

7-1976

## The Economic Effects of Monopoly: A Lawyer's Guide to Antitrust Economics

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### Recommended Citation

Kamerschen, David R. (1976) "The Economic Effects of Monopoly: A Lawyer's Guide to Antitrust Economics," *Mercer Law Review*: Vol. 27 : No. 4 , Article 9.

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# THE ECONOMIC EFFECTS OF MONOPOLY: A LAWYER'S GUIDE TO ANTITRUST ECONOMICS

By DAVID R. KAMERSCHEN\*

Four factors were influential in my decision to write this survey paper summarizing what economists believe theoretically and have found empirically to be the major economic (and noneconomic) effects of monopoly. First, in my work as an expert witness in antitrust cases representing both private parties and public bodies, I have found a glaring lacuna in the minds of some judges, a number of lawyers and most jurors in the area of antitrust economics. Second, this feeling has been fortified by my guest lectures in antitrust law courses; while the students are bright and the teacher dedicated, an acceptable level of competence in antitrust economics had successfully evaded its pursuers. Third, my reading of several law journals has convinced me that there are a large number of legally competent antitrust lawyers who are not very familiar with antitrust economics.

Finally, I was motivated by the growing realization that people do not regard antitrust violations as very serious. The July 1974 issue of *SCIENCE DIGEST* reported a cross-section study of Baltimore residents in which the respondents were asked to rate the seriousness of crimes from 9 (most serious) to 1 (least serious). The highest mean score recorded was "planned killing of a policeman" (8.474), and the lowest mean score was "being drunk in public places" (2.849). Of the 140 crimes listed three were of an antitrust genus. "Fixing prices of a consumer product like gasoline" ranked 126 from the top (4.629), "fixing prices of machines sold to businesses" ranked 127 (4.619), and "false advertising of a headache remedy" ranked 132 (4.083). Offenses such as "breaking a plate glass window in a shop," "refusal to make essential repairs in rental property," "shoplifting a carton of cigarettes from a supermarket," "driving while license is suspended," "lending money at illegal interest rates," "joining a riot," and "using pep pills" are each regarded as more serious than the antitrust violations!

In Part I we will explore in some detail the economic (and some noneconomic) effects of monopoly. In Part II we will examine briefly public policies toward monopoly.

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## I. SUMMARY OF THE ECONOMIC EFFECTS OF MONOPOLY

The subject of monopoly is vast and has retained the attention of phalanxes of economists. In this section we attempt to provide a systematic development of the likely economic (and to a lesser extent the noneconomic) effects of monopoly. In all, over thirteen major effects and numerous minor effects, results, or tendencies of monopoly power are explicitly stated and discussed.

A. *The monopolist has a price policy.*

Under monopolistic conditions, a commodity is chosen or subject to manipulation by an individual producer. Under pure competition, each price  $\pi$  is determined or "set" by the free play of the impersonal market forces of supply and demand, with no one seller having any significant influence. Under monopoly, each firm sets or manipulates its own price through its control over output. In other words, a monopolist has a price policy, a pure competitor does not.

Furthermore, in contrast to the horizontal demand curve—and hence in contrast to the constant market price and marginal revenue<sup>1</sup>—faced by the pure competitor, the monopolist faces a downward sloping demand curve. This means a non-discriminating monopolist can increase sales only by charging a lower unit price for its commodity. Lowering the price to increase sales causes marginal revenue to be less than the price for every level of output (except the first).

B. *Given the same costs, monopoly prices are usually higher than those that would prevail under pure competition because the amounts produced and offered for sale are lower.*

To maximize profits, each firm equates its marginal revenue (MR) and marginal cost (MC). Under monopoly,  $MR < P$  because of the downsloping demand curve for the monopolist's product; under competition,  $MR = P$ . Hence, constant or rising MC becomes equal to MR at a smaller output under monopoly than under competition. One result of monopoly, then, is the tendency for output to be artificially restricted below the socially optimum level. In fact, regardless of the cost conditions, it will always pay monopolists to restrict output below, and to raise price above, the competitive level if the industry demand curve is downsloping. By how much monopoly price exceeds and monopoly output falls short of competitive levels depends on the elasticity of demand ( $n$ ). In general, the greater  $n$ , the closer  $P$  is to  $MR$  and hence to  $MC$ , and vice versa. The exact relationship is given by the following equation:<sup>2</sup>

1. Marginal revenue (or marginal cost) is the change in total sales revenue (or total cost) from selling one more unit of the product.

2. This follows from the definition of any elasticity as equal to the average (A) divided by the average (A) minus the marginal (M). That is,  $n = \frac{A}{A-M} = \frac{P}{P-MR}$ . Since in equilibrium  $MR=MC$ ,  $n=(P-MC)$  or  $n(P-MC)=P$  and  $nP-nMC=P$  or  $MC=P \left( \frac{n-1}{n} \right)$  and  $P=MC \frac{n}{n-1}$ .

$$P = MC \frac{n}{n-1}$$

This can be seen in Figure 1.

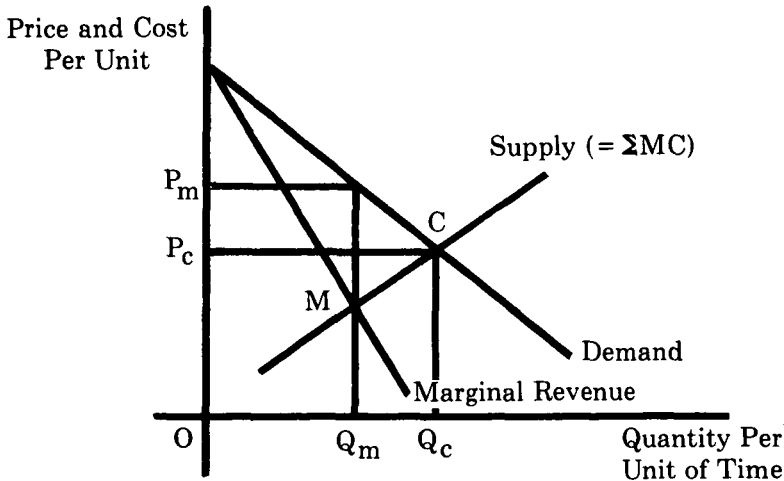


Figure 1

#### A Comparison of a Purely Competitive Industry With a Monopolistic Industry

A simple mathematical demonstration of this point in more detail may be useful in introducing some lawyers to the mysteries—and powers—of mathematical formulations of economic propositions. See Posner, *Antitrust Policy and the Supreme Court: An Analysis of the Restricted Distribution, Horizontal Merger and Potential Competition Decisions*, 75 COLUM. L. REV. 282 (1975), especially n.27 at 314-315. The monopolist seeks to maximize his total profits,  $\pi$ , which are simply the difference between total sales revenue,  $P(Q)$ , and total costs,  $CQ$ .

$$(1) \pi = P(Q) \cdot Q - CQ$$

where  $P(Q)$  (hereinafter  $P$ ) is the price of the product expressed as a function of the quantity sold ( $Q$ ) and  $C$  is the marginal cost of producing one unit of the product. (For simplicity, constant costs are assumed and fixed costs are ignored.)

The optimal quantity to produce in order to maximize profits is obtained by differentiating  $\pi$  with respect to  $Q$ , the firm's choice variable, and setting the result equal to zero (assuming that the second-order condition for a maximum—that the demand curve cuts one marginal cost curve from above—is satisfied).

$$(2) \frac{d\pi}{dQ} = \frac{dP}{dQ}Q + P - C = 0$$

where  $dP/dQ$  denotes the effect on  $P$  of an infinitesimal change in  $Q$ .

The monopolist produces at point M, where  $MR = MC$ , and he sells  $OQ_m$  units of the commodity at a unit price of  $OP_m$ . In contrast, since purely competitive firms produce where  $P = MC$ , the sum of the MC curves of all firms, i.e.,  $\Sigma MC$ , is the industry supply curve. Hence point C, where supply and demand are equal, is the competitive equilibrium, with  $OQ_c$  units being sold at a price of  $OP_c$ .

This assumes that costs are the same for the monopolist as for the competitor. That is, it assumes that if a competitive industry is monopolized, the cost curves of all the productive units are unaffected; no economies or diseconomies result from the coordinated planning of production in the different plants by a single firm instead of numerous firms. If the costs for the monopolists are higher, the welfare case against the monopolist would be aggravated. The costs may be higher for a number of reasons: the added selling costs such as the cost of non-informational advertising and excessive product quality variation; the inefficiencies from one firm running all the plants vis-a-vis having one firm to a plant as might be the case under competition; and the fact that the monopolist may be lax and not a strict profit maximizer. This last point refers to the fact that inefficiency—where inefficiency means that more pecuniary (nonpecuniary) income could be earned with no loss in nonpecuniary (pecuniary) income—under monopoly in both the product and capital markets may only reduce profits, whereas under competition, inefficiency results in bank-

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The elasticity of demand ( $n$ ), expressed for simplicity as a positive number (strictly speaking it is negative, since a decrease in price results in an increase in quantity) is given by

$$(3) \quad n = -\frac{dQ}{dP} \cdot \frac{P}{Q}$$

Substituting (3) into (2) and simplifying yields:

$$(4) \quad P \left( 1 - \frac{1}{n} \right) = C$$

If we relabel  $P$  as  $P_m$ , since it is the profit-maximizing monopoly price, and, using  $P_c$  to denote the competitive price, we can rewrite (4) as

$$(5) \quad P_c = P_m \left( 1 - \frac{1}{n} \right)$$

since in a competitive market price ( $P_c$ ) is equal to marginal cost ( $C$ ). By a simple manipulation, equation (5) can be transformed into

$$(6) \quad \frac{P_m}{P_c} = \frac{n}{n-1}$$

It is clear from equation 6 that the ratio of the monopoly price to the competitive price is an inverse function of the elasticity of demand ( $n$ ) and of  $n-1$  alone. As  $n$  approaches infinity, the monopoly price approaches equality with the competitive price.

ruptcy.<sup>3</sup> Although the wider variety of products that comes from monopoly firms may prove beneficial to the consumer, the accompanying costs increase the price that is paid.

On the other hand, monopoly costs may be lower; for example, if there are economies of scale associated with greater output by individual firms (for instance, a firm producing and distributing electric power is often subject to marked economies of scale) or if previous "excess" profits are used to finance research and development expenditures. Even when the monopolist has lower costs and this results in a better use of resources than would occur under any feasible free market structure, an optimal allocation of resources, in the  $P = MC$  sense, is not achieved. Nonetheless, if the lower costs are due to real economies such as greater technical efficiency and not to pecuniary economies such as the exploitation of productive resources from monopoly power, this moderates some of the undesirable effects that result under the assumption of the same costs. Thus, the social costs of electric power, for example, could be lower under monopoly than under competition, and it is even possible that the price to the consumer could also be lower.

A problem for enforcers of antitrust laws is to reach a balance between industrial concentration and productive efficiency. If bigness up to a certain point is necessary to attain low costs, and if bigness increases there is a danger that competition may be lessened as bigness increases, there is an obvious social dilemma. If the goal is to attain the lowest cost output, competition is excluded; if it is to realize the efficiency condition of equality between  $P$  and  $MC$ , monopoly is excluded. Happily, a number of the empirical studies that have been done suggest that the minimum efficient size in most industries is sufficiently small that this dilemma is not a serious one.<sup>4</sup> Put differently, there is considerably more industrial concentration of sellers in our society than can be justified by scale economies.

Even if monopolization results in cost savings from the elimination of duplicated services or from the economies of scale from having a single integrated and coordinated operation consisting of a single management body for the industry or from innovation, this does not necessarily mean the price to the consumer will be lower. This is illustrated in Figure 2.

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3. Alchian and Kessel, *Competition, Monopoly, and the Pursuit of Money*, in H. LEWIS, *et al.*, *ASPECTS OF LABOR ECONOMICS* 157, 160 (1962), emphasizes that management is, in the absence of monopsony in the factor market, likely to be just as alert and aggressive in monopoly as in pure competition. "[C]ompetition in the capital markets will allocate monopoly rights to those who can use them most profitably. Therefore, so long as free capital markets are available, the absence of competition in the product market does not imply a different quality of management in monopolistic as compared with competitive enterprises." *Id.* at 160. This statement must be qualified only in the case of nontransferrable assets—for example, human monopoly rights and powers such as those commanded by Raquel Welch.

4. The seminal work is J. BAIN, *BARRIERS TO NEW COMPETITION* (1956). See also Weiss, *The Survival Technique and the Extent of Suboptimal Capacity*, 72 *J. POLIT. ECON.* 246-261 (1964).

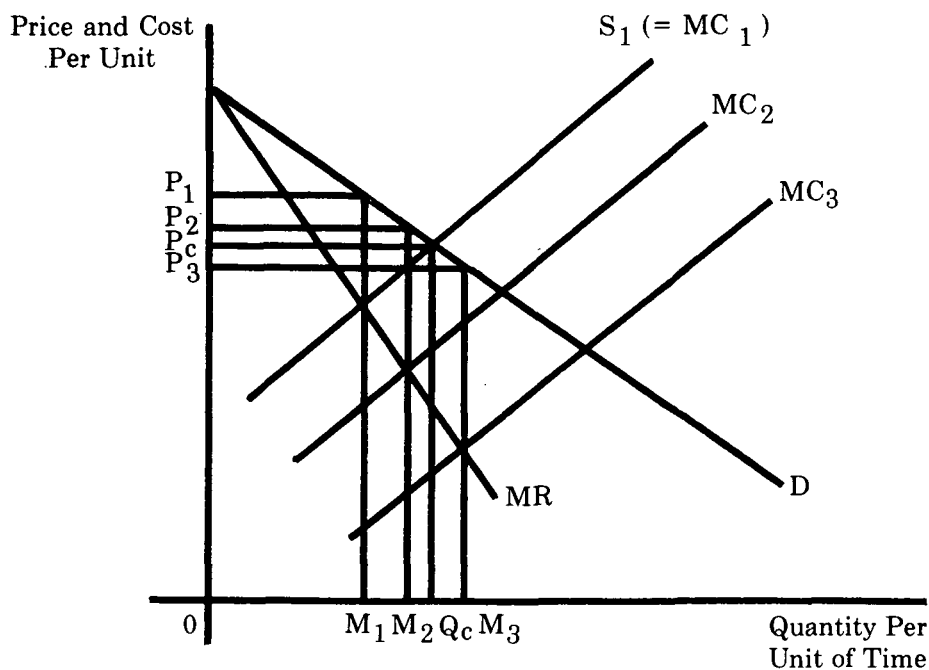


Figure 2

#### Monopolistic Performance Under Various Cost Conditions

In this diagram  $OP_c$  and  $OQ_c$  represent the competitive price and quantity, respectively, with the supply function  $S_1$  and marginal cost function  $MC_1$ . The monopolist with these costs would produce  $OM_1$  and charge a price of  $OP_1$ . Suppose, however, that monopolization or integration of the industry into a single firm or unit causes the MC curve to shift downward. If the cost curve falls from  $MC_1$  to  $MC_2$ , for example, the monopolization of the industry, even with the accompanying increase in efficiency, causes a higher price  $OP_2$  and a lower output  $OM_2$  than under competition. If, on the other hand, the economies in cost are large enough, as with  $MC_3$ , the price can be lower,  $OP_3$ , and output higher,  $OM_3$ , than under competition. In the end, whether the cost savings are large enough depends on the price elasticity of demand for the monopolized product. For instance, if the competitive price was set in the inelastic sector of the industry demand curve, the monopolist would lower the output and increase the price regardless of the size of the cost reduction. No matter how small costs are, if they are positive, the firm will always raise the price, reduce output, and thereby increase total revenue (TR) and reduce total costs (TC); thus, profits will be increased by the move out of the inelastic sector.

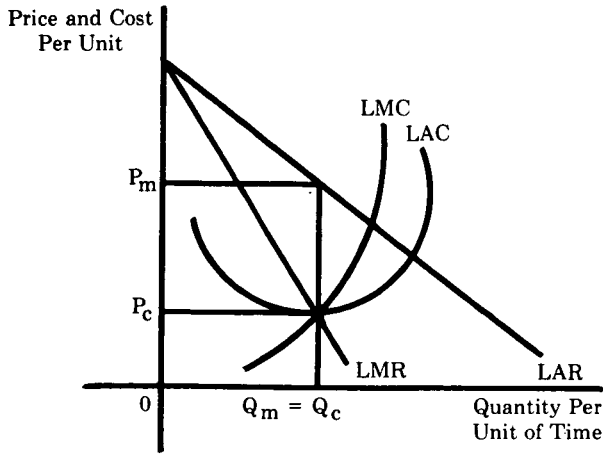
The generalization that a commodity produced under monopoly will generally be supplied at a market price which is above average cost and in a smaller quantity than under perfect competition is subject to certain modifications. One of these is the long-run equilibrium position under a monopolistically competitive model with free entry in which case price equals average cost. Another exception concerns the possible, but extremely unlikely, case where the monopolist's output is produced at the lowest average cost (AC) of production. It is not possible, however, for both of these conditions— $P=AC$  and  $P=\text{minimum AC}$ —to be realized simultaneously for a monopolist as was the case for a pure competitor. In fact, neither of these purely competitive results is achieved with monopoly markets, other than monopolistic competition, except by accident. These two cases are illustrated in Figure 3.

Under Figure 3(a) we see the *accidental circumstance* under which the monopolist's output would be produced at the technically optimum scale of plant, at which point average costs are minimized. This would occur if the firm's long-run marginal revenue (LMR) curve were to intersect the long-run average cost (LAC) curve at its lowest point. Since long-run marginal cost (LMC) equals LAC at the minimum value for LAC, when the equilibrium condition  $LMC=LMR$  is met,  $LMR=LAC$ . However, the price of the commodity,  $OP_m$ , is above the average cost or the price that a pure competitor would charge of  $OP_c$ .

Figure 3 (b) represents the second set of unusual and accidental circumstances where the pure monopolist or oligopolist produces where  $P=LAC$  just as does the perfectly and monopolistically competitive firm. The monopolist's price,  $OP_m$ , equals the average cost of production—though not the *lowest* average costs of  $OP_c$ , as would occur under pure competition. The monopolist's output of  $OQ_m$  is always less than the price competitor's output of  $OQ_c$ . In fact, generally it is expected that the monopolist's output will be less than the lowest cost output and that the price will exceed average costs, given the slope and the position of the revenue curves. That is, the "typical" monopoly result of  $P$  greater than minimum LAC is explained by the monopolist's downsloping average revenue curve, which makes tangency at the bottom of the average cost curve impossible, and by the absence of freedom of entry into the industry, which permits "excess" profits to continue indefinitely.

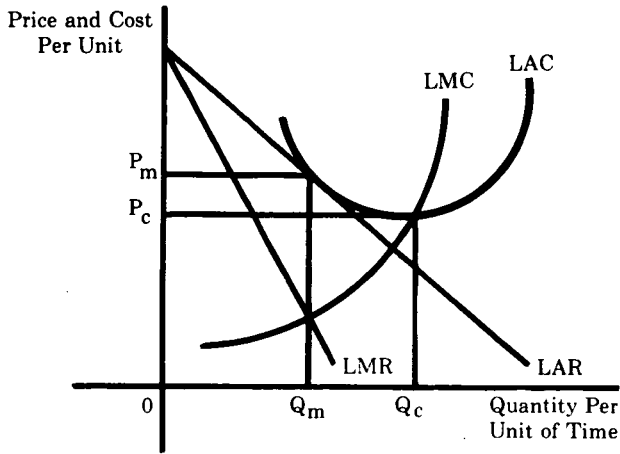
In summary, proposition B is fairly robust. It holds strictly only when costs are the same; but if the monopolist's costs are higher, the conclusion is strengthened. Even if the monopolist's costs are lower, the prices may be set higher than under pure competition.





(a)

Monopolist Operating With Technically Optimum Scale of Plant



(b)

Monopolist Operating Where Price Is Equal to Average Cost

Figure 3

Long-run Monopolistic Pricing and Production

C. *The monopolist may not maximize profits.*

There are three groups of criticisms that have been raised against the economists' traditional assumption of profit maximization:<sup>5</sup> (1) the entrepreneurs do not know or do not use the information required in the marginal analysis; (2) a realistic model of the firm cannot assume that the decision-making is done independent of the particular individuals and type of organization making up the production unit; and (3) firms do not want to maximize profits. Let us examine each of these seriatim.

1. *Firms lack information.*

This group of critics maintains that ignorance prevents firms from behaving according to theory. For instance, they argue that most businessmen have never heard of MC or MR. But this objection is spurious on two counts. First, the usefulness of a model does not depend on the realism of its assumptions in terms of describing the "real world" accurately but on its ability to predict the behavior of the individual or group under investigation. Second, the  $MC=MR$  rule is not purported to be an accurate description of how the firm goes about maximizing its profits. A manager may reach approximate profit maximization by a number of different means, such as luck, experience, hunch, or careful planning. The MC and MR concepts are just tools economists use to explain this process. To take a non-economic example, suppose a backwoods bridge player has the Q,J,10,9,8 of spades, which is the trump suit, and his partner has the A,7,6,5, and the player to the left of the backwoods bridge player has the K,4,3. Suppose the backwoods bridge player leads the Q from his hand hoping the player to his left has the K. If that player plays the K, the backwoodsman plays the A and wins that trick as well as the rest of the spade tricks. If the player holds on to the K, the backwoods bridge player lets the Q go around and he still wins the trick. He can then do the same thing with the J and so on and win the rest of the spade tricks (insomuch as his opponent's K will fall on the third round of playing spades). Suppose after the hand we congratulate the backwoodsman on his excellent "finesse"—the term used by bridge players to describe such a situation. It is entirely possible that he may have no idea what we are talking about by the term "finesse." Similarly, even though the decision-maker in the firm does not know what MC or MR is, we could describe his behavior as acting as if he were equating them and hence maximizing profits. Thus, the businessman either maximizes profits or behaves as though he does, and when profits are maximized,  $MC=MR$  must be true as a necessary consequence.<sup>6</sup> It is argued further that even if the decision-maker is in fact

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5. See R. LIPSEY & P. STEINER, *ECONOMICS* 329-337 (1966).

6. With the exception of the case in which MC and MR are not defined at the profit maximum, it can be proved that while the equality of MR and MC is neither a necessary nor a sufficient condition for a profit maximum, it is almost a necessary condition.

familiar with the concepts of MC and MR, the imperfection of the data available to him would make it virtually impossible to act as a profit maximizer. Collecting data is costly, is time consuming, and usually is done for accounting and not economic analysis.

The full-cost pricing hypothesis is perhaps the most famous of the theories that grew out of this criticism.<sup>7</sup> This theory argues that markups remain constant at some conventional level. The firm sets the price equal to full costs plus the markup, quantity being determined by the market demand at the set price.

If the firm were to base its markup on a flat-bottomed average variable cost (AVC) curve (constant AVC is a common empirical finding), the results would be identical with those found under MC pricing. However, with full—sometimes called average cost—pricing, the results are different.<sup>8</sup>

In general, most of non-profit maximization theories of the firm have not been sufficiently tested for any definite verdict to be rendered on their validity. The full-cost theory is no exception. Yet the procedures for testing are clear. Whenever the profit maximization and any of the other theories differ in their predictions of the firm's response to some economic stimuli, a test is possible. For example, a test is possible if there is an increase in demand: a rise in demand will not affect the price for a full-cost pricing firm, whereas a profit-maximizing firm would most likely increase its price. Since the entrenched theory in economics is profit maximization, it appears that it remains for the proponents of full-cost pricing to prove their case if they want to supplant the older approach.

## 2. A firm's organization is relevant.

This group of critics argues that different kinds of organizations decide issues differently.<sup>9</sup> Some of the predictions of organization theory differ from those of profit maximization theory. For example, organization

7. Alternatively, this theory can be viewed under the third group of criticisms. The literature of full-cost pricing is summarized in Gordon, *Short-Period Price Determination in Theory and Practice*, 38 AM. ECON. REV. 265-88 (1948). In addition, this theory, as well as all of the most important alternatives to the profit-maximizing theory of the firm, are found in Norquist, *The Break-Up of the Maximization Principle*, Q. REV. ECON. AND BUS. 36-46 (Fall, 1965), reprinted in D. KAMERSCHEN, READINGS IN MICROECONOMICS 278 (1969). See also Machlup, *Theories of the Firm: Marginalist, Behavioral, Managerial*, 57 AM. ECON. REV. 1-33 (1967).

8. With MC pricing, long-run equilibrium requires that  $LMC = LMR$  and, for a monopolist, that  $LMR = P(1 + 1/n) = P(n + 1)/n$  where  $n \leq -1$ . Therefore substituting we get:  $LMC = P(n + 1)/n$  or  $\frac{LMC}{(n + 1)/n} = P$  and  $P = LMC[n/(n + 1)]$ . If LAC is flat-bottomed, we know  $LAC = LMC$ , so substituting again gives  $P = LAC[n/(n + 1)]$ . If, for example,  $n = -2$ ,  $P = LAC[-2/(-2 + 1)] = 2LAC$ . Thus, if the  $n = -2, -3$ , or  $-4$  the percentage markup is 100, 50, or  $33\frac{1}{3}$  respectively. As might be expected, the higher the elasticity the more close substitutes the commodity has and hence the smaller must be the markup.

9. Probably the most publicized of the organization theories is that of R. CYERT & J. MARCH, *A BEHAVIORAL THEORY OF THE FIRM* (1963).

theory predicts a positive correlation between firm size and conservatism in the sense of avoiding large risks. But once again, in all fairness, it must be stated that the evidence supporting the newer organization theory is scanty and desultory. Rather than being wrong, it is better to regard organization theory as largely untested. Since it takes a reasonably well-tested theory to replace another reasonably well-tested theory, the older approach remains.<sup>10</sup>

### 3. *Firms do not wish to maximize profits.*

The third group of critics that argue firms do not, for various reasons, actively seek or even desire to maximize profits probably have made the most telling arguments that have been made against the traditional theory to date. Of course, the theories all recognize that some minimal level of profits is necessary for the firm to continue production indefinitely. But once that minimal goal has been attained, the firm may seek a number of other objectives.

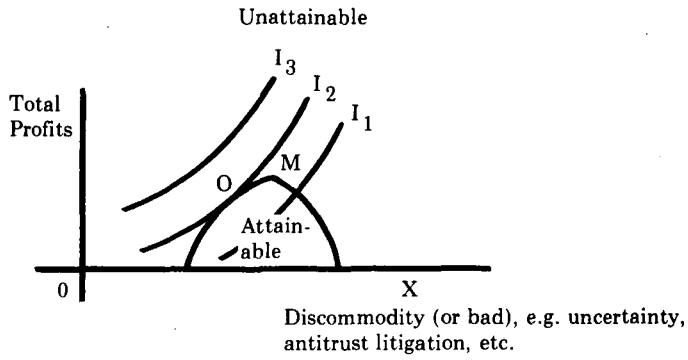
*Utility Maximization.* In place of profit maximization, it is possible to develop a more general theory of the firm—utility maximization—that recognizes nonprofit goals.<sup>11</sup> This generalization can be illustrated through indifference curve analysis developed in consumption theory. The decision-maker is assumed to act as if he were trying to maximize a multi-variate preference function, given certain restraints. The analysis involves a constrained maximization problem including many desiderata, including high profits, large and expanding sales, growing market share, favorable price-earning ratio for the stock, good liquidity position, job security, salary and stock options, good industrial relations, support of charities, acknowledged innovation leadership, leisure, and control. This utility index approach makes the theory of the firm analogous with the theory of consumer choice.

The utility maximization approach recognizes that imperfect competition may have significant nonpecuniary advantages. It is entirely possible, for instance, that monopoly makes for a calmer, less hectic life in the business world. Many feel that saving people's nerves by holding competition at arm's length may be more beneficial to society than an extra amount of goods and services "enjoyed" by the widows of heart attack victims. Certainly, many people in Great Britain—which has long tolerated and perhaps even encouraged a higher level of industrial concentration than the United States—feel this way. The utility maximization approach is illustrated in Figure 4.

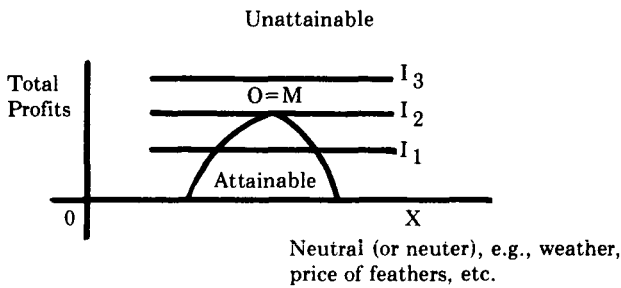
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10. Of course, if the profit-maximization theory were largely untested, it would take only another largely untested theory to replace it.

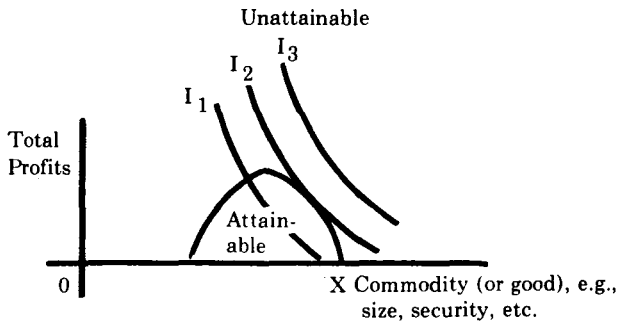
11. See, e.g., K. BOULDING, *ECONOMIC ANALYSIS* 791-92 (3rd ed. 1955). The analysis was first developed by Scitovsky, *A Note on Profit Maximization and Its Implications*, 11 *REV. ECON. STUDIES* 57-60 (1943), reprinted in G. STIGLER & K. BOULDING, *READINGS IN PRICE THEORY* 357-58 (1952). See also Encarnacion, *Constraints and the Firm's Utility Function*, *REV. ECON. STUDIES* 113-20 (April, 1964).



(a)  
Profits and a Bad



(b)  
Profits and a Neutral



(c)  
Profits and a Good

**Figure 4**  
**Utility Maximization in the Firm**

Three different possibilities are portrayed in Figure 4. While the vertical axis in each case measures profits, the variable measured on the horizontal axis is different. The profits curve depicted in each graph is a function relating profits to the quantity of X. In each case the maximum attainable profit is labelled M.

An indifference curve shows all the combinations of the two variables, measured on the axes, among which an economic entity—consumer, firm, or resource-owner, for example—is indifferent. Along a *given* indifference curve an entity is as well off at one point as another; however an entity *always* prefers to be on a higher indifference curve, where “higher” means rightward and outward.

In Figure 4(a) the indifference curves slope upward because X is a discommodity. Since X is an undesirable item, such as uncertainty, antitrust legislation, unfavorable labor relations, or a bad public reputation, the firm must be compensated by an increase in profits in order to absorb more of it. The optimal position, O, is therefore less than the maximum profit-position. Thus, the firm is willing to sacrifice some amount of profits to avoid the undesirable item.

In Figure 4(b) X is neutral; it has a zero marginal utility to the firm. It is only in this case that the maximal profit point, M, coincides with the maximal utility point, O.

In Figure 4(c) X is a commodity of which more is preferred to less, thus forcing the firm to decide on an appropriate “trade-off” between profits and X. The fact that the optimal point, O, is to the right of maximum profits point, M, means the firm is willing to dissipate some amount of profits to obtain more of X. Commodity X in this case could be something like size—measured in sales, assets, or employment—or security, favorable public relations, plush offices, thick carpets, or pretty secretaries.

The various theories of the firm may be complementary rather than competing. If the firm has a number of important motives or priorities, a theory such as profit maximization that emphasizes only one eventually may be found inconsistent with the empirical evidence. So far, however, no complex theory of the firm that can handle all or even a significant number of the motivating influences has been devised. Put differently, the utility-index theory is so general and flexible that no meaningful and testable hypotheses have come out of it. In addition, the organization theorists would question the notion of a well-ordered set of preferences for the large and complex firms of today. Therefore, it is still useful to examine the monistic theories.

*Satisficing.* Professor Herbert Simon has developed a theory that emphasizes that monopolists may be lax and prefer not to exert all the effort necessary to obtain the absolute maximum profits.<sup>12</sup> They may prefer the

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12. Simon, *Theories of Decision-Making in Economics*, 39 AM. ECON. REV. 253 (1949).

quiet life and be happy satisficing—achieving a certain minimum level of profits, share of the market, or level of sales. Once the minimal rate of profit is achieved, any number of outcomes are possible. There is no unique equilibrium point as with the profit-maximizing model.

To become useful, the theory has to be testable; this requires a more careful specification of these minimum levels than has been attempted heretofore. The casual empiricism utilized by most proponents of this approach is not convincing. For instance, it is argued that automobile manufacturers immediately after World War II were satisfied with their high profits and charged prices for new cars that were lower than those on used cars. However, the behavior of automobile manufacturers could be explained in a number of other ways utilizing other theories: fear of attracting competitors, fear of public criticism, or long-run profit maximization, for example.

*Target Pricing.* Quite similar to the satisficing theory is the target pricing theory associated with a study by Robert F. Lanzillotti.<sup>13</sup> While no single hypothesis was found applicable to all 20 large firms examined, long-run goals seemed more important than short-run considerations. Although the pricing goals included such things as maintenance of a fixed share, the theory of pricing according to a fixed or target return on its investment was particularly stressed. Lanzillotti readily admitted the need for more definitive empirical research before the target theory could be considered more than an interesting speculation. Such research has heretofore not been forthcoming.

*Constrained Sales Revenue Maximization.* Of all the newer theories of the firm perhaps the most interesting—at least insofar as it contains implications or predictions clearly different from that of profit maximization theory and hence testable—is William J. Baumol's constrained sales maximization (CSM) model.<sup>14</sup> This thesis rests on the separation of ownership and management in large firms. Baumol claims that all the managers in certain monopolistic markets need to do is earn some minimum level of profits to keep the stockholders satisfied; after that other goals may be pursued.<sup>15</sup> While no precise, unambiguous definition of the minimum ac-

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13. Lanzillotti, *Pricing Objectives in Large Companies*, AM. ECON. REV. 921-940 (1958). See also A. KAPLAN, *et al.*, PRICING IN BIG BUSINESS: A CASE APPROACH (1958). J. BLAIR, ECONOMIC CONCENTRATION 467-497 (1972) attempts some crude testing of the target pricing thesis. For a criticism of target pricing see Kamerschen, *The Return of Target Pricing?*, J. BUS. U. CHI. 242-252 (Sept., 1974).

14. The latest version of this theory is contained in W. BAUMOL, BUSINESS BEHAVIOR, VALUE AND GROWTH (Rev. 1967). In this edition his model includes the rate of growth of sales as the dominant motive. Since the other version of his theory has received considerably more attention, this article deals only with it.

15. The Baumol thesis applies only to non-collusive, explicitly independent, imperfectly competitive firms, including all pure monopolies and monopolistic competitors (in the short-run) and to minor firms in oligopoly.

ceptable profit is offered by Baumol, it is clear that it would not be the same in all firms or in all industries or in all phases of the business cycle. The theoretical presentation of his model requires only that this minimum level be less than maximal profits. While it is true that sales maximization is sometimes consistent with long-run profit maximization—declining sales may mean more difficulty in bank financing, a loss of distributors and dealers, greater difficulty in attracting and retaining key personnel, etc.—Baumol's thesis argues that firms view dollar sales as an end in itself. Since salary, power and prestige all vary directly with the size of the firm as well as with profits, the manager prefers a large, normally profitable company to a small, highly profitable operation. Some of the empirical evidence supports Baumol's thesis; for example, it has been demonstrated that sales are more important than profits in determining executive salaries.<sup>16</sup> Baumol's CSM thesis is graphically depicted in Figure 5.

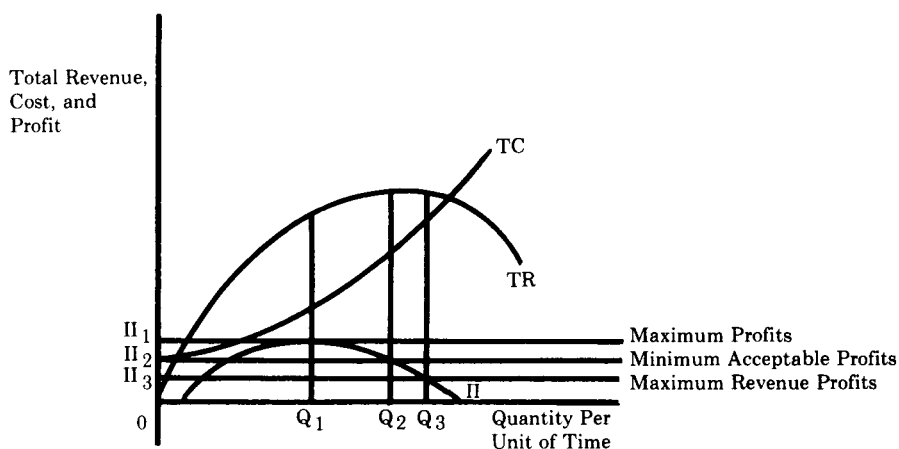


Figure 5

A Comparison of Constrained Sales Maximization  
With Unconstrained Profit Maximization

16. D. ROBERTS, EXECUTIVE COMPENSATION (1959) and McGuire, *et al.*, *Executive Incomes, Sales and Profits*, 52 AM. ECON. REV. 753-761 (1962). On the other hand, Pardridge, *Sales or Profit Maximization in Management Capitalism*, W. ECON. J., 134-141 (1964), found no systematic difference between the profit-sales ratios in management controlled and closely held companies, which is not consistent with the CSM thesis. Unfortunately almost all of the empirical studies which have been done to date are marred by the statistical problems, *e.g.*, multicollinearity.



The vertical axis shows TR, TC and profit ( $\pi$ ), and the horizontal axis shows physical output. The curve labeled  $\pi$  is the profit function. If the firm were a strict profit maximizer, it would produce and sell an output of  $OQ_1$ , earning  $O\pi_1$  profits. On the other hand, if the firm had no minimum profit constraint or if the constraint were not binding (*i.e.*,  $O\pi_2 < O\pi_3$ ), it would maximize its TR by producing at  $OQ_3$ , earning a profit of  $O\pi_3$ . However, in the more interesting and no doubt more empirically relevant case, where the profit restraint is binding, the CSM firm would sell  $OQ_2$ , the highest level of production and sales consistent with earning the minimum acceptable profit of  $O\pi_2$ .<sup>17</sup> In short, the CSM firm always sells more than the profit-maximizing level of output. It also differs from the full-cost pricing models, since the decision-maker is assumed to make marginal and not rule-of-thumb decisions. Finally, it also differs from most theories of oligopoly, which assume that mutual interdependence of prices is crucial.

CSM is an interesting alternative theory of the firm because it has implications different from the profit maximizing model and hence is testable. For instance: (1) An increase (decrease) in fixed costs—resulting, for example, from a lump sum or profit tax—would cause a CSM firm to decrease (increase) output, whereas a profit maximizer's output would in general be unaffected. A rise in fixed costs reduces profit and causes the minimal profit line to cut the  $\pi$  curve at a smaller optimum output and implies a higher price. (2) Sales costs (including advertising expenditures) or non-price competition outlays in general would be greater for the CSM firm since they have the effect of enlarging sales. (3) MR for the CSM firms is generally less than MC and price may be below MC if demand is sufficiently elastic. (4) The optimal output and optimal price for a CSM firm is closer to the socially desirable rate of production than is that of a profit-maximizing monopolist.<sup>18</sup>

Perhaps the most damaging criticism of the CSM theory to date has been on a theoretical level by Rosenberg.<sup>19</sup> This is illustrated in Figure 6, which postulates that the CSM model implies that the firm orders the various outcomes in a lexicographic manner.

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17. Although, for simplicity, we have made no distinction here, it can make a difference whether the firm is a constrained sales maximizer or a constrained output maximizer. See Kafoglis, *Output of the Restrained Firm*, 59 AM. ECON. REV., 583-589 (1969).

18. In fact, both constrained revenue and constrained output maximizers will have lower prices and larger outputs than profit-maximizing firms. Although the output of the former will be smaller than (the same as) that of the latter if  $n < 1$  ( $n > 1$ ) in the range of the constraint. However, both the constrained revenue and the constrained output maximizers can attain nonPareto optimal prices and output whether costs are constant, decreasing, or increasing. See Kafoglis, *supra* note 17.

19. Rosenberg, *Profit Constrained Revenue Maximization: Note*, 61 AM. ECON. REV. 208-209 (1971).

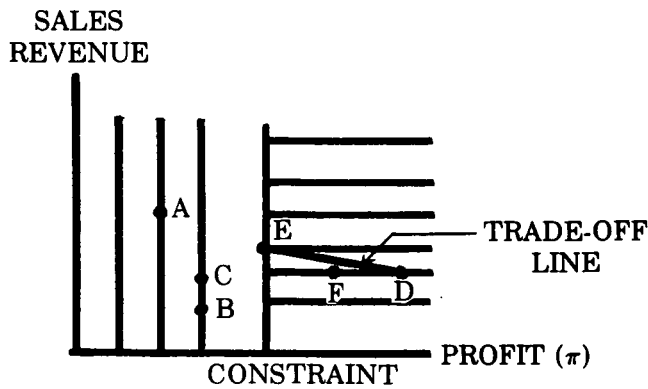


Figure 6

### A Lexicographic Interpretation of Constrained Sales Maximization

Each of the lines is a behavior line, showing combinations of profits and sales revenue, rather than an indifference curve. CSM would imply the following ordering: Letting  $\pi_A$  and  $\pi_C$  stand for the actual and constrained profits, respectively, SR for the sales revenues, and P for a preferred relationship,

(1) for any two outcomes, both of which have profits below the constraint (*i.e.*,  $\pi_A < \pi_C$ ), (a) the one with the larger profit is preferred regardless of the levels of SR (thus BPA in Figure 6); (b) and if the level of profits are the same for both outcomes, the one with the larger SR is preferred (thus CPB in Figure 6).

(2) for any two outcomes, both of which have profits equal to or greater than the constraint (*i.e.*,  $\pi_A \geq \pi_C$ ), (a) the one with the greater SR is preferred (thus EPD in Figure 6); (b) and if the level of SR is the same, the outcome with the larger profit is preferred (thus DPF in Figure 6).

There is a tradeoff line, DE, which indicates that when  $\pi_A \geq \pi_C$  the firm *can* convert a dollar of profit into additional SR through promotional activities. Moreover, it will always do so, no matter how small the increase in SR relative to the decline in profit—until it reaches point D, where the profit restraint ( $\pi_C$ ) is binding.

This means that the marginal rate of substitution of SR for profit is infinite if  $\pi_A > \pi_C$  or zero if  $\pi_A < \pi_C$ . Rosenberg concludes:

While such an ordering is conceptually possible, there does not seem to be any economic rationale for supposing that such a strong and unstable preference pattern should exist. While it may prove fruitful to postulate that firms are not motivated solely by the desire for greater profits, the

constrained maximization approach is not a satisfactory method for embodying this notion.<sup>20</sup>

The CSM theory has probably had more empirical testing than any of the other non-profit maximizing theories of the firm. Yet more careful work is needed, for the evidence is not conclusive.<sup>21</sup> Perhaps it never will be, if Rosenberg is right.

*Long-Run Profit Maximization.* It is possible that many of the conundrums that have puzzled critics of profit-maximization may be resolved by arguing that firms maximize profits not day-to-day but over the long-run. For instance, the reluctance of some firms to raise prices and hence profits during short-run periods of excess demand may stem from their desire to maximize long-run profits. This may entail restraining short-run profits, so that, among other things, rivals will not be attracted into the industry or public criticism, including antitrust action, will not be aroused.

The difficulty with this approach is that it is tempting to make it tautological and consistent with any sort of behavior. Any time one finds a firm not maximizing profits for some time period, it can be argued that the relevant time span is some other, longer time period. Until the theory is able to provide a concrete and testable definition of "long-run profits," it will not be a very useful approach. The most promising approach is to postulate the objective function of the firm to be the maximization of the value of the ownership of the firm; thus, the time frame is infinity.

*Separation of Ownership and Control.* The cynosure of the non-profit maximization theories of the firm concern the fact that in today's corporate world there is a separation of ownership and control. The managers or decision-makers in the firm are not generally the owners. Control is in the hands of professional managers. While in rare instances stockholders can force out the managers by vote and perhaps even bring suit against them, stockholders generally can discipline managers only by their decision to invest or not to invest in a firm. If the aggregate decision is negative, the price of the stock will fall. The fact that ownership is divorced from control would not change anything if the desiderata of owners and managers were identical. It is claimed by some that the managers pursue goals that are not consistent with the profit maximization calculus. However, the empirical evidence that has been accumulated on the performance—particularly with respect to profits and dividends—of owner-controlled versus manager-controlled firms over the last few years has not provided conclusive support for this allegation.<sup>22</sup> For instance, some stud-

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20. *Id.* at 209.

21. For example, the two most statistically sophisticated studies of which I am aware reach opposite conclusions: Hall & Weiss, *Firm Size and Profitability*, 49 REV. ECON. STAT. 319-331 (1967), supports in part the CSM thesis; Hall, *Sales Revenue Maximization: An Empirical Investigation*, J. INDUSTRIAL ECON. 143-156 (Apr., 1967), does not.

22. The studies are surveyed in Kamerschen, *Further Thoughts on Separation of Owner-*

ies have found that the type of control—owner or manager—was not a statistically significant variable in the determination of profit rates among the larger firms in the U.S. economy.<sup>23</sup>

*Some Additional Theories of the Firm.* While the above alternative theories of the firm cover most of the more prominent hypotheses, there are others. Some are merely variants of the profit maximizing theory, and others are more hostile to the traditional approach. For instance, one writer stresses that profit maximization takes different forms, depending on who really runs the company: a management-controlled firm tries to maximize retained earnings, whereas the stockholder-controlled firm tries to maximize dividends.<sup>24</sup> Others<sup>25</sup> recognize that other features of the probability distribution of profits besides the mathematical expectation—such as dispersion, kurtosis, skewness—are important. Still others, such as K. W. Rothchild,<sup>26</sup> emphasize the firm's desire for security or secure profits.

Other writers drop the notion of profit maximization altogether. Boulding, for example, advocates a "balance-sheet homeostasis" theory of the firm in which management attempts to maintain some desired set of accounting ratios.<sup>27</sup> Finally, there are the "managerial discretion" theories of oligopoly; Williamson, Alchian and Kessel, for example, emphasize management expense preferences and emoluments, especially staff expenditures of various sorts.<sup>28</sup>

In peroration, despite the attractiveness of some of the non-profit maximization theories, the assumption of profit maximization or more generally maximization of the present value of the firm is taken valid in this article.<sup>29</sup>

*ship and Control*, RIVISTIA INTERNAZIONALE DI SCIENZE ECONOMICHE E COMMERCIALI 179-183 (Feb., 1973).

23. See, e.g., Kamerschen, *The Influence of Ownership and Control on Profit Rates*, 58 AM. ECON. REV. 432-447 (1968) and *Correction*, *Id.* at 1376; and *A Theory of Conglomerate Mergers: Comment*, in 84 Q. J. ECON. 608-674 (1970).

24. Wilson, *Maximization and Business Behavior*, ECON. REC. 29-39 (May, 1952).

25. See, e.g., Tintner, *The Theory of Production Under Non-Static Conditions*, J. POL. ECON. 646-667 (Oct., 1942).

26. Rothschild, *Price Theory and Oligopoly*, ECON. J. 299-320 (1947), reprinted in READINGS IN PRICE THEORY, *supra* note 11, at 440-464.

27. K. BOULDING, *A RECONSTRUCTION OF ECONOMICS* 26-29 (1950).

28. See generally, O. WILLIAMSON, *CORPORATE CONTROL AND BUSINESS BEHAVIOR* (1970). See his extensive bibliography at 182-190 for further citations on many of the non-profit maximization theories.

29. The present value of the firm is the discounted value of its future income stream. One needs to know the interest rate in order to evaluate these streams. For instance, a three-year profit stream returning \$100, \$200 and \$50 has a discounted value that is larger, smaller, or equal to one of \$100, \$50 and \$220, depending on the interest rate. The first profit stream is more valuable at higher interest rates, e.g., of 15, 20 and 25 percent; the second stream at low interest rates, e.g., 1, 5 and 10 percent, and they have the same present value at an interest rate of 13.3 percent.

No economist would deny that all entrepreneurs are subject also to other desires that may conflict with profit maximization, nor even that some of these other forces may be widespread and important. Rather, the position is that profit maximization is the strongest, the most universal, and the most persistent of the forces governing entrepreneurial behavior. This is a judgment based upon wide observation of entrepreneurs under innumerable sets of conditions: of the need for profit incentives to obtain maximum output even in war; of the enormous risks and the monotonous toil that are incurred because of the prospects of profits; and especially, from the success of predictions based on this assumption . . . . If, for example, an undefined and unmeasured "sense of fairness" is put into the theory of the firm, we can no longer predict anything the firm will do. With a rise in wage rates, for example, the firm may restrict output at the ruling price to maximize profits, or it may leave output unchanged to avoid discharging workers, or it may increase output because buyers suffer even more from the wage increase. There is no objection in principle to these alternative goals, but in their presently underdeveloped state they are seldom useful in general analysis. And I would support the controversial position that persistent patterns of entrepreneurial behavior can usually be explained on profit maximizing grounds.<sup>30</sup>

Perhaps the best "proof" that profits are still the cynosure of the modern corporation is the statement by Alfred Sloan, former head of General Motors—a firm often cited as the example par excellence of a business entity vitally concerned with things other than profits: "The fundamental concern of a business is to earn a return on its capital."<sup>31</sup> Thus, throughout this article we use profit as the maximum or objective function.

*D. "Excess" profits may be earned under monopoly even in the long run.*

Profits over and above the amount required to induce firms to stay in business are eliminated in the long run under competition through the entry of new firms into any industries enjoying "excess" profits. But under monopoly, entry is restricted and thus the competitive mechanism for eliminating profits is weak or non-existent. However, such returns would be capitalized, and the rate of return on the value of the monopoly position would be just equivalent to the rates available in other alternatives.

*E. There is more nonprice competition: vying for sales by changing promotional outlays and product quality.<sup>32</sup>*

There are channels other than price through which the winds of competition can blow: advertising, credit, service, etc. This configuration of chan-

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30. G. STIGLER, *THEORY OF PRICE* 149 (1952). He hastens to add, however, that the broad tautological definition of profits which includes every conceivable motive is not useful.

31. A. SLOAN, *MY YEARS WITH GENERAL MOTORS* 61 (1964).

32. This and other sections of this article draw heavily on Kamerschen, *Recurrent Objections to the Theory of Imperfect Competition*, *ZEITSCHRIFT FÜR DIE GESAMTE STAATSWISSENSCHAFT* 688 (Oct., 1969), which in part is a review article of G. Stigler's omnibus *THE ORGANIZATION OF INDUSTRY* (1968).

nels, in their aggregate, constitutes what is called nonprice competition. The reason nonprice competition is emphasized in monopoly is that: (a) advertising and quality variations are harder for rivals to match and less likely to get out of hand than price changes; and (b) only monopolists have the financial resources necessary to support large-scale advertising and product development. The majority of American industries seem to be more independent (and less collusive) in their products than in their price policies. Nonprice competition is not necessarily inferior to or less efficient than price competition. Whether price or nonprice competition is more effective rests upon empirical judgment. It is the rather common belief that price competition is more efficient than nonprice competition; that belief rests upon the plausible assumption that marginal production costs rise less rapidly than marginal nonproduction costs, where the latter includes outlays on advertising, product differentiation, and other nonprice variables.

In some cases, product or service standardization is impossible. This is especially true for service industries. Convenience of location is a built-in mark of differentiation for establishments in the retail drug, food, gasoline, laundry, and many other lines. Homogeneity would require the same location for all establishments in a given industry. Differences in ability, personality, and training cannot be eliminated, either. In other cases, the extra benefits from differentiation exceed the extra costs. So whenever homogeneity, and hence pure competition, is not feasible because of the impossibility of commodity standardization—or where, even if standardization were possible, the extra advantages of differentiation exceed the extra costs involved—commodity differentiation, and hence monopoly, is called for in order to obtain the ideal resource use. However, in other cases the benefits of product variety are thought to be considerably less. In fact, in some cases the presumed production differentiation is considered trivial. The phenomenon of frequently changing superficial features of a product in order to maintain sales is called “planned obsolescence.” Whatever the merits of variety of choice, this differentiation is provided at a cost that ultimately must be borne by the consumer. The strict rule of alternative cost—or more popularly the “there is no such thing as a free lunch” principle—tells us this. If the consumer knows these costs, has alternative sources of supply for substitute products, and is freely willing to pay these costs, there is no economic principle that states that this is irrational.

Since selling costs are important, especially in an oligopoly, a few words regarding their counterpart, product variation, are appropriate. Product variation has to do with the effect of noncompetitive firms to change their product within the existing technological horizon and existing consumer's tastes and preferences. The changes in quality that occur over time as a result of technological innovations are not product variation.

Of course, changes in the quality of the product are “improvements” only in the sense that consumers will pay more for the same quantity of it

or buy more at the same price. It need not be an improvement in a functional or objective sense. If a new mauve and chartreuse striped package for an old breakfast cereal helps boost sales, this is considered a product "improvement" in the economic sense.

The general principle regulating the quality of the product produced is not difficult, although it is somewhat awkward to show in a diagram. The firm selects the quality yielding the highest profit. This is illustrated in Figure 7.

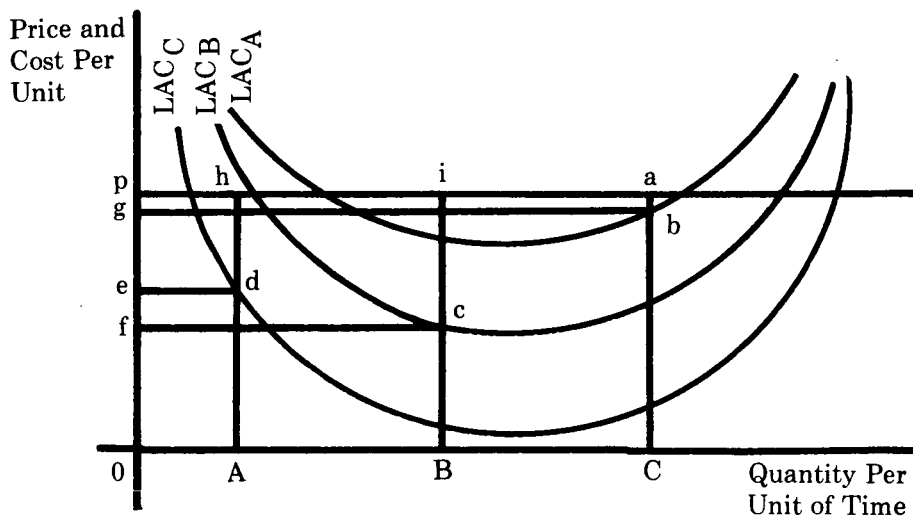


Figure 7

#### Optimal Product Variation

Although the level of output for each of the three possible levels of product quality, A, B and C, has to be drawn in arbitrarily, the diagram is still useful in showing something of the firm's decision process when product quality is the variable. The horizontal line extending from p, the customary price prevailing in the recent past and expected to continue for sometime, is not a demand curve, but merely a helping line to locate profits. A monopolist's demand curve is, of course, downward sloping. The long-run average cost curve for variable A is labeled  $LAC_A$ , for variable B is labeled  $LAC_B$ , and for variable C is labeled  $LAC_C$ . If quality A is produced, sales are OA, and the profit is equal to the area of the rectangle phde. If instead quality B is chosen, output is OB and profits are equal to the area of the rectangle picf. Finally, if variety C is selected, production is at OC and profits are equal to the area of the rectangle pahg. Clearly, quality B should be selected.

It is interesting that the monopolist is sometimes charged with excessive product heterogeneity and at other times with a notable lack of the same. Since the former is taken up above, the latter merits discussion. The picture of a monopolist as a sadist creature who can profitably delight in disregarding consumers' desires has often made fugitive appearances in the literature. While an economist is in no position to judge the psychological aspects of this assertion, the economic implications can be challenged as absurd. Any monopolist who chooses not to cater to the diversities of his buyers' wishes will generally suffer a significant decline in his profits.<sup>33</sup> Any psychic income a neurotic monopolist might receive from providing his customers with suits of one size or one color when their desires run counter to this will have to be weighed against the almost sure loss of money income and profits he will suffer as a result of this action.

*F. Monopoly may reduce the macroeconomic flexibility and stability of the economy.*<sup>34</sup>

Changes in consumer tastes, changes in income, changes in technology all require readjustments in the economy. In a fully competitive market, adjustment to changes in aggregate demand or supply is effected primarily through change prices. But under monopoly, prices tend to become rigid and inflexible in a downward direction, with the result that adjustment to changes often occurs in output and employment rather than through relative prices.

Suppose, for example, that aggregate demand for a commodity falls. Regardless of the market structure, output in most industries will decline.<sup>35</sup> But the *degree* of output responses is likely to be greater if the market is monopolistic. In a purely competitive industry, as demand decreases, price responds in the same direction, thereby moderating the decline in the quantity of the good purchased. In a monopolistic industry, to the extent that price is rigid as demand declines, the full impact of the decline in demand is absorbed by the contraction of output. Furthermore, this price rigidity in a downward direction promotes the accumulation of inflationary pressures. During prosperous times, inflation results when total spending continues to increase even though the current limit of the economy's productive capacity has been reached and production cannot increase. The monopolistic prices are allowed to rise, for they are generally much less rigid in an upward direction. When deflation or a lowering of the general price level occurs, however, the monopolistic prices tend to fall more slowly than the general price level.

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33. A formal proof is provided in G. STIGLER, *THE ORGANIZATION OF INDUSTRY*, Appendix to ch. 5.

34. A considerably more systematic theoretical and empirical exposition and survey of this hypothesis is contained in F. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE*, 284-303 (1970) [hereinafter cited as SCHERER].

35. The exceptional cases are noted in economic effect number G discussed below.



This argument, which was attended by much sound and fury in the 1930's and 1940's, is called the administered price inflation thesis. While it is difficult to reach confident generalizations concerning this thesis, it does have its supporters.<sup>36</sup> But there are reasons for questioning the administered price hypothesis which argues that as an economy becomes more concentrated there will be an inflation of prices relative to competitive conditions (assuming a constant stock of money). The empirical evidence is ambiguous with regard to whether concentration has been, in fact, increasing in the U.S. economy, the claims of the much popular literature to the contrary notwithstanding.<sup>37</sup> The evidence on the alleged association between concentration of production and the amplitude of price increases is also scanty and desultory.<sup>38</sup> Finally, even if competition was more flexible in terms of price changes, it could be argued that it is possible to have too much of a good thing. Who wants to live in an economy where the slightest change in demand or supply produces hair-trigger changes in prices?

The alleged rigidity of monopolistic prices is also reputed to have pernicious effects on the macroeconomic stability of an economy, including aggregate employment, aggregate consumption, and aggregate investment. In its crudest form this argument is specious. The most common fallacy is to argue that a sine qua non of monopoly is that it causes macroeconomic unemployment because it restricts output. The fallacy is in the implicit assumption that the freed resources are unemployed. It is entirely possible that through the intelligent application of monetary and fiscal policy correctives an economy could have full employment even if the entire economy was monopolistic. Aggregate unemployment need not result from the restriction of output and employment by individual monopolists. The empirical evidence leads to a scotch verdict in that there is no significant evidence that concentration has a systematic impact on the cyclical behavior of employment stability.<sup>39</sup>

Monopoly can lead to depression and unemployment where it has an undesirable impact on aggregate consumption. This could happen for two

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36. Our entire discussion of macroeconomic stability follows the cogent comments of SCHERER, *supra* note 34, at 304-323.

37. The conventional wisdom is that concentration on monopoly has been increasing inexorably in our economy since World War II. The careful studies that have been done are in conflict as to whether there has been a modest upturn, modest downturn, or constancy, but not as to the fact that the pace has been slow, not unlike a "glacial drift." The accumulated empirical evidence is surveyed in Kamerschen, *Market Growth and Industry Concentration*, 63 J. AM. STAT. ASSOC. 228-241 (1968), and *Changes in Concentration in American Manufacturing Industries*, ZEITSCHRIFT FÜR DIE GESAMTE STAATSWISSENSCHAFT 621-639 (1971).

38. See, e.g., Selden & Podwin, *Business Pricing Policies and Inflation*, 71 J. POL. ECON. 116, who found no relationship between concentration and price movements in the 1950's in the U.S. economy.

39. SCHERER, *supra* note 34, at 309-314.

reasons. First, the downward rigidity of monopolistic prices can thwart the successful operation of the Pigou (real balance, wealth, or net claims) effect. Under the Pigou effect, it is argued, if prices are rigid downward in a recession, the real purchasing power of consumers' cash balances and other net fixed claims to future cash payments is enhanced, and therefore the now-wealthier consumers will consume more, pushing up aggregate demand, and staunching the recession. Whatever its analytical appeals, the empirical evidence indicates the Pigou effect, within any likely price variations, is not a very powerful instrument for promoting prosperity.<sup>40</sup>

It is also conceivable that the monopolistic price rigidity could have a deleterious effect on aggregate consumption through the redistribution of income. To the extent that profits, and therefore dividends to shareholders and management compensation, tend to fall less in monopolistic industries during a recession, aggregate consumption may be adversely affected as stockholders and top management as a group are wealthier and have lower marginal propensities to consume than the average consumer.<sup>41</sup> If the profits are retained rather than distributed, this too will tend to enhance (diminish) aggregate savings (consumption) unless matched by a concomitant increase in investment. On balance, the redistribution effects of monopolistic price rigidity appear to be "distinctly unfavorable" and the total impact of this rigidity is "almost certainly detrimental."<sup>42</sup>

Price rigidity can have both favorable and unfavorable effects on investment. It can be unfavorable in that it encourages greater excess capacity and places obstacles in the way of investment in different industries, and it can be favorable through its effects on the marginal cost of capital and on the expectations contained in the firm's marginal efficiency of investment schedule. In terms of stability of investment, the evidence suggests that the net effect of monopoly is "unfavorable, but only moderately so."<sup>43</sup>

Bringing together all the pieces of the aggregate demand analysis, Frederic M. Scherer, a leading student of industrial organization, gives us his balanced assessment:

[W]e conclude that price rigidity due to oligopoly or monopoly is almost certainly detrimental to aggregate consumption through its Pigou and income distribution effects, possibly detrimental to aggregate investment

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40. D. PATINKIN, MONEY, INTEREST, AND PRICES, (1965), Appendix M, *Empirical Investigations of the Real Balance Effect*, at 651-684. For a more sophisticated treatment see Kmenta & Smith, *Autonomous Expenditures Versus Money Supply: An Application of Dynamic Multipliers*, 55 REV. ECON. & STAT. 299 (1973).

41. Lampman, *Taxation and the Size Distribution of Income*, TAX REVISION COMPENDIUM (1959), estimated that the wealthiest one percent of all individuals in the United States own more than seventy-five percent of all individually held corporate bonds and stocks.

42. SCHERER, *supra* note 34, at 309, 317.

43. *Id.* at 322. In contrast, Boulding, *In Defense of Monopoly*, in 60 Q. J. ECON. 524 (1945), feels that because monopolists are surer of their markets and subject to less uncertainty they might maintain a more stable rate of investment over time.

by compounding excess capacity problems, even though it operates favorably on the marginal cost of capital, and almost surely beneficial to aggregate investment in its expectational effects. *My personal opinion is that moderate price rigidity is more likely to have a stabilizing than a destabilizing influence on the economy.* Still for the most part the advantages and disadvantages seem to offset one another, so that on balance it may make little difference whether prices are rigid or flexible within the range of variation encountered in ordinary experience.<sup>44</sup>

*G. It is not possible to predict the response of a monopolist's quantity and price to an increase (decrease) in demand, except that both cannot fall (rise).*

Because a monopolist does not have a supply curve in the conventional sense, the conclusions drawn with respect to a shift in demand for a pure competitor do not necessarily hold for a monopolist. Take the case of an increase in demand for "Ex-head-on"—a fictitious combination headache remedy, mouthwash and deodorant—in response to, say, an enhanced taste for it. The normal short-run response in pure competition and the most likely response in monopoly is for price and quantity to increase. Even in the long-run with constant or decreasing cost industries, quantity will rise, although price may not. For a monopolist only the very weak or trivial prediction can be made that both price and quantity cannot fall as demand increases. From the very definition of an increase in demand, it is impossible for both the new price and the new quantity to be lower than the old price and quantity. In short, on logical considerations when demand shifts, we can predict virtually nothing under monopoly. As an empirical matter, it is perhaps not unreasonable to argue that in a large number of cases the general direction of the monopolist's reaction in price and quantity will be not dissimilar to the pure competitor's. But, for the moment, we are interested in the analytical and not the empirical arguments.

There are two general cases when a monopolist may lower his price in response to an increase in demand: (1) if the MC curve is falling; (2) if the elasticity of demand ( $n$ ) changes—more particularly if it decreases sufficiently. Either can occur regardless of what is happening to  $n$  (MC). The first case of falling MC and rising demand is illustrated in Figure 8.

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44. SCHERER, *supra* note 34, at 317-318 (emphasis supplied).

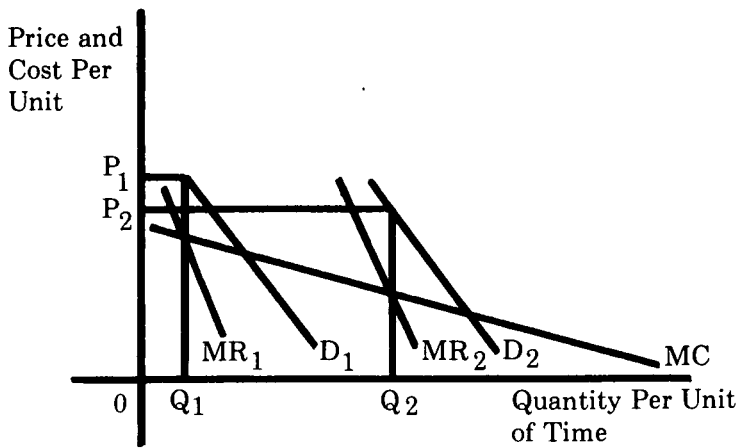


Figure 8

An Increase in Monopoly Demand Leading to  
A Fall in Price Because of Falling Marginal Costs

The new higher demand  $D_2$  is associated with a lower price ( $P_2$ ) and higher quantity ( $Q_2$ ) than the old, lower demand ( $D_1$ ), which was associated with a price of  $P_1$  and a quantity of  $Q_1$ . Of course, the profit maximizing monopolist does not care if the price declines as long as profits are larger. The situation in which rising demand leads to a fall in price because of a shift in elasticity may be illustrated both numerically and graphically.<sup>45</sup>

45. For simplicity, assume constant returns with  $MC=AC$ . The formula  $MR=P(1-1/\eta)$  may be used. If the elasticity at the old demand is  $\eta_1=2$  and the elasticity at the new demand is  $\eta_2=4$ , then  $MR_1=\frac{1}{2}P_1$  and  $MR_2=\frac{3}{4}P_2$ . In equilibrium,  $MR_1$  must be equal to  $MR_2$  since both are equal to the common constant  $MC$ . (This is, by assumption  $MC_1=MC_2=\dots=MC_n$  and to maximize profits  $MR_1=MC_1$ ,  $MR_2=MC_2$  and hence  $MR_1=MR_2$ .) Solving the above  $MR$  formula in each case yields  $MR_1=\frac{1}{2}P_1$  and  $MR_2=\frac{3}{4}P_2$ ,  $P_2=(3P_1)/4$  and therefore  $P_1/P_2=6/4=3/2=150/100$ . In short, the new price is 33 1/3% lower than the original price, despite the increase in demand.

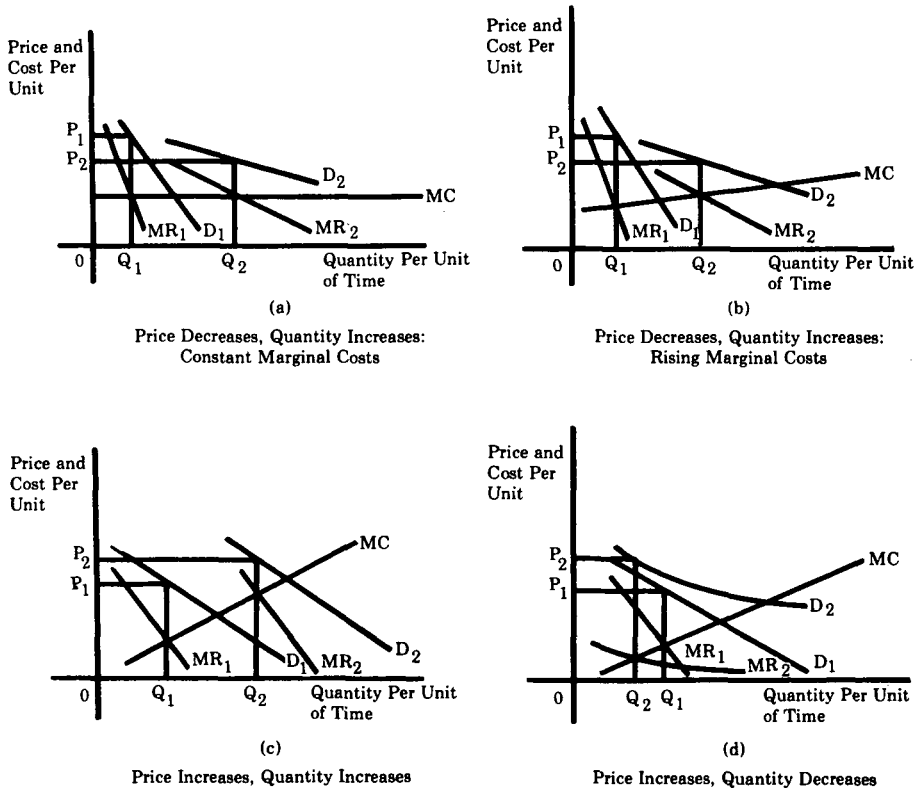


Figure 9  
Four Possible Responses by a Monopolist to an Increase in Demand

Since it was argued that this second case held regardless of MC, both the constant and rising MC curve cases are illustrated in Figure 9, panels (a) and (b). In these cases, the demand for the monopolist becomes sufficiently more elastic as demand increases that it pays him to lower his price and increase his output. Figure 9(d) illustrates the opposite case, where demand becomes sufficiently less elastic that he raises price and decreases his output. Figure 9(c) represents what is perhaps empirically the most likely case, an increase in both price and quantity as demand increases. The only limitation on possible outcomes is that both price and quantity can not fall simultaneously in response to a rise in demand.

Finally, Figure 9(a) or 9(b) can be used to demonstrate the opposite case by assuming  $D_2$  is the original demand and  $D_1$  is the new, lower demand. If demand becomes more inelastic at the new lower level of demand  $D_1$ , the price can rise. Thus, firms in monopolistic positions that raise their prices in the face of flagging demand may not be acting irrationally. In this light, the ridicule of many economists of the American steel companies for raising their prices during some slack periods in the 1950's and 1960's may not have been as well founded as they thought.

*H. Ceteris paribus, prices and quantities change less absolutely in monopoly than in competition in response to a change in marginal costs.*

Under any type of market structure, with "normal" elasticities of demand and supply, a decline in costs will lead to an increase in output and a fall in price. This means any technological innovations or decreases in some kinds of taxes that lower MC will to some extent at least be passed on to consumers in the form of a lower price. However, the monopolist's fall (rise) in price (quantity) for any given vertical fall in MC will be less than for a competitor. This is illustrated in Figure 10.

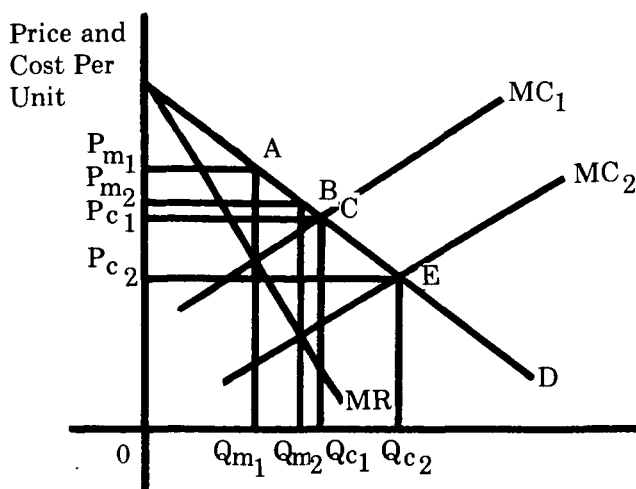


Figure 10

Comparison of Pure Competition to Monopoly  
to a Change in Marginal Costs

The fall in costs from  $MC_1$  to  $MC_2$  produces a fall in price of  $P_{c1}$  to  $P_{c2}$  and an increase in quantity of  $Q_{c1}$  to  $Q_{c2}$  for the competitor, since these marginal cost curves are to the firm's supply curves. In contrast, the identical shift from  $MC_1$  to  $MC_2$  for the monopolist only produces decline in price of only  $P_{m1}$  to  $P_{m2}$  for the monopolist only produces decline in price of only  $P_{m1}$  to  $P_{m2}$ , and a rise in quantity of only  $Q_{m1}$  to  $Q_{m2}$ . It is clear that  $Q_{c1}$  to  $Q_{c2}$  is greater than  $Q_{m1}$  to  $Q_{m2}$  and  $P_{c1}$  to  $P_{c2}$  is greater than  $P_{m1}$  to  $P_{m2}$ . The competitor moves from point C to point E, whereas the monopolist moves from point A to point B.

One possible cause of a decline (increase) in costs is a cut (rise) in taxes. For instance, if a specific or variable excise tax of "t" dollars on each unit sold is levied on the monopolist, Figure 10 suggests, the price (P) would rise by less than "t." If the tax is \$1 per unit sold, prices generally rise by less than the amount of the taxes—perhaps 75 cents. In the short-run, this conclusion is valid for either a competitor or a monopolist. In the long-run, this conclusion necessarily holds only for the monopolist. The competitive case will depend on whether the industry is an increasing cost ( $\Delta P < "t"$ ) constant cost ( $\Delta P = "t"$ ), or decreasing cost ( $\Delta P < "t"$ ) industry.

*I. Monopoly is (is not) conducive to technological advance and innovation.*

Whether monopoly positions are associated with more or less technological progress than competitive situations is a hotly debated controversy in

economics. Actually there are at least three variants of this argument. It has been claimed by various scholars that: (1) large firms; (2) more diversified firms; and (3) more monopolistic firms are conducive to technological progress. However, only the last of these is considered here in any detail, although as a practical matter all three may sometimes go hand in hand.<sup>46</sup> The evidence suggests that no firm size is uniquely conducive to technological progress. There is apparently room for firms of all size. Similarly, there is little empirical support for the belief that diversification spawns successful innovation.

Some economists believe that highly diversified firms are both better able to profit from the unexpected, unanticipated inventions that often flow from R&D expenditures and are more effective in hedging uncertainty and risks of all sorts. Some of the accumulated empirical evidence partially supports their thesis that monopoly fosters technological improvements—new products, new processes, new production functions. Other economists dispute this conclusion, and some of the evidence partially supports their position. They charge that the research claims are often exaggerated and that trivial or excessive product variation is the result. For instance, there is a popular saying at IBM to the effect that innovation comes from the bootleg projects.

This much is clear: both the monopolist and the competitor have a short-run incentive to cut costs and therefore increase profits. In contrast, only the monopolist can continue to reap the profits in the long-run (provided, of course, the competition is not able to achieve a monopoly through innovation). Probably the individual most associated with the dynamic advantages of the monopolist with respect to innovations was Joseph A. Schumpeter (1883-1950).<sup>47</sup> According to him, the process of creative destruction, in which one monopoly is replaced by another monopoly with a "better idea," vitiates most of the traditional criticism of monopoly on static grounds. The long-run importance of dynamic performance can be illustrated with a simple example.<sup>48</sup> If a monopolistic firm causes static inefficiency in output of, say 10 percent of national income, this handicap is surmounted in just five years if the monopolist's rate of growth of output through faster technological growth is raised from 3 to 5 percent a year. It would take 20 years if the growth rate is raised from 3 to only 3.5 percent per annum.

Schumpeter felt that a monopolist had both a stronger means and a stronger incentive to innovate than a competitor. The monopolist, he

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46. Someone once remarked that assuming that monopoly power, *i.e.*, relative size, and absolute size are the same thing is like confusing pregnancy and obesity. While some of the superficial manifestations are alike, the basic causes, consequences, and policy implications are quite different.

47. His most important work in this regard is J. SCHUMPETER, *THE THEORY OF ECONOMIC DEVELOPMENT* (1934).

48. *Id.* at 346.



argued, can finance innovational activities out of past "excess" profits and has an incentive to do so since any resulting "excess" profits can persist even in the long-run. On the other hand, the proponents of the view that competition is the best way to foster technological innovations suggest that the bankruptcy which threatens the non-innovating competitor brings substantially more pressure to bear than the lower volume of profits that threatens the non-innovating monopolist. In the end, which side is right turns out to be an empirical matter. Unfortunately, at this stage of the game the evidence is inconclusive.<sup>49</sup> Any claim to the contrary should be regarded as an ipse dixit. It is entirely possible that monopoly is more stimulating to rapid innovation under some circumstances and competition is more productive given other conditions.

On balance, a threshold theory seems to be the most appealing of the alternatives. Either extreme—highly competitive industries (e.g., home construction, textiles, and agriculture) or highly monopolistic industries (e.g., razor blades, computers, and public utilities)—has rarely been a favorable climate for technological innovation and at times has been outright inhospitable to it. While the slowness in innovation has often been tempered by an aggressive following, once an innovation is introduced, the overall innovational performance in these extreme market forms has been unsatisfactory. Rapid technological innovation seems to warrant, if not mandate, some modest lower bound level of monopoly power. Beyond that threshold level, additional market power is not only superfluous, it actually retards technical progress. Some subtle blend of both competition and monopoly appears the most promising structural imperative to future technological progress with perhaps a bit more emphasis on the former than the latter.

Other writers have turned the causality around from the Schumpeterian *Weltanschauung* that the control of monopoly power provides the condition precedent for innovation to the theory that innovation creates the incentive for monopoly, using excess profits as the skill. The evidence has been no more definitive on this nexus than on the Schumpeterian catena. However, the innovation-begets-monopoly thesis remains the foundation for the present patent system. Certainly the high prizes in the patent lottery achieved by the inventors of Polaroid (estimated at \$500 million for Edwin Land) and Xerox (estimated at \$200 million for Chester Carlson) have motivated considerable experimentation in lonely garrets and bustling corporate research centers across the country. One well-known anti-establishment zealot has claimed that the only reason that American petroleum firms have not been interested in developing solar energy is be-

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49. The shortest and most felicitous review of the literature is found in Markham, *Market Structure, Business Conduct, and Innovation*, 35 AM. ECON. REV. 323-332 (1965), reprinted in D. KAMERSCHEN, *READINGS IN MICROECONOMICS*, *supra* note 7, at 344-454. A more comprehensive survey is found in SCHERER, *supra* note 34, at 346-78.

cause they have not yet figured out how they can get either a patent or exclusive property rights to the sun.

*J. Monopoly prevents the optimal allocation of resources.*

All discussions of economic efficiency assume that, given the values of our society, the fundamental welfare criterion is maximization of the satisfaction of individuals. Given this premise, the argument that monopoly is likely to lead to a misallocation of resources may be easily demonstrated.

Marginal costs are less than price under monopoly. Since prices reflect consumer evaluation of goods and services and marginal costs reflect the social costs of production, it follows that resources are not yielding maximum satisfaction. For example, if  $P_X = \$1$  and  $MC_X = \$.75$ , an additional unit of output of X would socially cost the reduction in output of other goods worth  $\$.75$ , while adding a dollar's worth of output in the X industry. Total satisfactions would be increased by producing *more* of X. This again conforms to the earlier conclusion that monopoly artificially restricts output below the socially optimum level.

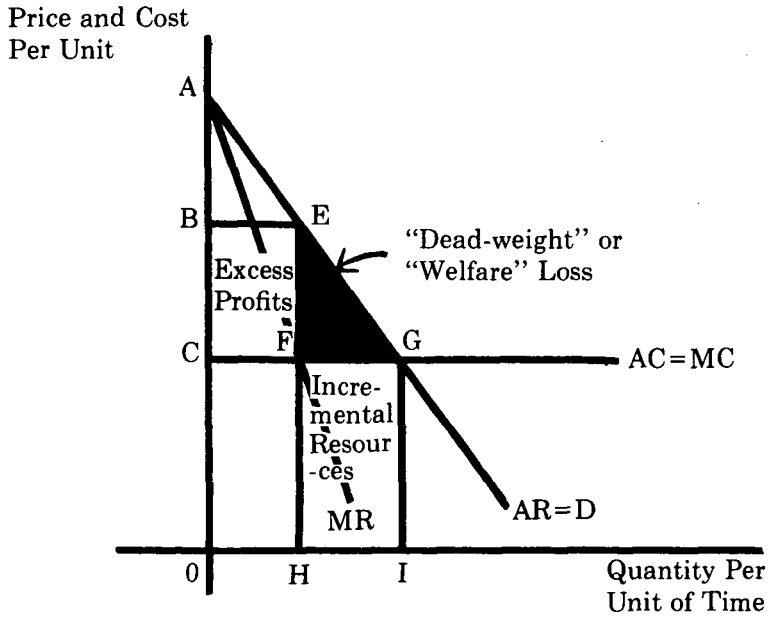
The general implication is that any form of monopoly would cause a non-optimum allocation of resources.<sup>50</sup> For a monopolistic firm, MR is less than the price of the commodity it produces; therefore, in equating MR with MC to maximize profits, an output is produced which has MC less than P. Since individual consumers purchase the good in such quantities as to make the marginal utility (MU) to them equal the MU of that amount of money (price) spent on other goods, it follows that the MU of the commodity is greater than the MU of the amount of its MC.<sup>51</sup>

However, under monopolistic competition, the deviation from the optimum-efficiency rule of equality between price and marginal cost of production tends to be small and to be compensated to some degree by the benefits of wider variety of choice. Where production standardization is not possible, economically feasible or desirable, where large-scale firms have advantages of real economies of scale in production or in the area of research and innovation, or where public goods such as the "housekeeping" services of government—the legislative, executive, and judicial functions—and national defense exists, the welfare against monopoly must be modified.

50. Such misallocation, given the values of our society, is measured by the fundamental welfare criterion of the maximization of satisfactions of individuals.

51. Summarized symbolically:

1.  $MR = MC$
2.  $P > MR$
3.  $\therefore P > MC$
4.  $P = MU$
5.  $\therefore MU > MC$



	COMPARISON OF:	
	COMPETITION	MONOPOLY
PRICE	OC	OB
QUANTITY	OI	OH
CONSUMER SURPLUS	ACG	ABE
PROFITS	ZERO	BCFE
"WELFARE" LOSS	ZERO	EFG

Figure 11

"Dead-Weight" or "Welfare" Loss From Monopoly

Figure 11 provides a graphical illustration of the malallocative effects of monopoly and a tabular summary comparing competition and monopoly on several key concepts. Suppose that the costs of production would be the same regardless of whether the industry were organized as a monopoly or

as a competitive group of firms. Further suppose, for simplicity, that marginal and average costs are constant.<sup>52</sup> In the long-run, competitive equilibrium, the (Marshallian) consumer surplus is given by the area of the triangle ACG (which represents the total utility received from consuming OI units of X minus the total expenditure necessary to acquire OI units of X). The competitive price is OC and the quantity sold is OI.

Furthermore, since the industry is in long-run equilibrium, profits are zero and therefore the welfare losses are zero. If this industry were to be monopolized, the profit-maximizing price, where  $MC=MR$ , is OB and the optimal quantity is OH. The price is now higher and the output lower than under purely competitive conditions. In fact, with the linear demand curve depicted in Figure 11, the monopolist output OH is exactly one-half the competitive output, OI, since the slope of the MR curve is exactly twice the slope of the AR curve.

At the new higher prices and lower quantities, the consumer loses part of the consumer's surplus, namely rectangle BCFE, to the monopolist. This area now becomes producers' surplus or profit. The consumers are still left with a surplus equal to the triangle ABE. But note that the triangle EFG has not been claimed by anyone; indeed, it cannot be appropriated, since it no longer exists. This is the so-called "dead-weight" or "welfare" loss that results from the allocative inefficiency under monopoly. Even if the government were to deprive the monopolist of the entire profit rectangle BCFE through a fixed or lump sum tax, for example, the efficiency loss of triangle EFG still remains. This should demonstrate that it is not so much the "excess" profits that result under monopoly that the economists object to, but the undesirable effects on resource allocation from overpricing and underproducing the product. In fact, as is discussed in the section on monopolistic competition, even in those situations where no "excess" profits exist, the malallocative effects, described above as the "welfare" losses, persist.

Alternatively, it is possible to think of the "welfare" loss in the following way. The MC, measured in terms of alternative outputs sacrificed at output OH, is FH. However the monopolist produces a commodity that consumers value at EH. A one-unit expansion of output thus would increase the net income of the community by FE. The precise size of FE ( $=P-MC$ ) depends on the elasticity of demand. Additional production would also raise the aggregate income, but by an ever-declining amount up to point G, where  $P=MC$ . In short, the area of the triangle EFG gives an approximate measure of the increase in real income that would result if production were pushed to the competitive level.

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52. If instead, the MC curve cut the MR curve at the same point but was upward sloping, the "welfare" loss would be smaller than that depicted in Figure 11. However, all the general conclusions would hold.

To eliminate the underproduction (overpricing) of HI (BC) displayed in Figure 11 would take a shift of resources of the magnitude suggested by the area labeled "incremental resources" (HFGI). A shift in resources from competitive to monopolistic industries will enlarge the total monetary value of the output produced with the same given quantity of resources. A logical question then becomes: What is the approximate size of this shift in resources that would be required to do this in our economy? Or better yet, what is the approximate size of the triangle labeled "welfare" losses in the U.S. economy?

Obviously any attempt to measure the magnitude of the misallocation of resources and the consequent loss of "welfare"<sup>53</sup> caused by monopoly must serve as only a rough approximation. Some quite stringent, even heroic, assumptions are sometimes necessary to elicit the desired economic information from the accountant's data. Arnold Harberger made an imaginative attempt to determine the orders of magnitude involved for the U.S. economy using data on profit rates from 1924-1928.<sup>54</sup> He concluded that the total welfare loss (in 1953 prices) was less than 1/10 of 1 percent of national income or less than \$1.50 per person in the United States. In fact, Stigler remarked that: "If this estimate is correct, economists might serve a more useful purpose if they fought fires or termites instead of monopoly."<sup>55</sup>

However, Stigler added that there were a number of reasons for believing the estimate was too low. A more recent study that took account of Stigler's and other objections placed the most likely estimate at roughly 6 percent of national income in the late 1950's and early 1960's.<sup>56</sup> This is a substan-

53. The word "welfare" is in quotation marks to depict a solecism, since really only the allocative efficiency losses are taken into account.

54. Harberger, *Monopoly and Resource Allocation*, 46 AM. ECON. REV. 77 (1956). His methodology was based on the imperishable theoretical ideas of Harold Hotelling.

55. Stigler, *The Statistics of Monopoly and Merger*, 64 J. POL. ECON. 33 (1956), reprinted in READINGS IN MICROECONOMICS, *supra* note 7, at 332-343.

56. Kamerschen, *An Estimation of the "Welfare" Losses from Monopoly in the American Economy*, W. ECON. J. 221 (Summer, 1966). While Senator Philip Hart and Ralph Nader have made reference to this six percent figure, it should be viewed only as general order of magnitude and not as anything precise. A number of more recent findings and/or criticisms of these Hotelling type welfare loss models can be found in Kamerschen, *Monopoly and Welfare*, ZEITSCHRIFT FÜR NATIONALÖKONOMIE 507-10 (Dec., 1971), and (with Wallace), *The Costs of Monopoly*, ANTITRUST BULL. 485-96 (Summer, 1972). In general, the Hotelling formula is the following, where W=dead weight or welfare loss, P=price, Q=quantity,  $t=\Delta P/P$  or relative price distortion, and  $n$ =own price elasticity of demand:

$$(1) W = \frac{1}{2} \Delta P \Delta Q$$

$$(2) n = (\Delta Q/Q) \div (\Delta P/P) = (\Delta Q/Q)/t = (\Delta Q)/Qt$$

$$(3) \Delta Q = ntQ$$

substituting  $Pt = \Delta P$  and (3) into (1), we get

$$(4) W = \frac{1}{2} Pt \Delta Q$$

$$(5) W = \frac{1}{2} PtnQ$$

$$(6) W = \frac{1}{2} Pt^2nQ$$

W rises as a quadratic function of  $t$  and as a linear function of  $n$ . On the other hand, if there are economies of operation, a merger, for example, would have both good and bad allocative effects and the net welfare loss would have to be computed. Williamson, *Economics as an Antitrust Defense; the Welfare Tradeoffs*, 58 AM. ECON. REV., 21-23 (1968), shows that the percentage rise in price possible (from the merger by the exercise of monopoly power) must be much larger than the percentage reduction in costs if the merger is to cause a net social

tially larger figure, and it accords more with the importance the monopoly problem is given in our economy. Even more recent and refined estimates have put the figure even higher.<sup>57</sup> To be sure, even if the figure were quite low it might still be rational to devote substantial attention and resources to monopoly. The loss may be small because of the diligence currently devoted to combatting monopoly. Without this, the losses might be considerably larger.

*K. Monopoly tends to redistribute income.*

The above analysis assumes that the monopolists and the consumers have fairly equal incomes; otherwise, the "welfare" loss of consumer's surplus is not very relevant.

If incomes are not fairly evenly divided, the persistent economic profits which monopolistic firm's *can* realize may contribute to greater inequality in the distribution of income. Since these monopoly profits accrue to the corporate shareholders and corporate executives who largely come from the upper income group, income inequality is increased. Of course, the fact that these gains are not widely distributed cannot necessarily be deemed undesirable. It depends upon the value judgments of the community as a whole. If monopolistic stockholders and top managers are felt to be more deserving by the community's ethical standard of values—whatever that standard might be—then the greater inequality would be deemed desirable. However, in American society there is a rather general consensus that the extreme degrees of inequality to which at least pure monopoly and oligopoly are likely to contribute are undesirable. This means the case against monopoly is based on both equity and efficiency grounds. If the redistributive effects are deemed desirable, this moderates the undesirable efficiency effects.

It is generally best to separate the allocative and distributive or the efficiency and equity effects of monopoly. Given that economic efficiency—in the broadest sense, meaning the maximum attainment of ends with the minimum expenditure of limited available means—is a central goal of any economic system, the allocative effects of monopoly—the natural monopoly case constituting the major exception—are almost invariably undesirable. However, the distributive effects are much less objective and

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loss. Since the net cost savings is  $\Delta(AC)Q$ , and the deadweight loss is  $\frac{1}{2}\Delta P\Delta Q$  to keep the two magnitudes equal requires that  $\frac{\Delta AC}{AC_1} = \frac{n}{2} \left(\frac{P}{P}\right)^2$ . If, e.g.,  $n=2$  and that the price

rises by 20 percent, any cost reduction larger than four percent would justify the merger on welfare grounds.

57. E.g., Saving, *Concentration Ratios, the Degree of Monopoly Power and the Share of the 250 Largest Manufacturing Firms* (unpublished manuscript). A portion of the theoretical part of this paper is published as *Concentration Ratios and the Degree of Monopoly Power*, 11 INT. ECON. REV. 139 (1970). This paper is also interesting in that it demonstrates that the traditional measure of monopoly power, the concentration ratio, has a clear relationship to the most acceptable theoretical measure of the degree of monopoly power, the Lerner index.

depend upon a host of subjective factors that are compounded in the ethical standards of the society. One student of industrial organization put the basic issue this way:

In short, the link between income distribution and concentration is both weak and complex. Economists prefer to leave policy toward income distribution to the field of taxation, which is much better equipped to deal with it directly. This exclusion seems wise.<sup>58</sup>

*L. Monopoly may be more discriminatory in employment.*

Since Gary Becker's seminal study, *The Economics of Discrimination* (1957), economists have known that there are theoretical reasons for expecting that monopolies have a greater margin for satisfying their tastes for discrimination. Like any desire, this taste for discrimination costs the employer. Purely competitive firms can not afford the added costs of such indulgences and survive. Of course, most employers discriminate in employment in the sense that, other things being equal, they prefer comely secretaries to homely ones, cordial colleagues to curmudgeons, and punctual workers to tardy ones. But the discrimination in employment that is less ubiquitous and more reprehensible is the inclusion of otherwise extraneous ethnic, racial or sexual characteristics in evaluating job applicants and considering promotions. In a recent study, William G. Shepherd, using data compiled by the U. S. Equal Employment Opportunity Commission, found that discrimination in white-collar employment was positively and substantially related to market power.<sup>59</sup> In general, competitive and non-profit agencies tended to be relatively nondiscriminatory.

*M. Miscellaneous effects.*<sup>60</sup>

There are several other possible baneful effects.

(a) Monopoly may provide social and political power all the way from the local to the international level. Such important issues of the day as the military-industrial complex, alienation, imperialism may be linked with market power. Unfortunately, while they may be ultimately the most important effects of monopoly, they are the least provable of all by statistics. (The social-political effects are discussed in more detail below.)

(b) Other inefficiencies. There may be other inefficiencies directly traceable to monopoly. (1) X-inefficiency or organizational slack<sup>61</sup>—the internal inefficiencies—may result from the fact that monopolists have

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58. R. CAVES, *AMERICAN INDUSTRY: STRUCTURE, CONDUCT, AND PERFORMANCE* 96 (1972).

59. Shepherd, *Market Power and Racial Discrimination in White-Collar Employment*, *Antitrust Bull.* 141-161 (1969). See also his *Market Power & Economic Welfare*, 208-222 (1970).

60. A more detailed treatment of some of these factors is contained in Scherer, *supra* note 34, at ch. 2.

61. The pioneering piece is by Leibenstein, *Allocative Efficiency vs. "X-Efficiency"*, in 56 *Am. Econ. Rev.* 392-415 (1966).

greater discretion to pay themselves excessive salaries, hire too large a staff, provide lavish office accommodations, engage in empire-building that adds unprofitable satellite firms, or support worthwhile community and philanthropic causes. All of these x-inefficiencies eventually come out of shareholders' dividends or consumers' pockets in the form of higher prices. (2) Malallocative expenditures may result from excessive transportation charges, from wasteful cross-hauling as a result of basing point or other price schemes. (3) Unneeded excess capacity may grow out of such quasi-monopolistic practices as the restriction of petroleum output through production quotas in the prorationing scheme set in the big oil-producing states such as Texas, Louisiana and Oklahoma. (4) Plants, and perhaps the entire firm, may be operated at suboptimal levels below the point where all economies of scale can be realized. (5) Tariffs and quotas on foreign-made products, such as petroleum before the so-called "energy crisis," may be imposed to protect inefficient domestic firms from the chilling winds of competition.

(c) Finally, the loss of resources accompanying the present imperfect system of public regulation is easily visible and quite substantial. Scherer's eloquent protest regarding the interface between competition and regulation bears repeating.

The Supreme Power who conceived gravity, supply and demand, and the double helix must have been absorbed elsewhere when public utility regulation was invented. The system is cumbersome, vulnerable to incompetence, and prone toward becoming in-grown and co-opted. In some respects it is directly conducive to inefficiency; in others, it may be merely ineffective in altering the behavior of the companies regulated . . . In the classic public utility sectors it is difficult or impossible to achieve fully competitive market structures without unacceptable scale economy sacrifices. Yet the instruments of direct public regulation evolved to compensate for the absence of workable competition have created so many new problems that we are drawn once again toward relying upon competitive forces, perhaps in attenuated or hybrid forms, whenever it is feasible.<sup>62</sup>

## II. PUBLIC POLICIES TOWARD MONOPOLY

### A. *Conflict of Objectives.*

In those cases where the economies of scale result in so few optimum-sized firms as to preclude pure competition, there is a conflict between the social objectives of combining productive resources in a given use in the most economical manner, and of allocating resources among alternative uses in an optimal pattern. For example, assume that in the automobile industry, if we are to have the advantages of pure competition, each firm would have to be so small that its costs of production would be higher than

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62. SCHERER, *supra* note 34, at 537-542.



if each firm were very large. To obtain the benefits of mass production, only a few firms can survive; but with only a few firms in the industry, the potentiality of producing at minimum average costs is unrealized.

We want not only efficiency in allocation but also dynamic growth of our economy. To the extent that large-scale enterprise encourages more rapid growth by facilitating research, by more easily mobilizing required capital, and by providing the necessary protection against inherent risks of innovation, monopolistic business organizations may have advantages over pure competition.

Finally, to the extent that consumers prefer a wide variety of a given type of commodity, with one variety only slightly different from another, imperfect competition—especially monopolistic competition—is more appropriate than pure competition. The economic cost of such a preference should, however, be known to the consumers.

### *B. Economically Unjustifiable Monopolies and Monopolistic Practices.*

In many cases there is no social dilemma; it is fairly clear that the monopolist is guilty of misallocating society's scarce productive resources. However, whether the existing situation should be attacked by increasing public regulation, by increasing public ownership, or by trying to restore effective, vigorous competition is subject to debate.

Monopolies that would fall under the category of "unjustifiable" are those which are the result of collusive action and are not the result of the economies of large-scale production, product technology or innovation. The alleged benefits or economies of bigness are often exaggerated. It would be a serious error to conclude that large-scale operations are always more efficient than smaller scale operations. Many empirical studies of American industry have shown that economies of scale often are negligible or absent. The long-run average cost curve is L-shaped: approximately horizontal until physical output capacity is approached, after which the curve rises sharply. Still other studies indicate that in some industries the costs of medium-size firms are often lower than those of either very large or very small firms. Probably the most unbiased conclusion that can be reached is that in some monopolistic industries genuine economies of scale exist, partially justifying the market structure, while in other monopolistic industries the uneconomically large scale adds to the other social wastes of monopoly.

Imperfect competition with consumer preferences based on false or misleading information on brand differentiations would also be unjustified. The mere repetition of advertising often convinces the consumer of the merits of a given brand even when nothing false is said. Professional football star Joe Namath tells us in one TV commercial that "there is nothing I like better than hot buttered popcorn." Whatever happened to that Johnny Walker Red Scotch and female pulchritude that he expressed such a fondness for in his autobiography? Exxon offers to put a "tiger in your

tank" and Noxema promises to "take it off, take it all off" (the latter TV commercial again involving the versatile Joe Namath). It has been estimated that the popular Johnny Carson show consists of about 45 percent program and 55 percent commercial advertisements. Lewis A. Engman, chairman of the Federal Trade Commission, said in a speech to the anti-trust section of the Michigan bar that oil, utility and electric appliance concerns that may have caused or benefited from the energy crisis are portraying themselves in advertising as "innocent cherubs, their quivers stuffed with the arrows of altruism."<sup>63</sup> Critics view these ads as "false and deceptive" and "are likely to view advertisers as buzzards rather than cherubs."

The cosmetics industry is an especially good example of the power of advertising. The consumer often pays dearly for such brand-name products as Avon, Coty, Lady Ester, Max Factor, or Revlon. Careful studies have found that the container is very often more expensive than the contents. In fact, it has been reported that for many cosmetics such as lipstick, the same materials are merely put in different containers—one container for the discount-store market and another container for the expensive, brand-name market.

Such monopolistic practices as "sleeping" patents, suppression of technological improvements, product disparagement, discriminatory pricing, restrictive patent-licensing, and "cut throat" competition are obviously unjustified. Let one example suffice. It has been suggested that only a self-admitted masochist would consume a hot dog today. It is estimated that today's hot dog consists of 30 percent fat and contains only half the nutrients and meat protein of its 1930's depression brother. When questioned about this by a zealous consumer advocate, a leading hot dog manufacturer is purported to have claimed that a market survey, which he would not make publicly available, showed that the highly fat hot dog is what consumers want. The consumer advocate suggested facetiously in response: "Why not scoop the market and give them a 31 percent fat hot dog?" Some of our most ardent consumerists remain convinced that just such practical "research" may be under way.

### *C. Social Objections to Monopolies.*

In addition to economic considerations, there are several sociopolitical implications of monopoly. Many people are as concerned about the social and political consequences of bigness as they are about considerations of economic efficiency.

The most significant noneconomic implications of monopoly derive from the heavy concentration of economic power in giant corporate businesses. For instance, it is estimated that the largest 100 manufacturing firms own

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63. *Wall St. J.* Feb. 19, 1974, at 40.

roughly 50 percent of all manufacturing assets in the United States and through interlocking directorates and holding companies the actual decision-making is even more concentrated.<sup>64</sup> Not only is there a concentration of power and wealth in large firms, but also power within these firms is concentrated in the hands of a relatively small number of executives and large stockholders.

Economic power has a habit of spilling over into the sphere of political and social relations and raising, especially for democratic societies, important problems of social policy. Concentration of economic power can lead to concentration of political power. The growth of concentrated power or monopoly—while not quite synonymous, the identity does not lead to a significant error—leads either to the monopoly's exerting improper political power and therefore influencing the government and public policy, or to government's being forced to regulate the monopoly. In short, government must control monopoly or be controlled by it. Of course, big business may not abuse its power if endowed with "social consciousness," a "corporate soul" or a sense of "social responsibility," as some allege. Nonetheless, the potential threat of concentrated economic power to democratic institutions is a proper subject for concern. The experience in Nazi Germany and Japan in the 1930's attests to this.

Monopoly also may put serious restrictions on economic freedom, especially that of small enterprises. Top executives in big business have extensive power over those who work for them and over their customers, although this power is limited by rivalry with other monopolies for both customers and productive services and by the power of workers organized into large labor unions. In turn, in recent years, some observers have fears regarding the potential improper economic and political power of trade unions.

The small enterprise has a difficult time when surrounded by a sea of monopolists. Even more alarming is the near impossibility for most people of owning a business of any size, not to mention one that could compete effectively in something like the automobile industry—which, it has been estimated, would require an investment of between \$60 million (without a style change) and \$800 million (with a style change). Or in the aluminum industry, a modest sales base of \$150 million may require plant expenditures in the neighborhood of a quarter billion dollars. To be sure, there are industries where entry is relatively free and inexpensive: the clothing industry, where there are more than 5,000 companies producing women's and misses' dresses; the wood household furniture industry, where there are about 3,000 firms; newspapers, where there are more than 7,000 firms; and logging camps and logging contractors, where there are more than 15,000 firms.

Table 1 shows the wide spectrum of concentration ratios—percent of

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64. Dooley, *The Interlocking Directorate*, 59 AM. ECON. REV. 314 (1969).

**TABLE 1**  
**1970 Concentration Ratios For**  
**Representative Industries**

SIC† Code		4-Firm Ratio	8-Firm Ratio
3741	Locomotives and parts	97	99
3334	Primary aluminum*	96	100
3211	Flat glass**	94	98
3641	Electric lamps	92	97
3711	Motor vehicles	91	97
3672	Cathode ray picture tubes	88	97
2073	Chewing gum	85	97
3633	Household laundry equipment	83	97
3572	Typewriters**	81	99
2111	Cigarettes**	81	100
3511	Steam engines and turbines	77	88
3331	Primary copper	75	98
3011	Tires and inner tubes	72	89
3411	Metal cans	72	83
2841	Soap and detergents	70	79
3721	Aircraft and parts	65	87
2822	Synthetic rubber	64	85
2284	Thread mills	64	83
3221	Glass containers	57	78
3871	Watches and clocks	56	70
3562	Ball and roller bearings	54	74
3621	Motors and generators	50	62
3651	Radio & TV receiving sets	48	67
3312	Blast furnaces and steel mills	47	65
2082	Beer and malt liquors	46	64
	All manufacturing	40	NA
3522	Farm machinery & equipment	40	51
2911	Petroleum refining	33	57
2211	Broad woven cotton mills	33	50
3552	Textile machinery	33	49
2041	Flour mills	30	46
2051	Bread and related products	29	39
3141	Shoes, except rubber	28	36
3241	Cement	27	48
2834	Pharmaceutical preparations	26	43
3541	Metal-cutting machine tools	24	37
2851	Paints and allied products	22	34
2026	Fluid milk**	22	30
2256	Knit fabric mills	17	28
2311	Men's & boys' suits & coats**	17	27
2711	Newspapers	16	24
2421	Sawmills & planing mills	16	20
3494	Valves and pipe fittings	14	23
2511	Wood furniture, not upholstered	14	23
3251	Brick and structural tile**	14	22
2086	Bottled & canned soft drinks	13	20
3451	Screw machine products**	6	9

† Standard industrial classification

\* 1963 figures

\*\* 1967 figures

Source: U.S. Department of Commerce, Annual Survey of Manufacturers, 1970.

sales output accounted for by the four and eight largest firms in a given industry—which prevailed in the U.S. economy in 1970, according to the government's Standard Industrial Classification (SIC) of industries. The maintained hypothesis in antitrust economics is that *ceteris paribus* entry is more difficult in industries where the market shares are heavily concentrated than where they are less heavily concentrated.

*D. U.S. Policies to Promote Competition and Control Monopoly*

Our theoretical apparatus shows that if pure competition exists, then the kind of economic performance most people desire generally will be forthcoming. Pure competition in this context refers to a set of structural conditions, such as many sellers and easy entry. This kind of reasoning sees a direct link between structure on the one hand and performance on the other hand and it follows from this that laws which can maintain or produce competitive structure would be very desirable laws. It is also possible to seek to obtain good behavior or performance from firms by regulating their *conduct*. The conduct approach would make illegal certain kinds of acts such as price-fixing, uniform delivered prices or misleading advertising.

The federal laws designed to promote competition incorporate both the structural and the conduct aspects of competition. Although the laws which strive to maintain competition have their basis in economic theory, the prime cause for their adoption was a set of historical facts rather than the cogent argument of economic theorists. The Sherman, Federal Trade Commission and Clayton Acts are the main antitrust laws. However, there is a complex web of various federal statutes, state laws, and city ordinances which restrict pricing freedom for the avowed purpose of fostering vigorous competition.

The Sherman Act of 1890,<sup>65</sup> which was the first important piece of federal antitrust legislation, was a direct attempt to curb the growth of trusts, holding companies and other types of mergers of that era. It was during the 1890's, for example, that many of today's important companies achieved their position of dominance in the economy and in their respective industries. The following are but a few of the companies which through some form of merger activity achieved dominance during the 1890's: General Electric, U.S. Rubber, National Biscuit, International Paper, Eastman Kodak and International Harvester. The push for some kind of anti-monopoly law was also supported by the western farmers, who often faced these merged combinations directly as buyers or as shippers of their produce. The Sherman Act even today remains our most powerful anti-trust law.<sup>66</sup>

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65. 15 U.S.C.A. §1 *et seq.* (1973).

66. The essentials of the Sherman Act are contained in the following two sections:  
[Sec. 1.] Every contract, combination in the form of trust or otherwise, or

Section 1 focuses on illegal acts and may be viewed as conduct-oriented. Section 2 does not outlaw monopoly or oligopoly but rather "every person who shall monopolize or attempt to monopolize" and as such is not strictly structural. The courts have on occasion interpreted the act in a structural fashion, on the basis that it was the intent of Congress in passing the act to outlaw structural monopoly or oligopoly. The Act has consistently been interpreted by the courts as stating that horizontal price agreements are in restraint of trade and are illegal *per se*.<sup>67</sup> A horizontal agreement is between firms on the same level of industry structure such as among wholesalers or manufacturers; an agreement between manufacturers and retailers, such as with resale price maintenance, is an example of vertical agreement.

The Clayton Act<sup>68</sup> and the Federal Trade Commission Act<sup>69</sup> of 1914, which have been amended several times, were the next big landmarks in the history of antitrust law.

The Clayton Act was very conduct-oriented, banning such activities as "price discrimination" and "tying arrangements" in which the seller gives the buyer access to one line of goods only if the buyer takes others as well. However, section 7 of this act, significantly amended in 1950 by the Celler-Kefauver Act,<sup>70</sup> forbids mergers which "substantially lessen competition or tend to create a monopoly."

Antitrust law, as should be clear from the first two sections of the Sherman Act, is so broad that it is in effect the courts which must decide what is legal and what is illegal. In their interpretation of a law, the courts have followed two broad and sometimes conflicting viewpoints—the "rule of reason" and the "per se" doctrine.

Under the rule of reason each case is viewed as separate and that the courts should seek to determine whether or not the firms being prosecuted had behaved unreasonably. To an economist, any conglomerate or vertical

conspiracy, in restraint of trade or commerce among the several States, or with foreign nation, is hereby declared to be illegal . . . Every person who shall make any such contract or engage in any such combination or conspiracy . . . shall be deemed guilty of a misdemeanor, and on conviction thereof, shall be punished by fine not exceeding fifty thousand dollars or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

[Sec. 2.] Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and on conviction thereof, shall be punished by fine not exceeding fifty thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

15 U.S.C.A. §§1-2 (1973).

67. *United States v. Trenton Potteries*, 273 U.S. 392, 398, 47 S.Ct. 377, 379-80, 71 L.Ed. 700, 705 (1927).

68. 15 U.S.C.A. §12 *et seq.* (1973).

69. 15 U.S.C.A. §41 *et seq.* (1973).

70. 64 Stat. 1125 (1950), *codified at* 15 U.S.C.A. §18 (1973).

merger and some horizontal mergers should be treated on a rule of reason basis for possible anticompetitive effects. The per se doctrine seeks to make illegal certain acts or situations regardless of their impact on performance. Conspiring to fix prices, for example, would be regarded as illegal per se.

Although both approaches have some merit, the differences between the two are fundamental. The most famous decision based on the rule of reason occurred in 1920 when the courts failed to see anything wrong with the relative position of U.S. Steel, which then produced more than 60 percent of the output of the steel industry.<sup>71</sup> The Court argued that U.S. Steel did not mistreat its competitors and therefore had not behaved unreasonably. In 1945, however, the Second Circuit upheld a conviction of Alcoa under section 2 of the Sherman Act on the grounds that it occupied a monopoly position in the aluminum industry, even though it attained the monopoly position by a series of "normal prudent but *not* predatory business practices."<sup>72</sup> The Court decided that although Alcoa's conduct was legal, its monopoly position was not "thrust upon it" and therefore it was guilty of monopolizing. The court in effect was saying that an avoidable monopoly position was illegal per se.

The courts, despite a tentative attempt in the Alcoa case and one or two others, have been unwilling to order the dissolution of companies, and therefore one doubts the efficacy of a structural per se approach in light of the existing concentrated structure of some sectors of the economy. What is a monopoly position and what is not also has never been satisfactorily resolved.

Robert Townsend suggests how, in a crunch, regulation, laws and the courts are often overwhelmed by industry:

Fact: mass transportation is in scandalous condition nationally. Fact: the natural enemy of mass transportation is the automobile, because good bus and train service can get people to work and to shopping and to school and back home without an automobile. Fact: General Motors has been allowed to monopolize the manufacture and sale of buses in the U.S. In 1956 the government brought a Sherman Act case against G.M. In 1955 G.M. had sold eighty-four per cent of all buses; three other manufacturers sixteen per cent. Nine years later, by consent decree, the government let G.M. continue but said that if one of its competitors disappeared before 1976 the government could force G.M. to create a competitor and divest itself of it. Fact: since then not one but two competitors have disappeared, but the Justice Department has not moved to do anything about it. Conclusion: the government was incompetent in (a) allowing nine years in the courts; (b) settling for so little; and (c) not following through. A typical performance.<sup>73</sup>

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71. *United States v. United States Steel Corp.*, 251 U.S. 417, 40 S.Ct. 293, 64 L.Ed. 343 (1920).

72. *United States v. Aluminum Co. of America*, 148 F.2d 416 (2d Cir. 1945).

73. *THE CENTER MAGAZINE* 34 (Jan. - Feb., 1972).

Many economists do feel that despite shortcomings the antitrust laws do serve to limit misconduct in the economy and have slowed the growth of entrenched monopoly in the U.S. economy.

#### E. Direct Regulation.

An alternative attempt to obtain the goals of competitive performance is by direct regulation. In direct regulation, the focus is not on structure or conduct and their relation to performance but on performance itself. The regulatory agency intervenes directly in the service performance and sets price (rates) and determines profit (rate of return) with a view to limiting exorbitant monopoly profit and providing greater output to the consumer.

The main regulatory agencies and their sphere of interest are: (1) the Interstate Commerce Commission (ICC), which regulates railroads, oil pipelines, interstate motor and water carriers; (2) the Federal Power Commission (FPC), which regulates power projects on navigable rivers and interstate transmission of electricity and gas; (3) the Federal Communications Commission (FCC), which regulates interstate telephone, telegraph, radio and television; (4) the Civil Aeronautics Board (CAB), which regulates air transportation; (5) the Federal Maritime Board (FMB), which has control of international shipping but not domestic carriers which are under ICC; and (6) the Securities and Exchange Commission (SEC), which supervises the securities market and regulates the finances and corporate relationships of public utilities. There are also public utility commissions at the state level which control intra-state utility rates and practices, but experience with regulation has not been an altogether successful one. For example, several studies have concluded that rate regulation has had no measurable effect on utility rates, discriminatory pricing, or the value of utility stocks.<sup>74</sup> A growing number of economists are beginning to suggest that where possible, notably in some parts of transportation and in the energy field—and most notably natural gas prices at the wellhead—the industry should be deregulated. At least one economist, Clair Wilcox, clearly feels that regulation, which attempts to figure out the prices and services that would prevail if competition existed, is no match for the original. He traduces regulation with contemptuous censor.

Regulation, at best, is a pallid substitute for competition. It cannot prescribe quality, force efficiency, or require innovation, because such action would invade the sphere of management. But when it leaves these matters

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74. Stigler & Friedland, *What Can Regulators Regulate? The Case of Electricity*, J. L. & ECON. 1-16 (1962). compared differences in average electrical rates in regulated and unregulated states between 1907 and 1937. More recent studies have corroborated that regulation has been impotent on both the level and the (discriminatory) structure of the utility rate structure. Kamerschen & Wallace, *Further Evidence on the Regulation of Electric Utilities*, J. Bus. Ad. 83-88 (Spring, 1972).



to the discretion of industry, it denies consumers the protection that competition would afford. Regulation cannot set prices below an industry's costs however excessive they may be. Competition does so, and the high-cost company is compelled to discover means whereby its costs can be reduced. Regulation does not enlarge consumption by setting prices at the lowest level consistent with a fair return. Competition has this effect. Regulation fails to encourage performance in the public interest by offering rewards and penalties. Competition offers both.

Regulation is static, backward-looking, preoccupied with the problems of the past. It does nothing to stimulate change, seeking to maintain order on the basis of the old technology. It is slow to adapt to change: new problems appear, but regulatory thinking lags. Competition, by contrast, is dynamic.<sup>75</sup>

Of course, not all the laws foster competition. Some writers opine that it is the *res publica* which can most effectively protect firms from the cold winds of competition. We have already indicated that there are numerous exemptions and exceptions to the illegality of price-fixing agreements and antitrust violations in general; agriculture exporters, professional sports, some sections of transportation and others are each exempt in part or total. The troublesome Robinson-Patman Act of 1936,<sup>76</sup> which has reduced price experimentation, decreased price flexibility, and discouraged marginal cost pricing, is a good example of a law which is violative of the spirit of most of our antitrust legislation and jurisprudence.

Another equally strange piece of legislation, known as the McGuire Act,<sup>77</sup> remained law until 1975. This law, contrary to the practice in Canada, England, France and other industrialized countries which had abolished similar acts, exempted from prosecution vertical price-fixing agreements down the chain of distribution. Most commonly a manufacturer or wholesaler who signed one retailer in a given state to a resale price contract, which provided that the product will not be sold at less than some specified minimum price, would ipso facto bind all other retailers in that state. At one time 46 states had so-called "fair trade" laws with a "non-signer's clause," binding all retailers, in their statute books. As late as 1975, 21 states had "fair-trade" legislation, although 15 other states repealed such legislation during that year.

While state "fair-trade" laws allowing manufacturers to set retail prices for their products ordinarily would violate federal antitrust laws, Congress in 1937 and 1952 granted exemptions allowing state legislatures to approve retail price-fixing by any manufacturer.<sup>78</sup> In fact, resale prices had heretofore been limited to goods which were branded, widely used, and frequently purchased and for which the value was estimated never to have exceeded

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75. C. WILCOX, *PUBLIC POLICIES TOWARD BUSINESS* 476-477 (1960).

76. 15 U.S.C.A. §13 *et seq.* (1973).

77. 66 Stat. 631 (1952), repealed, Act of Jan. 4, 1975.

78. 50 Stat. 693 (1937); 66 Stat. 631 (1952).

10 percent of the U.S. retail trade.<sup>79</sup> While there are many reasons for the emergence of resale price maintenance, the most plausible is that it served as an indispensable part of collusive action.<sup>80</sup> According to one Justice Department study cited by the Senate Judiciary Committee in its 1975 study of "fair trade" legislation, the freezing of retail prices from manufacturers' control would save consumers \$2.0 billion a year. The result was that Congress repealed the "fair-trade" laws.<sup>81</sup>

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79. Fair trade consists chiefly of auto accessories, books, cosmetics, prescription drugs, liquor, photographic equipment and supplies, small electrical appliances, sporting goods, stereo components, television sets, mattresses, kitchenware, watches, jewelry, bicycles, and tobacco. Our discussion of resale price maintenance draws on K. PALDA, *PRICING DECISIONS AND MARKETING POLICY* (1971).

80. For a contrary view, see Telser, *Why Should Manufacturers Want Fair Trade?*, *J.L. & ECON.* 89 (1969), and Gould & Preston, *Resale Price Maintenance and Retail Outlets*, *ECONOMICS* 302 (1965).

81. Act of Jan. 4, 1975.

