A DUBIOUS BILL OF DIVORCEMENT

The Case of Oil Refiners and Gas Stations

John Barron and John Umbeck

SHOULD THE OIL refining companies be forbidden to operate their own gas stations? The proposed "Small Business Motor Fuel Marketer Preservation Act" (S. 40), co-sponsored by Senators Howard Metzenbaum (Democrat, Ohio) and Strom Thurmond (Republican, South Carolina), would do just that. It would require refiners to separate ("divorce") themselves from the management of their retail outlets, and sell their gasoline only through their franchisees and independent dealer-owned stations. At least fourteen states are considering similar bills—Florida, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Missouri, New York, Oklahoma, Pennsylvania, South Dakota, and Texas.

Politically, these proposals are being pushed mainly by the franchised station operators with whom the refiner-run stations compete. The franchisees, organized nationally as the Service Station Dealers of America, argue that the refiners currently compete with them unfairly—and that the only way to remedy matters is to require divorcement. But would divorcement lead to more competition and lower prices to consumers, as its supporters claim?

Fortunately, this is a case where legislators need not vote in the dark. Maryland has had a divorcement law in force since 1979, a law so like the bill before Congress that the experience in Maryland can help us predict what would probably happen nationwide should that bill pass. Before turning to that question, however, we should look at how the refiner-franchisee conflict arose in the first place.

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Allegations of Predatory Pricing

Petroleum refiners retail most of their gasoline through two types of outlets, company-operated stations and franchised dealerships. (The rest goes to independently owned stations.) Of the two types, the second is by far the more common—accounting in some estimates for as many as four out of five of the stations that refiners own.

The claims of unfair competition have arisen largely because of differences in the way these two types of stations are operated and have performed in recent years. In the case of the franchised dealership, the refiner leases the facility—land, buildings, pumps, and tanks—to a dealer-operator under a contract whose terms vary from company to company. Some refiners charge franchisees a fixed rent, others a rent tied to the amount of gasoline sold, and still others a combination of the two. The franchisee uses the refiner's brand name, is free to set prices and hours of operation, and usually offers various automotive services (basic repairs, tires, batteries, towing, and so on) in addition to dispensing gas and motor oil. After paying the refiner for gasoline and the lease, the franchisee retains all revenues from the operation. In contrast, at the company-operated station the refiner hires the operator under a salary contract, sets prices and hours and, after paying salaries, keeps all the revenues. Typically, the station sells only gas and oil.

Two other facts are of interest here. First, gasoline is usually cheaper at company-operated stations than at the franchised stations. Second, the number of franchisees has steadily declined in the last ten years, falling by 50 percent, while the number of company operations has remained constant. These facts have led the franchised dealers to charge, with seeming justification, that the refiners are using their company-operated stations as a base for predatory pricing in an attempt to eliminate their own franchised outlets from the market.

Predatory pricing is said to occur when a producer deliberately prices his product below his costs in order to drive out competition and establish a monopoly. The argument is quite simple. A producer is assumed to have a monopoly in some well-defined market from which he can earn unusually large profits. In another well-defined market the producer has competition that keeps him from charging higher (monopoly) prices. To eliminate this annoying competition, the producer sets his prices in the competitive market at a level below his (and presumably his competitor's) average total cost. This forces the competitor to suffer large losses or leave the market. Of course, the predatory pricer suffers losses also. But because he can finance the losses through large profits from the monopoly market, he can outlast his competition in any price war. The competition eventually must quit, leaving the predator free to raise prices to monopoly levels and reap the gains of his costly predation.

In the case at hand, what the franchised dealers are claiming is that their own refiners are using the profits from refining crude oil to finance a predatory price war in the retail gasoline market. This explains, they argue, both the lower prices and the superior market performance of the refiner-operated stations in the last decade. Such predation arguments are nonsense, however, in light of the fact that any refiner can close any of its stations upon expiration of the lease (which typically runs three years). And indeed, two recent studies, one by the Department of Energy and another by Dr. Thomas Hogarty of the American Petroleum Institute, have found absolutely no evidence of predation in the U.S. retail gasoline market. In the first study, audits of company-operated stations proved conclusively that they were profitable—which destroys the basis of the predation argument (*The State of Competition in Gasoline Marketing*, 1980). In the second study, Hogarty demonstrated that the characteristics of predation are not present in the retail gasoline market. Thus, for example, he found that the first condition of predation—monopoly in the refining market—does not exist (*Economic Theory and Evidence on Cross-Subsidization of Retail Gasoline Operations*, 1982).

The Competitive Market

If predation does not explain why franchised stations are leaving the market when company-operated stations are not, what does explain it? The recent decline in gasoline demand is no explanation either, for it would lead us to expect both kinds of stations to decline in number, not just the franchised dealerships.

The answer probably lies instead in market changes that have reduced demand for the additional automotive services that franchisees typically provide. Over the last ten years new automobile technology has significantly lessened the required maintenance on cars. Oil changes and lubrication, for example, are necessary today every 6,000 miles instead of every 2,000. Furthermore, specialty shops have now sprung up to handle many common maintenance problems, such as muffler and shock replacement, and they can do so more quickly and at a lower cost than a full-service franchised gas station. It is this decline in the demand for the services of the franchised dealer, along with the decline in gasoline demand, that has driven many dealers out of business. The low-cost, gas-only, company-operated stations have done well in comparison, not because of predation but because they are efficient.

If this is so, then a law that converts company-operated stations to the higher-cost method of operation must lead to higher prices at those stations. Moreover, as their customers turn to neighboring competitors in search of lower prices, the increased demand should induce these competitors to raise their prices also. In other words, logic dictates that where low-priced sellers are eliminated, average prices must rise.

The Empirical Evidence

Yet, in September 1981, an official representing the Maryland Comptroller's Office, Arthur Price, told a committee of the Indiana state senate that divorcement had led to lower gasoline prices for Maryland consumers. His testimony was based on a study done by that bureau.

Numerous other empirical studies had been conducted, most of them by the oil companies and a few by public agencies. Their findings covered all the possibilities—Maryland's gasoline prices had risen after divorcement, or fallen, or neither. The unsatisfactory state of the empirical scholarship, along with the logical problems in Price's testimony, prompted us in October 1981 to examine the question ourselves.

In designing our study we sought to avoid three problems common to the earlier studies. First, in each case the earlier researchers had assumed that divorcement took place at all affected stations at the time set for it by the Supreme Court, in July 1979 (one year after the Court had found the act constitutional). In point of fact, however, many refiners asked for and received extensions, and several gas stations continued to operate under salary contracts as late as December 1981. Second, the earlier studies used statewide average price data calculated from a statewide survey. However, because the divorcement bill affected only about 210 gas stations (less than 10 percent of the Maryland market) and because the survey could have missed most of those stations, it was possible that the effects of divorcement had not been fully measured. To rectify these two problems, we decided to collect data on all the divorced stations and to determine the actual date of divorcement in each case.

Third, the studies compared prices in Maryland (or in some cases only Baltimore) with those in other neighboring states. We chose, instead, to compare prices at divorced stations with the prices charged by their local competitors within Maryland. This controlled the many factors relevant to gas prices that could differ from one state to the next—including taxes of all kinds, transportation costs, insurance and utility rates, zoning and construction codes, restrictions on self-service sales, and regulations on interest rates and credit sales. The difficulties these factors present to a comparative study are tremendous (which probably explains why none of the earlier research took them into account).

In collecting our data, we first identified which refiners had operated some of their own stations, ignoring—as too costly for us to keep track of—refiners with only one or two. That left us with seven large oil companies operating a total of 178 stations, or about 85 percent of the estimated total of 210 company-operated stations statewide directly affected by the Maryland divorcement law.

Next we sent a questionnaire to each of the seven companies asking for price histories and other data for each of their company-operated stations. The price histories covered the prices each station charged for each type of gasoline it sold, further divided into full-service and self-service prices, for the period from January 1977 to January 1982. It turned out, fortuitously, that almost every station operator had periodically surveyed his nearby competitors' prices, passing his records on to the refiner who used them to determine what price to charge at its company-operated stations. All seven refiners gave us these records.

We also asked what types of service each station and its local competitors had provided before and after divorcement and what hours the stations were open. Finally we asked what date the divorcement law had caused the station to change to a franchised operation (or go out of business). Completed questionnaires for 148 stations were returned.

This research design offered several advantages. With before-and-after price data from the stations compelled to divorce, it was possible to measure the direct effects of the legislation at these stations. With price data covering competitors located close to the divorced stations, it was possible to measure the indirect effects that occurred in the local market area. Finally, the design provided a rough means of guarding against bias introduced by the oil refiners who, it might be argued, had an incentive to report erroneous data in order to create the impression that divorcement raised retail gas prices and thus hurt consumers. In a number of cases, two divorced stations belonging to different refiners reported the prices of the same competitor—and thus provided a check on each other.

The Effects of Divorcement Legislation

We examined the data on prices, services, and hours of operation from about 600 stations over a five-year period using multiple regression analysis, a statistical tool that allows the researcher to isolate the effects of several different variables on the one variable in question. After adjusting for all the major differences between retailing operations and for the effects of inflation, we found several interesting results.

- Within three months after divorcement, 11 percent of the affected stations had closed—a telling statistic in light of the fact that the average number of company-operated stations was constant throughout the seventies.
- Before divorcement, company-operated stations sold their gasoline at lower prices than their franchised competition. Specifically, they sold self-service gas (regular and regular unleaded) for 1.40 cents a gallon less on average than their competitors, and full-service gas for 2.91 cents less. This result is consistent with the general observation that company-operated stations typically charge lower prices than franchised dealers.
- After divorcement, the company stations that had been converted by law to franchise dealerships raised their average prices by 2.12 cents a gallon for self-service gas and by 5.83 cents for full-service. This result is consistent with our economic predictions. If refiners are no longer allowed to operate a station in the way they have found to be the most efficient, costs and prices will increase.
- Moreover, all franchised competitors located in the area around each of the divorced stations also increased their prices. The increases averaged 0.69 cents a gallon for self-service and 2.87 cents for full-service. This result is consistent with the fact that the legislation reduced low-cost competition in the gasoline market. As the divorced stations switched to a more costly mode of operation, their local competitors were able to increase their prices.
- After it was divorced, a station typically remained open 7.99 hours a week less than it had when operated by its company. This also was to be expected since the higher costs at the divorced station imply a lower profit per hour of operation.

These findings were all consistent with the predictions of economic theory and resulted from careful use of statistical techniques. Nevertheless, there were continuing allegations about possible data bias from the Pennsylvania Governor's Energy Council and various franchised dealers. So, in October 1982 we undertook, with support from Atlantic Richfield, an update of the entire study, employing Dan Lundberg, a well-known petroleum market observer, to collect the data. A survey team went to each of the 600 stations included in the original study, this time collecting not only pump prices but also information on credit policy and cash discounts. The new data were then validated by an outside economist who randomly resurveyed about 10 percent of the original group of 600 stations. (No one, not even ourselves or Lundberg, knew which stations would be resurveyed.) The results were the same: divorcement legislation led to higher prices at both the divorced stations and their immediate competitors.

Even more valuable, however, the update survey led to the discovery that, in our original survey, some divorced stations had reported prices of competitors that themselves turned out to be divorced stations of other refiners. This overlap in price reporting, which occurred in 14 of about 150 markets, enabled us to run a better test for data bias than had been possible before. In each case of overlap, we replaced the prices reported by the refiner that owned the divorced station in question with the prices reported by the competitive refiner. If there had been any data bias in the first set of prices, the divorcement effects as measured with prices reported by competitors would have been significantly different from the effects as measured with self-reported prices. No differences of that kind emerged.

Some Additional Findings

Aside from the divorcement effects, our study revealed some other facts that motorists might like to know. For instance, the price of gasoline in a given local market depended in significant part on how many retail stations competed there. Increasing the number of stations by one led to a decrease of 0.16 cents a gallon in the price for self-service gas and 0.68 cents for full-service. If the gas station had a service bay for auto repair work, its average price was 0.89 cents a gallon higher for self-service gas and 3.53 cents higher for full-service than at stations without service bays.

Moreover, stations that offered their customers both full- and self-service gasoline charged an average of 4.59 cents and 0.50 cents more, respectively, than stations that offered only one type of service. Finally, larger stations, as measured by the number of hoses, did not appear to charge higher self-service prices, but did charge significantly higher full-service prices.

Counting the Pennies

Although a boost of only a few cents per gallon in gasoline prices might seem trivial, the total cost of divorcement would be substantial. The average company-operated station in the United States sells about 960,000 gallons a year. Using that average for Maryland and assuming that the ratio of self-service to full-service gas is three to two, customers of company-operated stations in Maryland are now paying almost $7.3 million more each year than they would have otherwise. Meanwhile, with less low-priced competition, local gas stations near the divorced stations have raised their prices. Assuming the average franchised dealer sells 480,000 gallons of gas a year and that each divorced station has five local competitors, consumers in these local markets are now paying an extra $7.9 million for gasoline each year. In all, divorcement legislation is costing Maryland gasoline buyers $15.2 million a year.

Of course, in matters of this sort, there are winners as well as losers. In this case, the winners are those franchised dealers who happened to be located near a divorced station, each of which has made an extra $7,500 a year on average from gas sales alone. Is it any wonder that dealers are promoting divorcement legislation at all levels of government?

The divorcement bill currently being considered in Washington is nearly identical to the Maryland law. If this bill became law, the effects would in all likelihood be the same as those in Maryland, and the potential costs can be estimated in the same way. Last year company-operated stations in the United States sold a total of approximately 13,000 million gallons of gas. Assuming a three-to-two split between self- and full-service, the additional annual cost to the customers of these stations would be $471 million. And assuming that local competitors reacted as they did in Maryland, customers in these local markets could expect to pay an extra $510 million a year for their gasoline. In other words, a national retail gasoline divorcement law could cost the country roughly $1 billion a year. ■

Why Not Abolish Antitrust?

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> some promising early work, have continued to blur the essential differences between private persuasion and government coercion, between efficiency as a barrier to entry and pernicious legal barriers, between power and production, and between economic and political accountability. Large corporations in open markets—regardless of their size—must earn their market positions each day through voluntary exchange [*Antitrust and Monopoly*].

The stakes are high, as Bork points out:

> Antitrust goes to the heart of capitalist theology, and since the laws' fate will have much to do with the fate of that ideology, one may be forgiven for thinking the outcome of the debate is of more than legal interest.

The most immediate ramifications of that debate are the controversies over whether to extend antitrust to previously exempt industries that are being deregulated. The trucking industry by and large wants to retain its antitrust exemption—no doubt because it hopes that exemption will prevent competition. Since this industry now enjoys more political than intellectual support, it may be able to win continued antitrust immunity without mounting any intellectual case at all. This would be unfortunate; such a victory would be widely perceived as just another instance in which industry power prevailed over the interests of the consumer.

It would therefore be a step forward if the truckers and other industries facing antitrust assault came to see that they have a more principled case for their position. To accept antitrust liability as the natural corollary of deregulation would mean the effective reregulation of every firm's price (and, in some cases, its entry) decisions. So it is only natural for the industry to resist. Which means that when truckers, travel agents, or others ask for exemption from antitrust regulation, they are not necessarily itching to organize a cartel the moment the public's back is turned. They may simply and understandably be trying to avoid a burdensome, unfair, and unproductive layer of regulation. And they may just have been reading the economic literature of the past decade. ■