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The Market Structure of Higher Learning

Brett Roush '97

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Abstract

A student embarking on a college search is astounded at the number of higher learning institutions available -- an initial response may be to consider their market structure as one of perfect competition. Upon fkrther consideration, though, one sees this is inaccurate. In fact, the market structure of higher learning incorporates elements of monopolistic competition, oligopoly, and monopoly. An institution may not explicitly be a profit maximizer. However, treating it as such allows predictions of actions to be made by applying the above three market structures. Such predictions include the quantity of education offered as well as advertising tendencies (Section 11), scrutiny of competitors (Section III), and price discrimination (Section IV).

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I. INTRODUCTION

A student embarking on a college search is astounded at the number of higher learning institutions available -- an initial response may be to consider their market structure as one of perfect competition. Upon further consideration, though, one sees this is inaccurate. In fact, the market structure of higher learning incorporates elements of monopolistic competition, oligopoly, and monopoly. An institution may not explicitly be a profit maximizer. However, treating it as such allows predictions of actions to be made by applying the above three market structures. Such predictions include the quantity of education offered as well as advertising tendencies (Section II), scrutiny of competitors (Section III), and price discrimination (Section IV).

II. MONOPOLISTIC COMPETITION

Though thousands of firms offer their product -- an education and degree -- each has unique aspects. Campus environment, faculty, academic reputation, location, and countless other qualities differentiate one institution from another. However, each institution's product is a substitute for the others'. (Some are closer substitutes, of course -- Yale and Southwestern Kentucky Bible School are not equally good substitutes for Harvard). Since each institution has a monopoly over its own product and product differentiation is evident, higher learning can be modelled as a monopolistic competition market.

The first prediction made by the monopolistic competition model is the equilibrium quantity supplied. With product differentiation, the individual institution's demand curve is downward-sloping. To maximize profit, an institution's offered enrollment will be the level at which MC = MR (see FIGURE 1). Though the quantity can be predicted, in this analysis the price is not yet determined. Simple mark-up pricing, characteristic of a monopolistic competitor, does not apply, as this paper will later demonstrate.

FIGURE 1: Quantity Supplied, Monopolistic Competition
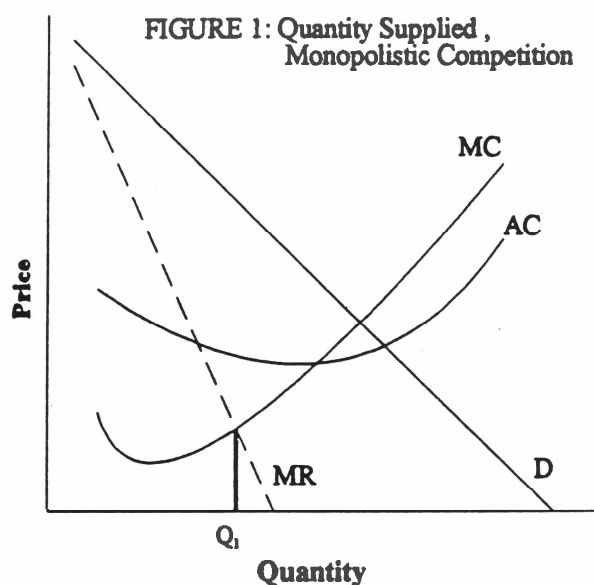
Another important ramification of this model -- that advertising expenditures are significant -- relates to the higher education industry. Each institution has extensive advertising, both informational (through such mediums as Peterson's Guides and direct mailings to potential applicants) and glamorous (such as sports recognition and $25 million science buildings). The institution's name is plastered on merchandise, alumni are encouraged to express pride in their alma mater, and the "publish or perish" doctrine at many research institutions means you must elicit recognition for your name -- and the

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institution's name. Combined, these methods make advertising a central concern of each institution, as the monopolistic competition model predicts.

Theoretically, the amount of advertising would be such that the marginal revenue from one extra advertising dollar equals that dollar; alternatively, the marginal revenue of the advertising dollar equals the price elasticity of demand. Whether an institution implements this efficient level is not easily discernible. First, many forms of advertising, such as constructing a flashy new building, have benefits other than simply increased revenue. Others, like merchandise bearing the institution's insignia, may actually have no cost since the advertising itself represents revenue. Moreover, such elements as marginal revenue from advertising expenditures and price elasticities are difficult to estimate. The determination of an institution's efficiency in advertising expenditures would be an extensive research project.

An important prediction of the monopolistic competition model that does not describe higher learning is that long-run economic profits are zero. This conclusion is based on the ease of entry and exit of firms, but higher education presents significant barriers, such as the necessity for a reputation and the large amount of capital required to open an institution. This paper will show that, in fact, long-run profits *are* possible.

III. OLIGOPOLY

The previous model has another substantial shortcoming when applied to the industry of higher education -- the substitutes vary widely, as mentioned earlier. Instead of one comprehensive market with some good and some poor substitutes, the market is segmented into small groups of institutions that *are* considered nearly perfect substitutes. Some of this segmentation is reflected in the sports listings: Big 10, PAC 8, Ivy League.

These divisions are made for athletic competition, but what underlies them? Each division encompasses institutions with similar qualities, such as size, student characteristics, and location. More importantly, a consumer typically chooses one or two of these categories and then decides among the schools included. In a sense, a small number of firms sell to a specific group of consumers in a niche of the higher education market. Since the market is plausibly divided into small units and, as explained earlier, there are barriers to entry, an oligopolistic model is appropriate.

One of the few definite predictions the oligopoly model makes does pertain to higher learning. This market structure's theory contends that each institution will scrutinize the others' actions, and must consider reactions when planning their *own* actions. This most certainly occurs. IWU observes policies in other small liberal arts universities -- for example, Dr. Robert Leekley compared faculty salaries and benefits of area institutions. Also, I recall an article in my freshman seminar detailing the monitoring by top East coast universities of Duke's revolutionary multi-cultural programs.

Also, collusion is possible. An example of formal collusion would be the small college consortium, where many small colleges in Illinois unite for employers to recruit students. Total benefits are increased -- working individually, each institution would not attract many recruiters. Informal collusion may exist as well. I recall rumors of Ivy League admissions counsellors meeting in order to divvy up financial aid for students (who generally apply to multiple institutions in that oligopoly).

The previous conclusions (under a monopolistic competition assumption) concerning advertising and product differentiation are not invalid with an oligopolistic interpretation. Mansfield (1994) declares that "In many oligopolistic industries, firms tend to use nonprice competition, like

advertising and variation in product characteristics." This makes sense, since institutions initially attract students with their reputations and programs rather than competitive prices.

IV. MONOPOLY

Once an institution is chosen, the market structure changes drastically. As mentioned before, an institution has a monopoly on its own product. Also, once a student enters an institution, barriers to entry occur, differently than described earlier. In this case, it is the consumer, the student, who finds barriers in attempting to bring his business to another firm. The rigmarole of physically transferring, refinancing, and acclimatizing the student and his past course work to a new institution all help prevent changing the institution providing the education. Thus a monopoly market structure applies.

The most fascinating application of this structure lies in pricing. In a typical monopoly, the profit-maximizing price would be at the price illustrated by the demand curve at the quantity offered. In this case, though, two interesting variations exist. First, the quantity was determined in the monopolistic competition market structure, so quantity supplied is less than it would be under a typical monopoly. Second, a conflict develops concerning the profit-maximization strategy. The greatest short-run profits would be achieved by using price as a rationing instrument -- admitting only those who could pay the most. However, long term profits are harmed if the reputation suffers due to unqualified (but wealthy) students being admitted. In other words, maximizing long term profits requires a different strategy than maximizing short term profits. Assuming need-blind admissions, the following analysis ought to be accurate.

Suppose 3 students are admitted, each at distinct spots on the demand curve -- some

FIGURE 2: Price Discrimination In a Monopoly
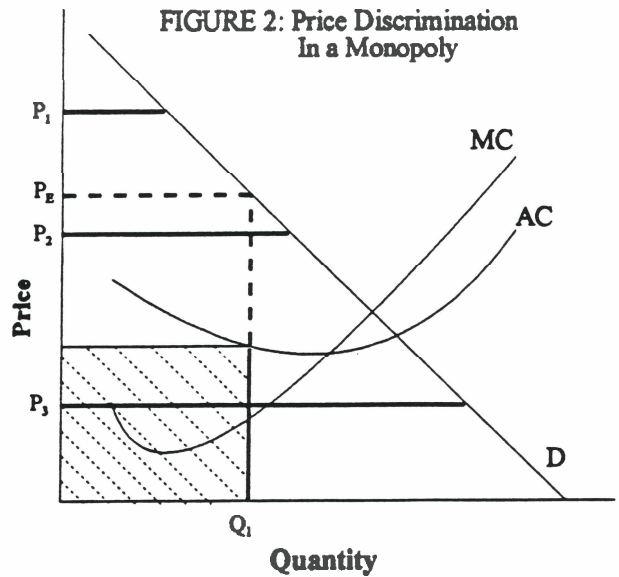
above and some below the typical price, P_E (see FIGURE 2). If this price were universally charged, many students would be unable to attend and the revenue that they offer would be forgone. Here a monopoly's ability to price discriminate becomes pertinent.

The institution, needing at least the shaded area to break even, utilizes financial aid forms in an attempt to ascertain each student's maximum ability to pay. Ideally, each enrollment fee will be the one shown on the diagram.

Government assistance complicates this situation; I am unsure exactly who gives and receives the payments, so I am unable to analyze them. Essentially, though, perfect information and first degree price discrimination are the institution's goals, as these would allow all of the potential consumer surplus to become revenue.

An important point is that the institution *loses* money on student 3, who can only afford P_3. As mentioned in the introduction, profit maximization is not the only goal of an institution; need-blind admissions permit a deserving but costly student to receive his education.

Another pricing technique of a monopoly, bundling, occurs as well, since students must

often purchase housing, meal plans, and books from the institution. The monopoly power and stringency of pricing techniques of an institution should increase over time, as the transferring process highlighted earlier becomes more impractical. However, I have not noticed significant payment changes as a second-year student, and I believe bundling actually decreases, as living off campus is permitted in later semesters.

V. CONCLUSION

When an institution is being chosen by a potential student, either the monopolistic competition or oligopoly model applies. Perhaps the latter is more applicable; as is so often the case, economic theory is difficult to apply to real-world phenomena. However, regardless of which market structure applies, significant product differentiation and large advertising costs result. In this case, the oft-made conclusion that inefficiently excessive advertising exists does not apply. First, much of the advertising is informational and assists students in making probably the most important decision of their lives up to that point. Second, as mentioned before, an institution's advertising often accomplishes other goals; only a portion of a dollar spent is "lost" to advertising.

Scrutiny of other institutions and collusion are accurately predicted if the oligopoly model is accepted. Finally, once a student enrolls, a monopoly structure applies, and price discrimination and profit-maximizing techniques are employed. As a monopoly, long-run profits are possible, especially with the aid of the aforementioned pricing policies.

By employing various market structures describing higher education, a fair amount of institutions' actions are predictable.

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Mansfield, Edwin. *Microeconomics*, 8th ed. New York: W.W. Norton and Co., 1994.

Brett Roush ('97) wrote the above paper for his Intermediate Microeconomics class. He is combining a major in Economics with minors in Risk Management and Mathematics, and hopes to become an actuary.