for money,” particularly given the growing costs of meeting social demands for universal access to higher education (Williams, 1996). Also important is a desire to use market competition as an incentive for greater innovation and adaptation in higher education than is thought to be possible through traditional forms of coordination relying on state control or professional norms. The adoption of government policies encouraging

¹ In the US the field of industrial economics is termed “industrial organization.” The international term IE is adopted here in keeping with the readership of this journal.

private higher education, competitive research grants systems, greater student access to information about university quality, university ownership of patent rights, and contracting-out of university services and activities are therefore all examples of the application of market competition to academic reform.

Much of the literature by academics on the affects of market forces on higher education explores its impacts upon professors and institutions of higher education. But necessarily, policymakers must assess market competition in higher education from a broader perspective, its impact on the overall society. The framework of industrial economics provides this important correction in point of view. The original IE perspective (Scherer and Ross, 1990) (Figure 1) attempted to evaluate the actual *performance* of an industry in terms of the benefits it provides to society as a whole. Does, for example, the higher education system provide desired societal outcomes such as value for money, equity of access, and economic development? The perspective assumes that the actual performance of a system of higher education would in turn be affected by the *conduct* of the producers of higher education in such areas as the pricing of academic programs, research, and services, as well as inter-institutional cooperation or collusion. Conduct is affected by the *market structure* of the relevant market, which would include the number of consumers and producers, the extent of differentiation among competitors' academic programs or products, and the presence or absence of barriers to entry and exit for new academic competitors – in short by the degree of competition in the market for higher education. Finally, market structure is in turn affected by the institutional framework of laws and rules that include the relevant national regulations on higher education as well as norms and traditions that influence academic behavior such as beliefs about academic autonomy, freedom, and tenure.²

The solid arrows in Figure I suggest that government policies may influence the general framework of rules in which institutions of higher education operate, the regulations governing academic tenure for example.³ Policies may also shape the structure of the market – the degree of competition – by limiting or encouraging the development of private and/or for-profit higher education. Finally, government policy can directly affect the conduct of higher education, for example the nature of information provided by universities to consumers.

The general logic of the model clearly reflects economic assumptions about market competition. It assumes that the general framework of norms and laws influences the degree of competition in a market and this competition in turn influences conduct and performance. There are of course important feedback effects as indicated by the dashed arrows in Figure 1. For example the pricing policies of traditional universities may encourage the entry of new distance learning providers into the market for higher education programs.

Furthermore, while government policies can influence the market structure of higher education and the conduct of universities, the industry itself may lobby the government directly to alter the nature of government

² The original IE model (Scherer and Ross (1990) assumed that market structure was shaped by the “basic conditions” of supply and demand that included technology, unionization, the socioeconomic values of the business community, and the general framework of law within which industries operate. This perspective anticipated in useful ways the more contemporary economic interest in “institutions,” the “rules of the game” that influence market transactions (North, 1990). This latter orientation is adopted here.

³ The extent to which the institutional framework influencing higher education is based in laws or more informal norms and traditions varies from country to country. For example, autonomy for publicly supported universities in England was based upon a strong tradition and set of norms, whereas government laws and regulations shaped university autonomy in the US and on the continent. Contrastingly, academic freedom and tenure in the US has been more influenced by professional norms and sanctions than by government regulation.

regulation affecting higher education. Some observers in the UK argued that the recent decision by the Quality Assurance Agency (QAA) to abandon regular Teaching Quality Assessments came about as a result of the political efforts of the Russell Group of Universities. Similar allegations were made in the US that a 1992 federal mandate for greater state oversight of institutions of higher education was reversed in Congress after heavy lobbying by private colleges and universities who also would have been affected by the new law (Dill, 1997).

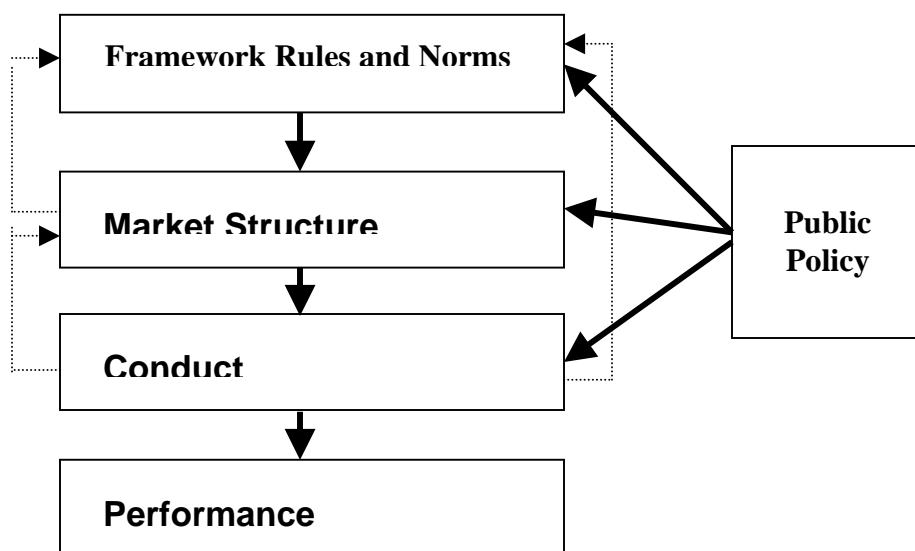


Figure 1: Structure-Conduct-Performance Model (Adapted from Scherer and Ross, 1990).

The discussion to follow, however, will focus on the IE perspective's contribution to understanding the relationship between market competition in higher education and benefits to society. The IE perspective is particularly helpful in assessing whether the current structure of market competition is in the public interest, or whether there is evidence of market imperfections that may warrant government correction. In the sections to follow I will review recent research on the market for higher education in the US from this overall perspective, evaluating the market's contribution to the larger society.

The Changing Market Structure of US Higher Education

In several recent analyses Caroline Hoxby (1997, 2002) of Harvard University systematically applies IE theory to the market for baccalaureate education in the US and suggests that the market structure of higher education has become much more competitive over the last decades with significant effects on academic and institutional behavior.

Hoxby notes, that while the US has always had a market-oriented system of higher education competition in the overall system was suppressed historically by the structure of the market. First, despite the

apparent competition among large numbers of public and private institutions for baccalaureate (first level degree) enrollment, most students as in Europe chose a geographically proximate institution of higher education. Second, because there were no federal and few state standards for admission to higher education, US colleges produced educational services at a number of different quality levels. Therefore many colleges traditionally had few competitors at their particular point in the quality spectrum. As a consequence, prior to World War II both public and private institutions in the US had a degree of monopoly power that retarded the full effects of a truly competitive student market.⁴

Hoxby (1997) reports that in 1949, for example, 93% of US students pursued a first level degree at a college or university in their home state, while only 16% of US colleges drew students from 20 or more states and only 2% of colleges drew students from 40 or more states. By 1994 these data had changed significantly, with 74% of all students attending a college in their home state, while 35% of colleges drew students from 20 or more states and 7% drew students from 40 or more states. Over the same period the proportion of in-state students among “public” institutions fell from 95% to 84% and among “private” institutions fell from 80% to 54%.⁵ Hoxby notes that studies of students’ college decision-making behavior reveal a similar pattern, with an increasing percentage of students applying to more geographically distant colleges and universities. This increase is even more dramatic among the “best” students as measured by scores on standardized aptitude tests.

Hoxby concludes that the growing geographical integration of students in college and university enrollments is an indicator of a substantial change in the structure of the market for baccalaureate education in the US. The baccalaureate degree market has become significantly more competitive as it was transformed from a series of local monopolies to a nationally and regionally integrated market in which each college faces many potential competitors for inputs and consumers.

Hoxby (1997) identifies a number of significant predictors of this geographic integration of the market for US baccalaureate education⁶:

- deregulation in the airline and telecommunications industries that resulted in substantially lower prices for long-distance travel and communication;
- the advent of modern, standardized admissions testing in 1943-48 (the SAT and ACT);
- the information exchange system among students, colleges, and scholarship donors that was initially generated by the National Merit Scholarship program in 1956-58;
- tuition reciprocity agreements among states’ public college systems (various years from 1970 onwards).⁷

⁴ As Hoxby notes (1997), this generalization was less true in the northeast and middle Atlantic areas of the US than in other parts of the country.

⁵ The substantial difference between public and private institutions in the proportion of in-state students is explained by the need for state-supported institutions to give preference to in-state students, an irrelevant consideration for most private institutions. The state of North Carolina, for example, places a limit on the number of out-of-state students that can be admitted as undergraduates to its public universities.

⁶ Hoxby’s list of predictors may overlook the affect of increasing wealth on student’s propensity to travel greater distances for higher education. If this “wealth effect” is a factor, however, it would also contribute to the increased geographical integration noted by Hoxby.

Hoxby's research suggests that while the rapidly declining costs of transportation and communication were obvious contributors to increased competition in the market for students, the most influential predictor was the development of a national bilateral flow of information between universities and students via the system of standardized admissions tests (the SAT and ACT) and the activities of the National Merit Scholarship Program. This new flow of information permitted colleges and universities for the first time to identify and contact the most able potential college students across the US and in turn permitted potential students to determine where they stood in the national pool of applicants and how their aptitude scores compared with student scores at US colleges and universities.⁸ In addition, a number of US states have tuition reciprocity agreements with neighboring states that permit one state's students to attend another state's public colleges at the tuition they would be charged in their home state public institution. These agreements were also a significant predictor of market integration, but logically only for publicly supported colleges and universities. While the predictors identified by Hoxby may appear specific to the US context, they include some underlying factors – decline in costs of student geographic mobility as well as an increase in the amount of information that colleges and students have about each other – that may be generalizable to other countries, a point I will explore further in the concluding section.

Given the emergence of this national student market Hoxby then explores the effects of increased market competition on the US system of higher education using panel data on baccalaureate colleges from 1940 to the present. In framing her analysis Hoxby notes that a distinctive characteristic of a university education is that it is a “complimentary good,” in which students serve as both consumers and inputs (Rothschild and White, 1995). As a consequence, the quality of education a student receives is supposedly influenced both by the traditional college inputs of faculty time and university resources as well as by the aptitude of peer students. In short, Hoxby assumes that college inputs and peer effects are complements in the production of human capital.⁹ Given this distinctive characteristic, Hoxby discovers that increased market competition in the US has some unexpected impacts. That is, increased competition:

- *increases stratification between colleges and universities in student admissions test scores.* The loss of monopoly power due to geographic integration encourages the former monopolists to compete with each other more vigorously for able students. As a consequence greater market competition has increased the between college variance and decreased the within-college variance in students' admissions test scores over time. These effects are greater for private than public colleges.

⁷ The student support from the GI Bill also was a significant factor, but only for the period 1945-58.

⁸ Beginning in the 1970s, national college guides provided information on the average aptitude test scores of students in different colleges and universities (Hoxby, 1997).

⁹ Hoxby's assumption about students as complimentary goods leads her to advocate “matching” high ability students in universities in order to maximize the efficiency of the industry. An obvious competing view is “mixing” students of different ability levels to maximize benefits to the society. For a discussion of these contrasting perspectives see Canton and Vossensteyn (2001).

- *increases average college tuition.* Increased competition is positively related to the rapid growth of college tuition in both the private and public sector.¹⁰
- *increases the amount of per-student student subsidy that colleges provide to their students.* In an effort to attract the most able students, colleges increase their per student subsidy (i.e., the difference between college expenditures per student and tuition revenue per student). The increase in these subsidies is greatest in those institutions that also have the greatest increases in tuition and student admissions scores. Hoxby considers these subsidies “implicit wages” for the most able students.
- *increases between-college variance in college quality as well as average college quality.* College quality as measured by peer effects (average student admissions test scores) and educational inputs has become more varied between institutions and on average has risen over time as colleges have competed with each other for high quality students.

Hoxby concludes her analysis by arguing that despite evidence of tuition increases in both the public and private sector that continually exceed growth in average family income and the cost of living, market competition in the US has created an efficient system of baccalaureate education. Hoxby asserts that the observed tuition rises under conditions of increased competition are in fact consistent with economic theory because colleges and universities overall have increased their educational quality as measured by their expenditures on educational inputs. Furthermore, those colleges that have increased tuition the most have also provided commensurate educational quality from increased educational inputs and from increased peer effects. In support of this view Hoxby provides evidence in a related paper that the lifetime income benefits to graduates of the more expensive, selective colleges and universities continue to increase over time and far outweigh the students’ expenditures for tuition (Hoxby, 2001).

Students with low admissions test scores do receive less value for money, primarily because they attend colleges with fewer students with high admissions test scores (i.e., fewer “peer effects”). However, Hoxby argues that the *average* student is better off because educational inputs have risen more in the sector of the market serving high admissions test score students than they have fallen in the sector serving low admissions test score students. Hoxby concludes that the baccalaureate market is now in equilibrium and that the net benefit to society of the new competitive market in US higher education is positive. She therefore argues that letting the market work is the most effective public policy.

Does this intriguing and challenging set of studies prove that letting the market rule in the US baccalaureate degree industry benefits society? There are a number of important questions left unanswered with implications for the US and for other countries that are experimenting with market approaches to higher education.

A core assumption of Hoxby’s studies is that talented peers and educational inputs are complements in the production of human capital. That is, the concentration of the most able students in certain colleges and universities is socially beneficial because of the positive peer effects they have on each others’ learning.¹¹ This

¹⁰ Hoxby’s assertion that increased competition leads to increased prices (tuition) appears to violate basic economic thinking, a point that will be further explored below.

¹¹ This argument is also described as “matching” high ability students in universities in order to maximize the efficiency of the higher education system. An obvious competing view is “mixing” students of different ability levels to maximize the benefits of higher education to the society. For a discussion of these contrasting perspectives see Canton and Vossensteyn (2001).

assumption about peer effects is becoming so influential in contemporary analyses of higher education that we will review the empirical evidence on this assumption below.

First, even if we assume some merit to the peer effects argument the extent to which an increase in student ability could potentially improve education for peers logically depends upon the organization of education and the nature of instruction. For example, many selective US colleges and universities attempt to create a rich “on-campus” opportunity for student interaction through special living and eating arrangements, small seminars, honors colleges, and other special educational opportunities. Similarly, student learning in Oxbridge-type colleges in the UK may benefit from the peer effects of increased student selectivity in admissions.¹² This benefit may be minimal or non-existent in the large and/or non-residential universities that educate the majority of US college students as well as the majority of students in many other countries.¹³

Second, Hoxby’s analysis also equates expenditures on educational inputs with educational quality. She assumes that expenditures on lowering the student-faculty ratio and increasing faculty salaries as well as expenditures for educational infrastructure and student services will increase what students learn. However, research to date on the factors influencing content learning and cognitive development among university students has provided little evidence to support the expected effects of financial resources and educational infrastructure (Pascarella and Terenzini, 1991).

There is however emerging evidence that the increased competition for the most able students may be altering the incentives for effective learning particularly at elite universities. Harvard University and other selective Ivy League schools have become nationally identified with the problem of increasing grade inflation for undergraduate students (Rosovsky and Hartley, 2002). At Harvard more than 91% of graduating seniors in 2001 were awarded honors (Marcus, 2002). Grade inflation, or more precisely grade compression in which all students come to expect high grades, may lower student’s motivation for significant academic effort, thus negating or undermining the supposed learning benefits to be gained from improved educational inputs or contact with able peers. As the student staff of the *Harvard Crimson* noted in an editorial arguing for the adoption of college-wide academic standards (Harvard Crimson, 2002):

Students rely on grades to tell them about the quality of their work. Yet Harvard’s deteriorating standards have rendered grades misleading and meaningless, giving students little motivation to improve.

Rosovsky and Hartley (2002) note that an increase in the quality of entering students is not a sufficient explanation for this observed grade inflation, because while college grades are rising nationally SAT scores are falling and the need for remedial education at the university level is increasing.

¹² Jongbloed (see his paper in this journal) notes that universities in the Netherlands, which have historically had an open admissions policy, now have authority to select up to 30 percent of their entering class. He indicates, similar to US universities, that many Dutch universities have established “excellent tracks” or “university colleges” aimed at recruiting the most able students from the Netherlands and abroad

¹³ There is also some research evidence that the structure of an academic program, particularly the “coherence” of the curriculum, can affect student content learning (Pascarella and Terenzini, 1991). The incentive systems of US colleges and universities, however, often undermine the development of such coherence (Dill, 1999).

The grade inflation issue underscores one of the potential dangers of US-style market competition in higher education in that less-selective colleges and universities may be motivated to imitate the practices of elite universities in order to compete. As a professor at a less selective college observed (Marcus, 2002, p. 9):

Every Harvard causes grade inflation everywhere, because there's obviously not a nationwide grading scale, so everyone assumes that a B-plus from Harvard is better than a B-plus at [college], where I teach.... Now that the GPA at Harvard is a 3.5, how can the average [college] student possibly compete in the world of work? So Harvard really compels everyone else to suffer grade inflation.

Finally, it is worth noting that the crucial assumption in Hoxby's research about the existence of peer effects was developed in an economic modeling exercise motivated by observed differences in graduates' incomes (Rothschild and White, 1995), not by empirical research on factors influencing student learning. Rothschild and White (1995) do note that the differences in the incomes of graduates of more and less selective colleges and universities may in fact be attributable to other factors than peer effects.

In fact, the most recent review of research casts significant doubt on the supposed relationship between peer effects, as measured by average aptitude scores of entering students, and students' earnings capabilities.¹⁴ First, the research confirms that the impact of institutional selectivity on earnings is nonlinear. Only the most selective institutions may have an impact on earnings. Second, the relationship depends on the students' major field of study, which is often not controlled in relevant studies. That is, less selective, public institutions in the US often offer academic majors with less potential earnings capacity than selective schools. Finally, and most importantly, when studies control for the types of students who apply to more selective institutions – utilizing measures of individual ambition -- the earnings advantage of more selective schools disappears. As Dale and Kreuger (1998) conclude in their carefully controlled study of the relationship between college selectivity and earnings:

After we adjust for selection, our findings cast some doubt on the view that peer group quality, as measured by the average SAT score of the student who attend a college, is an important determinant of student subsequent life outcomes. The average SAT score of students who attend college – though commonly used as a proxy for peer groups and school quality in previous studies – may be too coarse a measure to accurately reflect a students' actual peer group or college quality once school selection is taken into account....It is also possible that peer group effects are trivial for college students (p. 30).

This research raises serious questions about Hoxby's underlying assumption that the increasingly costly competition among US colleges and universities for the most able students increases the quality of learning for other students and of the system as a whole.

¹⁴ This discussion is based on the analysis in a draft chapter on "Career and Economic Impacts of College" kindly provided to me by Ernie Pascarella from the manuscript of a planned revised edition of Pascarella and Terenzini, 1991.

In sum, while Hoxby's analysis indicates that colleges and universities are spending more to compete for able students she provides no direct evidence that market competition is improving the quality of teaching and student learning or that colleges and universities are improving the quality of their graduates.

Similarly, if non-residential and/or less selective US colleges and universities were to follow the competitive lead of the elite universities in increasing educational expenditures designed to attract high aptitude students, it is very unclear whether these efforts would improve the learning environment for all students. Perhaps more importantly, it is unclear whether these continually increasing college and university expenditures actually produce benefits for the larger society. These underlying concerns are reflected in another recent study of market competition in US higher education.

Academic Reputation or Prestige: The Rand Study of the US Higher Education Industry

A study by researchers at Rand also applied the framework of industrial economics to higher education in the US (Brewer, Gates, and Goldman, 2002). The Rand study, however, is a qualitative analysis of the conduct or strategic behavior of institutions of higher education based upon in-person interviews and data collected at a sample of 26 private, public, and for-profit colleges and universities. While the study also conceives of the examined colleges and universities as part of a common industry, the researchers broaden the investigation in two important ways. First they define the higher education industry as including all enterprises that award two-year, four-year, and/or graduate degrees (cf. Hoxby who focused only on the market for baccalaureate degrees). Second, since academic institutions operate in one or more markets with different products and customers, the study investigates institutional competition in four markets – student enrollments, research funding, public fiscal support, and private giving – that correspond to the primary sources of revenue for a US academic institution.

The study also emphasizes that because higher education in the US is an industry in which consumers cannot objectively evaluate the quality of the service before they purchase it, an information asymmetry can exist in which institutions may take advantage of consumers. For example, even if we accept Hoxby's (2001) argument that more selective colleges lead to higher lifetime earnings for graduates, information on future earnings by college and by field are not readily available in the US or in any country for that matter. Therefore consumers cannot readily determine whether a particular college or program will provide them value for money. This information asymmetry has important consequences for the nature of competition in US higher education industry. In particular it means that "reputation" and "prestige" play an especially important signaling function in the industry. By "reputation" the Rand researchers mean customer satisfaction -- an institution's ability to respond to the demands of customers and demonstrate that it is meeting those demands. "Prestige" in comparison is more ineffable and reflects customers' images of the features of good service providers. Prestige is therefore defined in the study as "looking right," acquiring the trappings of the most prestigious institutions in the industry.

The Rand researchers classify the US institutions studied into three strategic orientations: prestige-based (P); prestige-seeking (PS); and reputation-based (R). P institutions already have a high level of prestige and operate in markets with few objective criteria of performance. These institutions include those public and

private US universities that are readily recognized throughout the world. PS institutions obviously seek to become “prestige” institutions and R institutions seek to succeed by satisfying customer needs.¹⁵

Because US colleges and universities can earn discretionary revenues (i.e., “profit”) through their various revenue markets, they can then allocate these funds internally to achieve their chosen strategy. The study argues that academic institutions invest in either reputation or prestige as a means of buffering themselves from competitive forces (Table 1). However, colleges and universities can also invest in consumption that benefits internal constituencies. For example by providing above-market wages for professors and staff members, lower teaching loads for faculty members, and/or higher quality research facilities that benefit faculty members. Alternatively, these discretionary revenues can be invested in savings, i.e., in endowment.

In the student market R institutions attempted to build reputation by investing in research on the local business community, on student demand, and on labor market demand. These institutions also invest in program improvement, convenient course scheduling options, and student services.

In contrast and consistent with Hoxby’s research, P and PS institutions focus their efforts and strategic investments on strengthening their perceived prestige. This involves increasing the selectivity of the admissions process by linking tuition discounts with academic merit/student ability,¹⁶ attempting to lower student acceptance/yield rates, and investing in student consumption benefits such as dormitories, eating facilities, or fiber optic computer networks that will help attract high quality students (note that these expenditures are reflected in increased operating costs for the institutions). The Rand researchers suggest that this overwhelming focus on admissions selectivity among certain types of US institutions is reinforced in part by commercial college ranking systems in the US that use student “inputs” as a primary measure in national league tables.

The Rand researchers also note that Prestige Seeking (PS) institutions attempt to build prestige in the student market in the US not by being innovative or by meeting new types of student demands, but essentially by mimicking institutions that already have prestige as will be outlined below. Therefore, prestige-seeking behavior tends to limit pedagogical improvements in the overall higher education system.

In the US research is a revenue market because of the competitive allocation of federal research funds and the growing funding of university research by business and industry. But the amount of external research funding received by a university has also become an important indicator of prestige. PS institutions therefore seek to increase their potential for research funding by investing in PHD programs, in laboratories, libraries, computer facilities, and research management as well as by attracting research-oriented faculty. There is also increasing evidence of P and PS institutions subsidizing their federal research activity through increased investment in grant matching funds and/or by attempting to lower their indirect cost rate (Feller, 2000). Since the funds to support these latter activities are derived from other revenue markets (e.g., public financing, student tuition, and private giving) that are designed to cover the costs of education, this is an example of the means by which US colleges and universities increasingly use teaching to cross subsidize research as a means of generating or maintaining college and university prestige.¹⁷

¹⁵ Combining the classifications from the Rand study with related data on colleges and universities, Massy (2003) estimates that the categories of P and PS institutions together account for more than half of the 1200 four year institutions in the US and almost three-quarters of the financial resources invested in US higher education.

¹⁶ The study also reported an increasing tendency in PS and some P institutions of relaxing admissions standards for those students who would pay the full price of admission.

¹⁷ For a systematic analysis of such cross-subsidies in US higher education see Massy, 2003.

In the market for public fiscal support, obviously the vast majority of funds are awarded to public institutions. However, P and PS public institutions are competing with publicly supported R institutions in the market for public funding. As the US states become more interested in improving student learning and economic development, and as they increase their accountability mechanisms for higher education funding, P and PS institutions find their preferred strategy increasingly constrained. As suggested by the IE framework (Figure 1), P and PS institutions may therefore use their political influence to negotiate with critical public stakeholders for greater flexibility from education accountability mechanisms.

Student Market		Research Market
<i>P/PS invest in:</i>	<i>Rs invest in:</i>	<i>PS invest in:</i>
<ul style="list-style-type: none"> • Improving admissions selectivity* • Lowering student acceptance/yield rates* • Student consumption benefits (dormitories, eating facilities, fiber optic computer networks)* 	<ul style="list-style-type: none"> • Research on local business community; nature of student and labor market demand; and means of program improvement • Convenient course scheduling • Student services 	<ul style="list-style-type: none"> • PHD programs • Laboratories/libraries computer faculties • Research management • Attracting research-oriented faculty • Grant-matching funds
*college ranking measures		

Table 1: Student and Research-Related Investments by “Prestige,” “Prestige-Seeking,” and “Reputation” Oriented Colleges and Universities in the US (Derived from Brewer, Gates and Goldman, 2002)

Finally, the market for private giving, historically dominated by private institutions in the US, is becoming increasingly competitive as growing numbers of public institutions seek private funds to supplement or replace declining public support. The Rand researchers note the interaction between student selectivity and private support; prestige in the student market tends to be associated with success in raising private funds. The need for private fund-raising therefore provides a further incentive for universities to adopt a strategy of expenditures that attract the most able and the wealthiest students.

The Rand researchers conclude their study with several observations on the overall social benefit of the higher education industry in the US that provide some perspective on the results of Hoxby’s studies. They note that while the market for reputation defined as meeting customers’ needs is infinitely expandable, the market for

prestige is necessarily a zero-sum game. That is, an increase in student selectivity can only lead to an increase in overall institutional prestige if there are commensurate increases in the academic quality of the national pool of student inputs, which may not in fact be occurring in the US. Similarly an increase in research can only lead to an increase in overall prestige if there is real growth in overall federal funding for research. Furthermore, the Rand researchers suggest that competition for prestige in the student market does not seem to improve the quality of educational delivery, while prestige-seeking behavior in the research revenue market induces many institutions to subsidize research through the building and maintenance of costly research facilities and investment in matching funds. Both of these behaviors may lessen the overall educational benefits of higher education for students and ultimately for society.

Although limitations in both Hoxby's research and the Rand study do not permit a conclusive judgment as to whether the present structure of the US market for higher education benefits the overall society, the two studies together provide a number of critical insights into the possible impacts of competitive markets on higher education.

Conclusions and Implications

While the workings of the US higher education "industry" are a product of a distinctive institutional framework of traditions, federal and state regulations, and market forces, the recent research employing the IE perspective provides useful insights into the evolution of market competition.

First with regard the causes of increased market competition it is worth underscoring Hoxby's (1997) discovery that the declining costs of transportation and communication, the adoption of reciprocal tuition agreements, and the increasing bilateral flows of information between students and institutions have lessened the monopoly power of colleges and universities and correspondingly increased market competition in the US baccalaureate degree market. Will the same phenomenon with the predicted effects on university behavior now occur in Europe and other parts of the world? Certainly the costs of transportation and communication have declined world-wide. In addition, the existing prohibition against differential tuition rates within the EU likely creates some incentives for student mobility similar to the tuition reciprocity agreements in the US. Also we would expect that the eventual implementation of the Bologna Accord, with its potential development of equivalent academic credentials across the EU, as well as the increasing incidence of academic programs taught in English, may lessen the traditional cultural and language barriers to student mobility within Europe, especially among the most able students.

A more significant contributor to increased competition among European universities for all levels of students would be the adoption of some standardized means of identifying and classifying the academic abilities of students that would create a flow of bilateral information equivalent to what now exists in the US. The widespread use of the GMAT exam by international business schools is one early, but apparently thus far singular example of this potential development.¹⁸

¹⁸ Note that the world-wide administration of the Graduate Record Exam (GRE) provides a similar bilateral information flow for US universities and potential graduate applicants from around the world, an information flow that thus far universities in other countries do not exploit to compete with the US for the best graduate students.

Second, as competition for able students, professors, and university prestige increases across Europe and around the world, will the effects of this rivalry prove beneficial for the larger society? Hoxby (2002) suggests that at least at the first degree level such competition would be beneficial overall because of the added educational benefits provided to the more able students. However, her conclusions, as she makes clear in an associated paper (Hoxby, 2001), are based upon an estimate of the *private* benefits that higher education provides to students, not on the overall social benefits that higher education provides to the society. Hoxby assumes that the graduates' discounted lifetime earnings from employment will more than make up for the increased tuition costs of attending universities whose educational expenditures continue to rise to meet the competition. But as current critics of US grade inflation fear, these educational expenditures may not in fact make graduates more productive when they graduate. Rather the "prestige" bought by expenditures on attracting more able students and faculty members may simply act as a more efficient "screening device," allowing employers to more cheaply and easily identify and hire graduates with the greatest aptitude and social skills. In addition, the personal networks formed among alumni of the most selective universities may enable graduates of these institutions to obtain better jobs and salaries than their academic skills and performance might warrant.

Intrinsic to the different interpretations of the Hoxby and Rand studies is the ongoing argument among educational economists about the "screening" versus developmental effects of higher education (Johnes, 1993). Is the measurable lifetime higher earnings advantage of university graduates a function of higher education acting as an increasingly expensive screening mechanism for the identification of able students or is it a function of institutions truly imparting marketable knowledge and skills to their graduates that increase the productivity of society and the economy? This question is of growing importance in the US, because if the rapidly increasing social expenditures for baccalaureate degrees are not producing commensurate social benefits, then the current structure of market competition in US higher education may cause a potentially serious market failure.

It is worth noting that the educational expenditures of even elite US private universities are partially supported by federally subsidized loans and tuition tax credits, both of which have been recently extended to "middle class" families. Therefore, the increasing educational expenditures by elite, private universities pose a growing burden on public funds. Furthermore, if as suggested by the Rand researchers less prestigious universities, including public universities, are motivated to compete with the educational expenditures of the elite private universities, there is a real danger of what Gordon Winston (2000) terms a "positional arms race" that may not benefit society. Indeed there is a troubling similarity as observed in the Hoxby and Rand studies between the competition for prestige in US higher education and the observable "arms race" in US medicine in which hospitals seek the most prestigious doctors and most expensive medical equipment in order to better compete in the lucrative US health market. While the US leads the world in per capita public expenditures for health care, it does not lead the world in various critical measures of public health. There is a similar danger of the increasing social costs of US higher education exceeding the measurable social benefits.

What are the implications of these observed imperfections in the US higher education market for policy makers in other parts of the world? The development of mass higher education systems in other countries is also introducing a number of the structural conditions of US higher education outlined above. For example, as regional and global competition in higher education grows, universities in the UK and other countries seek additional sources of income. Increased revenues are

sought from government, from private sources, and from increased tuition in order to better recruit more able students and to build faculties and research facilities that can meet the competition of US and other “world class” universities (Funding Options Review Group, 2001).

Will these increasing social costs of higher education be balanced by an equivalent growth in social benefits? The adoption of new approaches to teaching, learning, and academic research that is accompanying the massification of higher education in many countries, may compromise the traditional norms and incentives that helped to assure academic standards in many universities. For example, the adoption of more flexible first degree programs permitting greater student “choice” and of continuous assessment grading practices could undermine the effectiveness of traditional means for assuring academic standards through subject exams, external examiners, and various “marking systems” designed to assure commonality in assessment. Furthermore, the adoption of hierarchical degree frameworks that lead from first degrees, to professional masters degrees, to taught doctoral degrees, could dramatically increase the need for students in other countries to perform well at the first degree level. Performance funding for universities based upon graduation rates creates additional pressure for student retention. The adoption of competitive funding schemes for the allocation of research support also alters the incentives faculty members have for investing time in research versus teaching. How will faculty members and students in other countries respond to these new pressures and incentives? Will teaching and student learning be improved and academic standards maintained, or is it possible that other countries will now experience like the US greater incidences of “grade inflation,” attempts to cross-subsidize research by teaching, and university investments in expensive “consumption benefits” designed to lure prestigious faculty members and able students?¹⁹

A major contributor to the imperfections in the US higher education market is the inability of consumers to differentiate between an honest academic “reputation,” earned through demonstrably effective education, and “prestige,” an image of questionable social benefit. Reviewing similar weaknesses in the market for higher education in the UK, Martin Cave, a scholar of public regulation, made the case for an external structure of quality regulation to protect student consumers (Cave, 1994). Cave (Cave, Dodsworth, and Thompson, 1995) proposed that this regulation should take three forms: 1) external certification that the quality of graduates and the class of their degrees is reputable and comparable across institutions; 2) required information provision on the academic structure and content of degree programs, for example the particular topics to be covered; and 3) external review of the internal processes by which universities assure academic standards in teaching and learning (e.g., grading standards).

Experiments with new forms of quality regulation are underway in a number of countries including the UK (Brennan and Shah, 2002), but such external regulation of academic standards has been noticeably absent from the US system (Dill, 2000). Professional or program accreditation assures some comparability in the academic objectives of selected programs, but large numbers of first degree programs in the US are not individually accredited. While institutional accreditation is long established, it traditionally has focused on evaluating the inputs to education; college and university

¹⁹ In their review of higher education reform in the UK Lindsay and Rodgers (1998) note that many UK universities have adopted resource allocation strategies remarkably similar to those identified in the “prestige-seeking” institutions studied by the Rand (2002) researchers in the US. The strategies did not address the educational needs of students, but emphasized “selling” the institution to attract students and increased investment of faculty time in research.

processes for assuring academic standards, including grading policies, have received little attention in traditional US accreditation reviews. Recent experiments in institutional accreditation are introducing a focus on student learning and academic outcomes, but these reforms are at an early stage of development (Dill, 2000). Finally, the US has no operational equivalent to the UK external examiner system, nor is there any other national mechanism for certifying the provenance of academic degrees.

As other countries expand and restructure their higher education systems permitting and encouraging greater amounts of competition, the potential exists for market imperfections similar to those identified in the US. Whether present experiments with external quality regulation will prove efficient in correcting information failures in higher education markets is still an open and debatable question. But in this early, formative stage of market competition in many countries it would appear that allowing the market to rule in higher education would be a particularly naïve choice for policymakers.

References

- Brennan, J. and Shah, T. (2000) *Managing Quality in Higher Education: An International Perspective on Institutional Assessment and Change*. Buckingham, UK: OECD, SRHE & Open University Press.
- Brewer, D. Gates, S. M., and Goldman, C. A. (2002) *In Pursuit of Prestige: Strategy and Competition in US Higher Education*. New Brunswick, NJ: Transaction Press.
- Canton, E. and Vossensteyn, H. (2001) Deregulation of Higher Education: Tuition Fee Differentiation and Selectivity in the US. In CPB and CHEPS, *Higher Education Reform, Getting the Incentives Right*, pp. 67-84. Den Haag, Netherlands: Sdu Uitgevers.
- Cave, M. (1994) Why Students Need (Consumer) Protection. *Royal Economic Society Newsletter*, 87(October): 18-20.
- Cave, M., Dodsworth, R., and Thompson, D. (1995). Regulatory Reform in Higher Education in the UK: Incentives for Efficiency and Product Quality. In, Bishop, M., Kay, J, and Mayer, C. (eds.), *The Regulatory Challenge*, pp. 85-118. New York: Oxford University Press.
- Dale, S. T. and Kreuger, A. B. (1998) Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables, Working Paper #409. Industrial Relations Center, Princeton University.
- Dill, D. D. (1997) Accreditation, Assessment, Anarchy?: The Evolution of Academic Quality Assurance Policies in the United States. In J. Brennan, P. De Vries, and R. Williams (eds.), *Standards and Quality in Higher Education*, pp. 15-43. London: Jessica Kingsley.
- Dill, D. D. (1999) Student Learning and Academic Choice: The Rule of Coherence, in J. Brennan, J. Fedrowitz, M. Huber and T. Shah (eds.), *What Kind of University? International Perspectives on Knowledge, Participation and Governance*, pp 56-70. Buckingham: Open University Press and Society for Research into Higher Education.
- Dill, D. D. (2000) Is There an Academic Audit in Your Future?: Reforming Quality Assurance in US Higher Education. *Change Magazine*, 32(4): 35-41.
- Feller, I. (1996) The Determinants of Research Competitiveness Among Universities. In A. H. Teich (ed.), *Competitiveness in Academic Research*, pp. 35-72. American Association for the Advancement of Science: Washington, DC.

- Feller, I. (2000) Social Contracts and the Impact of Matching Fund Requirements on American Research Universities. *Educational Evaluation and Policy Analysis*, 22(1): 91-98.
- Funding Options Review Group (2001) *New Directions for Higher Education Funding*. London: Universities UK.
- Harvard Crimson, (2002) A Fresh Approach to Grades. *Harvard Crimson*. Harvard University, February 15, 2002.
- Hoxby, C. M. (1997) The Changing Market Structure of US Higher Education. Harvard University, Mimeo.
- Hoxby, C. M. (2001) The Return to Attending a More Selective College: 1960 to the Present. Harvard University, Mimeo. [<http://post.economics.harvard.edu/faculty/hoxby/papers/whole.pdf>]
- Hoxby, C. M. (2002) The Effects of Geographic Integration and Increasing Competition on the Market for College Education. Harvard University, Mimeo. [http://post.economics.harvard.edu/faculty/hoxby/papers/exp_tuit.pdf]
- Johnes, G. (1993) *The Economics of Education*. London: The MacMillan Press.
- Lindsay, G. and Rodgers, T. (1998) Market Orientation in the UK Higher Education Sector: The Influence of the Education Reform Process 1979-1993. *Quality in Higher Education*, 4(2): 159-171.
- Marcus, J. (2002). High Marks. *National Crosstalk* (National Center for Public Policy and Higher Education), Summer, 2002.
- Maslen, G. (2000) V-c Says Scrap State Red Tape. *Times Higher Education Supplement*. 15 September.
- Massy, W. F. (2003) *Honoring the Trust: Quality and Cost Containment in Higher Education*. Bolton, MA: Anker Publishing.
- Pascarella, E. T. and Terenzini, P. T. (1991) *How College Affects Students: Findings and Insights From Twenty Years of Research*. San Francisco: Jossey-Bass.
- Rosovsky, H. And Hartley, M. (2002) *Evaluation and the Academy: Are We Doing the Right Thing?* Cambridge, Mass.: American Academy of Arts and Sciences.
- Rothschild, M. and White, L. J. (1995) The Analytics of the Pricing of Higher Education and Other Services in Which the Customers are Inputs. *The Journal of Political Economy*, 103(3): 573-586
- Scherer, F. M. and Ross, D. (1990) *Industrial Market Structure and Economic Performance*. Boston: Houghton Mifflin.
- Williams, G. L. (1996) The Many Faces of Privatization. *Higher Education Management* 8: 39-56.
- Williams, G. L. (1995) The 'Marketization' of Higher Education: Reforms and Potential Reforms in Higher Education Finance. In D. D. Dill and B. Sporn (eds.), *Emerging Patterns of Social Demand and University Reform: Through a Glass Darkly*, pp. 170-193. Oxford: Pergamon Press.
- Winston, G. C. (2000) The Positional Arms Race in Higher Education. Paper presented at the Forum for the Future of Higher Education, Aspen Institute, Aspen, CO, September.