PREDATORY PRICING

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Abstract

Predatory pricing is logically impossible, because it necessarily involves pricing below cost. However, cost, properly understood as opportunity cost is subjective and is incommensurable with money prices; more important, to price below cost implies rationally choosing an alternative (selling at price) that is suboptimal, since cost is the most highly valued alternative not chosen. When critics declare that predatory pricing is to price below cost, they mean to set a price below some measure of money expenses. But this entails all kinds of problems; which concept of expense – marginal is most obvious; but also the issue of the present value of alternatives, which means discounting expected revenues and expected expenses.

Keywords: Predatory pricing, monopoly, price gouging, cost, alternatives and opportunities foregone, out of pocket expense, profits, equilibrium

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Introduction

Laws against predatory pricing (PP) are a snare and a delusion. They are an internal contradiction in that "predation" implies coercion, while "pricing" at least on the market, is a necessarily voluntary activity[74]. Predatory pricing, then, is a voluntary coercive act, the economic equivalent of the square circle.

This latter internally contradictory phrase offends, only, our sense of logic. It has no practical implication for human action. Things are otherwise, however, as far as PP is concerned. An important aspect of, and a buttress to, anti trust legislation, PP is an incoherent concept which, nevertheless has strong and negative implications for public policy, resource allocation and economic freedom. When businessmen are penalized for engaging in an act that has no referent, that *cannot possibly* have a referent (since it is a self contradiction), it calls into question our entire system of law.

Any publication that debunks the myth of predatory pricing can only be considered a welcome addition to the literature of economics. Anderson (2003) certainly qualifies in this regard. It cannot be denied that this article does yeoman work in lessening

[74] That is, under the free enterprise system, people set prices only for what they own; they can only "price" their own private property, which means they can set the terms under which they are prepared to relinquish it. Since this applies to all market participants, without exception, we can conclude that pricing on the market is a mutually agreeable enterprise to all parties to a commercial interaction. In contrast, when government enters into the "pricing field" it typically either compels or prohibits sales at specified prices, or sets maximum (e.g., rent control) or minimum prices (e.g., minimum wages) in what Rothbard (19xx, 19) has called "triangular" intervention.

In a free market system, prices are not set. Rather one party, buyer or seller, makes an offer to the other party. If the parties agree there is a price for that transaction; if not, then there is no price. Of course, if no transaction occurs, the process may continue with either party making a subsequent offer until the parties agree, or until one party, or both parties, decide to withdraw from the process.

the deleterious power the PP doctrine has over the legal philosophy of our society. Indeed, it makes several important contributions to our understanding of this concept.

The foregoing notwithstanding, there were several errors, infelicities and oversights committed in Anderson (2003). Our attempt to rectify these difficulties is motivated by a desire to strengthen the case made by this author in undermining the injurious pull of the PP philosophy. It is our thought that Anderson has brought the football to the 3 year line, and we would like to help him carry it a few yards further, across the goal line. Any reinforcement of the argument against the PP thesis cannot help but make a positive contribution to our understanding of economic theory.

What, then, are the flaws in this otherwise exemplary piece of economic research? We deal with problems more or less in the order in which they appear, not necessarily in the order of importance.

1. Costs v. expenses[75]

According to Anderson (2003, 26): ".... the costs to firm owners that are relevant are the subjective or implicit costs, which can never be determined by accountants and certainly not in the courts."

While it is true that the relevant costs to the firms' owners are subjective, and cannot be quantified, subjective and implicit are not synonymous, as he implies. This is a common error among neoclassicals, who incorrectly confuse implicit and opportunity costs. The notion of implicit (as well as explicit) "costs" is problematic. There are explicit and implicit expenses and there are opportunity costs.

Expenses are of two types: explicit and implicit. Explicit expenses are out of pocket payments for resources and are approximately the same as accounting expenses. Implicit expenses represent foregone revenues. Both explicit and implicit expenses are objective and therefore quantifiable. However, opportunity cost measures the subjective value of the next best alternative foregone when choosing, and therefore dividing opportunity cost into explicit and implicit categories makes no intuitive sense. Assuming, as many neoclassicals do, that opportunity cost and "implicit cost" are the same is also incorrect. There is such a thing as opportunity cost, but there is no such thing as implicit "cost." There are only implicit expenses.

The concept of opportunity cost is in its entirety an implicit cost, but not in the sense that neoclassicals use implicit cost. For example, when they say that total or full cost is the sum of explicit costs (i.e., accounting costs) and opportunity costs, they are using implicit cost to mean the difference between total cost and explicit cost. This is incorrect. On the other hand, since opportunity cost is the value (or benefit) foregone by choosing one alternative rather than the next best, then opportunity cost is entirely an implicit cost, since it represents value foregone. Thus, in the correct use of the terms expense and cost, opportunity cost and implicit cost are the same, whereas opportunity cost and implicit expenses are obviously not the same.

In the view of Pashigian (1998, 146): "The full price [of either good] is the market price plus the opportunity cost of consuming a good. By opportunity cost we mean the income foregone because of time used in consumption. Because you use t hours to consume each unit of X, your foregone income is wt, and so wt is the opportunity cost of time."

2. Prices

States Anderson (2003, 32): "Furthermore, within a dominant firm-competitive fringe structure, the profit maximizing price of the dominant firm is less than that of the competitive fringe."

It must be remembered here that Anderson is attempting to depict the view of mainstream economists. For Austrians, none of this can even begun to be said, since adherents of the praxeological approach do not buy into the perfectly competitive vs. the monopolistic model upon which are based Anderson's diagrams. But, if one is attempting to articulate the neoclassical vision, even if only to show its flaws, it is preferable to do this accurately.

In the present case, however, this claim of Anderson's is counter to the standard neoclassical assumption that: dominant firm maximizes profits knowing the market demand and the competitive fringe's supply, and that the competitive fringe maximizes profits acting as a "price taker," taking the price set by the dominant firm as a given.

"The only way that it would be possible for consumer prices to rise above where they were in Figure I would be for the predatory firm's costs to remain the same while the demand curve it faces has become steeper, or if the fall in factor prices had less effect than the change in demand that the new monopoly would face" Anderson (2003, 33). But that is precisely, the point. Anderson has gotten to concentrating on costs as if the primary benefit from reduced competition was to be had in factor markets rather than output markets. In fact, it is the other way around. Let us analyze Anderson's point in two ways. First, the only way that it would be possible for consumer prices *not* to rise above where they were in Figure I would be for the predatory firm's resource prices to fall to such an extent that, while the demand curve it faces has become steeper, the effect of the falling resource prices would more than offset the combined effects of the less elastic demand and diminishing returns. Second, the only way that it would be possible for consumer prices *not* to rise above where they were in Figure I would be for total industry volume to increase, or at least not decrease,

[75] For more on this subject, see Barnett and Saliba (unpublished).

after the predation had eliminated the predator's competition. That is, the predator would have to expand output enough to completely cover for the output of its former competitors that would no longer be available.

He then misses the point in the very next paragraph: "This assumption [that the fall in factor prices had less effect than the change in demand and, therefore that consumer prices would increase] is based upon the premise that factor prices in this particular industry are impervious to demand, which can only be true in a constant cost industry. In the case of an increasing cost industry, however, if other competitors are eliminated and the predatory firm is not able to expand its operations to bring production to previous industry levels, then it stands to reason that factor prices will fall" Anderson (2003, 33).

There are several errors therein, from a neoclassical point of view. First, he is incorrect when he states that factor prices can be impervious to demand only in a constant cost industry. For factor prices to be impervious to demand, the demand therefor must be perfectly elastic. This never occurs in neoclassical theory for factor demand for them is the product of marginal revenue and marginal product. Now, even when they assume that the demand for the relevant output is perfectly elastic so that marginal revenue equals price, they always acknowledge diminishing returns. That is why they always have downward sloping factor demand curves even when they assume perfect competition in output markets. Second, a constant cost industry is a long run concept. It is one in which there are neither economies of diseconomies of scale. In such a case, the minimum atc for any given atc curve is the same. As costs involve both input prices and physical productivity, such an industry would require that that as inputs prices increased with the scale of the industry, physical productivity would also increase, and that in the exact degree so that the two offset each other at the minimum points of the different short-run atc curves; or, and this is their usual assumption, factor prices remain constant and physical productivity is the same at different scales, and, therefore, the minimum point every short-run atc curve occurs at the same. cost. Third, he implies that predatory firm would seek to bring production to previous industry levels but might not be able to expand its operations to that level.

Of course, the predator has no desire to expand output to the previous industry level, save in the most unrealistic case that the fall in factor prices is so great as to overcome the price increasing effects both of diminishing returns and of the decreasing elasticity of demand. Fourth, if firms "are not able to expand operations to bring its production to previous industry levels," or do not seek to do so, the vastly more likely case, then industry volume will be reduced; as there is no reason to think that industry demand would have decreased, the reduced volume; i.e., the reduction in industry supply[76] with the fixed demand will result in higher prices.

Moreover, Anderson (2003, 34) maintains that: "As pointed out earlier, given the assumptions of the model, the profit-maximizing firm is not free necessarily free to charge higher prices, since its actions are limited to looking for the profit maximizing output and price. Even if the firm did manage to drive out all other competition through predatory pricing, that does not mean the firm will be *raising* prices, Figure 3 demonstrating that, indeed, prices theoretically could be *lower* after the successful predation has taken place. This solution – and it is plausible, given the assumptions of the model – clearly does not demonstrate that predatory pricing need be a menace to consumers" (footnote omitted). But the neoclassicals' concern with predatory pricing is precisely that consumers will be harmed, in that after the predation is successful, the predator will increase output insufficiently to offset the loss of output consequent on the demise of his competitors and raise prices. They fear, then, that consumers will acquire less output and pay higher prices therefor, which results they do see as a menace to consumers.

3. Post-predation "costs"

Anderson (2003, 32) also assumes that costs [for the predator] are reduced: "Thus all cost [expense] curves [for the dominant firm] are shifted to the right…."

This is correct. However, the predator will be further up the lower curves. He may face lower per unit expenses for *resources*, but he is necessarily expanding his output (how much would depend not only on his expenses, but also on the relationship between his prior demand and his new demand (the industry demand, if he drives all of the other firms out), and diminishing returns could cause his per unit expenses for *output* to increase; i.e., the "costs" he is referring to are per unit of output; these are affected by per unit expenses of resources and the productivity of the resources. With fewer firms in the industry, the assumption is that the demand for resources will decline reducing the prices thereof; however, the firm's resource productivities also will decline as it

[76] Technically, in neoclassical theory there is no "the" supply for an industry, or for that matter for any firm facing a downward sloping demand curve. Profit maximizing neoclassical firms are produce that quantity for which marginal revenue is equal to marginal cost, and then charge the maximum price buyers will pay for that quantity. Then, for any given mc curve, two (2) or more different mr curves can intersect it at the same quantity. As each of the mr curves is derived from a different demand curve, with a different price for the quantity at which mc = mr, the minimum price that the profit maximizing firm would be willing to sell a given quantity for depends not only on its marginal cost (as would be the case if the firm were in a perfectly competitive market), but also on the demand curve.

expands output. Which, if either will dominate is indeterminate in the general case.

Anderson (2003, 32-33) claims:

At the same time, assuming an increasing cost [expense] industry, a lack of competitors that factor prices most likely would be driven down which is why the cost [expense] curves have shifted to the right from their original positions in Figures 1 and 2.

While this may seem to be a valid approach to analyzing predatory pricing, there are a number of problems that must be discussed. First, if this is a correct scenario, one cannot claim harm to consumers at any point of the process, since the entire operation has resulted in lower prices.

This is incorrect. It is to be expected that, after the demise of his competitors, the predator would increase output. However, he certainly would not increase it sufficiently to compensate for the entire reduction in output consequent on the demise of his competitors. That means that total output of the industry would decline and that, therefore, the price would go up; i.e., there would be a reduction in industry supply and a reduction in the (industry) quantity demanded with resultant higher price. Anderson is clearly in error here. He seems to assume (in the same paragraph, unknowingly we think, that the decline in factor prices resulting from the demise of competitors would be so great, that despite diminishing returns, the predators costs would fall to such an extent that he would expand output beyond what both he and his competitors were selling previously. That is the only way that price could be lower than before he undertook the predation. Given that the predatory firm is dominant in the industry, and, therefore, the one that buys the (vast) majority of resources, the decline in prices of resources is likely to be small. Moreover, to the extent that, after the demise of its competitor, the predator firm increases its output,[77] it will require additional resources, and this even if it is more productive than the eliminated firms; e.g., dominant firm (D) was producing 100Y using 50X. The fringe firm(s) (F) were producing 20Y using 15X. After F's demise, the demand for X drops from 65x to 50 X. If D then wishes to increase output to 110Y, where it might have taken F, say 7X, to produce 10Y, it might only take D say, 6X to produce the additional 10Y. Thus, demand for X, originally 65, would fall to 50 with the demise of F, but then rise to 56 with D's increase in output. Therefore, demand would not fall as much as if there had been no response by D. Moreover, the less specialized the inputs, the less will the price fall, as they can find employment in other industries or, for labor, idleness, or for other resources, (physical) idleness.

[77] The raison d'etre of predatory pricing is, precisely, to be able to sell a larger volume and that at higher prices; i.e., it is combination of higher prices and greater quantity.

4. Elasticity of demand and the slope of the demand curve

Moreover Anderson (2003, 32) also states: "Because other competitors are gone, we can assume (as I noted earlier) that the monopoly faces a less elastic (steeper) demand curve than it faced when other firms were in the industry." Although he is correct that the firm faces a less elastic demand curve, he equates less elastic with a steeper curve, which is not *necessarily* correct. The steepness of a curve is given by its slope, in the case of a demand curve, dP/dQ; however, the elasticity depends not only on the steepness, but also on the location; i.e., the elasticity is given by $(dQ/dP)/(Q/P)$, where the numerator is the slope of the curve that must be evaluated at the relevant point, and the denominator, which must also be evaluated at the relevant point, is, so to speak, the locator of the relevant point; i.e., it is the ratio of distance on the Q axis to that on the P axis. An example that demonstrates the incorrectness of his position is that the elasticity at any given price is the same for every straight-line demand curve that intercepts the price axis at the same point, regardless of the difference in steepness of these curves.

5. Profits

"Another point to make is that one cannot determine whether or not the profits enjoyed by the firm in Figure 3 are higher than the profits the firm was earning in Figure 1. In other words, we cannot determine *a priori*, given the assumptions of the model, if the firm's profits earned after it has eliminated its competition are more than its profits when it was an industry in which there was at least some competition between member firms" (Anderson, 2003, 33).

This is arrant incorrect. If you can't tell from his curves in figures 3 and 1 it is because one set is not superimposed upon the other or because one (or both) sets are drawn incorrectly. Of greater importance is that, according to neoclassical theory, there are two (2) possible effects of the predatory action: first, demand is increased; and, second input prices decline. Of course, it is the former that is the motivation behind predatory pricing. Consider the following scenarios.

1) No change in input prices and demand increases in such fashion that MR = ME at the same Q. In this case P will increase. With no change in input prices and the same Q, total expenses remain constant; however, with the same Q and a higher P, profits necessarily increase.

2) No change in input prices and demand increases in such fashion that MR = ME at a greater Q. In this case, the MR curve has shifted to the right. In this case, profits on the original quantity increase by an amount measured by the area between the new and old MR curves from the price axis to the original quantity. In addition profits are also increased by an

amount measured by the area between the new MR curve and the ME curve from the original quantity to the new quantity.

3. Input prices[78] decrease and demand is constant. In that case the ME curve will shift down and will necessarily intersect the (original) MR at a higher Q. In that case, profits increase by an amount measured by the area under the (original) ME curve and the new ME from the price axis to the original Q. In addition profits are also increased by an amount measured by the area between the MR curve and the new ME curve from the original quantity to the new quantity.

4. Obviously, if, in addition to the decrease in input prices, demand also increased, prices would increase as a result of the demand increase and profits would go up on that account as well.

Anderson (2003, 33) also states: "It might be possible to construct graphical models in a way that demonstrates that the firm that successfully drives out its competitors through predatory pricing will also be earning more profits afterward. …However, it is important to note that such a construction would be *no less arbitrary* than the figures that I have presented in Figures 1-3." etc.

This is incorrect. In point of fact his curves are drawn incorrectly. The avc curves in figures 1 and 2 appear to be at their respective minimums at the same q (q_m) as their atc curves; that is in each figure, the atc and avc appear to be at a minimum at the same q; however, this is only accurate for situations in which avc = atc; i.e., in which there are no fixed "costs." If there are fixed costs, then the avc hits its minimum at both a lower q and a lower cost. One consequence of this is that, because the mc curves in figures 1 and 2 slope upward, as they should, and also appear to cross the relevant avc curves at their minimums, which is as it should be, they do not cross the relevant atc curves at their minimums. However, both economic theory and mathematics require that the mc curve cross the atc curve at the latter's minimum.

Once the curves are drawn correctly, with the mc, avc, and atc curves shifted downward and with the demand curve shifted upward, it is obvious that profits increase. Which, of course, is why, according to neoclassical theory, a firm might engage in predatory pricing.

Moreover, Anderson (2003, 34) states, "even if the 'predatory' firm, after successfully engaging in predatory pricing, does practice price discrimination, it does not change the outcome of my analysis." With the decrease in elasticity of demand consequent on the elimination of competition, price discrimination would increase revenues even without an increase in output sold. And, given that quantity would increase, revenue would increase even more with price discrimination than without it. In any case profits would be greater with price discrimination than without it. Moreover, the added factor of price discrimination makes it even more certain that prices would be higher than before predation. Not only would factor costs have to decrease to the extent necessary to offset diminishing returns, on the one hand, and increased demand, yet less elastic demand, but it they would also have to decrease an additional amount to offset the increased revenues from the price discrimination.

6. Equilibrium

Anderson (2003, 34) maintains that because: "…is already at an equilibrium point *from which there is on incentive to move*." He notes that at "the price the firm receives and its output level at mc = mr there are no more gains from trade" to be had. This is only correct for neoclassical analysis in the short-run.[79] Neoclassicals recognize that in the long run a firm tries to maximize its present value. A firm can be in short-run equilibrium and still take actions that might lower its short-run profits in order to increase its expected future cash flows sufficiently to more than outweigh any short-run losses associated therewith. Of course, his point that, assuming a downward sloping demand curve (i.e., the absence of the imaginary neoclassical state of perfect competition), trading at the level where mr = mc exhausts the potential gains from exchange, as the firm sees them, is correct. In such case, the only way neoclassicals can maintain that exchanges between that quantity and the quantity at which p = mc create gains from exchange is to ignore distribution effects, as if such effects have no bearing on the economic well-being of the parties involved.[80]

Alternatively, given factor prices, the firm's productivity, and the pre-predation structure of the market re demand, production at the quantity for which mc = mr does exhaust the potential gains from exchange from the firm's point of view. However, the primary purpose of predatory pricing is to alter the market structure in such way as to increase demand for the firms output, allowing it to both sell more and charge a higher price. Therefore, although all short-run gains may be exhausted at mc = mr, there are long-run gains to be had from predatory pricing

[78] We assume that these are variable input prices. If fixed input prices decreased, neither would the mc nor avc curves shift. Only the atc curve would shift downward. In that case, even if demand did increase with the elimination of competition, the profit maximizing price, quantity, and variable costs would remain the same. That is total revenue and variable cost would not change, and with the reduced fixed costs, profits would necessarily increase. And, if demand increased, as of course it would in the real world, profits would, a fortiori, increase.

[79] As our analysis here is with respect to per period total cash inflows and outflows, it is unnecessary to consider the elements of cash outflows. Therefore, we can ignore the neoclassical error of not discounting the (expected) marginal revenue products of the various factors in order to arrive at the factor demands.

[80] For more on this subject, see Barnett and Saliba (unpublished).

whose discounted expected future profits exceeds the short-run losses the firm incurs when it lowers price in order to sell more and drive its competitors from the market. That is, the sum of the discounted net cash flows from operating so that mc = mr equals mr every period, is less than the expected discounted net cash flows from operating at mc > mr in the current period, or perhaps the next few periods, given that the losses in the current period are in the form of an investment designed to change the market structure in such a way that operating at mc = mr in the periods beyond those necessary to drive competitors form the market and change its structure will yield greater expected profits that will be manifested as an increased net present value of the firm.

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