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March 2009

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ABSTRACT

‘The’ Market for Higher Education: Does It Really Exist?

Higher education, like any other commodity or service, has been viewed in a variety of economic frameworks. Little of this work, however, appears to have made any effort to define carefully the boundaries of the relevant market for higher education, which is the subject of this particular inquiry. Market definition is an essential preliminary step before any academic or policy investigation can properly be made into the forces that determine the behavior of the buyers and sellers of higher education, those who provide inputs into the education process, or those who fund or otherwise subsidize it. The authors spell out the key economic dimensions of a market, and illustrate their relevance for research that seeks to analyze the players and policies in the many distinct domestic and international markets that exist for the inputs and outputs of the higher education sector.

JEL Classification: A1, I2, L3

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Introduction*

There are several parallel dialogues going on about higher education: discourse among specific discipline groups (such as economists and sociologists), conversations among educationalists, debate among public policy advocates, purveyors of legal opinions and the general public's viewpoints, as described in Hearn (1992). Unfortunately, words and analogies do not have the same meaning across or even sometimes within all five groups. There is a major problem surrounding arguments involving "the market for higher education," which is the focus of this article.

The classical textbook definition of a market was delineated by Alfred Marshall in 1920 in his *Principles of Economics*. Marshall argued that it was a place or area "where the prices of the same goods tend to equate." (p. 324) That is, competition among a collection of buyers and sellers of closely substitutable products tends to produce similar prices. A market, then, consists of products (or services) whose prices are tied to each other by either supply-side or demand-side arbitrage and whose prices are not directly affected by the prices of goods (or services) outside this collection of similar items.¹

To assess the behavior of participants in a market, the boundaries (in terms of the closeness of product and geographic substitutes and in terms of competitive strategies) of the market must be established. Yet, legislators, commentators, academics and other policy advocates produce regular and often strident recommendations and assessments of the conduct of higher education institutions with no attempt to couch their analyses within the boundaries of a properly defined market.² For example, among the numerous authors of articles and book and conference presenters who proclaim an understanding of the "market" for higher education is Robert Reich, now a professor of

social and economic policy at the University of California Berkeley and previously a labor secretary in U.S. President Clinton's administration. In delivering the Higher Education Policy Institute Annual Lecture in the United Kingdom in 2004, Reich opined that “Higher education in the United States is coming to resemble any other kind of personal service industry. . . . higher education products . . . are sold on the market, there is a kind of marketisation that has set in.”

It is certainly not uncommon to see much academic, press, government and popular discussion on “the market for higher education.” The statement by Reich, who as an economist clearly should know better than to use the word “market” in such a casual way, is typical of the descriptive, nonanalytical manner in which the term “market” tends to be used in education research and policy pronouncements. To our knowledge, there presently exists no analytical assessment of whether there is a market for higher education, or which institutions are part of that market or some well-defined submarket (a group within a market in which the breaks in the chain of substitution are relatively clear between the groups, but where the product is still sufficiently similar to not require classifying these providers into a different analytical market). In antitrust hearings and legal proceedings, as well as an individual institution’s advertising and promotion efforts, the definition of a market and who participates in that market (either as rivals, potential rivals, input suppliers or buyers) is critical.³

In contrast to antitrust issues that require well-defined markets, consider the comments made by Charles Miller, the Chairman of the U.S. Commission on the Future of Higher Education. In “Colloquy,” *The Chronicle of Higher Education’s* online forum, Miller was interviewed about his Commission’s final report, which urged that the U.S. higher education system be overhauled, including making universities more

innovative and more accountable to the public. In this interview, Miller was reminded that he had said, “we do not actually have a market system in higher education” and was asked what he would call the competition between different universities for students. He acknowledged the existence of this competition, but continued to say, “however I think competition does not automatically make a market system.” Although competition between amateur tennis players does not make a market, competition between like universities (sellers of like products and services, for a price) for students (demanders of the service, at a price) does. Whether students pay directly or not is irrelevant to the existence of the market. Miller’s statement, with all due respect, is economic nonsense. As already noted, competition between sellers of close substitute products makes a market. Competition takes place in a market. A market, conversely, may be thought of as a group of firms that are in close competition with each other. The two concepts are, in fact, inextricably interlinked when it comes to exchange.

Miller went on to say that it was “possible to argue that among certain sets of institutions we have the equivalent of an oligopoly, where there may be competition within a group of institutions, but that set of institutions has powerful advantages over other sets of institutions.” Here he effectively acknowledged, perhaps unwittingly, that many distinct markets do exist in higher education, and that it is entirely feasible that different groups of institutions can be delineated into economically meaningful and separate markets. But he then argued that higher education is heavily subsidized and regulated, lacks transparency, and that no penalties are incurred for poor performance; and therefore, “it would be difficult to describe this as a market system.” Informed public policy debate is not enhanced by confusing the term “market system,” which describes the way an economy is organized (capitalist, socialist, command, etc) with the

term “market,” which describes a much narrower grouping of institutions into clusters of close competitors.

As we have noted, a market is centered on a product or group of products that are seen as close substitutes by buyers, and for whose custom the rival sellers compete. How sellers compete, or interact strategically, and what buyers look for, are the subjects of alternative lines of economic inquiry, ranging from supply and demand analyses, to game theory and strategic interaction, to competition assessments. Our purpose in this chapter is twofold: to explain that higher education encompasses a large number of markets, with respect to both inputs and outputs, and to question the validity of the proclamations of those who purport to analyze higher education inputs or outputs if they have not carefully delineated the attributes of the relevant higher education market.

Our message is simple: to design and implement higher education public policy correctly, the relevant market(s) and their characteristics must be defined with rigor. With the notable exception of analysis surrounding the 1991 antitrust case against MIT and the eight Ivy League institutions for price fixing, there is scant evidence that scholarly inquiry has underpinned the analysis of the inputs, outputs and policies pertaining to the “product” known as higher education, whatever that may be.⁴

In the next section we review the three main analytical dimensions of an economic market, and indicate why it is important they be carefully delineated in the analysis of any particular higher education situation. A discussion follows on higher education and whether it is provided in a single market or in an array of conceptually different markets that could differ from country to country and from one type of higher education product to another. We conclude with some warnings for policy development and execution.

The dimensions of a market

Defining a market is a purposive exercise – it is done not for its own sake, but to serve the broader purpose of providing the analytical basis on which the behavior of one or more institutions can be analyzed.⁵ In other words, the act of defining a market is a focusing device that seeks to identify the key players and their interactive strategies that determine the environment we seek to assess and, presumably, improve through the development of appropriate policies. The institutions that make up a market will exercise some meaningful constraint on each other, whereas those not assigned to this market will have no tangible immediate competitive impact on these institutions. Competitive processes within markets can be studied to assess whether institutions and markets are achieving true economic efficiency (reflecting an allocation of goods and services that provide the greatest benefits at least cost), and if they are not, what market incentives or government regulatory intervention initiatives could be used to encourage more competitive behavior that will lead to greater benefits from society's scarce resources.⁶

There are three major dimensions to a market – product, geographical area, and entry conditions (otherwise known as the temporal dimension) – that provide the context in which behavior can be evaluated. A fourth category sometimes used in legal proceedings is a functional dimension, which considers whether the vertical levels of the process from raw material inputs to final sale to consumers should be aggregated wholly together and assessed as a single market, or should be analyzed in some finer degree of aggregation, or should be treated separately (if there are no ownership links and/or strategic interactions between the various vertical levels). This three- or four-stage approach to market definition typically provides the basis for an analytical

assessment of the strategic behavior through which institutions seek to shape their commercial environment in order to protect their market shares from incursions by current rivals or by future entrants into the market of the institutions whose behavior is of interest.

Product dimension

The 2001 Nobel Memorial Prize in Economics recipient and former senior vice president and chief economist of the World Bank Joseph Stiglitz (1987) wrote more than 20 years ago:

Markets in which commodities are completely homogeneous – with respect to location and the date as well as other characteristics – are almost inherently sufficiently thin so that the postulate of perfect competition is inapplicable.

Markets that are sufficiently “thick” to be competitive are almost always nonhomogeneous (p. 25).

What Stiglitz is saying, in the former case, is that in order to have perfectly homogeneous products, the market may well be very narrowly characterized, as with a single product or single seller. In the latter case, he is acknowledging that competition can take place in terms of many variables, including product quality, ingredients and style, so in a competitive market (speaking in the real world sense of the term “competitive”) the products of rival sellers are unlikely to be homogeneous.

Where to draw the product boundary between markets is often difficult to determine and can be controversial. The product boundary of a market, in fact, indicates which products of rival institutions are seen as substitutes in the minds of buyers. These substitutes do not have to be perfect. To illustrate, do the five-star hotels close to Central Park in New York City compete for guests with the two-star hotels on the

outskirts? If the Holiday Inn at LaGuardia Airport lowers its nightly rate by a few dollars, will the Plaza on Central Park be forced to lower its rate? Highly doubtful! Thus, they operate in different markets.

Ideally, those hotels classified into the same market will constrain each other (in terms of price, services, and amenities), whereas those that are not included in the market will not be regarded by travelers as offering a substitute product at going market prices, either now or within the planning horizon of the firm in question.

Similarly, Ivy Tech in Bloomington, Indiana University Bloomington and Harvard University in Cambridge, Massachusetts are in different product markets. Changes in the tuition charged at Ivy Tech will likely not affect Harvard's tuition or potential or current student behavior. More interesting from an analytical policy perspective, however, would be to ask under what conditions can Ivy Tech and Indiana University be considered to be in the same market, and what are the consequences of viewing them as such? Ultimately, it may be a matter of degree, even subjective judgment, and not an absolute as to where to draw the appropriate product-market boundary. Nevertheless, the task must be carried out, even if done with reservations. Under certain exceptional circumstances (for example, the Super Bowl each year), there may exist a single product or single seller market, in which the product in question is so unique in the mind of the relevant set of consumers that few if any of them would be prepared to forego the product in response to even a very large price increase. However, such conditions are rarely, if ever, met and usually only arise within unique one-off temporal contexts in which imitation is difficult.⁷ In the case of universities, it is difficult to think of any service or product that meets these conditions. Even students admitted to Harvard would be willing to consider a shift to Princeton, Yale, Stanford, or

the like, for a tuition subsidy, but there is likely to be no realistic subsidy that would get them to switch to Ivy Tech. As seen in McPherson and Schapiro (1998), what bothers many at the likes of Harvard is that there indeed are subsidy levels that would persuade students to forsake an elite private institution for a major state university, where the work of Dale and Kruger (2002) suggests students accepted by the elite privates but who elect to attend a major state institution do better in later life.⁸ That is, the big major state university may, indeed, be part of the same market in which the high sticker-priced private institutions are alleged to form a relatively tight oligopoly.⁹

The institutions and their offerings identified with a market can be thought of as the ideal collusive group (or the hypothetical monopolist test, as it is often now called in legal work); that is, in the minds of buyers they are all essentially substitutable for each other, but products outside the group are seen to offer no relevant substitution possibilities. In other words, acting as a group in theory the institutions classified as a market could raise prices in small but nevertheless significant and nontransitory ways, and not lose buyers to a rival's product. To the extent that Harvard, Yale and like Ivy League institutions could jointly raise tuition and fees without altering their attractiveness to both domestic and foreign students, they would constitute a unique market. But if potential students looked more favorably upon, say, the Big Ten universities such as Michigan and Wisconsin given the Ivy League's price increases, then the relevant market would be much broader than asserted.

Geographic dimension

Geographic distances may place boundaries on markets. Does the behavior of hotels in one city directly affect the conduct of those in another? If not, then there is no competition between them so they cannot operate in the same analytical market. For

example, are hotels in New York City in the same market as hotels in Sydney, Australia? Do travelers see them as close substitutes? Clearly not business travelers, who do not have a choice of where to conduct their business. In contrast, for a world convention, large five-star hotels in these two cities could well be competing with each other in the same international market.¹⁰ And even for leisure travelers, the number of tourists who would regard hotels in these two cities as being close substitutes for a holiday would likely be very small. For large consumer durable items, such as a new car, the geographic market would be determined by how far buyers would be prepared to travel in order to think that they had found the best deal – a benefit-cost trade-off for them. For new car sellers located in a specific area, and who for whatever reason are the subject of a search that needs to be conducted within the confines of a properly defined market, it would be necessary to discover what other retailers in which other locations constrained the activities of the sellers in question, and which sellers were seen by buyers as offering a substitute product, after allowing for search costs. In contrast, supermarkets will generally compete in a narrow geographical market, the boundaries of which will usually be determined by the location of major roads, the presence of shopping malls, and the travel time preferences of consumers.

Local community colleges can be viewed as providing an inexpensive alternative to regional universities, which in turn can be viewed as an alternative to the state's major research university. For a large number of in-state students, universities in other states might not be seen as offering a close substitute at higher prices. Depending on the issue being assessed, it is possible that many publicly provided bachelor level university degrees might be best analyzed in markets delineated by a state's geographical boundaries¹¹ or, in some cases, even by city borders. It is the issue being

considered and the preferences of buyers that determine the relevant geographic market boundary – market definition is, as we have stressed, a purposive exercise.

Temporal dimension

The temporal boundaries of a market are determined by an exercise in which the analyst seeks to discover supply-side substitution possibilities. That is, could other institutions easily switch to supplying the product in question, should the current producer(s) raise the price by an amount that made it advantageous to produce the product? This dimension essentially involves an examination of the extent to which institutions with similar production processes, or which use similar inputs, or which market their products in similar ways, can quickly switch production (the rule of thumb used by lawyers and economists who give expert testimony in antitrust matters is usually two years, following the standard laid down in 1982 by the US Department of Justice in its *Merger Guidelines*¹²) to threaten the current producer(s). If there are institutions that can switch production in this way, they should be included in the market. If such a switch is possible, but would likely take longer than two years to implement, then the institution in question would not be included in the market, but would be regarded as a future potential entrant whose actions would need to be considered at some future stage

For instance, if two-year community college credits are not readily accepted by universities, then they are clearly not in the same market as universities. If state legislators declare that all post-secondary credits earned at state-supported institutions are to be made fully transferable, then, in a short period of time, community colleges would properly be regarded as being in the same market as the universities, at least for the courses jointly offered. In the case of programs differentiated by some type of

certification, such as MBA programs, a business school may go from an outsider to an insider with certification in a relatively short period of time.

Agreement on market boundaries is often not easy

Universities in the same analytical market will compete with each other for inputs on the demand side – for intake students, resources (including faculty, government funding, endowments and other funding sources), capacity, and political influence – as well as on the supply side – for available classroom seats, graduating students, research output, athletic programs and other services.¹³ Under such conditions of interdependence, what one institution does will cause a competitive reaction from another if they operate in the same market. If no such response is detected within a meaningful time period, the nonresponding institution must feel that it is not constrained by the institution that initiated the new strategy, so feels it will not lose buyers. Thus, if the University of South Australia lowers its fees or makes its product (whatever that might be) more readily available, we would expect Indiana University to respond if the two universities were in the same market. Although institutions do compete with each other over geographical space, the extent of the competitive constraints will diminish with distance, if for no other reason than the fact that search and transaction costs will increase with distance. Thus, even in Australia, it is likely that the University of South Australia, located in Adelaide, would not operate in the same market for the intake of undergraduate students as the University of Sydney, located some 1500 kilometers (950 miles) away. It would, however, compete for entering students with the two other universities in Adelaide.

Clearly, given the purposive nature of market definition – where a market is defined by the nature of the reasons for examining it – there will rarely be one

consistent or “right” definition of the relevant market for any one policy, antitrust, regulation or commercial issue. The criteria to be used are arguable, and the empirical measurement techniques are debatable, such that it is rare, certainly in a contested legal situation, to reach agreement as to what the precise boundaries of the relevant market are for the issue in question.¹⁴ But this does not refute the need to be aware that markets do exist, and that their boundaries must be carefully defined in order to create or assess policy or to analyze the behavior of buyers, sellers, or input suppliers in the relevant market.

It could be argued that this formal process of market definition is unnecessary, and that it is potentially likely to lead to artificially or inaccurately defined areas of close competition that do not correctly reveal the true or relevant area of constraints. This leads to the proposition that markets be allowed to reveal themselves. The analyst or observer should not seek to impose an artificial market construct that does not coincide with commercial or regulatory reality. Rather, the observations should be made of what institutions actually do – which other institutions are targeted by their conduct, which other institutions (both current as well as potential rivals) they respond to, and which customers they particularly seek to attract (by way of, for example, advertising, sponsorships, trade fairs, product endorsements, etc.). This is a more commercially realistic way in which to identify the true area of close competition, rather than the more academic process of formally identifying the various market boundaries through economic measurements or through abstract thought processes relating to the measurement of demand-side and supply-side substitution possibilities.

The mere fact that a market has been defined through the use of objective economic processes (though reasonable economists, using the same objective

evaluators, may still emerge with different market boundaries, depending on how they weight or interpret the results) does not mean that each institution and product thus assigned into the market is homogeneous. Far from it! Institutions could be big or small, use different technologies or marketing techniques, be differently organized, or have different corporate goals. Within a market, there could exist distinct hierarchies or groups of institutions defined by different organizational or operational or size factors, yet all of which compete to sell products that are seen by buyers as either actually or potentially highly substitutable. Restaurants in a city provide a good example of this situation. Different cooking styles, different ambiances, different wine lists, different price ranges, different locations, etc. all mean that the restaurant market, if it exists in this broad characterization, might consist of many different strategic groups or submarkets, but they all seek to appeal to a wide range of diners and do compete, at least at the margin, especially within a given price bracket or food type or location. To repeat an earlier point, if a state legislature decrees that credits earned at community colleges are to be fully transferable to the state's research university(ies), then at least, for these courses, both types of institutions could be viewed as belonging to the same market.¹⁵

In addition, there exist some markets that may be linked or chain differentiated. This occurs where a relatively homogeneous product is sold over a wide geographic area, and where the strongest competition for buyers occurs in a local area, with competition between institutions decreasing over geographic distance. Good examples of this occur in supermarket and gasoline retailing, in which clusters of local institutions compete strongly with each other, but less strongly with retailers in the next suburb or in the closest shopping mall, and even less strongly with sellers of the same product in a

more distant location. Nevertheless, a price change at one point in the chain can be quickly transmitted throughout the chain, even though retailers some distance apart along the chain may have no, or very few, customers in common.

Markets may also be distinguishable by product within a chain differentiated scenario. Thus, in Australia, the long-established so-called “sandstone” universities (the original universities in each capital city) belong to what is referred to as the “Group of Eight.” Another group of five relatively new universities (one in each of the five mainland states) that have grown from business-, technology- and engineering-based origins, is known as the ATN Group (Australian Technology Network). The two groups differ in reputation, history, and course offerings, but compete with each other for research grants, and, to a limited (but increasing) extent, for students willing to move interstate for tertiary studies. However, the competition for students is largely confined within the borders of the home state, among the different tertiary institutions located therein.¹⁶

The American picture is different in several important dimensions, with wealthy or highly talented students willing and able to cross city and even state borders. Yet, it is still possible to identify submarkets in a given geographic market. These submarkets might include state universities and regional universities; ivy-league universities as a submarket of an all-research-university market or of a “top 30” list of bachelor degree-granting institutions; or ACC basketball schools as a sub-market of all universities with basketball programs. Similarly, the well-endowed, history-rich and teaching-focused small liberal arts colleges in the United States might well exist, for some purposes, in a separate submarket of a nation-wide undergraduate teaching market. So might universities that provide specialized training (say, veterinary science) or that seek

mainly to serve regional areas (perhaps the mountain states in the United States, where a submarket may be defined by geographic factors, just as shopping center markets are often defined narrowly by topographical features such as interstate highways that are inconvenient for shoppers to cross).¹⁷

Practical issues in the delineation of market boundaries

Before embarking on any form of economic or policy analysis of market failure, behavior, incentives, inefficiencies, innovation, or restructuring, it is crucial to first ensure that all of the participants in the market have been correctly identified, including not only the rival sellers, but also buyers, suppliers, and current or potential rivals to the incumbents. This involves problematic empirical issues such as identifying potential entrants, when they are likely to enter and at what scale, and identifying goods that are close enough substitutes in either demand or supply to constrain the operations of the institution in question and at what prices.

Markets can be defined too narrowly, in which case competing institutions will be excluded, and the institutions allocated to the market will be thought to have more market power and fewer constraints on their behavior than is actually the case. If, on the other hand, markets are defined too broadly, then it is likely they will be found to be more competitive than they really are, and that policy action may be misdirected in the form of failing to act to remedy a deficiency in the market's performance. This problem of getting the breadth of market definition right applies to all three market dimensions.

Although, conceptually, a market is a simple economic construct – a collection of buyers and sellers of close substitute products – in practice, it can be difficult to define its boundaries with any great precision and without great controversy. But it is within markets that economic activity takes place, and it is this activity we want to be

conducted to ensure the optimum allocation of resources, both private and public.

Therefore, it is important that all those who seek to influence resource allocation in higher education – government policy makers, academics, universities – realize that a one-size-fits-all policy perspective might not produce the best results throughout the variety of distinct markets that constitute the higher education sector. For example, markets can only be shown to be “efficient” (reflecting an allocation of goods and services that provide the greatest benefits at the least cost) if potential like sellers and like buyers can be defined and the influences on them can be accurately identified.

In an overview such as this, we cannot hope to cover all of the issues that could arise in any empirical or policy situation that calls for market definition. We put forward the following checklist as illustrative of the kinds of practical problems that will confront researchers who need to define markets for post-secondary education.

- Start with the program, institution or group that is the subject of the inquiry, keeping in mind the purpose of the inquiry.
- Seek to identify the closest substitute from the perspective of the relevant buyers or sellers and assess whether and by how much this constrains the actions of the original party. Keep adding rival institutions until no further substitution appears to be acceptable, such that a group of institutions has been identified that faces no effective constraints from those outside the group. In this process, it is essential to identify the nature and extent of the constraints that are being assessed.
- As part of this process, consider geographic substitution, taking into account the extra costs that might be involved.

- Take care to include in the assessment any constraints offered by potential entrants into the market, as long as this entry is currently a real enough threat to constrain the institution(s) in question.
- Consider also the influence of suppliers to the institution.

Market delineation is far from an exact science. It is frequently a matter of great contention in antitrust cases.¹⁸ But this does not obviate the need to provide the definition that best informs those who must make policy judgments about how best to shape the operation of the market through appropriate policy instruments and changes.

Higher education – how many markets?

As already stated, a market should contain all those sellers that are regarded by buyers as providing close substitutes at going market prices or within a small deviation from these prices. There undeniably exists a market(s) in which universities act (conceptually at least) as sellers of the output or product of graduates. But, graduates are divisible into at least three main groups –those for whom the job market entices after four (or three, depending on country of residence) years of undergraduate study, those wishing to go on to graduate studies, and those who have completed a graduate program and are seeking professional employment.

It is not necessary that a market contain a collection of perfectly identical or homogeneous items, as assumed in the traditional competitive model. Indeed, in the real world such a state is rare. If perfect homogeneity were to be a requirement, very few markets with close substitutes that competed with each other for buyers could be defined for modern economies. Today, product differentiation is a major way in which sellers compete with their rivals. It could be possible to define a market for the students of an individual institution, such as a market for the supply of Harvard bachelor degree

graduates (all of whom are not of the same quality, clearly, but some product differentiation or gradation in quality is permissible within a properly defined market), but it could be argued that this takes too narrow a view of product substitution. Here, we would either seek to expand the market by asking buyers (employers or PhD program administrators) which institution provides the next best alternative to a Harvard graduate and then include this institution in the market. If buyers would be prepared to substitute into the alternative institution under prevailing market conditions, the original narrowly defined market could be treated as a submarket in a more broadly defined market of graduates from a large number of universities, or perhaps as a strategic group in the wider market.

Looking at the market for graduates (and it must be recognized that economics graduates will be “sold” into a completely different market than English majors or graduates in physical education), to say that the relevant group of products is not only the graduates from Indiana University but from all universities, including the University of South Australia, implies that the graduates in question are highly substitutable in the uses to which they can be put by the buyers (employers) of university graduates (and who are prepared to suffer the search costs necessary to check out graduates from such a geographically dispersed set of providers.¹⁹ If graduates are not highly mobile, then there could well exist a market for the supply of accounting graduates in Indiana, but if there exists considerable interest in such graduates from all over the United States, or even only from other mid-western states, then the relevant market could be either U.S.-wide or confined to the states that border Indiana.

However, it is incontrovertible that all graduates from every university around the world cannot be treated as homogeneous products. The same applies to all graduates

within a single country like the United States, Australia or the United Kingdom. The products (graduating students) of the various suppliers may have studied similar subjects, but teaching methods, class contact hours and class sizes will have differed, instructor quality certainly will not be homogeneous, and library and other facilities will differ greatly, and, of course, students enter universities in different countries with different sets of skills and different training. The graduates will not be seen by different groups of buyers (future employers) as close substitutes, certainly not at the same price (wage/salary), although it is true that substitution possibilities will not be symmetrical.²⁰ That is, the degree to which buyers are prepared to switch between grades or qualities of universities will be different when responding to price increases compared with price decreases.²¹

To illustrate with a simple example, consider whether the universities to which the two authors belong, Indiana University and the University of South Australia, are in the same market for the supply of bachelor degree graduates with a major in economics to potential employees. Are the graduates from the two universities similar to each other, at least in the eyes of potential employers, or to graduate schools looking for PhD candidates? In other words, are they close substitutes for each other and, if so, from whose perspective? Do these two universities compete with each other when putting their graduates out for employment? If one changes its undergraduate program in economics, or hires more or better faculty in economics, will the other feel compelled by market forces to do likewise? Are their graduates “produced” under the same conditions, using similar inputs and teaching methods and production processes and technology (what is known as supply side substitution)? Or could they easily or quickly change these factors to replicate what the other university is doing? If the answer is no

to one or more of these questions, how can we say that there is “a” market for the graduates of these two universities?

In the case of universities, it would be challenging to construct an analytically convincing argument that even all universities in a given state in the United States are in close competition with each other. For example, private universities that charge high fees may intersect little with state universities in the market for incoming students, except perhaps in the submarket for sports stars or academic scholarship students (for whom there may well be a nation-wide market).²² On the product side, one university in a region may be so highly regarded and/or be associated with such low search and transaction costs that it operates largely in a single-institution market, with no effective market-based constraints on its behavior, at least over some range of possible fees and programs. However, it must be remembered that economic activity, including competition, should be evaluated at the margin, and so, before a market can be delineated with any confidence, all possible sources of constraint should be assessed and allowed for.

Consider the idea that universities compete for students as inputs into their educational process (what might be termed a market for the acquisition of undergraduate students). For which students do they compete and in which geographical areas? There could exist a market that involves universities as “buyers” of students as inputs into the education process via tuition subsidies, grants, reduced fees and the like. There will likely exist more than one – and realistically many – correctly defined markets in which universities “buy” their student inputs. Even in a single country, or even one major city, not all universities based there will compete for the entire relevant group of graduating high school students. Not all students are the same, just as all universities are not the same. They

will have different talents, different expectations of university life, different preferences for where they want to live, different family dynasties and so on. In addition, it must be remembered that many state schools offer substantially cheaper tuition for in-state residents, such that for these students the alternative education available in a university in another state is priced at such a level that the universities are not viewed as being substitutes and therefore belong to different markets.

Take, for example, the common practice of bundling by universities, whereby universities sell a package of education, extra-curricular activities, sports teams, housing, and so on, on a take-it-or-leave-it basis. Many students may not wish to avail themselves of some of the elements in this package, but get no discount on their fees (and end up cross-subsidizing those who enjoy college life to the full). The more market power a university has (the fewer competitive constraints it faces), the more likely it is to engage in bundling and other such conduct that may make it difficult for a rival (or a new) university to compete with it on purely academic grounds. This scenario illustrates the importance of getting the product dimension of the market right: Are society's values and expectations such that the product being sold to incoming students is regarded as a completely integrated package of education, social interaction, sport worship and so on, or is it more appropriate to consider the components of the package as belonging to separate markets?

Alternatively, it may be arguable that there is indeed one very large national market for higher education, comprised of a very large number of submarkets (where there are subtle but distinct breaks in the chain of substitution, either in terms of product characteristics, geography, or vertically in terms of function), or, in business school language, there is one market with many different strategic groups operating within that market. However, we argue that if there is no real threat of demand-side or supply-side

substitution at the margin, such that (some) universities do not consider themselves constrained by such rivalry, then the appropriate market boundary should be drawn in a narrower fashion to include only those whose constraints force the institution(s) in question to respond as a matter of commercial imperative. Policy development should recognize this.

Consequences of Ignoring the Institution's Markets

Those in higher education are often chastised for ignoring or attempting to thwart markets and their forces. We have already discussed the consequences of the 1991 antitrust case against MIT and the Ivy League institutions for price fixing. For contrast, consider the similar service-oriented health care industries where marketers of medical practices and supplies are well aware of their markets and invest significant funds researching and pushing their boundaries. For example, a former student of one of the authors is now “Director of Marketing Analytics” for a pharmaceutical network firm.

He wrote in an email message:

About defining audiences /markets . . . Nearly all of our pharma clients have target lists . . . Part 1 of audience definition is -- Better coverage to your already identified targets. . . Part 2 -- We are often asked to extend target lists. . . There are also cases where clients ask us to define target lists from scratch . . . here; you have to use more specialized data resources to identify physicians worth calling on face-to-face or over the internet . . . In addition to defining the audience/ market there are the questions of ranking targets based on how responsive a physician is likely to be to a promotional invitation & their relative prescription value to the brand. This is where econometric models of physician behavior, database marketing & marketing experiments come into play.

In higher education, “enrollment managers” are neophytes in the process of recognizing, defining and exploiting data from the markets in which they compete. Even major research universities with highly skilled econometricians on their faculties are using outdated and simplistic regressions aimed at predicting the likelihood that a student will attend conditioned on alleged explanatory attributes that are themselves endogenous to the system. Making predictions based on variables which themselves depend on the predictions and the unmodeled market reactions is folly:

Recruiting the most academically competitive students is more difficult . . .

College admissions officers are having a difficult time predicting which of the students they have accepted will actually attend . . . think about these facts before you spend so much money recruiting those students that are such a small segment of the market (Farrell, 2006, p. ???).

Unlike the apparent sophisticated econometric modeling of physician behavior in medical markets, enrollment managers appear not to recognize the consequences of ignoring the market in which they operate and using only their offer in estimating yield (attendees) from grants (subsidies). To see the bias inherent in ignoring the market consider the simple regression model in which “my institution’s” grant is an explanatory variable, along with other specific student explanatory variables, but no other likely competing institution’s grant is known:

$$\text{Attend my uni} = \beta_0^* + \beta_1^*(\text{my grant}) + \dots + \varepsilon^*,$$

where $\varepsilon^* = \beta_2(\text{other's grant}) + \varepsilon$. But recognition of the market implies that the true model is

$$\text{Attend my uni} = \beta_0 + \beta_1(\text{my grant}) + \beta_2(\text{other's grant}) + \dots + \varepsilon.$$

The student and institution gamesmanship that goes on in the market implies that the magnitude of one university's grant offer is likely correlated with another; that is,

$$E[(my\ grant)(other's\ grant)] \neq 0.$$

Thus, $E(\beta_1^* estimator) \neq \beta_1$ because $E[(my\ grant)\varepsilon^*] \neq 0$.

Within the confines of this model it is easy to see why MIT and the eight Ivy League institutions may have tried to engage in price fixing simply to reduce the gamesmanship and the uncertainty that goes with it in predicting the size of a grant required to entice a desired student to enroll. The other advantage, of course, is the reduction in grants sizes required with the removal of competitive pressures. For this scheme to be fully effective, however, these nine schools had to be a true market relatively separable from other institutions – a proposition the courts apparently accepted.

Although enrollment managers outside an oligopoly engaged in price fixing are typically missing the importance of identifying demand and supply responses in a market, econometrician Wilbert van der Klaauw (2002) demonstrated how regression discontinuities can be used to short circuit the problem caused by grant offers being related for institutions competing in the same market. He estimated the effect of financial aid on the enrollment decision of students admitted to a specific U.S. East Coast university, recognizing, as just shown, that this college's financial aid is endogenous because competing offers are unknown and thus by definition are omitted relevant explanatory variables in the enrollment decision of students considering this college.²³

Conclusions

Higher education is an inherently controversial subject in terms of content, funding, subsidies, cross-subsidies, scholarships, equity, access, staffing, student quality, and the quantity and quality of outputs. Despite its often claimed privileged yet essential status, and the prime importance accorded to it in terms of policy development and political debate, it is still like any other commodity that is bought and sold in the economy, and it is subject to the same inherent market forces. Herein lies the problem. In their eagerness to assess the subject from a social and policy perspective, educationalists as well as economists (who should know better) have failed to cast their analyses in the context of carefully defined markets upon which the relevant policy judgments should be made.

Before embarking on any form of economic or policy analysis of market failure, behavior, incentives, inefficiencies, innovation, restructuring or the like in relation to tertiary education, it is crucial first of all to ensure that all of the participants in the market have been correctly identified, including not only the rival sellers, but also buyers, suppliers, and current or potential rivals to the incumbents.²⁴ This involves challenging empirical issues such as identifying potential entrants (and when they are likely to enter and at what scale) and identifying products (for example, courses, degrees, certificates) that are close enough substitutes in either demand or supply to constrain the operations of the firm in question and at what prices.

In an overview such as this, we cannot hope to have covered all of the issues that could arise in any empirical or policy situation considering tertiary education that calls for market definition. Nor was it our task to evaluate what errors in policy might have been made because of what we have argued constitutes egregious analytical error. That inquiry falls to those who are interested in the ex-post evaluation of policy initiatives, particularly with respect to foregone alternatives, and to the ex-ante expectations for

these policies. Instead, our aim was to bring to the attention of researchers and policy makers an essential message – without the institutional foundation of a properly considered market, social and economic policy decisions about higher education may not be optimal as they will have failed to consider the relevant substitutes, complements and constraints that together produce the supply and demand forces that dictate how market participants perform.

Market performance is a function of the conduct of many sets of players – the institution(s) immediately under consideration; the other institutions (and substitute products) that can currently constrain their behavior; institutions that are potentially able (and foreseeable as such) to constrain the institution(s) in question within a relevant period of time; the users of the product(s) and the countervailing power that they can exercise on the suppliers; and the role that can be played by suppliers of inputs to the institution(s) under consideration. It is within this model of buyer and seller action and interaction that governments need to determine whether they need to intervene or not, on what grounds, and to what extent.

An amorphously implied “market for higher education” or “the marketization of higher education” only exists in an untidy and poorly informed mind. Properly defined, there exist many different markets for higher education inputs and outputs, in different parts of cities, states, and countries internationally. The maxim “look before you leap” is one well worth remembering by those who seek to assess a wide range of empirical and policy issues in higher education, lest they land in an uncomfortable position. This leads to the question: Can higher education “experts” claim this title if they are not prepared to delineate carefully the boundaries of the relevant markets for which they are

propounding policy suggestions? We suggest that many of these experts deserve an F grade for not properly defining the markets to which their comments are directed.

Our message is clear: the myriad policy and operational aspects of higher education must be treated in the framework of an economic “market,” which in all likelihood means that many separate, and possibly quite diverse, markets need to be evaluated. To assign universities properly to these analytically appropriate markets, it must be asked whether the demand- and supply-side characteristics of universities are similar enough so that we can assess them, their interactions and needs, and the socially most-appropriate policy actions, in aggregate, or, alternatively, whether the nature of the product itself and the conditions under which it is sold differ so much in characteristics, space, time and function that many relevant markets exist. If it is the latter, then a single overarching policy based on the implied existence of one giant monolithic market will be economically misguided, and indeed would be likely to lead to inefficient decisions and numerous kinds of social inequities.

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Endnotes

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¹ Slaughter and Leslie (1997) argued that between 1970 and 1995 national policy in Australia, Canada, the United Kingdom, and the United States promoted a shift in higher education from basic curiosity-driven inquiry to the formation of academic capitalism, in which the pursuit of external moneys was the driving force. The emergence of academic capitalism is traced to “the growth of global markets, the development of national policies that target faculty-applied research, the decline of the block grant as a vehicle for state support for higher education, and the accompanying increase in faculty engagement with the market”(p.11). Slaughter and Leslie, and more recently Rhoades and Slaughter (2004), make no serious attempt to differentiate between capitalism (which is usually associated with private ownership of resources and entrepreneurship) and markets (as defined by Marshall). They did not establish that academics of old and the institutions that employed them were not driven by market forces. Indeed, there are numerous examples to the contrary. As an illustration, consider the work of renowned statistician Sir Ronald Fisher (1890-1960), who held academic appointments at Cambridge University and the University of Adelaide. As with other technically skilled academics of his time, Fisher readily sought financial reward for his labors. The fact that he was a paid consultant for tobacco firms was used to cast doubt on the value of his argument that there was a causal relationship between smoking and cancer. Even in English departments, Mazzolini (2000) tells us that research interests “emerge from previous scholarship that got published and contributed toward jobs and tenure because of its particularized market value.” At the institution level, land grant universities were started in the 19th century in the United States with the explicit aim of

advancing commercial agriculture. Self interest and markets have always existed in higher education.

² William Massy (2004, pp. 13-14) defined higher education markets as decentralizing decision making on both the demand and supply side of the provider-consumer transaction and calls attention to the distinction between an allocation scheme in which government is in charge and one in which disaggregate buyer and seller interactions determine allocations. He made no reference to market boundaries as determined by close substitutability of the products or services involved and the price independence of those goods from others, which are the critical issues seen in antitrust proceedings in most developed countries. In contrast, Massy, Getz and Siegfried (1991, p. 3) highlighted the difficulty in talking about the market for higher education by placing “market” in quotes and then carefully describing why their use of “market” deserved to be in quotes.

³ See, for example, Scheffman and Spiller (1991).

⁴ The U.S. Justice Department accused MIT and the Ivy League institutions of price fixing in the allocation of financial aid and setting of tuition. The schools argued that their cooperative behavior was aimed at helping needy students with financial aid and did not affect price. Nevertheless, all but MIT signed a consent decree agreeing to stop the cooperative behavior. In the 1992 trial, *U.S. v. Brown University, et al.*, 805 F. Sup. 288 (E.D.Pa. 1992), MIT was found guilty of price fixing. Following this conviction the U.S. Congress passed the Higher Education Act of 1992 that enabled schools to cooperate in the assignment of need-based aid. In 1993, the Third Circuit overturned the MIT guilty verdict, *U.S. v. Brown University, et al.*, 9 F.3d 658 (3rd Cir. 1993), and the government dropped all inquiries into the matter of cooperation among “the overlap” schools in assigning need-based aid. As reported in Bamberger and Carlton (1999) and Carlton, Bamberger and Epstein (1995), Carlton gave expert testimony that the schools’ cooperation did not raise prices, concluding that there were no grounds for the

application of antitrust against these nonprofits in the absence of adverse price and output effects. Subsequently, Janet Netz (1999) “found that a need-only financial aid policy significantly increases the price paid (tuition) by non-needy students; increases the average price paid by students who receive financial aid; and substantially increases earnings from tuition.”

⁵ It must be noted that the general public and many economists tend to use the terms “market” and “industry” interchangeably. They are in fact analytically distinct – the term “market” is conceptually broader, as it takes buyers and sellers into account, whereas an industry may be defined in terms of sellers producing similar products using similar inputs, technology, and production processes. That is, the term “industry” focuses only on the supply side, whereas the term “market” takes into account both supply-side and demand-side considerations. Thus, we could validly talk about the U.S. bread industry in an economically meaningful way if we wanted to analyze bread-making technology, the optimum size of baking ovens, the types of bread and yeast products, and the best types of flour to use. But it would not be correct to talk about the U.S. bread market, as all American bread manufacturers do not compete with each other for the same groups of buyers. Perishability, transport costs, and local taste preferences all mean that there will exist a large number of quite small geographic markets for bread, each of which may exhibit quite different patterns of competitive interaction and require different analytical assessments of their behavior.

⁶ The word “efficiency” is often used by educationalists, administrators and politicians as synonymous with “cheaper than,” as in the expression “community colleges are more efficient than universities.” As is made clear by any introductory economics textbook, “efficiency” and “cheaper than” are not the same. Economists make a distinction between “technical efficiency” (producing a given amount with the least inputs), “allocative or price efficiency”(producing a given amount with an input mix that equates their relative prices with the relative values of their incremental contributions to output), “economic efficiency”(maximizing the value of output

subject to a budget constraint, which depends on the output level selected), and “dynamic efficiency” (innovating or at least keeping up with the latest technological advances).

⁷ Pet Rocks and Cabbage Patch dolls are two possible examples of such unique products that were not easily copied within the time period for which demand for the product remained strong. It could be argued, however, that the inclusion of products such as these in an analytical market of their own fails to take account of longer-run substitution possibilities, and that such products belong in a wider market for toys or some other such products.

⁸ Getz and Siegfried (1991, p. 12) called readers’ attention to the fact that in the United States, higher education is relatively decentralized, with 50 separate state regimes and hundreds of private institutions run by self-perpetuating boards of trustees. Following Bok (1986), they argued that this decentralization has encouraged competition that is not associated with government-imposed fixed prices and quality mix. At the highest level, public and private institutions compete for the same students at different prices and turn out students that are equally demanded by employers. Decentralization and competition have resulted in the United States having a less monolithic higher education establishment as reflected in Fallows’ (1990, pp. 17-18) observation that only two (Kennedy and Bush) of the then seven American presidents since 1960 graduated from elite private institutions whereas all Japanese leaders graduated from a single college, the University of Tokyo, which also accounts for a third of all presidents of large corporations, 60 percent of senior government officials, and all post-war prime ministers, but enrolls only one percent of the population (Rohlen, 1983, pp. 88-91).

⁹ An interesting market-related policy question is whether the major state universities can continue to compete with the private universities as state legislatures decree that credits from local community colleges, regional universities and the like be accepted by their state-subsidized research universities.

¹⁰ In the United States, there are only a few cities with the five-star hotel capacity to cater to very large conferences such as the annual meeting of the American Economic Association, which in 2005 and 2006 attracted well over 8,000 registrations each year, and used 5,122 and 5,688 hotel rooms respectively on the peak conference night. Only nine cities (Atlanta, Boston, Chicago, Denver, New Orleans, Philadelphia, San Diego, San Francisco and Washington, DC) can cater to such a conference (Anaheim/Orlando, Las Vegas, and New York could also cater to these numbers, but various price or recreational preferences preclude meetings being held in them), so the market for conferences with this number of people would only include a small number of cities. Within each city, the five star hotels would be seen as complements rather than as substitutes, because in effect they do not have to compete for such large conference business, as they can fill their rooms at rates above the negotiated conference rates.

¹¹ This would certainly be the case in Australia, where the relatively great distances between the capital cities and a tradition of going to a university in one's home state is firmly entrenched.

¹² See, for example, Coate and Langenfeld (1992).

¹³ Educational institutions are unique in that students are both an input and output. Thus, an institution sells (supplies) places in its entering class but also is willing to pay for (demand) the best students.

¹⁴ See, for example, Church and Ware (2000, pp. 599-619) and Keyte and Stoll (2004, pp. 593-632.).

¹⁵ Becker and Andrews (2004) provided examples to show that higher education involves much more than the teaching of traditional doctrine. It is the academic inquiry that elevates higher education above mere training. They argued that at a research university instruction has the potential to be enhanced because it can be made a part of an integrated and aggressive campaign of inquiry. Active researchers can engage students in the challenging ideas, questions and methods of inquiry at the forefront of their disciplines, whereas docents can be expected only to

teach that which they have been taught or learned from textbooks. They called attention to the fact that research is expensive and that public community colleges with no research mission have thrived under the belief that a faculty devoted to research is not essential to performing the less-expensive teaching function. A contextual updating of Gresham's law (inferior currency drives out superior currency) might suggest that the less expensive educational practices of community colleges will force out the more expensive full-time, tenured faculty members teaching at the research universities. As Becker and Andrews demonstrated, there is evidence of this happening with both public research and doctoral institutions increasing the proportions of both part-time and full-time faculty members with non-tenure track appointments. Following the community college model, universities are increasingly looking to part-time and non-tenure track docent-type appointments to teach in undergraduate baccalaureate programs.

Unfortunately, Gresham's law in this context is just as deficient in assessing effects as it is for monetary policy.

¹⁶ A discussion of the changing picture of higher education in Australia is provided by Grant Harman (2006). As with the United Kingdom, national policy is aimed at rewarding institutions for specific measured outcomes. This action can be seen as an attempt to solve a principal-agent problem (difficulties that arise under conditions of incomplete and asymmetric information) but it has nothing to do with what markets might produce if universities were left to their own devices.

¹⁷ One of the authors served on an external review committee for a department at Pomona College, which is part of the Claremont College Consortium in California. The president of Pomona complained to the committee that a department at one of the other Claremont Colleges was bragging about being ranked just below Penn State University in a research output measure, which was not the type of institution that Pomona aspired to be ranked. But if tuition and subsidies at Penn State affect decisions to enroll at a Claremont College, or if salaries and

benefits for faculty at Penn State affect hiring at a Claremont College, then both Pomona and Penn State are in the same student or faculty markets, and a president who does not acknowledge this may be crippling his or her institution.

¹⁸ Perhaps one of the most famous examples of this is the so-called cellophane case in the United States (*U.S. v. E.I. duPont & Nemours & Co.*, 351 U.S. 377 (1956)), where the Court accepted, based on incorrect economic reasoning, a very broad market consisting of fungible wrapping materials rather than one comprising only cellophane. For a brief summary of the case, see Blair and Kaserman (1985, pp. 109-110).

¹⁹ Although universities do not sell their graduates as such, they do promote them and seek to place them in the best possible job or graduate school, as such success then becomes a point of differentiation in their marketing and promotional attempts to ensure the best quality and numbers of future applicants for undergraduate admissions.

²⁰ To clearly demonstrate that there is no such thing as the market for university graduates, consider an M.B.A. graduate, a four-year graduate with a major in economics, and a freshly minted Ph.D. graduate in economics. Are they sought by the same buyers (employers)? We doubt it – at least not in the same time frame. They are quite different products, and are produced from inputs that differ largely (teachers, content, method, classrooms. There is little substitution on the supply side such that an M.B.A. school could not quickly move into producing economics majors, and even less chance that an economics department could produce a creditable MBA program in a two or three year period).

²¹ Thus, if, say, Indiana University raised the price of its graduates (notionally by decreasing teaching quality) then the percentage change (fall) in the number of its new graduates taken by employees would likely be much greater than any proportionate increase in the quantity demanded for its graduates if the university instead improved its teaching quality.

²² For example, the state of Indiana's private Notre Dame University likely competes with public Indiana University and Purdue University for star athletes and merit scholarship students from both within and out of state, but that is where the competition ends.

²³ The college investigated by van der Klaauw created a single continuous index of each student's initial financial aid potential (based on a SAT score and high school GPA) and then classified students into one of four aid-level categories based on discrete cut points. The aid assignment rule depends at least in part on the value of a continuous variable relative to a given threshold in such a way that the corresponding probability of receiving aid (and the mean amount offered) is a discontinuous function of this continuous variable at the threshold cut point. A sample of individual students close to a cut point on either side can be treated as a random sample at the cut point because on average there really should be little difference between them (in terms of financial aid offers received from other colleges and other unknown variables). In the absence of the financial aid level under consideration, we should expect little difference in the college-going decision of those just above and just below the cut point. Similarly, if they were all given financial aid, we should see little difference in outcomes, on average. To the extent that some actually get it and others do not, we have an interpretable treatment effect. (Intuitively, this can be thought of as running a regression of enrollment on financial aid for those close to the cut point, with an adjustment for being in that position.) In his empirical work, van der Klaauw obtained credible estimates of the importance of the financial aid effect without having to rely on arbitrary cross-equation exclusion restrictions and functional form assumptions. His estimates suggest that an additional \$1,000 in financial aid results in a 4 to 5 percentage point increase in the probability of the mean student attending this university.

²⁴ This approach, which was developed from the ideas first advocated by Michael Porter at the Harvard Business School, is summarized well in Weller (2001).