Antitrust and Competition from a Market-Process Point of View

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> *[C]ompetition is the more important the more complex or "imperfect" are the objective conditions in which it has to operate.*
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> - F.A. Hayek[1]

On no topic in microeconomics does the Austrian approach differ so profoundly from that of mainstream neoclassical economics as it does on the topic of competition. And because sharp differences in understandings of "competition" (and "monopoly") promote different attitudes toward commercial practices and market arrangements, it is no surprise that Austrian assessments of antitrust policy differ strikingly from typical mainstream assessments.

Unlike the great majority of economists outside of the Austrian tradition, Austrians reject the argument that antitrust is needed to keep markets competitive or that antitrust can be reliably used to increase markets' competiveness and efficiency. Three separate reasons justify this deep Austrian skepticism of antitrust, although any one reason standing alone would be sufficient to justify this rejection.

First, government will not administer antitrust free of political influences – influences that will often distort its application. For my purposes here I need mention this public-choice point only in passing, but its practical importance looms large. Governments have a long history of granting special privileges to politically influential producers. The prospect, therefore, of government deploying its antitrust powers to grant favors to politically influential producers ought not be

[1] Hayek (1948, 103).

overlooked simply because antitrust regulation is explicitly justified on pro-consumer, pro-competition grounds. Antitrust's history supplies more than ample numbers of examples to fear that antitrust legislation will often be used to subvert competition (McChesney and Shughart, 1995).

Second, Austrians are deeply skeptical that even apolitical and highly intelligent government authorities can apply antitrust legislation in ways that improve the operation of markets over time. We can be thankful that the best non-Austrians are sensitive to what Judge Richard Posner describes as "the daunting challenge of designing antitrust remedies that are effective without being anticompetitive" (Posner 2001: ix). But Austrians go further. They insist that the challenge isn't simply daunting; it is practically impossible. Government officials do not and cannot ever know enough about the countless, ever-changing, and all-important details of markets to intervene in ways that make markets more competitive.

The illusion that helpful intervention is possible is perhaps conjured by mistaking models of the economy for the economy itself.[2] Not only are the two not the same thing, but even the most useful economic models necessarily capture only a razor-thin slice of the individual adjustments and manifestations of creativity that make market economies work. Unlike, say, a visual model of the solar system, a model of the economy is constructed mostly of large aggregate concepts ("*the* price of wheat" or "*the* Hirschman-Herfindahl Index number for *the* market for wheat") that very much are artifacts of the modeler's own mind or of conventional classifications that

[2] Among the reasons that Richard Posner gives for his lack of sympathy with calls "to curtail antitrust enforcement drastically or even to repeal the antitrust laws altogether" is his assessment that "economics is an improving discipline" – and, hence, in Posner's estimation, economics is increasingly able to wisely guide antitrust enforcers (Posner 2001: x).

economists or statisticians have come to accept over time. These concepts have neither the objectiveness nor the distinctiveness of the sort that both Jupiter and the sun have as the former orbits the latter.

This observation is no prelude to a call to reject economic models. Far from it. It is, instead, a plea for greater appreciation of the limitations of economic models. The extraordinary abstraction from details that is required to construct useful economic models – and the frequent need to rely upon artifactual statistical constructs (such as "the HHI for industry *X*") – results in models that necessarily ignore the countless on-going individual actions that give rise to the more aggregative phenomena featured as variables in the models.[3]

Yet it is only at this deeply micro level that individuals perceive profit opportunities and act to seize them. Our – that is, analysts' – knowledge of the vast array of particular facts that are at every moment the ones to which economic actors must adjust is so skimpy that we must concede that mastery of economic theory is not

[3] There is, in fact, no single price of wheat, if for no reason other than there is no single type of wheat. And each market identified and modeled does not – unlike a planet orbiting the sun – have definite boundaries that distinguish it clearly from phenomena apart from itself. The market for wheat might well, for some purposes, best be thought of as being a distinct market unto itself. For other purposes it might be best to reckon the market for wheat as part of the market for wheat, corn, and barley. And for yet other purposes as being part of the market for all grains. Nothing about objective reality makes clear what are the boundaries of the market in which wheat farmers compete. That people can usefully talk about "the" price of wheat, and that economists can measure with fine precision the HHI for the wheat industry, does not give these things an objectiveness and a distinctiveness of the sort that is possessed (at least from the perspective of humans) by planets and stars.

even remotely mastery of the economy itself or of enterprise. The capacity for models to inform economists and government officials of what are the best ways for firms to meet consumer demands – and of what are the best organizational forms for markets to facilitate the maximization of consumer welfare – is very limited.

A third and related reason for skepticism of antitrust is that markets are much more robustly competitive than mainstream economic theory reveals them to be. The remainder of this paper is devoted to explaining why this robustness is real and why it is frequently overlooked by mainstream scholars.

II.

For the past 100 years, mainstream economists have defined "competition" as an equilibrium state of affairs. In the mainstream view, market competition is an *outcome* – or, alternatively, competition is a set of equilibrium conditions in which each seller of some given good or service maximizes its profits by producing that volume of output at which marginal cost equals price. In the Austrian view, market competition is very different. Competition is a *process*. Competition is a time-embedded complex of activities, many of which are incompatible with each other, in which entrepreneurs continually – and often quite creatively – vie to raise the net present value of their firms. If no special protections or privileges are available from the state, this competitive process plays out exclusively in the form of entrepreneurs struggling to increase their efficiencies and to raise the attractiveness (to consumers) of their product offerings.

As many Austrians have noted, no actual competition – as that term is popularly understood – occurs in perfectly competitive markets. To attract more customers, no firm must cut prices, advertise, or build a better mousetrap. Each firm that manages to keep its unit cost low enough to be covered by the market price of its output can sell as much as it wants. All that each firm in "perfectly competitive" markets must do is to choose its level of output. And even that choice is mechanical:

expand the rate of output produced per period of time up to, but not beyond, the rate at which marginal cost is made equal to the externally determined and fully known market price.

Matters are similar for consumers in perfectly competitive markets. These consumers simply are *assumed* to be fully (or at least adequately) informed about prices, product quality, and product availability. Also, consumers' demands simply are *assumed* somehow to prompt firms to produce that mix of outputs which optimally satisfies those demands. There is in the theory of perfect competition no agent or process that *discovers* what consumers do, or might, demand. There are no active economic agents who catalyze inchoate consumer preferences into economically meaningful consumer demands. And there are certainly no agents who create, intensify, reduce, refine, distort, or otherwise change those demands.

Consumers and producers in this theory are mechanical and utterly artless computing devices. Consumers are mere vessels of utility functions that, when mixed with consumers' incomes, are (somehow) transformed into demand schedules for various goods and services. Firms are nothing more than devices for transforming inputs into outputs that will satisfy these demands. For consumers and firms alike, then, all demand under perfect competition exists prior to market activity. Consumer preferences that give rise to demands are given to the system and not affected by it in any way.

Likewise for costs. By assumption, firms are fully informed about production functions and about input prices. Nothing need be discovered, for there is nothing *to* discover.

In short, there is, and there cannot possibly be, entrepreneurship in a perfectly competitive world. Ditto for error in a perfectly competitive world. Ditto for misinformation. Ditto for experimentation and learning and economic growth. [4]

III.

Of course, every theory is unrealistic in that each one abstracts from some features of reality in order to focus attention on other features judged to be most relevant for the purposes at hand. Unrealism, in this sense, is indispensable to any useful theory. The theory of perfect competition is no exception. As a tool for sharpening our insight into many of the likely consequences of certain exogenous changes – for example, how increases in consumer demand for product *X* affect the price and output of product *X* if product *X* is sold by many different sellers – this theory works well.

Trouble arises, instead, out of a confusion borne largely of its name. The theory of perfect competition is not a theory *of* competition. We learn nothing from this theory about how firms actually compete. Beyond the positive relationship between the number of competitors and the intensity of price competition – a relationship that is assumed rather than demonstrated – this model is silent about the kinds of competitive activities that real-world firms might practice under different market

[4] See, e.g., Demsetz (1997, 137):"[P]erfect competition, the central model of neoclassical economics, does not really involve competitive pricing activity. The equilibrium market clearing price that emerges from the perfect competition model may be termed a competitive price, but it results from mysterious market clearing forces and not the competitive pricing activities of firms…. Competition in the perfect competition model is nothing more or less than the undertaking of profitable *imitative* output responses to given market prices, and is best described just so" (emphasis added).

conditions. And it sheds no light on the many different modes of competition that we actually do observe in reality *except* that none of these modes will ever happen under the conditions assumed in the theory of perfect competition.

No competitive activities of the sort that we routinely observe in the real world occur in the model that economists (the experts!) call *perfect* competition. From the confines of that model, activities such as advertising, price discrimination, and product differentiation are naturally viewed as suspect – as evidence either of existing monopoly power or of attempts to secure monopoly power. What else can such activities be from the perspective of the model of perfect competition? When markets are perfectly competitive, consumer welfare *by assumption* is maximized when firms are price takers, searching for maximum profit exclusively by adjusting their rates of output in response to observed changes in the market prices or costs of production that these firms confront. Any other activities violate the conditions of perfect competition.

From this neoclassical vantage point it's a short leap to the conclusion that the real world is chock-full of markets that are not ideally competitive. The verdict seems clear: real-world markets, because they differ so starkly from perfectly competitive markets, are infused with elements of monopoly power and, hence, generate imperfect outcomes that are at least potentially correctable by policies that make real-world markets more closely resemble perfectly competitive ones.

Theories of imperfect competition do nothing to change this line of reasoning. Although more realistic than the theory of perfect competition, the welfare conclusion that falls out of imperfect-competition theories is that markets perform worse the more their conditions differ from those of perfect competition. The imperfections – or "monopolistic" – elements identified as such in theories of imperfect (and monopolistic) competition are precisely those features of reality that cause, or permit, real-world market activities to differ from those that prevail in a world of perfect competition.

The realism introduced by such theories is the assumed fact that real-world markets are swarming with monopoly power. Ideal competitive conditions might be practically unobtainable, and so theories of imperfect and monopolistic competition more accurately describe real-world markets than does the theory of perfect competition. But for all of these theories the ideal is unquestionably perfect competition. Perfect competition sets the standard against which the competitiveness of real-world markets is judged.

IV.

Austrians reject this neoclassical theorizing about competition. They do so not because such theorizing abstracts from some features of real-world markets, but because it abstracts from the very features of real-world markets that are most in need of being explained by any theory of competition. In the Austrian understanding, the discovery of consumer demands – discovery not only by producers, but also by consumers themselves – is an important function of real-world markets. Likewise the discovery of lower-cost methods of production. Likewise the discovery of information about (often rapidly changing) prices, product qualities, and availabilities of products and inputs. Likewise the potential for producing and selling entirely new products. In reality, none of this knowledge is ever given or fixed. It must be discovered. And competition – real-world competition, the struggle among producers to increase their profits by better appealing to consumers in any ways that they can – is chiefly a process of such discovery.

Clearly, this entrepreneurial discovery process is very different from the "competition" that occurs in neoclassical models. In Austrian accounts, types and qualities of outputs are never given. Nor are demands. Nor are prices. Nor are production functions and costs. These are all understood to be, at least in large part,

discovered – or even created by – entrepreneurial actions of the sort that are assumed away in the model of perfect competition.[5]

One result of this difference is that many real-world activities that either do not occur in the theory of perfect competition or that are plainly at odds with the assumptions of that theory are, in the Austrian view, revealed as being at least potentially pro-competitive. Many of the "monopolistic" elements or "imperfections that mainstream economists see in real-world markets are, through Austrian lenses, seen as manifestations of well-functioning and creative competition.

For example, a firm that builds a better mousetrap likely does gain for itself, if only temporarily, a greater ability to increase its profits by raising its price above marginal cost. The mainstream economist focuses on the absence of instantaneous forces to compel this innovative firm to sell its better mousetrap at a price equal to marginal cost; therefore, this economist identifies the innovation as introducing a quantum of monopoly power into the mousetrap market. The Austrian, in contrast, focuses on the unquestionable improvement in consumer welfare brought about by the entrepreneur's successful effort to improve the product varieties available to consumers.

Such product experimentation is necessary in a world in which consumer demands are not fully known to suppliers – or, as is also likely, are not fully known even to consumers themselves. The typical consumer might well be unaware that he is willing to purchase *Z* amount of some new product *X* at price $*Y* until he actually first sees product *X* displayed on a retailer's shelf and priced at $*Y*. Even though the

[5] From the vantage point of the theory of perfect competition, no one can make sense of Shlomo Maital's (1994, 169) observation that "Good executives create customers. Great ones create markets." In contrast, from the standpoint of reality – and from economic history – Maital's observation makes perfect and profound sense.

assumption that each consumer knows his demands fully is useful for several purposes, its use in a theory of competition masks an important function of competition – namely, to help consumers themselves discover the specific features of their demands.

If demands and products are not given and fixed, the prospect for earning, at least for a short time, profits above normal by being able to charge prices higher than cost is surely a principal lure to entice entrepreneurs to experiment with different product offerings. Therefore, neither above-normal profits nor P>MC any longer serves as an unambiguous marker or signal of monopoly power. On the contrary, both become potential pieces of evidence of intense competition.

Austrians see no reason to classify product differentiation differently from price-cutting: both actions are competitive in the popular sense of the term; both are done for self-interested commercial reasons; and both improve consumer welfare *relative to* what that welfare would otherwise be.

V.

Austrians thus reject most of the mainstream markers of monopoly power – markers such as P>MC, profits greater than normal, high market concentration, and price discrimination. These mainstream signs of monopoly power are, instead, at least as likely to be evidence of on-going competitive struggles among firms each to better position itself to 'win' more consumer patronage.

For Austrians, competitive markets exist as long as there are no *artificial* barriers to production and exchange. The range of actions available to entrepreneurs and consumers in a market is, in fact, open-ended, and therefore the range of observed arrangements and market 'outcomes' that are consistent with competition is also open-ended. What might well appear to an economist trained only in mainstream

models to be evidence of monopoly power is perhaps, in reality, evidence of the market's creative way of groping toward greater efficiencies.

Obviously, a question is begged by the statement "competitive markets exist as long as there are no *artificial* barriers to production and exchange." What, exactly, is meant by "artificial"? The answer – or, *my* answer – is a barrier to production and exchange is artificial if it results from legislative or regulatory power targeted to give differential advantage to a particular product, person, firm, industry, or region. That is, a barrier is artificial only if it springs from the discriminatory application of force in favor of certain market participants.

In the absence of such government favoritism (and of the outright breaking of foundational common-law prohibitions, such as those against theft), a firm can increase its profits only by achieving greater efficiencies in production and distribution, or by enhancing the attractiveness of its product in the minds of consumers. The resulting continual and creative struggle among entrepreneurs for maximum profits will result in a variety of experiments – some successful, some not – across the spectrum of possible ways to organize firms and industries. For Austrians, the test of whether or not markets are competitive is not how well markets conform to some external criteria imposed by economists, courts, or legislators. Rather, that test is whether or not artificial barriers exist. Period.

The mainstream economist objects, along with advocates of vigorous antitrust enforcement: "This Austrian definition of 'artificial barriers' simply assumes away the possibility that such barriers can arise in free markets." But this objection misses the larger picture. Economic theory – mainstream as well as Austrian – has at its foundation the assumption that entrepreneurs are forever searching for opportunities to earn profits as large as possible *and* that consumers are forever

searching for opportunities to increase their utility as much as possible.[6] With these assumptions, economists readily recognize that (say) an unexpected increase in the demand for bananas relative to that for papayas will prompt producers to supply fewer papayas and more bananas. In this case no one frets that consumers will not be supplied with more bananas, or that consumers will long pay exorbitant prices for bananas. Freedom to enter the banana market is believed to be sufficient to ensure that the current higher-than-"competitive" price for bananas (and the current lower-than-"competitive" quantity of bananas supplied) will be corrected by increased production of bananas.

Importantly, in such a case as that of an increased demand for bananas, no mainstream economist worries if told that the production functions of each existing banana producer make it unprofitable for these producers to increase their production of bananas even at the higher price of bananas. The assumption in this event is that, absent government-imposed restrictions on entry into the banana industry, an increased demand for bananas would then be met exclusively by new entrants.

This same set of assumptions and train of reasoning that apply in the case of an increase in the demand for bananas should apply also in the case of the most widely condemned violations of antitrust legislation, namely, horizontal collusion and horizontal mergers. If in the absence of government-imposed restrictions on entry a rise in the price of bananas caused by increased consumer demand for bananas attracts new entrants into the banana market, why suppose that in the absence of government-imposed restrictions on entry horizontal collusion or horizontal

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[6] Indeed, the assumption that producers are forever on the lookout for new ways to maximize their profits is critical to the case for antitrust. It is that single-minded quest for profit that fuels producers' efforts to collude, merge-to-monopoly, predate, and otherwise suppress competition.

mergers among banana producers that restrict output and raise prices will not do the very same – namely, attract new competitors? No good reason exists.

It will not do to insist that a relevant distinction exists in the fact that horizontal collusion or consolidation is initiated by producers while rising consumer demand (as in the banana example) is not. If new entry is assumed possible and effective when the latter occurs, it must be assumed possible and effective when the former occurs.

Nor will it do to assert that, unlike rising consumer demand, horizontal agreements that restrict output and raise prices serve no legitimate economic function and, therefore, ought not be tolerated. First, scholars have identified plausible situations in which even successful collusion promotes consumer welfare over the long-run (see, e.g., Bittlingmayer 1982). Second and more importantly, as long as there are no government-erected barriers to entry, the most reliable test for what arrangements best promote long-run consumer welfare is the market test. If a particular horizontal arrangement survives in the face of entry, or the possibility of entry, we are not scientifically entitled to assume that that arrangement is undesirable. Our presumption must run in the other direction. The same intellectual humility that obliges us to regard the continuing supply of vanilla ice cream, in a market free of artificial barriers, as serving consumers' best interests also obliges us to regard a successful collusive agreement or horizontal merger, in a market free of artificial barriers, as serving consumers' best interests.

Put differently, the potential for entry free of artificial barriers is sufficient to discipline producers to continually experiment with arrangements and practices that improve their abilities to serve consumers. Arrangements and practices that serve consumer interests poorly relative to other arrangements and practices will be displaced in competition with those other arrangements and practices.

To most economists and legal scholars this Austrian position seems extreme. When the complexity and dynamism of the economy is reckoned properly, however, the Austrian position is seen as more realistic than the one staked out by the mainstream. What F.A. Hayek (1948: 80) famously called "the particular circumstances of time and place" are all-important. It is *these* details that must be reckoned with, moment to moment, by people on the spot. It is these details that furnish hints only to close-in observers – only to those people on the spot – for how resources might be reallocated, or how organizational forms and practices might be altered, to generate more profit. Using antitrust legislation to prevent experimentation with organizational forms and practices short-circuits competition among organizational forms and practices. Even if antitrust enforcement results in more intense price competition (and, hence, lower prices), it will do so by weakening other forms of competition.

VI.

Before turning to an example of how a market-process perspective promotes analyses different from those that typically issue from the mainstream, a few words must be said about the modern Chicago/UCLA School. While more neoclassical than Austrian in method – and while not going as far as Austrians in rejecting many mainstream conclusions – modern Chicago and UCLA economists have contributed greatly to a more realistic and much-improved assessment of market processes and of antitrust policy. Research done by these scholars, especially from the 1950s through the early 1990s, was a shot across the bow of mainstream antitrust research.

This Chicago/UCLA scholarship shares much with Austrian scholarship. Like Austrians, Chicago/UCLA scholars understand that competition is a discovery procedure – and, hence, they understand the importance of entrepreneurship; they understand that heuristic models are neither descriptions of, nor prescriptions for, reality; and they treat seriously the subjectivity of tastes and costs. It's fair to say

that the bulk of Chicago/UCLA insights into industrial organization and antitrust policy is a product of that school's embrace, however unconsciously or imperfectly, of concepts that form the core of Austrian scholarship.

Lester Telser's (1960) work on vertical restraints; John McGee's (1958) and Frank Easterbrook's (1981) work on predatory pricing; George Bittlingmayer's (1982) work on horizontal collusion; Harold Demsetz's work on barriers to entry (1982) – these are just some examples of research that, although they 'feel' more neoclassical than Austrian, are highly sensitive to the reality of phenomena such as dispersed and ever-changing knowledge, subjective preferences, and the open-endedness of genuinely competitive markets.

It's an interesting question (although one that I do not explore here) why Chicago/UCLA scholars have been more effective than self-identified Austrians at changing antitrust policy for the better. Whatever the answer, the fact remains that Austrian analyses of antitrust policy overlap greatly with Chicago/UCLA analyses.

The distinctiveness of this Austrian/Chicago/UCLA-style market-process tradition in antitrust is seen clearly in analyses of predatory pricing.

VII.

In neoclassical theory, a price is predatory if it is below marginal cost. To this requirement for finding unlawful predation, American antitrust doctrine adds the requirement that the firm that initiates the below-cost price-cutting do so as a result of its intent to increase its monopoly power. But in a world in which costs are notoriously difficult to measure objectively, observed price-cutting as a symptom of predation is strikingly similar to price-cutting as a symptom of healthy competition. To relieve courts of the impossible task of divining defendants' intent, Phillip Areeda and Donald Turner (1975) devised a cost-based test that allegedly offers courts an objective and reliable way to identify predation. Under the Areeda-Turner test,

prices above average total cost (ATC) are *per se* legal, prices lower than ATC but not below average variable cost (AVC) are presumptively non-predatory, and prices below AVC are presumptively predatory.

While the Areeda-Turner test improved courts' treatment of predation claims by shifting attention away from belligerent language ("Let's crush our competitors!" "Our goal is to destroy our rivals!") often found in internal company memoranda (Elzinga and Mills 1994), this test is fundamentally flawed. From the market-process perspective, *all* pricing practices should be *per se* legal. The reasons are four: (1) misidentifying competitively low prices as predatory chills competitive behavior; (2) costs are inherently difficult to measure; (3) firms will almost never pursue even temporary enhancements of their market power by using price cuts; and (4) the relationship between price and cost at any moment says nothing about predatory intent or likelihood of predatory success.

The first two reasons are widely recognized even outside of the Austrian and Chicago/UCLA traditions. I will therefore not discuss them. And although a great deal has been written about the third reason,[7] still more can be said. But saying more requires first an understanding of the fourth reason – that is, why the relationship between price and cost yields no information about predatory intent.

The Areeda-Turner test rests squarely on the belief that P<AVC conveys relevant information about the firms predatory designs. The reason P<AVC is believed to announce that a firm has predatory designs is that such a price causes unnecessary losses for the firm and, hence, "is not a reasonable way for a firm to increase profits – unless the increase is the present value of future monopoly pricing" (Hovenkamp 1985: 173). Because a firm in mainstream theory likely has no good reason to charge prices below AVC, a firm observed charging such a low price is probably

[7] The classic study here remains Easterbrook (1981).

doing something other than maximizing its profits. That something else is concluded to be attempted monopolization.

This conclusion (which is of a type that philosophers call "the fallacy of the residual") is invalid. Due to its unavoidably limited scope, the partial-equilibrium model that is at the heart of theories of perfect competition and of imperfect competition defines only a limited number of economically sound reasons for firms to cut prices below AVC (or below MC). So it hardly follows that an observed price cut that is inexplicable when analyzed using this mainstream model is predatory.

As explained above, the mainstream model of markets (upon which Areeda-Turner relies) is designed to explain pricing and output decisions by firms producing given products to satisfy given demands, all within the confines of well-defined and given constraints on resource availability, knowledge, and production techniques. In reality, though, firms must decide which kinds and qualities of products to produce as well as how to market these products. If pricing decisions are part of a firm's product-development and market plan, prices below conventionally measured costs are not validly classified as predatory simply because the mainstream model has no room for such pricing practices. Such prices might be a legitimate investment in marketing.

For example, a firm might decide that if it can today build up long-lasting consumer loyalty, construction tomorrow of a larger and more-efficient factory will be justified. But how to build such loyalty? One way might bet to charge, for a time, prices below conventionally measured AVC (or MC).

Yet under the Areeda-Turner test, such prices are presumptively predatory. Suppose, however, that the firm seeks to engender consumer loyalty by some means other than pricing below cost, such as by spending extra funds training sales clerks to be singularly friendly, knowledgeable, and helpful. There is no economically relevant difference between these alternative means of building consumer loyalty.

In each case, the firm "loses" – more accurately, invests – money today in the hope of recouping these "losses" tomorrow. Also in each case, rivals are harmed if the firm succeeds; in each case, rivals might even be bankrupted. And yet predation is declared only in the case in which the firm spends money on prices below cost. If training sales clerks is presumed to be a wholesome competitive exercise, it's utterly unclear why pricing below cost is presumed to be pernicious. Both investments help the firm, harm rivals, and benefit consumers (at least until the firm becomes a monopolist as a result either of its excessively low prices or its staff of unusually competent and agreeable sales clerks). Because the Areeda-Turner test and the mainstream theory upon which it rests are blind to possible efficiency justifications for prices below AVC, that test and mainstream theory are too quick to label all such prices as predatory.

None of the foregoing denies that a firm's pricing practices *can* ruin rivals and leave the firm with a monopoly. But it does point out the fact that prices below AVC are an investment that differ in no economically relevant way from other investments that firms use to attract consumers. And nothing in even mainstream theory justifies the conclusion that investments in the form of price-cutting are any more (or less) likely than are other investments to result in monopolized markets. Mainstream theorists simply assume that these different kinds of investment have very different likely consequences for the competitiveness of markets. A genuine theory of predation must plausibly distinguish investments that are likely to result in welfare-reducing monopolies from investments that are unlikely to do so. Focusing on the relationship of price to cost does not help in finding such a distinction.

There are now, however, several well-known reasons for doubting that attempts to monopolize ever take the form of price-cutting (Easterbrook 1981). To these well-known reasons I add others. These other reasons are suggested by a the market-process perspective – a perspective that reveals that firms' efforts to compete

legitimately for consumers' patronage spans a far larger range of activities than is revealed by the price-obsessed mainstream models.

(1) Non-price improvements are more difficult than are price cuts for rivals to mimic. What can be easier to imitate than a price cut? No special skills, experience, or organizational sophistication is required to cut prices to meet those charged by a rival. Entrepreneurs and business executives need to know only how to read numbers. In contrast, matching an improvement in product quality or in the efficiency of production or distribution techniques *does* require real skills on the part of rivals. While the dullest rival will have no trouble matching a price cut exactly, some rivals might never be able to match a non-price change in a competitors' offering or method of production.

(2) Non-price improvements take more time to match than do price cuts. The longer it takes for rivals to match a predator's actions, the greater are rivals' losses during the period of predation. Thus, compared to a predator that merely slashes prices, one that employs non-price tactics to damage rivals – say, a firm that seeks monopoly power by building a better mousetrap – will oblige its rivals to exit the market more quickly. In addition, re-entry into the monopolized industry will be slower if the monopoly was won through non-price tactics rather than through simple price-cutting. Because (in analyses of predatory pricing) rivals of the predator are assumed to be efficient participants in the industry, only a genuine non-price improvement has any chance of giving the predator a durable advantage over rivals – an advantage that not only is difficult or impossible to match today, but might well be difficult or impossible to match also in the future.

(3) Unlike with predatory pricing, non-price improvements might yield profits to the predator even before rivals exit the industry. An improvement in product quality by a predator might increase consumer demand for its output so substantially that the predator recovers all costs of product improvement even before all rivals are driven from the industry. No such profits are available during

predatory-price wars. Moreover, the future demand for the product might be higher when the predator improves the quality of it product than when it simply charges below-cost prices.

In short, *if* there is predation, it almost certainly will not be carried out with easy-to-mimic price cuts. Savvy predators will instead choose non-price predatory tactics.

Of course, because Austrians have good reason to doubt that a market can be monopolized for any length of time in the absence of artificial barriers to entry, the above Austrian-inspired comparison of non-price predation to predatory pricing is not intended to suggest that non-price predation is a real problem worth worrying about. Rather that comparison is meant to reveal how mistaking a theory of pricing for a theory of competition can mislead competent scholars to mistaken conclusions – conclusions whose erroneousness is easily revealed from a market-process perspective.

VII. [Conclusion]

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