
Readings

of particular interest

Pricing Freight: Is Antitrust Theory Off Base?

"Basing-Point Pricing: Competitive vs. Collusive Theories" by David D. Haddock, in *American Economic Review*, vol. 72, no. 3 (June 1982), pp. 289-306.

Is it anticompetitive to meet your competitor's price? According to David Haddock of the Law and Economics Center at Emory University, the answer is "no" for a legally important set of instances where economists have long thought the answer was "yes."

The notion of "meeting the competition" has an ancient history in business. To many business people, the archetype of a tough competitor is the firm willing to "meet the competition" in widely dispersed markets, even in those in which the competitor seems to have a natural advantage.

"Basing-point pricing" is a special practice of this sort. A firm that uses this pricing system adds a freight charge to the price of its goods as if it had shipped the goods from its competitor's plant, not its own. If A's plant is in Akron and B's plant is in Buffalo, in other words, A will charge a shipping fee based on the customer's distance from Buffalo. The idea is to ensure that A can meet B's price everywhere.

Economists have long condemned basing-point pricing, and antitrust authorities have followed suit. The economists' hostility to a practice that many businessmen regard as the height of competitive zeal is not so odd as it initially seems. The practice seems on its face to flout the idea of cost-based pricing, since it costs more to sell goods far afield than close to home. In some areas the freight charge will actually decline with distance from the seller's home plant. Moreover, basing-point pricing seems self-defeating. Suppose, first, that A's prices are just adequate to cover its costs near its own plant. Then it must be losing money on

shipments to places closer to B's plant, and it should eventually go out of business. Conversely, suppose that A's prices on shipments to the area near B's plant are high enough to cover A's costs. Then A must seemingly be earning attractive profits on sales near its own plant, where its costs are lower and prices are higher. Such a disparity ought to attract other firms to build plants on A's home turf and then undercut A's prices there.

Hence it would seem that firms that insist on basing their prices on those of distant competitors will either fail or attract new competitors to their home bases. In either case, the traditional economic theory expects basing-point pricing to be a short-lived phenomenon. Unfortunately for the theory, Haddock says, it is not. Basing-point prices have been used over long periods in some industries. How, then, can the theory be brought into concurrence with the facts?

Economists have traditionally answered that question by alleging that basing-point pricing must result from anticompetitive collusion. (This reminds Haddock of Ronald Coase's observation that when the world fails to confirm the theory, we usually blame the world.) Antitrust enforcers, welcoming a chance to intuit collusion without actual proof, have gladly accepted the economists' bemused hypothesis.

Haddock contends that not only is more direct evidence of collusion lacking, but intelligent colluders could design pricing policies that are simultaneously less obvious and more profitable. Moreover, he says, there are rational noncollusive reasons for some firms to use basing-point pricing. In most industries marginal costs do not deviate much from average costs at normal rates of output. In a few, however, overhead costs are high as a proportion of total costs, so that firms' marginal costs are lower than their average costs. Such a firm can use basing-point prices without attracting nearby entry; its marginal costs are low enough to

make the distant sales profitable, but its average costs are high enough not to attract entry. It is in exactly such industries, Haddock says, that long-lived basing-point prices have been observed.

In a sense, Haddock argues, both the businessperson and the economists have been right about basing-point pricing. As the businessman argues, an entrepreneur willing to meet the competition wherever he finds it is indeed an avid competitor; as the economist argues, he may also be foolhardy, since the practice is ill-advised unless overhead costs are high. In those rare conditions where basing-point pricing is appropriate, however, the practice does not imply collusion, and need not be transitory, Haddock says—which would imply that an entire branch of antitrust law has been misdirected.

Perception vs. Reality: An Almanac of Risks

Risk/Benefit Analysis by Richard Wilson and Edmund Crouch (Ballinger, 1982), 219 pp.

Although risk-benefit analysis is familiar enough in regulatory contexts, it has many other applications, as when a surgeon decides whether to risk open-heart surgery on a patient. Richard Wilson and Edmund Crouch, both of the physics department at Harvard, discuss the techniques used to measure and analyze risk in various settings.

One of the authors' recurring themes is the gap between actual risk and risk as it is perceived by the public. "Most people seem to believe that life is becoming more dangerous," they note, "even though most objective measures show the contrary to be true." In a 1980 Marsh and McLennan poll, 78 percent of those interviewed said there was more risk in day-to-day life than there had been twenty years earlier, and only 6 percent thought there was less. Yet judged by life expectancy, at least, actual risks have been decreasing steadily for decades and indeed centuries.

The public is especially inclined to overestimate unusual or catastrophic risks to life, Wilson and Crouch say. According to a survey described in a 1978 study, the public tends to underestimate the risk of dying from cancer, heart disease, and stroke, and overestimate the

risk of dying from such rare causes as tornadoes, floods, and botulism poisoning.

There is, needless to say, much controversy over how to measure public perceptions of risk. Several methods are customarily used. *Expressed preferences* are simply those disclosed in polls of public attitudes, and suffer from the usual uncertainty as to whether respondents are really typical or would really behave as they say in a real-world test. *Revealed or implied preferences*, on the other hand, are those implied by the trade-offs between risk and benefit that persons, institutions, or governments have actually accepted in the past. The revealed-preference technique "presumes that society has adjusted automatically to an acceptable balance between risk and benefit." One drawback of this method is that it tends to validate whatever degree of risk aversion has been practiced in the past, whether high or low. Still, revealed preference studies can uncover intriguing discrepancies in the amount society is willing to pay in various situations to avert deaths. For instance, it costs \$200,000 at the margin to avert one death through kidney dialysis, but only \$10,000–25,000 through some forms of cancer screening. By contrast, the marginal cost of averting deaths is quite high for many currently pursued forms of regulation: \$22 million for coal mine safety, \$4.5 million for coke fume emission control, and \$1 billion—given a discounting factor of 1 percent a year—for high-level civilian nuclear waste. Among traffic safety improvements, installing warning signs, guardrails, and parapets could save lives at a cost of \$34,000–50,000, while air bags for drivers would cost \$320,000 and tire inspection \$400,000. When the fatalities to be averted are foreign, incidentally, the public's apparent willingness to pay drops toward zero: it would cost only \$100 apiece to prevent deaths by immunization in Indonesia. (All of these figures are in 1975 dollars, and are taken from a 1980 review by B. L. Cohen in the journal *Health Physics*.)

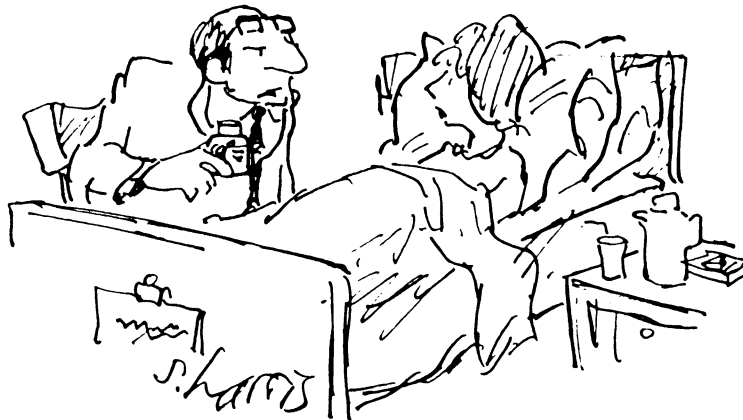
Such discrepancies need not imply inconsistency, since there are several reasons why stricter measures may be applied to seemingly lesser risks. "Comparisons should not necessarily imply judgments," the authors say. "Cigarette smoke and air pollution both probably cause lung cancer, the former at least 20 times as much as the latter, yet cigarettes are smoked

voluntarily and air pollution is involuntary. . . ." Similarly, although aflatoxin from mold might cause up to 2,000 deaths per year and vinyl chloride monomer in plastic bottles only one-fiftieth of a death, "few would suggest that 100,000 times as much effort be expended on reducing the aflatoxin risk as on VCM in bottles, because no one knows how to do so except by banning milk and nuts."

In public polls, likewise, respondents draw a distinction between more and less acceptable risks of a given magnitude. The 1978 study mentioned earlier found that respondents' willingness to accept risk depended on such factors as the voluntariness, familiarity, and immediacy of the hazard as well as the perceived benefit of the activity.

To be most useful, Wilson and Crouch say, knowledge of risk magnitudes should be "related to the magnitude of everyday risks." Accordingly, they present "a catalogue of risks" of death. Smoking two cigarettes, for instance, provides a one-in-a-million chance of death, the same as the risk from drinking forty diet sodas (saccharin), six pounds of peanut butter or 180 pints of milk (aflatoxins), 200 gallons of Miami or New Orleans drinking water, or 90 pounds of broiled steak (counting cancer risks only). The same degree of hazard pertains to one transcontinental round trip by air, living a month and a half in Colorado compared with New York (cosmic rays), twenty days of ordinary background radiation, two-and-a-half months spent in masonry rather than wood buildings, or one-seventh of a chest X-ray. Among occupations, the same one-in-a-million risk applies to being a police officer for one-and-a-half days, a firefighter for eleven hours, or a mine- or quarry-worker for nine hours. Just residing in the United States causes assorted risks to tick away at various rates: a one-in-a-million risk of death by lightning applies to someone who lives in this country for two years; electrocution, two months; drowning, ten days; and auto accidents, only one-and-a-half days.

The authors apply their theories to nine case studies of risk, including saccharin, auto



© 1982 by Sidney Harris.

"Are you lucky? According to its benefit-risk ratio, this drug should only be given to people who are lucky."

safety, several types of radiation exposure, and three medical procedures: the diagnosis of skull fractures, swine flu immunization, and heart bypass surgery.

Solar Energy and the Law

This Reading summarizes two articles from Legal Aspects of Solar Energy, John Minan and William Lawrence, editors (Lexington, 1981). Minan and Lawrence, professors of law at the University of San Diego and Vanderbilt University respectively, bring together in the volume papers that analyze the legal issues affecting the development of solar energy, especially what they call "the fundamental legal barriers that presently impede its widespread use."

- "Common Law Doctrines and Solar Energy" by Donald Zillman, pp. 25-43.

Donald Zillman, director of the Energy Law Center at the University of Utah, reviews the role of common law in disputes between solar energy users and other landowners. Though a property owner is always entitled to enjoy sunlight that falls from directly overhead, conflicts can arise when sunlight falling from an angle is blocked by a neighbor's building or vegetation. The question then is: can the solar user demand that the neighbor chop down a tree, or refrain from erecting a building, in pursuit of a right to direct sunlight?

Early American law recognized such a right, borrowing the English common law doctrine of "ancient lights," but American courts have generally not done so. In a 1958 Florida case, a Miami Beach hotel was allowed to build an addition that blocked sunlight to an adjacent hotel's pool area. On the related issue of broadcast obstruction, an Illinois court in 1972 did not grant relief to a group of plaintiffs who claimed that the 180-story Sears Tower interfered with their television reception. Courts reasoned that the old common law had developed in a rural English setting, and that implementing a right-to-light doctrine amid modern skyscrapers might be complex and uncertain.

More recently, Zellman says, the growing popularity of solar energy has led American courts to look more closely at individual disputes and give solar claims "a fair hearing." He reviews three doctrines of common law that have been changing as a result: easements, promises affecting the use of land, and private nuisance.

An easement gives a person a right to make a limited use of his neighbor's land. In the solar case, a user could negotiate with a neighbor to obtain either a "negative" easement (in which the neighbor agrees, say, not to build up to the property line) or an "affirmative" easement (in which the solar user acquires the right, say, to trim the neighbor's trees back if necessary). Easements are typically created by voluntary agreements; courts have sometimes sanctioned "implied" easements in disputes between parties whose land had once been under joint ownership, but have frowned on "prescriptive" easements imposed against one party's will for policy reasons. Some states have passed laws to ensure that easement agreements will be recognized in court. Zellman warns that laws requiring these agreements to be uniform would be "unfortunate," since "[in] many situations, home-drafted agreements may be satisfactory to provide the protection parties need."

A second type of common law device is a promise affecting the use of land, the most common form of which is a covenant. Some existing covenants, such as those requiring building setbacks, make solar access more secure; others, such as those forbidding changes in a building's appearance, impede it. At least one court has struck down an "aesthetic" covenant of the latter sort that restricted solar use.

Another court ordered a zoning board to grant a variance to a maximum building height limit so as to permit rooftop solar panels. In both cases, the courts said that public policy encouraging solar energy could overrule established private property and zoning doctrines. California has banned covenants that have the effect of prohibiting solar installation.

The third doctrine is that of private nuisance law, which applies to problems such as noise, smoke, and roving animals that inflict damage on particular neighbors. Courts typically balance the costs private nuisances impose on neighbors against the costs of rectifying them. Solar users may thus be able to get obstructions declared nuisances if, like abandoned buildings or weedy trees, they are of little or no use to their owner. California has passed a law providing that any tree or shrub becomes a nuisance if it grows enough to shade more than 10 percent of the surface of a pre-existing solar collector.

• "Oil Companies and Solar Energy: Two Views" by Robert Fellmeth and M. Bruce Johnson, pp. 197-231.

Robert Fellmeth, professor of law at the University of San Diego, and M. Bruce Johnson, professor of economics at the University of California, Santa Barbara, debate the question: should large oil firms be kept out of solar energy development? Fellmeth says that because of the enormous investment in equipment and mining rights they have devoted to fossil fuels—a "tooling bias"—oil companies may seek to buy up solar patents and suppress development of solar technologies. He fears that if oil firms "behave with economic rationality" they will "do what is necessary to delay large-scale energy-market shifts" until either "[their] physical plants require replacement or the stock of revenue-producing fuel is gone." Another possible danger, he says, is that the major companies may subsidize their own solar operations and thus keep their prices artificially low in order to harm competitors in solar energy. Although such predatory behavior might seem inconsistent with the suppression theory, even the perception of it might keep would-be competitors away. Fellmeth therefore argues that the oil industry should be forbidden by law to take part in solar develop-

ment. (Major oil companies have already invested in photovoltaic technology, the generation of electricity directly from sunlight, which—given a technological breakthrough—could someday make a major contribution to energy production.)

M. Bruce Johnson argues that policies designed to keep oil companies out of solar development “are based on political or sociological concerns but have no compelling economic rationale.” He presents data on concentration ratios and rates of return to support the assertion that both the oil industry and the research and development market are “workably competitive,” so that patents in alternative technologies will not be suppressed. While the fixed capital tied up in the oil business is enormous, he says, any solar invention that threatened that capital would be more valuable still, since it would presumably consist of a way to produce the same amount of energy at a lower variable cost. Put differently, a firm that owns both oil wells and solar patents, and can fetch a given price for a given amount of energy, will choose the lower-cost method of generating that energy so as to maximize its profits. Of course, if the variable costs of pumping oil are lower than those of the solar device, the firm will continue to pump oil—which is the rational course for society as a whole, too, at least until the capital in the oil fields wears out.

Johnson cites the example of the diesel locomotive, which was quickly adopted even though some firms had invested heavily in coal-fired steam engines. Fellmeth, however, argues that the “tooling bias” was not as great for the steam locomotive industry as it is for the oil industry.

Amtrak: Prognosis Negative

Federal Subsidies for Rail Passenger Service: An Assessment of Amtrak by the Congressional Budget Office (Government Printing Office, 1982), 85 pp.

The National Railroad Passenger Corporation, better known as Amtrak, was established by an act of Congress in 1970. Although it was originally intended to be self-supporting, its deficit has mounted to more than \$1 billion a year, and

its subsidy has come under repeated criticism in Congress and elsewhere on cost-benefit grounds.

Now the Congressional Budget Office has endorsed most of the critics' chief complaints: that Amtrak is much more heavily subsidized than competing modes of transportation, that its losses are not balanced by any measurable “social benefits,” and that spending more money to upgrade Amtrak service, as is often suggested, will not improve matters significantly. Although the CBO report offers no recommendations, it does conclude that the “need for subsidies can be reduced substantially only by trimming services” and specifically that “the largest savings could be achieved by eliminating . . . long-distance service.”

The report first asks whether subsidies are necessary to place Amtrak on an equal footing with other subsidized forms of passenger transportation. According to CBO calculations, in fiscal 1980, Amtrak absorbed \$1.06 billion of the total federal subsidy to intercity passenger travel of \$3.4 billion (after deducting user fees) but carried only one-third of 1 percent of all passenger-miles. As a result, rail transit received a net subsidy of 23.6 cents per passenger-mile that year, compared with 0.1 cents each for cars and buses, 0.2 cents for commercial air traffic, and 4.9 cents for general aviation. (The report does not delineate the precise nature of federal subsidies to the competing modes.)

CBO notes that government aid to commercial enterprises is most frequently defended on two grounds, the correction of market failures and the promotion of social equality. In the present case, support of Amtrak might be rationalized if there were substantial externalities—of which the report considers possible examples—or if Amtrak represented an income transfer to the poor.

Among Amtrak's possible social benefits, according to its proponents, are energy conservation, emergency preparedness, improved national security, and enjoyment of its historic and recreational value. On the first of these, the report concludes that Amtrak is a net loser of energy outside the electrified Northeast corridor, where much of the electricity is of nuclear or coal-fired origin. Although trains use less energy than airlines, they use much more than buses—their close competitor—and more than

automobiles outside the Northeast. Even in the Northeast, the savings amount to less than a hundredth of 1 percent of daily national petroleum consumption. "In comparison, other potential sources of future energy savings cost significantly less," including synthetic fuels and the redesign of automobiles.

As for defense and other emergencies, the report notes that Amtrak's capacity is so low that it could carry no more than 1 percent of current intercity passenger traffic in an emergency. Amtrak gained "almost no ridership" during the air traffic controllers' strike, CBO says. And although railroads were vital to national defense in World War II, when there was no interstate highway system and only a small airline industry, they are less so today—especially their passenger operations. Amtrak takes advantage of routes that would be maintained anyway for freight operation, and the improvements undertaken in providing passenger service are of little relevance to military operations.

The report goes on to note that subsidies to Amtrak generally aid higher-income groups (as do subsidies to air and auto, though not bus, transportation). Finally, because the historic and recreational value of Amtrak cannot be numerically quantified (aside from willingness to pay), it cannot be analytically assessed.

Finding, therefore, no discernible (or at least no quantifiable) benefit from Amtrak, the report turns to the question of how its costs can be reduced. Among the more intractable problems, it says, are low load factors (about 48 percent, the same as buses), high labor costs (due to restrictive work rules, not high wages), and capital-intensiveness (in part owing to low equipment utilization because trains are so much slower than, for example, airplanes). In addition, "Amtrak spends more for maintenance"—over a third of its operating budget—"than it does for train operations." Although Amtrak could improve its use of capital by concentrating on short hauls, thus reducing its use of expensive dining and sleeping cars, it seems unable to reduce either capital or labor costs enough to make a big dent in its deficit.

What, then, about the prospects for increasing revenues by attracting new riders? These, too, seem bleak, CBO says. Not only is the travel market itself experiencing a time of slow growth, but Amtrak cannot provide direct

service both to and from most places travelers want to go, even in the Northeast corridor. Thus most travelers would have to combine Amtrak travel with another mode. "The last ten years," moreover, "have seen major improvements in Amtrak service coupled with nearly constant prices in real terms." Despite this, and despite oil price shocks, Amtrak's market share appears to have fallen during the decade. Thus, the CBO report concludes, further improvements in the quality of its service will at best slow the decline in ridership.

As for which routes should be dropped, the report is largely stymied by the vagaries of Amtrak accounting (the way the railroad allocates costs has changed from year to year). According to the 1981 figures, seventeen routes are covering less than one-third of their fully allocated costs, and six are covering less than one-quarter. But dropping particular trains may not by itself help much: significant savings in overhead can be achieved only if all service to a city is ended, so that the station itself can be closed down.

Public Choice and Securities Deregulation

The SEC and the Public Interest by Susan M. Phillips and J. Richard Zecher (Cambridge: MIT Press, 1981), 177 pp.

Susan Phillips and Richard Zecher hold that moves toward deregulation at the Securities and Exchange Commission have been more a response to changing political and economic exigencies than a conversion to a "pro-competitive" point of view. Nonetheless, they assert, the commission is genuinely losing some of its influence, so that much of its regulation now differs in form and emphasis, but not really substance, from the types of self-regulation that are carried on by stock exchanges and other private groups. Both authors were formerly associated with the college of business at the University of Iowa; Phillips is a member of the Commodity Futures Trading Commission and Zecher is with the Chase Manhattan Bank.

In a brief historical sketch the authors restate the generally held view that the com-

mission, after an active start, more or less languished for two decades following the departure of William O. Douglas as chairman in 1939. "A staff of 1,600 in 1940 shrank to slightly over 1,000 by 1950 and to 690 in 1955. The agency was moved to Philadelphia during World War II and may not even have been missed." With the election of John F. Kennedy as president, the agency began to revive, and in both 1964 and 1975 Congress gave it new powers over the securities markets. By 1979, the commission's staff surpassed 2,000.

The SEC's most costly programs are its requirements for corporate disclosure. The 10-K form and other types of mandatory reporting are meant to provide investors with enough information to make intelligent decisions, and thus improve the efficiency of market pricing. Research by George Benston and George Stigler, however, has raised doubts about the success of the effort. Benston found that the 1934 disclosure requirements did not seem to reduce either losses or shareholder risk in firms newly disclosing information compared with firms that had been disclosing before 1934. Stigler found that returns on new issues were not greater by a statistically significant amount after the advent of disclosure than before. In all, the authors note, "important factual questions remain as to whether the pricing mechanisms actually improved as a result of corporate disclosure," and if so, whether they improved enough that the benefits of the new information outweighed the costs.

The authors then ask whether disclosure has perhaps benefited investors by redressing a possible imbalance between the owners and the managers of corporations. They cite a 1976 study by Michael Jensen and William Meckling that considered management expenditures on nonpecuniary benefits as a transfer from owners to managers. Jensen and Meckling found that disclosure did not reduce such expenditures, or, to put it in nonquantitative terms, that disclosure has not undone the effects of the managerial revolution.

Phillips and Zecher use the commission's decision to abolish the New York Stock Exchange's fixed commission rate structure as a test of the "public choice" model of regulatory behavior, which predicts that regulators, acting in their own self-interest, will take the course of action that maximizes political support for

their programs. If the theory is true, regulators should tend to pursue programs that benefit a strongly interested minority even when they inflict a thinly spread net loss on a badly organized majority. Specifically, the authors test four hypotheses that they say are implied by the public choice model: (1) that the agency will concentrate the benefits of its actions on those with the most at stake; (2) that in the case of fixed commissions "changes in the production function and tax structure over a period of time" eroded the benefits of regulation to the client group, leading to a generalized demand for change; (3) that if the regulators act as the organizers of a producers' cartel, commission-set rates should be more responsive to producer cost changes than to consumer demand changes, because the *rate* (as opposed to the overall magnitude) of optimal monopoly profit should decline as demand increases; and (4) that such increased demand, even if it is concentrated in one subgroup of customers such as institutional investors, should also affect rates in other subgroups such as individual investors. The results of the authors' tests support all four hypotheses, particularly the first two, and thus support the public choice theory as it applies to the SEC. They note, however, that institutional investors were themselves a growing political constituency the agency had to reckon with in the 1970s.

The 1975 amendments to the securities acts included a mandate to pursue a national securities market system, but despite much effort the commission has made little progress. One reason is that the commission has also tried to preserve the regional exchanges, which have been harmed by a series of events: the abolition of fixed commissions, computer advances that have made cross-country over-the-counter trading easier, and growing scale economies that have helped the New York Stock Exchange. In an effort to preserve the regionals, the SEC allows them to trade in options—which it does not allow the NYSE to do. (Phillips and Zecher assert that "regulatory agencies do not like to see any of their regulated entities fail.") Although these attempts have thus far been successful, the authors believe that they are likely, along with many of the commission's other regulatory programs, to be overtaken by the march of economic events.