

IV. THE EFFECTS OF MARKET STRUCTURE AND CONCENTRATION ON GASOLINE PRICES

- **The mergers in the oil industry over the last few years and the closing of many refineries over the past twenty years have increased concentration in the refining industry. In some states, the refining and marketing industry for gasoline is highly concentrated; in many states it is at least moderately concentrated. (F-3)**
- **High concentration exacerbates the factors that allow price spikes and increases, a key one of which is the tightness of supply. (F-5)**
- **In concentrated markets refiners can affect the price of gasoline by their decisions on the amount of supply. In a number of instances, refiners have sought to increase prices by reducing supply. (F-6)**
- **Highly concentrated retail markets have higher retail prices. (F-7)**
- **Markets in which there is a high degree of vertical integration between refiners and marketers have higher wholesale and retail prices. (F-8)**

A. General Characteristics of Concentrated Markets

In a perfectly competitive market many firms sell an identical product, and the amount of each seller's output is too small to affect the market price.¹⁷² If one firm reduces output, other firms can step in and increase their output, thereby increasing their own market share and revenues through innovation, efficiency, and competition in price.¹⁷³

¹⁷² Firms will increase their output until the marginal cost of producing that product equals the demand for the product at that price. In a perfectly competitive market, therefore, the price of the product will equal the marginal cost of the product. Firms in the market are considered "price-takers" rather than "price-makers." For a general explanation of competitive and non-competitive markets, see Samuelson and Nordhaus, *Economics*, 17th ed., 2001.

¹⁷³ Adam Smith wrote that although every individual "intends only his own security, only his own gain, . . . he is led by an invisible hand to promote an end which was no part his

In markets in which either one firm (monopoly) or a few firms (oligopoly) produce the entire output for an industry, such a firm or firms will have sufficient “market power” to affect the price of their output through their decisions on how much to produce. The market power of firms in a highly concentrated market will vary, depending on the particular circumstances of the industry.

“Imperfect competition” is a cause for concern, because it can yield results “that are inimical to the public interest,” namely high prices and poor quality.¹⁷⁴ By sustaining higher-than-competitive prices, imperfect competition represents a type of market failure that hurts consumers.

Although the general trend in the United States over the past 70 years has been towards increasingly competitive markets, in recent years a number of markets have consolidated into oligopolies.¹⁷⁵ In part this is because of the wave of mergers in the past few years which the President’s Council of Economic Advisors reports has been “well above average.”¹⁷⁶ Economies

intention. By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it.” Samuelson and Nordhaus, at 30.

¹⁷⁴ Samuelson and Nordhaus, at 185.

¹⁷⁵ In 1939, approximately half of the markets were considered “effectively competitive”; 36 percent were considered to be a “tight oligopoly” (i.e. the top 4 firms have over 60 percent of the market); 5 percent were dominated by one firm; and about 6 percent were pure monopolies. In 1980, just over three-fourths of the markets were effectively competitive; 18 percent were considered to be tight oligopoly; just under 3 percent were dominated by one firm; and about 2 ½ percent were pure monopolies. William G. Shepherd, *The Economics of Industrial Organization*, 3rd ed., 1990.

¹⁷⁶ Wireless phones, cable television, DRAM semiconductor chip manufacturing, college textbooks, and defense contracting all have become highly oligopolistic industries. *Why the Sudden Rise in the Urge to Merge and Form Oligopolies?*, Wall Street Journal, February 25, 2002, at A1.

of scale, increasing costs of producing and marketing products, a desire to reduce market risks, and more lax antitrust enforcement are cited as factors underlying this trend.¹⁷⁷

A central theme of the Department of Justice and the Federal Trade Commission's "Horizontal Merger Guidelines" is that mergers should not be permitted to create or enhance market power or facilitate its exercise. The Guidelines explain market power and its harmful consequences:

Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time. In some circumstances, a sole seller (a "monopolist") of a product with no good substitutes can maintain a selling price that is above the level that would prevail if the market were competitive. Similarly, in some circumstances, where only a few firms account for most of the sales of a product, those firms can exercise market power, perhaps even approximating the performance of a monopolist, by either explicitly or implicitly coordinating their actions. Circumstances also may permit a single firm, not a monopolist, to exercise market power through unilateral or non-coordinated conduct – conduct the success of which does not rely on the concurrence of other firms in the market or on coordinated responses by those firms. In any case, the result of the exercise of market power is a transfer of wealth from buyers to sellers or a misallocation of resources.¹⁷⁸

As Samuelson and Nordhaus explain, monopolists and oligopolists obtain non-competitive prices by limiting production rather than by directly setting high prices:

Now Monopoly Inc. enters the picture. A monopolist is not a wicked firm—it doesn't rob people or force its goods down consumers' throats. Rather, Monopoly Inc. exploits the fact that it is the sole seller of a good or service. ***By keeping its output a little scarce, Monopoly Inc. raises its price*** above marginal cost. Since [setting the price at marginal cost] is necessary for economic efficiency, the monopolist's output will be less than the efficient output; the marginal value of the good to consumers is therefore above its

¹⁷⁷ Wall Street Journal, February 25, 2002, at A1.

¹⁷⁸ US Department of Justice, Federal Trade Commission, Horizontal Merger Guidelines, April 1997 Revision, Sec. 0.1.

marginal cost. *The same is true for oligopoly and monopolistic competition, as long as companies can hold prices above marginal costs.*¹⁷⁹ [emphasis added].

The Department of Justice and the Federal Trade Commission measure market concentration in two ways. One is the Herfindahl-Hirshman Index (HHI), which is obtained by summing up the squares of the market shares (expressed in percentages of total market) of each firm in the market. Thus, for example, if 4 firms have 10%, 20%, 30%, and 40% of the market, respectively, then the HHI for this market would be $10 \times 10 + 20 \times 20 + 30 \times 30 + 40 \times 40 = 100 + 400 + 900 + 1600 = 3000$. The DOJ/FTC Guidelines consider markets with a HHI below 1000 to be “unconcentrated,” with a HHI between 1000 and 1800 to be “moderately concentrated,” and with a HHI above 1800 to be “highly concentrated.” According to the Guidelines, “Where the post-merger HHI exceeds 1800, it will be presumed that mergers producing an increase in the HHI of more than 100 points are likely to create or enhance market power or facilitate its exercise.”

Another measure of market concentration is the 4-firm concentration ratio. This is obtained by calculating the total market share of the 4 leading firms in the market. Economists characterize a market with a 4-firm concentration ratio of more than 60 percent as a “tight oligopoly.”¹⁸⁰ As the DOJ/FTC Guidelines note, in an oligopolistic market it is not necessary for the firms to explicitly collude to raise prices above competitive levels. Rather, individual firms

¹⁷⁹ Samuelson and Nordhaus, at 196. This too is not a recent observation. Adam Smith noted it is “the manifest interest of every particular class of [traders] to prevent the market from being overstocked, as they commonly express it, with their own particular species of industry; which is in reality to keep it always understocked.” Adam Smith, *The Wealth of Nations* (Modern Library ed., 1937), at 124.

¹⁸⁰ William G. Shepherd, *The Economics of Industrial Organization* (3rd ed. Prentice Hall, 1990).

with a degree of market power in a sufficiently concentrated market can act in “conscious parallelism” with the other similarly situated firms to raise prices. “Oligopolists are ‘interdependent’ in their pricing: they base their pricing decisions in part on anticipated reactions to them. The result is a tendency to avoid vigorous price competition.”¹⁸¹ “In countries where . . . explicit schemes are illegal (as in the United States), ‘tacit’ collusion may evolve instead. Though it is rarely as forceful as full-blown price agreements, it can make a significant difference.”¹⁸²

Although “conscious parallelism” does not violate the antitrust laws, it may lead to the same economic effect as outright collusion. In upholding the FTC’s preliminary injunction against the proposed merger of Heinz and Beech-Nut, the second and third largest sellers of baby food in the nation (17.4% and 15.4% of the market, respectively), the U.S. Court of Appeals wrote, “The combination of a concentrated market and barriers to entry is a recipe for price coordination. *See University Health*, 938 F.2d at 1218 n.24 (‘Significant market concentration makes it ‘easier for firms in the market to collude, expressly or tacitly, and thereby force price above or far above the competitive level.’”(citation omitted)). “[W]here rivals are few, firms will be able to coordinate their behavior, either by overt collusion or implicit understanding, in order to restrict output and achieve profits above competitive levels.”¹⁸³

¹⁸¹ Richard A. Posner, *Antitrust Law, An Economic Perspective* (Univ. of Chicago Press, 1976), at 43.

¹⁸² Weber at 337. “[E]very oligopolist is like a general on the battlefields of commerce, trying to outwit, bluff, and bludgeon its rivals. Yet, since oligopoly rewards team play, the generals are constantly tempted to form alliances with their ‘adversaries.’ Then the warfare gives way to collusion among some or all of the combatants. *Id.* at 316.

¹⁸³ *FTC v. H.J. Heinz Co.* (D.C. Cir. April 27, 2001), <http://laws.findlaw.com/dc/005362a.html> at 11.

Some legal scholars contend that because the harmful economic effects of “tacit” collusion may be no different from the effects of express collusion, tacit collusion should be no less objectionable.¹⁸⁴ Others maintain it is futile to try to prohibit interdependent behavior in a highly concentrated market, because it is difficult to prevent firms from taking the actions of their competitors into consideration.¹⁸⁵ Under these circumstances, the remedy would be to try to change the structure of the market underlying the industry – such as the degree of concentration – rather than the behavior of the market participants.¹⁸⁶

Even in highly concentrated markets, including monopolies, market power will not be absolute. A monopolist who restricts output and raises prices too much will eventually attract new entrants into the market who will attempt to capture some of those profits. In the refining industry, for example, firms must produce enough gasoline to meet their agreements to keep their contractual customers and branded outlets supplied. According to refiners, running out of product for contractual customers and branded outlets would be “disastrous” for a refiner, as

¹⁸⁴ “If the economic evidence introduced in a case warrants an inference of collusive pricing, there is neither legal nor practical justification for requiring evidence that will support the further inference that the collusion was explicit rather than tacit. Certainly from an economic standpoint it is a detail whether the collusive pricing scheme was organized and implemented in such a way as to generate evidence of actual communications.” Posner, *Antitrust Law*, at 71.

¹⁸⁵ “The rational oligopolist is behaving in exactly the same way as is the rational seller in a competitively structured industry; he is simply taking another factor into account [the reactions of his rivals to any price cut] . . . which he has to take into account because the situation in which he finds himself put him there.’ Since the oligopolist is behaving just like the seller in an atomized market, oligopoly pricing can be described as ‘rational individual decision in the light of relevant economic facts’ as well as it can be described as collusion. . . . An injunction that merely ‘prohibited each defendant from taking into account the probable price decisions of his competitors in determining his own price or output’ would ‘demand such irrational behavior that full compliance would be virtually impossible.’” Posner, *Antitrust Law*, at 43, quoting Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 Harv. L. Rev. 655 (1962) at 665-66.

¹⁸⁶ *Id.* at 44.

retailers and customers would seek to shift their purchases to more reliable suppliers. In the short- to medium-term, higher prices resulting from shortages may attract lower-cost supplies from other markets to be imported depending upon the costs of transportation. This situation – called “import parity” – exists when prices in one market rise high enough to cover the transportation costs from another market where prices or the cost of production are lower. Higher refining margins sustained or projected to exist over longer periods of time may eventually attract others to invest in additional production or transportation capacity. In economic terms, the price of marginal supply acts as a ceiling on the price in any given market.

Firms in highly concentrated markets will not necessarily reap greater profits than firms in more competitive markets. Although the few firms in a market may reach a tacit agreement not to compete on price, they may nonetheless compete quite strenuously on non-price items, such as brand identification, product appearance, and service. In fact, vigorous non-price competition in a highly concentrated market can wipe out much of a firm’s profits.¹⁸⁷ Hence, the profitability of the firms in a market cannot be used to gauge the level of concentration in the market.¹⁸⁸

In addition, although the HHI and the 4-firm concentration ratio are useful tools for categorizing the degree of concentration in a particular market, the numerical cut-offs used to

¹⁸⁷ “The only effect of eliminating price competition may be to channel competitive energies into other, and costly, forms of competition. Indeed, as we have already discussed, firms may increase their expenditures on the other forms of competition until they have competed away all of the higher profits that they hoped to obtain by increasing prices above the competitive level.” Posner, *Antitrust Law*, (1976 ed.), at 60.

¹⁸⁸ “The relationship of concentration to profitability is likely to be loose or nonexistent.” Shepherd, *The Economics of Industrial Organization*, at 64. Profitability is more easily correlated with a firm’s market share in an industry rather than the overall concentration level within the industry.

categorize competition are not considered precise demarcations between these various categories. According to the DOJ/FTC merger guidelines, “Although the resulting regions provide a useful framework for merger analysis, the numerical divisions suggest greater precision than is possible with the available economic tools and information. Other things being equal, cases falling just above and just below a threshold present comparable competitive issues.” Thus, whether a particular market falls under the category of “moderately” or “highly” concentrated is not necessarily dispositive of how the firms in that market will behave.

B. Concentration in the Oil Refining and Gasoline Marketing Industry

In recent years there have been a significant number of major mergers within the petroleum industry:

- In 1998, Marathon and Ashland Oil merged their downstream assets.
- In 1998, British Petroleum (BP) merged with Amoco
- In 1999, Exxon Corporation merged with Mobil Corporation.
- In 2000, BP/Amoco acquired ARCO.

Within the past year –

- Shell acquired Texaco’s domestic downstream assets;
- Chevron, which had acquired Gulf Oil in 1994, acquired Texaco (other than downstream assets);
- Phillips acquired Tosco;
- Phillips announced a merger with Conoco;
- Valero acquired Ultramar Diamond Shamrock;

This wave of mergers has followed a general consolidation of assets within the refining industry over the past two decades. In 1981, 189 firms owned a total of 324 refineries; by 2001 65 firms owned a total of 155 refineries, a decrease of about 65 percent in the number of firms and a decrease of about 52 percent in the number of refineries.¹⁸⁹ During this period the market share of the ten largest refiners increased from 54.9 percent to 61.6 percent.¹⁹⁰

Both the Hirfendahl-Hirschman Index (“HHI”) and the 4-firm concentration ratios indicate that the domestic gasoline refining and supply system has become markedly more concentrated. In 1994, as measured by the HHI, the gasoline wholesale market was “moderately concentrated” in 22 states (an HHI in excess of 1000) and “highly concentrated” in 5 states (an HHI in excess of 1800).¹⁹¹ In 2000, 28 states were “moderately concentrated” and 9 states were “highly concentrated.”¹⁹²

¹⁸⁹ Information provided to the Subcommittee by the Energy Information Administration, August 7, 2001.

¹⁹⁰ There has been a change in the composition of these top ten companies from exclusively major integrated companies in 1981, to the majority being non-integrated refiners. These independent refiner/marketers, who have no significant crude oil production, have through acquisitions amassed approximately 23 percent of all the refining capacity in the U.S. In 1981 all ten of the companies were fully integrated oil companies, but by 2001 only four of the companies were integrated. However, although 7 of the top 10 refiners were not fully integrated companies, all of those 7 own one or more chains of retail outlets.

¹⁹¹ Information on state market concentration figures supplied to the Subcommittee staff by EIA. The EIA calculated the HHI and concentration ratio for a state on the basis of the amount of gasoline produced by the refineries, if any, located in that state and the amounts of gasoline transported into the state by refiners, multi-state distributors, and traders.

¹⁹² Under the HHI, the moderately concentrated states are: Connecticut, Massachusetts, Maine, Rhode Island, Vermont, Delaware, Maryland, New Jersey, New York, Pennsylvania, Maryland, Illinois, Indiana, Michigan, Minnesota, Oklahoma, Tennessee, Wisconsin, Louisiana, New Mexico, Colorado, Idaho, Wyoming, Alaska, Arizona, California, Nevada, Oregon, and Washington. The highly concentrated states are: District of Columbia, West Virginia, Indiana, Kentucky, North Dakota, Ohio, Montana, Alaska, and Hawaii.

In 1994, the 4-firm concentration ratio was greater than 60 percent – meaning a tight oligopoly – in 14 states and exceeded 70 percent in 7 of those states. In 2000, the 4-firm ratio was greater than 60 percent in 28 states and exceeded 70 percent in 11 of those states.¹⁹³

The U.S. consists of many regional, local, and micro-markets for gasoline that, to a varying degree, are linked by pipelines, shipping routes, and highways. Because of the practical and economic constraints on this manufacturing, transportation and pipeline system, the effects of increased concentration in the refining and marketing industry are seen most acutely in a number of these discrete regional and local markets.

This section examines the effects of increased concentration in the West Coast and Midwest markets.

1. The West Coast

West Coast markets clearly exhibit the effects of high concentration. These effects can be seen on the regional, state, and local level. The refining and marketing industry in California provides a particularly good example of the effects of increased concentration and consolidation of market power in a few firms.

a) California

California drivers consume nearly 1 million barrels of gasoline per day, putting the state on a par with Japan as the second largest gasoline markets in the world, behind only the United

¹⁹³ Information on state market concentration figures supplied to the Subcommittee staff by EIA. Under the 4-firm concentration ratio, the highly concentrated markets (i.e. “tight oligopoly”) are: Connecticut, Massachusetts, Maine, Rhode Island, Maryland, Virginia, Illinois, Indiana, Michigan, Minnesota, Wisconsin, New Mexico, Colorado, Idaho, Wyoming, Arizona and Nevada. The 11 states with 4-firm concentration ratios in excess of 70% are: the District of Columbia, West Virginia, Kentucky, North Dakota, Ohio, Montana, Alaska, California, Hawaii (4-firm concentration ratio of 100%), Oregon and Washington.

States as a whole.¹⁹⁴ California is geographically isolated from the other major domestic markets; few pipelines can carry gasoline into the state and tanker shipments must travel from Europe, Asia, the Gulf Coast or Carribean to either Los Angeles or San Francisco. Such journeys are time-consuming and expensive. A trip by tanker from Europe takes from just over three to four weeks and costs from 10 to 12 cents per gallon. A tanker from the Carribean or Gulf Coast will take two weeks and cost 5 to 10 cents per gallon.¹⁹⁵

California has a unique requirement for CARB gasoline.¹⁹⁶ Only CARB gasoline can be sold in California, and California is the only state where CARB gasoline is required. The more stringent specifications required to make CARB gasoline further isolate the California market and, because of the capital investments necessary to manufacture CARB gasoline, make alternative sources of CARB gasoline outside the state more scarce. Refiners outside the state normally do not manufacture CARB gasoline; therefore an additional week to ten days is required to produce a shipload of CARB for export into California.

¹⁹⁴ Daily consumption in the United States is approximately 8 million barrels per day. By way of perspective, China, the most populous nation, consumes approximately one-tenth this total amount – nearly 800,000 barrels per day – as does West Germany. Russia uses approximately 570,000 barrels per day of gasoline. Across the entire African continent, approximately 535,000 barrels are consumed daily. EIA, *International Energy Annual 1999*, Table 3.5; National Petroleum News, Market Facts, July 2001, p. 88. Although California is the largest single market within the U.S., per capita usage in California is the 9th lowest, at approximately 240 gallons per person per year. The national average is about 258 gallons per person per year. California Energy Commission website, at http://www.energy.ca.gov/fuels/gasoline/gasoline_per_capita.html.

¹⁹⁵ Philip K. Verleger, *The California Conundrum, 2000*, citing California Energy Commission figures from 1997.

¹⁹⁶“CARB” is the gasoline formulation required under the California Air Resources Board Phase II regulations. It was first introduced in California in 1996. CARB gasoline must meet more stringent standards for nitrogen oxides (NOx) and aromatic emissions.

As in other markets, demand for gasoline in California is inelastic. A small decrease in supply will produce a large increase in price. In 1999, an explosion at Tosco's Avon refinery reduced CARB gasoline refining capacity in California by approximately 24,000 barrels per day, which is roughly two percent of the total CARB capacity in the state. The wholesale price of CARB rose by about 13 cents per gallon – about 20 percent – in just under two weeks.¹⁹⁷ Several weeks later, outages at the ARCO and Chevron refineries resulted in a total capacity loss of 5 to 10 percent, which doubled spot prices and led to retail price increases of nearly 50 percent.¹⁹⁸

Because of the large volume of gasoline bought in California, these price increases result in significant additional expenses for California drivers. Each one-cent increase in the price of gasoline costs California consumers a total of approximately \$420,000 per day, or about \$153 million per year.

i. The refining industry in California is an oligopoly.

The California refining industry is an oligopoly. As of January 2000, the top two refiners, Chevron and Tosco (now Phillips), accounted for nearly half of the state's capacity; the top 4 refiners owned nearly 80 percent of California capacity. Moreover, six refiners own or operate about 85 percent of the retail outlets in the state.¹⁹⁹ These outlets sell more than 90 percent of the CARB gasoline sold at retail locations in the state.²⁰⁰ By the 4-firm concentration

¹⁹⁷ Documents in Subcommittee Files.

¹⁹⁸ Consultant Report, MTBE Phase-Out in California, at 11-12.

¹⁹⁹ Attorney General's Report, at 42.

²⁰⁰ Attorney General's Report, at 23.

ratio, this market is considered to be a “tight oligopoly.” Under the DOJ/FTC Guidelines, the market is considered “moderately concentrated.”²⁰¹

The level of concentration of the refining and marketing industry in California and the type of behavior that follows such levels of concentration were discussed in a recent lawsuit in California. In *Aguilar v. ARCO*, the plaintiffs alleged that the oil companies in California had, in violation of the state’s antitrust laws, “seized the opportunity provided by California’s requirement that a cleaner-burning gasoline (CARB gas) be used in California, and agreed with each other to restrict CARB gas refining capacity and production.”²⁰² Specifically, the plaintiffs alleged the California refiners had manipulated the spot prices for wholesale sales of gasoline; conspired to fix the amount of CARB gasoline produced to ensure adequate prices and profits; entered into supply and exchange agreements with each other to discourage the importation of gasoline into the state from sources not controlled by the California refiners; and used common consultants to transmit confidential business information to each other. After discovery and reviewing the plaintiffs’ evidence, the California Court of Appeals found the plaintiff did not meet her burden of proof for establishing an unlawful conspiracy and granted the defendants’

²⁰¹ In 1994, the top 4 refiners accounted for about 59 percent of the state’s capacity, and the top 8 refiners accounted for about 86 percent of the total capacity. By the time CARB gasoline was introduced in 1996, these figures had not changed much. By 2000, however, the top 4 refiners’ share had grown by 20 percent, and the top 8 refiners were responsible for about 96 percent of all production in the state. From 1994 to 2000 the HHI index for the California refining industry increased by about 30%—from 1121 to 1476. EIA, Financial Reporting System (FRS) information provided to the Subcommittee.

²⁰² *Aguilar v. ARCO*, 78 Cal.App. 4th 79, 92 Cal. Rptr. 2d 351 (2000) Cal.App. LEXIS 65 (January 31, 2000). The defendants in the case all operated refineries in California: ARCO, Chevron, Exxon, Mobil, Shell, Texaco, Tosco, and Union Oil. Several of these defendants have subsequently merged with each other.

motion for summary judgment. In July 2001, the California Supreme Court upheld the dismissal.²⁰³

In its ruling in *Aguilar*, the California Court of Appeals found that the gasoline market in California is an oligopoly. The court stated, “Plaintiffs allege, and defendants do not dispute that the California CARB gas market is oligopolistic.”²⁰⁴

Indeed, the evidence before the Court of Appeals reflects the recognition by a number of the refiners and petroleum industry consultants that the small number of large refiners in California possess a significant degree of market power.

One such document (see Exhibit IV.1 on page 191), a briefing book that was generated for senior executives by the ARCO Products Company in 1996, notes that the market power of a few firms significantly affects prices in several West Coast markets:

[A] significant increase in exports of light products out of the West Coast (combined with the shut down of some non-economic capacity in various West Coast refineries) has allowed supply and demand to remain in close balance. However, the West Coast light product balance remains a precarious one. The overall balance shifts seasonally, with the summer months in close balance and the excess product long in winter months. These supply/demand balance swings make the West Coast prices far more volatile than in other world markets.

²⁰³ *Aguilar v. ARCO*, 25 Cal. 4th 826 (2001).

²⁰⁴ 92 Cal. Rptr. 2d 351 (2000). LEXIS at 134. Mobil’s expert witness, MIT Professor Franklin Fisher, testified that as an oligopoly the firms are “big enough so that they don’t take prices as given but have to think about the way their actions influence the price.” Fisher Deposition, at 87. Fisher characterized the nature of the oligopoly as “loose.”

Chevron’s expert witness, Dr. Richard Gilbert, Professor of Economics at the University of California at Berkeley, testified, “the California market at the refining level is characterized by what we would call at the low end of moderate concentration, which means, yes, it’s an oligopoly. It’s not a highly concentrated oligopoly by the typical competitive standards.” Gilbert Deposition at 169.

Professors Gilbert and Fisher provided their testimony regarding the degree of oligopoly in California in 1997, before the recent round of mergers and acquisitions.

* * *

Exports from the West Coast to maintain the balance between supply and demand have historically been made by refiners who have some remaining, less economic refining capacity which could be used to cut crude runs and by refiners who have excess product and the ability to export that product economically.

* * *

Further complicating light product supply on the West Coast is the existence of several distinct “micro-markets.” Regionally, the West Coast is short on light product in Southern California, long on light product in northern California and balanced to long in the Pacific Northwest. Additionally, CARB gasoline and diesel specifications reduce the fungibility of products within PADD V. As a result we experience significant volatility of product pricing within PADD V as well as pricing versus the Gulf Coast. ***The existence of a handful of players with large supply positions in specific West Coast regions and/or products, such as APC’s CARB diesel position in southern California or APC’s high sulfur diesel position in the Pacific Northwest, add further to this volatility.*** Close monitoring of supply and demand within these micro-markets is needed to ensure that refiners react to imbalances and prevent wide volatility in the premiums realized for specific products. (emphasis added).

Another document produced during discovery in *Aguilar* (see Exhibit IV.2 on page 199), generated by Chevron in 1993 as part of a strategic study, also states that a few large refiners dominate the West Coast and have a significant effect on the market. The Chevron document contrasts the high returns of the refiners in the West Coast market with the lower returns of refiners in the Gulf Coast and attributes the difference, in part, to the concentrated nature of the West Coast market:

USWC market appears to allow better average returns than USGC [Gulf Coast]. The better performers generate [returns on capital employed] greater than 12%. . . ***Market is dominated by a limited number of large, committed refiner/marketers whose individual actions can have significant market impact.*** (emphasis added).

Another such document (see Exhibit IV.3 on page 203) is an “Energy Briefing Note” which was generated in 1996 by the PIRA Energy Group, a petroleum industry consulting organization, and presented to all of its “retainer clients,” including Mobil, regarding the impact

of the introduction of CARB gasoline on refining margins. This document noted that the supply/demand balance in California was likely to be “tight,” and would remain so, partially as a result of the market structure in which a few refiners in the state had sufficient market power and motivation to maintain prices above marginal costs:

The CARB 2 balance appears to be tight in California. Add in the remoteness of the California market, the unique characteristics of CARB 2, the requirement for domestic shippers to use higher cost Jones Act shipping, *and the small number of companies involved, all of whom share a motivation to recoup costs and not undermine the market. The implication is that prices on average will do quite a bit more than cover marginal costs*, which will mainly comprise the incremental oxygenate cost, although not during the extended phase-in period. (emphasis added).

This PIRA memo presents a classic description of a market failure. In a purely competitive market, prices do not rise above marginal costs, which are the costs of producing an additional unit of the product. Samuelson and Nordhaus describe the importance of using marginal cost as a measure of economic efficiency:

The essential role of marginal cost in a market economy is this: Only when prices are equal to marginal costs is the economy squeezing the maximum output and satisfaction from its scarce resources of land, labor and capital.²⁰⁵

They then describe the adverse effects to consumers when prices rise above marginal costs:

When a firm has market power in a particular market (say it has a monopoly because of a patented drug or a local electricity franchise), the firm can raise the price of its product above its marginal cost. Consumers buy less of such goods than they would under competition, and consumer satisfaction is reduced. This kind of reduction of consumer satisfaction is typical of the inefficiencies created by imperfect competition.²⁰⁶

²⁰⁵ Samuelson and Nordhaus, *supra*, at 160.

²⁰⁶ *Id.* at 161.

The PIRA report projected CARB gas would cost between 10 and 15 cents more than conventional gas:

Even if conventional gasoline prices soften, this implies a sharp increase in California pump prices in an election year. The industry's P.R. machine needs to be ahead of the curve on this issue so that there is an appreciation of the benefits and not just the cost of CARB 2 gasoline.

- ii. In the early to mid-1990s, the California market for gasoline was generally "long," meaning there was an excess of supply over demand. Refiners also were concerned about the potential for an oversupply of CARB gasoline in 1996 and beyond. During this period, refiners in California sought to limit supply by discouraging imports, exporting gasoline, eliminating the oxygenate mandate, and preventing a refinery from operating.**

In the early- to mid-1990s, the California market had an excess of supply over demand, and refiners sought to limit supplies in order to obtain higher refining margins. The high level of concentration in the California market enabled these refiners to affect prices through their decisions on supply. Following the introduction of CARB gasoline in 1996, the market grew short, meaning a shortfall of supply relative to demand. Today, the high degree of vertical integration between the refining and marketing sectors raises prices within the state and raises the barriers for others to enter into the market or import gasoline, thus helping to keep the supply/demand balance tight and to sustain higher prices.

The 1996 ARCO briefing book (see Exhibit IV.1 on page 191) describes the supply/demand balance in California as it existed at the time: "in 1991 the supply/demand balance shifted from short supply to excess, and has stayed slightly long ever since."

Refiners in California and elsewhere were concerned about this excess capacity. In a document produced during discovery in *Aguilar*, a Chevron report notes that a senior energy

analyst had “warned that if the U.S. petroleum industry doesn’t reduce its refining capacity, it will never see any substantial increase in refining margins, pointing out the recent volatility in refining margins over the past 12 months.” (See Exhibit IV.4 on page 211.) The author of the Chevron report wonders whether refineries can operate at reduced capacity as a result of the existing oversupply:

In the last nine months, gasoline demand has been healthy and inventories have remained close to record lows, factors that should normally lead to higher prices. However, refining utilization has been rising, sustaining high levels of operations, thereby keeping prices low. ***Implication: in what alternate modes can the refinery operate given low-margin economics?*** (emphasis in original).

When the California Air Resources Board promulgated regulations requiring that by June 1, 1996, only CARB gas could be sold at retail in California, California refiners were faced with the decision of whether or not to upgrade their refineries to produce CARB gasoline and, if they chose to do so, how much CARB capacity to create.

In *Aguilar*, the California Supreme Court explained the situation as follows:

In 1991, the California Air Resources Board adopted regulations requiring the sale in this state of a new, cleaner burning, but more expensive formulation of gasoline – CARB gasoline – beginning in 1996. In 1991, the state’s market for gasoline was oligopolistic, that is, it was served by a few large firms Each of the petroleum companies faced decisions of substantial magnitude and difficulty with respect to CARB gasoline capacity, production and pricing. In arriving at its own decisions and then following through, each had to make great capital expenditures, from a low of about \$100 million to a high of more than \$1 billion. In 1996 the state’s market for gasoline was even more oligopolistic, being served by even fewer large firms, including as dominant participants the petroleum companies that figure here.²⁰⁷

²⁰⁷ *Aguilar*, California Supreme Court, at 3.

At this time, with the market slightly long, and the possibility of significant shifts in capacity as a result of the CARB requirement, refiners in California were very concerned about avoiding an excess of supply in the market. In *Aguilar*, the California Court of Appeals found “Internal documents from several defendants also acknowledged excess CARB gas supply could reduce prices and hurt profitability.”²⁰⁸ Furthermore, the Court of Appeals stated, “The evidence showed, and defendants concede, that defendants shared the common belief that an oversupply of CARB gas was undesirable and therefore had a common motive to restrict capacity.”²⁰⁹

Although the Court of Appeals held that the plaintiff had not presented sufficient evidence of an illegal conspiracy to restrict capacity, the Court did conclude that the evidence showed “nine defendants using all available information sources to determine capacity, supply, and pricing decisions which would maximize their own individual profits. . . .”²¹⁰

A number of documents from *Aguilar* and elsewhere illustrate how these refiners sought to “maximize their own individual profits” through capacity and supply decisions.

- ***Preventing imports***

Several documents from *Aguilar* reflect a desire by California refiners to limit imports into California. An Exxon official, in an internal 1995 memo reviewing projections for the CARB gas market, supports a general strategy of limiting imports of gasoline into the West Coast market: “Should not do deals that supports other’s importing barrels to West Coast.” (See Exhibit IV.5 on page 212.) The author also questions whether Exxon should develop a reserve

²⁰⁸ *Aguilar*, 78 Cal. App. 4th at 99.

²⁰⁹ *Id.* at 131.

²¹⁰ *Id.* at 152.

capability for the production of alkylate (a component of gasoline) if this added capacity will cause an oversupply of alkylate and therefore depress the price of gasoline: “Desire to build ALK8 for contingency should be weighed against market revenue factor impact from ALK8 sales if end up with ALK8 length (ALK8 sales = + CARB mogas).”

In an internal e-mail discussion of marketing strategies, one Mobil official predicted that because of the unique requirements for CARB gasoline it would not take much to upset the California market and create fuel shortages. (See Exhibit IV.6 on page 215.) Rather than import CARB to bolster supply to prevent any such shortages, which would run the risk of depressing prices, this official advocated a strategy of using existing inventories to take advantage of the supply shortages that were likely to arise:

To my mind the discussion is really this: Depending upon the [Supply/Demand] balance, it probably will NOT make sense to import finished CARB into what has historically been an isolated, near balanced/long market. As you probably know, US West Coast margins are on average more attractive than most other US regions. ***Flooding the market and depressing margins on the base volume we market would likely be a big hit and not in Mobil's interest.***

However, since there is uncertainty about CARB supply/demand in the market, and we will soon have unique fuels formulations, I anticipate a high probability of market upsets when there is a [West Coast] Refinery problem, etc. Coincident with market perturbations, I think it would make sense for Mobil to have plans in place to react ASAP and capture forward sales (while drawing from finished inventory) if there is sufficient reward, and I think there will be. (emphasis added).

Another document presents a strikingly direct example of action to limit imports.

According to this internal Texaco memo, Shell told Texaco that Shell would seek from the California legislature a fee or tax on imports if Texaco imported gasoline at less cost than it took Shell to refine the gasoline within the state. (See Exhibit IV.7 on page 217.) According to the

Texaco memo, ARCO also complained to Texaco about Texaco's possible plans to undercut the market with inexpensive imports.

The internal Texaco memo recounts a conversation in late 1992 between a Texaco official and Shell's California Government Relations Manager regarding their companies' respective plans for producing CARB gasoline. According to the Texaco official, Shell and the other refiners in California were "extremely concerned" because Texaco had not shared its plans regarding CARB 2 production and might import gasoline from outside the state. The Texaco official wrote,

[The Shell Manager] went on to say that Shell and the other oil companies are extremely concerned about Texaco's silence and lack of activity concerning our plans toward CARB Phase 2 compliance. He said Texaco is positioning itself to be the 'wild card' on this issue and 'we are nervous about it.' He said Texaco or any other company could easily import compliant fuel from outside of California for considerably less cost than those companies that intend to retool their refineries. He went on to talk about the various scenarios that would occur if a company was able to import RFG for 5-10 cents less per gallon than what it would cost other companies that retooled. He said it would be virtually impossible for a company to recover their investment.

He went on to say that if such a scenario was to evolve, Shell would be at the California legislature and CARB immediately asking for relief. He specifically referred to a fee, tax or penalty assessed for importing RFG. He suggested that such an approach would be necessary to 'level the playing field' thus protecting Shell's investment. (emphasis added).

"As you remember," the author wrote, "similar concerns were echoed by the ARCO plant manager from Carson at a refinery managers meeting in April."

The exchange agreements between the West Coast refiners sharing their capacity also deter new capacity and imports. There are several basic types of exchange agreements on the West Coast: an exchange of similar products between competitors in different geographic areas;

the exchange of different products between one refiner who is long on one product but short on another with another refiner who holds an opposite position; and exchanges of product currently needed in return for a commitment to deliver product needed in the future. Most exchange agreements also allow one company to draw supplies from another refiner by “mutually agreed” amounts.

Although exchange agreements can make the overall market and individual refiners more efficient by avoiding the need for additional shipments of product by pipeline, truck, tanker, or barge, and by allowing refiners to compete in markets far away from their refineries, these agreements also reduce the incentives for each refiner to import gasoline or build reserve capacity for use during supply disruptions. This was explained by Roger Noll, Morris M. Doyle Professor of Public Policy in the Department of Economics at Stanford University, the plaintiff’s expert in the *Aguilar* case:

36. . . [W]hen one company experiences an unplanned outage, the amounts of supply it needs to make up for its long-term storage is well within the bounds of its exchange agreements. Moreover, the multiple arrangements involving many companies enable them to share the production short-fall with the company that experienced the outage. ***The effect of these sharing arrangements, which amount to a method for allocating production among horizontal competitors, is to reduce the incentive to offset the production shortfall by importing gasoline from outside the state.***

37. Because the demand for gasoline is highly inelastic (that is, not very responsive to changes in price), a relatively small shortfall in production can cause a very large increase in price. ***Hence if companies can mutually guarantee that an unplanned outage will not lead to an offsetting increase in imports that would cap the price spike at refining cost elsewhere plus transportation cost, for the duration of the outage they can expect to enjoy a very large benefit in price increases.*** For example, if one firm experiences an outage that cuts its production below its own retail sales, and it has no exchange agreements or other supply arrangements with competitors, it has a strong incentive to turn to imports to make up the shortfall. . .

* * *

38. This example is far from hypothetical, for it is exactly what happened in late February, 1996. An unplanned outage at a refinery in El Paso, Texas, curtailed gasoline supplies to Arizona and New Mexico. Because Los Angeles refineries are the other sources of gasoline for Arizona, the El Paso event increased the demand for Los Angeles gasoline, causing an increase in prices. Immediately, companies explored shipping in gasoline from northern California, the Pacific Northwest, and even the Far East. By reducing the incentive of the firm experiencing a shortage to import gasoline, the exchange agreements remove this price cap for the entire duration of the unplanned outage. ***Hence, during unplanned outages, exchange agreements cause a reduction in supply and an increase in price that harms consumers.***²¹¹ (emphasis added).

- ***Exporting gasoline***

A 1996 presentation for senior ARCO managers, produced during discovery in *Aguilar*, outlines a strategy for exporting gasoline to ensure that a surplus of gasoline does not develop. (See Exhibit IV.8 on page 219.) The presentation states that ARCO (referred to in the presentation as APC, which is short for Arco Products Company) should export “when export parity threatens,” which essentially means that ARCO should export in order to prevent a surplus of supply from building up in the state. Significantly, the presentation indicates that ARCO should export in order to intentionally alter the supply/demand balance within the state, and not just as a passive response to the prevailing economic conditions. The presentation states:

- APC’s manufacturing profitability depends critically on maintaining export parity. . .
- Since APC is short in the Bay and short overall, APC should not export first – others should be forced to behave rationally. . .
- Most of the time, APC believes others will act rationally and ensure market balance. . .

²¹¹ Declaration of Roger Noll, *Aguilar v. ARCO*, at 19-20.

- APC must monitor conditions to anticipate potential collapse to export parity.
..
- Should the market move to export parity, APC should be prepared to export to help balance the market – if others are already behaving rationally . . . and if APC’s contribution may make a difference.

At other points in the presentation, mentioned strategies include “Export to keep the market tight,” and “Exchange and trade selectively to preserve market discipline.”

Other documents obtained by the Subcommittee provide additional evidence of this practice. One industry document states “we have observed historically that some West Coast companies will export to Gulf at significant loss to improve base business revenue and believe a bit of that could be going on.”²¹² Another document indicates that one company would export gasoline to the Gulf Coast, even at a loss, with the rationale that such losses “would be more than offset by an incremental improvement in the market price of the much larger volumes of mogas [motor gasoline] left behind.”²¹³ One company’s plan indicates that exporting gasoline can “improve market conditions,” and that the company was willing to “take [a] hit on price to firm up market.”²¹⁴

- ***Preventing a refinery from operating***

One document produced during discovery in *Aguilar* contains a series of e-mails in February 1996 between officials in Mobil discussing how to block the proposed startup of the

²¹² A document in Subcommittee files.

²¹³ A document in Subcommittee files.

²¹⁴ A document in Subcommittee files.

Powerine refinery or at least prevent its output from reaching the market, as they had done previously. (See Exhibit IV.9 on page 225.) One official projected that the restart of the Powerine refinery “could effectively set the CARB premium a couple CPG [cents per gallon] lower.” The memo continues:

Needless to say, we would all like to see Powerine stay down. Full court press is warranted in this case and I know Brian and Chuck are working this hard.

One other thought, if they do start up, depending on circumstances, might be worth buying out their production and marketing ourselves. Especially if they start to market below our incremental cost of production. Last year when they were dumping RFG at below cost of MTBE, we purchased all their avails and marketed ourselves which I believe was a major reason that the RFG premium last year went from 1 CPG in Jan to 3-5 CPG thru to their shutdown. We’ll have to see how this plays out, however, if they do start up, I’d seriously consider this tactic.²¹⁵ (emphasis added).

- ***Seeking to eliminate the oxygen mandate***

Other documents from *Aguilar* reflect a discussion within Texaco on whether and how to use possible changes in fuel specifications as a means for reducing supplies. (See Exhibit IV.10 on page 232.) One Texaco memo advocates that the company should support certain proposed changes in fuel specifications, because this “would serve to benefit our most critical problem on the West Coast,” which the memo identifies as “surplus refining capacity.” The memo notes that two of the proposed new standards “would only incrementally serve to reduce supplies, whereas large adjustments are necessary. But they may be directionally beneficial.” The memo states:

[T]he most critical factor facing the refining industry on the West Coast is the surplus refining capacity, and the surplus gasoline production capacity. (The same situation exists for the entire U.S. refining industry.) Supply significantly exceeds demand year-round. This results in very poor refinery margins, and very

²¹⁵ Another Mobil official responded that it was highly unlikely Powerine would ever start up again: “Bottom line: I’d bet Barry Switzer gets ‘coach of the year’ before Powerine restarts.”

poor refinery financial results. *Significant events need to occur to assist in reducing supplies and/or increasing the demand for gasoline. One example of a significant event would be the elimination of mandates for oxygenate addition to gasoline. Given a choice, oxygenate usage would go down, and gasoline supplies would go down accordingly. (Much effort is being exerted to see that this happens in the Pacific Northwest.)* (emphasis added).

The author of a background paper accompanying the above memo suggests a variety of approaches to reduce the supply of gasoline, including supporting fuel specification changes:

Both the Texaco position and the API position currently is to fight the proposed specification changes because it will increase fuel cost and not deliver commensurate benefits to the consumers nor the environment. Thus it is not cost-effective.

Incremental improvements to refinery margins from reducing supplies or increasing demand can be achieved in a number of ways. One way would be to promote the more restrictive mandated specification changes to reduce supply of product; another would be to continue the poor financial performance of the industry until some weak performer dropped out: another would be for refiners to voluntarily reduce refinery production without incurring added costs or suffering attrition (admittedly unreasonably idealistic, but the best option).

Advocacy of a Texaco position on issues with industry groups or any regulatory agency should be consistent with those actions that will benefit TRMI vis-a-vis competition, or hurt TRMI less than competition. (emphasis added).

iii. In recent years, the California market has become “short,” meaning imports are needed to satisfy demand. This market tightness is optimal from a refiner’s perspective for maximizing profits.

There no longer is an excess of gasoline in California. Since the early 1990's, a number of refineries shut down, and a number of others were not upgraded to meet the new CARB requirements. Capacity upgrades have not kept pace with the closures and increased demand. In 1995, the Pacific Refining and Powerine refineries shut down, removing in the aggregate a

capacity to produce almost 100,000 barrels of gasoline per day. Other refineries, such as Paramount Refining in the Los Angeles Basin, continued operation but were not upgraded to manufacture CARB.²¹⁶ At the same time, demand in California has increased by about 1.4 percent annually, so that by the year 2000 demand was about 100,000 barrels per day greater than in 1992.²¹⁷

As a result of fewer refineries and increasing demand, California has shifted from an overall long market to an overall short market. In 1998, California refiners produced approximately 98% of the gasoline consumed within the state, with the balance made up from imports.²¹⁸ Industry documents indicate that today, the West Coast as a whole is short gasoline by about 110,000 barrels per day, with the balance made up through pipelines and imports from outside the region.²¹⁹ Industry planning documents project the West Coast market will continue

²¹⁶ Keith Leffler and Barry Pulliam, Preliminary Report to the Attorney General Regarding California Gasoline Prices, 1999, at 8.

²¹⁷ U.S. General Accounting Office, California Gasoline Price Behavior, 2000, at 5. GAO Taxable gasoline sales in California have steadily risen from 13.1 billion gallons in 1993 to 14.8 billion gallons in 2000. This is an overall increase of about 110,000 barrels per day. California Energy Commission, at http://www.energy.ca.gov/fuels/gasoline/taxable_gasoline.html.

Small, incremental expansions at California refineries have added approximately 100,000 barrels per day of capacity since 1992 (a growth rate of approximately 1 percent per year). One California Energy Commission study states that future growth is not likely to exceed this rate of 1 percent. Consultant Report, MTBE Phase Out in California, at 25-27.

²¹⁸ GAO, *supra*. See also Verleger, *The California Conundrum*, 2000. Precise statistics on imports and exports from states and regions are difficult to obtain. Moreover, the average daily figures are imprecise because demand is higher in the summer and lower in the winter, and the market economics change from season to season.

²¹⁹ Documents in Subcommittee files.

to be short over the next several years, based on demand growth, announced refinery expansions, and the loss of gasoline volume that would occur with a MTBE phase-out.²²⁰

From a refiner's perspective, the current tightness in the overall supply/demand balance in California and the West Coast is optimal for profit-maximization. When a market is in tight balance or a little bit short and imports are necessary to satisfy peak demand, prices will be lifted by an amount at least equal to the cost to import marginal barrels from elsewhere.²²¹

Moreover, as recent history in California (and the Midwest) demonstrates, when supply and demand are closely balanced and inventories are low, refinery or pipeline disruptions will cause immediate supply shortages. Because of the price inelasticity of gasoline, these supply shortages will lead to large increases in price and corresponding increases in refining margins. Due to the time lag for additional production to reach West Coast markets, prices may increase well above import parity. Eventually, once prices reach a sufficient level for a sufficient length of time, refiners will increase production and may selectively import gasoline to take advantage

²²⁰ Documents in Subcommittee files.

²²¹ If a market is very long – an excess of supply over demand – spot gasoline prices will decline and refining margins will decrease. If a market is very short – a supply shortfall relative to demand – the higher prices that result may eventually attract investment in pipelines and other infrastructure to bring in additional supply to realize these higher prices, which would then decrease as a result of the additional supply. For example, the Longhorn Pipeline, is being developed to transport gasoline, diesel, and aviation fuel produced at Gulf Coast refineries to terminals at Odessa, Texas and El Paso, Texas. Gasoline prices in these markets have historically been 10 to 20 cents per gallon higher than in the cities nearer the Gulf Coast refineries. In El Paso, gasoline also may be transferred to pipelines serving Albuquerque, Tucson, and Phoenix, where prices also have been well above the national average. Some contend that the Longhorn pipeline may improve the supply/demand balance in California, as additional supplies to Arizona from Texas could “back out” the need for Arizona to import from California. Because of the barriers to entry into the California market, as discussed below, it will take a significantly greater imbalance in California than elsewhere to attract sufficient investment for any new infrastructure in California.

of these high prices and margins, which will eventually increase supplies and cause prices to fall back.²²² But, as the California situation demonstrates, if there are high barriers to imports, the price increases may be significant and may last for extended periods of time.

An examination of price data from California illustrates how refining margins have increased as a result of the increasing tightness of the California market. As the overall supply/demand balance in the West Coast became tighter, the market moved from “export parity” to “import parity.” “Export parity” describes the situation in which there is an excess of supply over demand and the price of gasoline falls until it is equally profitable to export an additional amount of gasoline produced as it is to sell it within the state. “Import parity” describes the situation in which there is a shortfall of supply and gasoline must be imported to satisfy demand – in this situation the price within the state will rise until it is sufficiently high to attract imports from elsewhere. Hence, as the supply/demand balance has tightened, refiners in California stopped exporting and began regularly importing gasoline.

The transition to import parity is shown in Figure IV.1 (page240) (the difference between the West Coast and Gulf Coast spot prices for unleaded regular gasoline) and in Figure IV.2 (page 241) (the difference between the West Coast and Gulf Coast spot prices for unleaded regular prior to 1996 and CARB gasoline during and after 1996). As supply has become tighter and imports have become necessary to satisfy the demand for gasoline, the price of gasoline has risen to levels sufficient to attract those imports.

²²² In a market that is slightly short, individual refiners will seek to be balanced or slightly long in order to be able to sell enough gasoline to take advantage of high margins as they may arise. Thus, although a refiner may be able to maximize profits when the overall market is a bit short, it is not in any refiner’s interest to be very much short in such a market. In aggregate, these interests may help keep the market in a tight balance as demand increases.

In the past several years, the price of gasoline sold within the state has been at least equal to the cost of producing and transporting marginal barrels of gasoline into the state. Figure IV.1 (page 241) indicates that the spot price of unleaded regular gasoline in Los Angeles has increasingly moved above this amount after 1996. Figure IV.2 (page 242) also indicates that the import parity price for CARB gasoline has increased in recent years. This is due to increases in the costs of the components for producing CARB gasoline as well as an increase in shipping costs.²²³ As the costs of imports have increased, the price of gasoline in California has increased as well.

The cost of gasoline in California may even be higher than the actual cost to import gasoline. In light of the volatility in California gasoline prices and the time it takes for imports to reach the California market, a premium above the cost-to-import may be necessary to compensate for the risk of rapid price changes. The Consultant Report to the California Energy Commission on the MTBE Phase-Out concludes that when comparing the Gulf Coast and West Coast spot prices over the past ten years, “it is clear there is a rising trend with increasing volatility in the premium that California is paying over the Gulf Coast for its gasoline supplies. But while a price spike in 1996 was able to attract the equivalent of [50,000 barrels per day] in

²²³ The Consultant Report to the California Energy Commission on the MTBE Phase-Out in California states that product from the Gulf Coast has become more scarce as the Gulf Coast refineries no longer have spare refining capacity and must compete with demand from East Coast states. The Report also states that Gulf Coast refiners will produce alkylate, a blending component that is particularly desirable for California refiners producing CARB, only when the value of propylene, a key component of alkylate, becomes less valuable to the chemical industry, where it also is used. According to the Report, “This means that a California importer will have to offer a premium of 20 cpg over Gulf Coast gasoline, with peaks of 30 to 35 cpg if the alternate value is determined by chemical grade demand. Including transportation from the Gulf Coast, delivered cost to California would have to be sustained in the range of 30 to 55 cpg over the price of USGC gasoline to consistent attract sufficient volumes.” *MTBE Phase Out in California*, at 31.

supplies from the US Gulf Coast, subsequent sustained and higher price differentials in 2000 have not resulted in more than the equivalent of [12,000 barrels per day] to be shipped from the Gulf Coast.”²²⁴

One industry analysis concludes that an integrated refiner’s strategy for maximizing profits should be as follows:

- “In an import parity market refining has a higher contribution to integrated profits.
- “Balanced players should move towards a short position in an export parity market. . .
- “Short players should move towards a balanced position in an import parity market.”²²⁵

The few refiners in California thus share a common motive to maintain the current “tight” balance in the California market.

iv. In recent years, retail gasoline prices, gasoline price volatility, and gasoline refining margins in California have increased. The high degree of concentration has led to higher retail prices. Today California is one of the most profitable markets for refiners.

With respect to retail prices, “before the mid-1990s, California prices were typically within a few cents per gallon of the national average and, in many years, were actually lower.”²²⁶

²²⁴ *MTBE Phase Out in California*, at 9. See also Verleger, *The California Conundrum*. In 1999, Verleger concluded that a premium of 30 cents was necessary to attract imports. Verleger attributed the volatility in California’s retail prices “directly to changes in inventory levels.” *Id.* at 28.

²²⁵ Documents in Subcommittee files.

²²⁶ Attorney General of California Report, at 41-42.

(See Figure IV.3. on page 243) From the mid-1990s to 2001, the average annual retail price of gasoline in California increased by about 40 percent.²²⁷ (See Figure IV.4 on page 244.)

For the most part, prices in California also have become more volatile than in the rest of the nation. According to the GAO, gasoline retail prices “spiked” seven times in California between January 1, 1995, and December 31, 1999. (GAO defines a “spike” as an increase of at least 6 cents per gallon in a 4- to 21-week period).²²⁸ And although the GAO concluded that price spikes during this period were no more frequent in California than in the rest of the nation and that these spikes coincided with increases in crude oil prices and increases in demand during the spring and summer driving seasons, it also found that the spikes were from 3 to 31 cents higher in California than in the rest of the United States.

As a result, today California is the most attractive region in the nation for refining. Margins in California are significantly higher than in other regions of the country. One document obtained by the Subcommittee reflects a view within one oil company that the “isolated nature of the West Coast market, along with the tightest fuel specifications in the country and numerous other regulatory barriers, help keep West Coast profitability . . . above the Gulf Coast.”²²⁹ Another industry document stated that with respect to refining margins the previous week, “as is typically the case, California integrated margins were comparably

²²⁷ From 1993 through 1995, the annual average retail price in California hovered around \$1.22 per gallon, plus or minus one cent. In 1996, the price rose to \$1.31, and then in 1997 to \$1.33. In 1998, the annual average price dropped to \$1.16 gallon, but returned to \$1.38 the next year, in 1999. In 2000, the average price jumped to \$1.79, and the average for 2001 up to September 11, 2001 was \$1.73. The price rise in California over this period has been greater than the changes in the overall national average retail price.

²²⁸ GAO, *supra*, at 9.

²²⁹ Document in Subcommittee files.

stronger” than margins elsewhere.²³⁰ Another company document states, “High West Coast margins reflect supply uncertainty associated with unique California product specifications, isolated and expensive logistics from major refining centers, and more stringent regulatory oversight. These factors have also led to higher volatility versus other U.S. regions. Longer term, we expect the West Coast to remain attractive as the factors that historically led to high margins continue.”²³¹

In April 2001, Valero Chief Executive Officer William Greehey painted an optimistic portrait of the refining industry’s financial outlook, especially in California, where refining margins were particularly high. “I’ve never seen fundamentals look this strong for our industry,” Greehey said.²³² The favorable fundamentals cited by Greehey were low inventories, fewer imports, and reduced production.

Several industry documents provide evidence that higher concentration in the retail market allows oil companies to charge higher pump prices for gasoline. One document from the *Aguilar* case (see Exhibit IV.11 on page 244) indicates that the “key variables” in determining retail margins (i.e. the difference between the retail price and the wholesale price) are the presence of major oil companies in the market, the presence of independents, the extent to which the major oil companies sell through their own stores or through lessee-dealers, and the average

²³⁰ Document in Subcommittee files.

²³¹ Document in Subcommittee files.

²³² *Industry Fundamentals Point to Profits Now and in the Future*, Octane Week, April 23, 2001. Greehey presented the following numbers: “The CARB gasoline margins were outstanding this quarter, reaching \$19.47/bbl [barrel]. CARB gasoline margins are averaging almost \$29/bbl in April. Currently, they’re about \$24.50/bbl.” These CARB margins were significantly higher than contemporaneous Gulf Coast margins. Gulf Coast margins were \$5.76 per barrel for the first quarter and averaged around \$12 per barrel in April. *Id.*

income of the local population. Thus, for example, a city like Washington, DC, in which there is a high concentration of majors and few independents, has higher retail prices than a city like Indianapolis, in which there is a lower concentration of major brands and more independents.

Another, more recent document obtained by the Subcommittee presents a similar analysis. (See Exhibit IV.12 on page 248.) Although this analysis is labeled "preliminary," it, too, indicates that "five main factors have significant influence on real margins in a market": the market share of the "new era" competitors (such as hypermarkets or convenience stores), the market share of the top four "players," the per capita income of the market, the average size of a station in the market (gallons per fueling position), and the market share of the company-owned or leased gasoline stations. Under this analysis, retail prices are higher in concentrated markets than in markets where there is more competition, such as from hypermarkets or convenience stores.

v. The high degree of vertical integration in California between refiners and marketers leads to higher wholesale prices.

The near-total integration between the refining and marketing sectors in California stifles price competition in both sectors. In markets where there are few independent *retailers*, there are few customers for the gasoline produced by an independent refiner; hence not much gasoline will be bought at a wholesale price lower than the wholesale prices set by the integrated refiners. Similarly, in markets where there are few independent *refiners*, there will not be much wholesale gasoline sold at a price lower than the wholesale price set by the integrated refiner.

A study of the effects of Tosco's purchase of Unocal's refining and marketing assets in 1997 indicates how vertical integration raises prices. Prior to the merger, Tosco operated two

West Coast refineries. In California, it operated the Avon refinery near the San Francisco Bay, which it had bought in 1976 when Phillips was required to divest its West Coast refineries. It also operated the Ferndale Refinery, near Puget Sound in Washington state, which was purchased from BP in 1993. At the time it acquired the Ferndale refinery, Tosco was a major source of gasoline for independent stations within California.

Soon afterwards, however, Tosco embarked on a program to acquire retail assets. In 1994, it acquired BP's retail outlets on the West Coast, which were mostly in the Pacific Northwest. It also acquired the Circle K convenience stores and gasoline stations, which were mostly located in Arizona, with a few stations in Nevada and Southern California .

Its market share in these cities ranged from zero up to 40 percent.²³³

In 1994, at the Pacific Oil Conference, Tom O'Malley, President of Tosco, explained Tosco's business strategy in acquiring retail assets and the implications for the independents seeking gasoline from Tosco (see Exhibit IV.13 on page 249). O'Malley explained that although he forecast a potential loss of margin for some period of time following the introduction of CARB gasoline because of higher prices for CARB, "CARB gasoline will, on the other hand, increase everyone's volumes by 3% or 4% due to its low mileage characteristics." O'Malley then explained why Tosco intended to stop selling gasoline on the spot market in California:

There also is a real potential for short term interruption of large volumes of CARB Phase II gasoline supply. If one of the big cat crackers or other key units in California goes down unexpectedly, we could see spot market price spikes of large dimension and serious short term supply difficulty. This should give anyone who relies on the spot market an incentive to tie up supply with a large refiner.

²³³ Richard Gilbert and Justine Hastings, *Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs*, June 2001, at 21.

Tosco estimates . . . that it is the 3rd largest gasoline producer in PADD V and the 5th largest in California. Tosco intends to devote its PADD V supply to our retail system and customers who want a long term arrangement. We want to avoid as much as possible spot supply arrangements. ***If I were a California retailer and didn't have a widely recognized brand with a strong PADD V refining system behind it I'd be worried.*** We are here to eliminate worries!! (emphasis added).

Prior to the merger Unocal had refineries in Northern and Southern California and owned a number the Union 76 brand stations in a number of West Coast cities. Generally, Unocal's and Tosco's retail markets did not overlap.

Professors Gilbert and Hastings studied the effect of the Tosco-Unocal merger on wholesale and retail prices.²³⁴ Their studies found “evidence in a broad panel that vertical integration matters for upstream retail prices and that wholesale prices tend to be higher in markets with large vertically integrated firms. This finding is consistent with the strategic incentive and ability of vertically integrated firms to raise input costs to downstream rivals.”²³⁵ The study also found “a positive relationship between downstream market share and the unbranded wholesale price. The coefficient implies that for every 1 percent increase in downstream market share, Tosco's price rises by 0.198 cents per gallon. For San Jose, this implies a 2.94 cent a gallon increase in the price of unbranded gasoline resulting from the acquisition of Unocal's retail outlets.”²³⁶

²³⁴ Richard Gilbert and Justine Hastings, *Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rivals' Costs*, June 2001.

²³⁵ *Id.* at 27-28.

²³⁶ *Id.* at 27.

vi. The high degree of vertical integration in California between refiners and marketers leads to higher retail prices.

The demise of the Thrifty chain of independent retail stores in California illustrates the problem arising from the high degree of integration in the California market with respect to higher retail prices. The Thrifty case shows the impact of the loss of competition from a reduction in the number of independents and presents a good example of the high barriers to entry into the California market that help maintain the oligopoly within the state.

Up until 1997, Thrifty was the largest independent chain remaining in California, with about 260 outlets, mostly in Southern California. Thrifty owned and operated its own fuel terminal in Los Angeles County. It regularly imported gasoline from refiners outside the state, and other independents within the state bought from those supplies at Thrifty's terminal.²³⁷

Thrifty's main competition for low-priced gasoline in Southern California was ARCO. "Since ARCO dumped its credit card and began price-cutting like an independent in 1982, Thrifty, among all private-brand independents, did its best to undersell ARCO, or at least maintain price parity, while practically all other competitors declined to compete toe-to-toe with the aggressive major."²³⁸ In late 1996, ARCO started a "fierce price war in Los Angeles, led by what competitors say is a sudden disposition of Arco to slash prices."²³⁹ At the same time that

²³⁷ Anne C. Mulkern, *Little Fill'er ups failing, Consumers: They're being squeezed out by market changes that have raised their fuel costs*, Orange County Register, November 28, 2000.

²³⁸ Mark Edmond, *ARCO Takes Over Thrifty Oil, One of the Last Independents*, National Petroleum News, April, 1997.

²³⁹ Mark Edmond, *ARCO Initiates A Retail War in Southern Calif. Market*, Platt's Oilgram News, November 4, 1996.

unbranded rack prices (wholesale prices for independents such as Thrifty) were reported to be around 65 cents per gallon, which would translate to at least a \$1.09 retail price at the pump, various ARCO retail stations were offering gasoline at 99.9 cents per gallon. “ARCO moderated their prices for a while,” one marketer said, “but lost a lot of market share, and they decided to get tough. With rack prices what they are, Thrifty hasn’t been able to keep up.”²⁴⁰

Over the next several weeks, Platt’s reported, ARCO continued to pummel its competitors. “Nudged by the recent refinery fire at Texaco’s Wilmington, California refinery, major oil companies are in general trying to recover from a gasoline price war in Los Angeles that saw the market leader posting pump prices as low as 97.9 cts/gal.”²⁴¹ According to several marketers, most refiners had raised the dealer tankwagon prices charged to their retail outlets by up to 8 cents per gallon, but ARCO had raised the prices to its dealers by only about 2 cents per gallon. Although the dealer tankwagon prices generally stood around 66 cents per gallon, excluding federal and state taxes, ARCO’s price remained at 50 cents per gallon. Unbranded rack prices stood at about 62-61 cents per gallon. Thus, ARCO was undercutting its major competitors as well as the independents by at least 10 cents per gallon, “without any sign that the company intends to relent, marketers said.”²⁴²

According to one jobber interviewed by Platt’s, ARCO’s price war “stems not so much from the loss of market share, which isn’t supported by available statistics, but rather from the

²⁴⁰ Platt’s Oilgram News, November 4, 1996.

²⁴¹ Mark Edmond, *ARCO Unyielding in California Price War*, Platt’s Oilgram News, November 26, 1996.

²⁴² Platt’s Oilgram News, November 26, 1996.

fact that many of its branded open dealers were switching to other major brands. Competition among majors for open dealers is fierce.”²⁴³

It did not take very long for the Thrifty chain to fold. In early March 1997, ARCO announced it would begin to operate all of the Thrifty stations under lease from Thrifty.²⁴⁴ “By leasing all Thrifty’s stations, ARCO essentially retires the independent as a competitor,” the press reported.²⁴⁵ Following the takeover, Thrifty stations began selling gasoline made at ARCO refineries, and ARCO closed the terminal.

The loss of independent Thrifty stations led to increases in retail prices in those areas formerly served by Thrifty stations. In another economic analysis, Professor Hastings compared the changes in retail prices in local markets affected by the Thrifty to ARCO conversion with the prices in local markets unaffected by the conversion. Hastings concluded that prices increased in the areas formerly served by the Thrifty stations after ARCO assumed the leases. “Results indicate that independent competitors have a significant negative impact on retail prices. . . . When independents are replaced by branded integrated stations, competitors respond by

²⁴³ Platt’s Oilgram News, November 26, 1996.

²⁴⁴ In its press releases announcing the takeover, ARCO stated that ARCO’s purchase resulted from an opportunity that arose when Ted Orden, the owner of the Thrifty chain, decided to retire at age 75 and sell his privately-owned company. See, e.g., Justine S. Hastings, Vertical Relationships and Competition in Retail Gasoline Markets, Empirical Evidence from Contract Changes in Southern California. William C. Rusnack, President of ARCO Products Company, said that the Thrifty stations would fit well with ARCO, because the Thrifty customers “essentially match the profile of our customers.” National Petroleum News, April 1997. “I predict ARCO will do very, very well with our locations,” Orden said. *Id.*

²⁴⁵ National Petroleum News, April 1997.

increasing prices. This suggests that the loss of independent retailers resulted in a loss to consumer welfare.”²⁴⁶

One oil company’s analysis considered ARCO’s actions more targeted:

In September, 1996, it became clear that ARCO had decided to target Thrifty. Our analysis indicates that ARCO decided to move the street price down dramatically in order to force Thrifty, their main competitor at the low price point, to either give up or change its street pricing policy. They drove DTW down to as much as 15 cpg below spot. Street prices were under \$1.00 per gallon. As a consequence, Industry’s marketing margins were extremely negative until Thrifty agreed to lease their stations to ARCO in late February/early March 1997. Then ARCO raised DTW back to profitable levels.²⁴⁷

This company’s analysis projected that because the price war was now over, “Marketing margins ought to be reasonable” for the next year, especially since “ARCO now owns the low end of the market with Thrifty’s demise. ARCO is now short gasoline supply, so that the profitability of any incremental sales they target will get measured against spot. This ought to provide a deterrent against aggressive pricing by ARCO.”²⁴⁸

As the Thrifty example demonstrates, price volatility is particularly punishing for independents. In times of scarcity, refiners will increase their unbranded rack prices faster than their branded rack and dealer tank wagon prices in order to conserve gasoline for their contract customers. Moreover, typically there is a lag between wholesale price increases and retail increases. Thus, independents – who buy at the unbranded rack price – are particularly disadvantaged during price spikes. Although these independents can recover some of their

²⁴⁶ Justine S. Hastings, Vertical Relationships and Competition in Retail Gasoline Markets, Empirical Evidence from Contract Changes in Southern California, <http://www.nber.org/~confer/2002/iow02/hastings.pdf>

²⁴⁷ Documents in Subcommittee files.

²⁴⁸ Documents in Subcommittee files.

margins as a result of the retail - wholesale lag that occurs when prices eventually decrease, extended price spikes may result in extended losses that are not recoverable during these decreases.²⁴⁹ Hence, as one marketer said during ARCO's price war, "Unless price relationships get straightened out, it's impossible for unbranded marketers to survive. That's why so many are switching to major brands. To be unbranded in this market is suicide."²⁵⁰

vii. The high degree of vertical integration in California makes it more difficult to import gasoline into the state.

A high degree of vertical integration makes it more difficult for refiners in other markets to export gasoline into the integrated market, as integrated firms will not want to have other refiners sell gasoline into their market and lower prices through additional supply. In a highly integrated market, the number of non-integrated retailers remaining in the market may not be large enough to economically bring in imports from elsewhere. Thus, as a practical matter, in a highly integrated market the integrated refiners will be the only ones who determine whether to import gasoline into the state during price spikes, or whether to increase overall supply into the state. These barriers to imports will lead to higher prices. Indeed, the evidence shows that in both California and Arizona the high degree of vertical integration has led to higher retail prices.

The California Attorney General's Report on Gasoline Prices in California concluded that following the loss of Thrifty as an independent chain, "The independent marketers that

²⁴⁹ It is unclear whether the retail - wholesale price lag that occurs when prices rise is symmetrical with the lag that occurs as prices decrease. See e.g., Energy Information Administration, *Price Changes in the Gasoline Market, Are Midwestern Gasoline Prices Downward Sticky?*, February 1999; EIA website at http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/price_changes_gas_market/pdf/price_change.pdf.

²⁵⁰ Platt's Oilgram News, November 26, 1996.

remain in California are not large enough to import gasoline. Accordingly, they cannot provide the competitive influence that Thrifty once did, or that independents do in other parts of the U.S.”²⁵¹ Because of the highly integrated nature of the California market, it is solely these integrated refiners who determine whether to import gasoline into the state during price spikes, or whether to increase overall supply into the state.

The barriers to entry into this integrated market are high. The economies of scale necessary to support the storage, marketing, and distribution of a cargo shipment (one tanker holds approximately 10 million gallons, or 50,000 barrels) is prohibitive for anyone other than an owner of a large number of retail outlets. One document obtained by the Subcommittee reports that “the arbitrage opportunity in California, even in these periods [of 40 to 70 cent per gallon price increases], is limited to those who have a large enough California marketing presence to economically take cargo-loads of gasoline.”²⁵² An analysis obtained by the Subcommittee indicates that a retailer would have to have at least 250 standard-sized locations to

²⁵¹ Attorney General’s Report on Pricing in California, at 46. In September 1996, World Oil, another major California independent marketer with about 250 retail outlets as well as niche wholesale distribution, signed an agreement with Exxon to carry the Exxon brand, “substantially eliminating the company from the private brand scene.” National Petroleum News, April 1997. The agreement enabled Exxon to re-enter the Southern California market, which it had left four years earlier. The owner of World Oil, Bernie Roth, along with Dan Lundberg, were self-service pioneers in California. Roth built his first self-service gasoline station in 1948 and traveled with Lundberg throughout the state to convince the authorities, usually in the face of opposition from the major oil companies, that self-service was safe. Lundberg established the Serve Yourself and Multiple Pump Association, which no longer exists, as well as the Lundberg Survey, a price-reporting service, which his daughter still operates. Mark Edmond, *With World Oil, Exxon Returns to Southern California*, National Petroleum News, November 1996.

²⁵² Documents in Subcommittee files.

be able to import CARB gasoline economically.²⁵³ An independent retailer with considerably fewer stations explained the scale of operations necessary to economically import gasoline:

We believe our ability to import CARB is limited by the volume of our retail gasoline sales. To contract for delivery of imported CARB, we believe we would be required to buy entire water-borne cargoes. Cargoes delivered to California ports contain about 10 million gallons of gasoline, and we believe that terminal owners generally required that short period users turn over their terminal storage tanks within a week after delivery. To sell 10 million gallons in one week, even assuming [high] average weekly volumes, we would need a chain of stations significantly greater than our current number of stations (Storing cargo loads of gasoline for longer periods would be possible, but the costs obviously would be much higher.) In addition, the stations would need to be reasonably close to the delivery port. It would be too costly for us to truck gasoline from, for example, Los Angeles, to stations in Northern California. At the moment, we do not have sufficient sales volume to import cargoes.²⁵⁴

The volatility of CARB gasoline prices within California and the long time required to refine and transport CARB gasoline from out-of-state refineries are significant risks to anyone considering importing gasoline into the state to take advantage of then-prevailing market conditions. The absence of an established futures market for CARB gasoline also inhibits imports, as risks of price changes during production and transit cannot be hedged. By the time the imports arrive, the market conditions may have changed – such as a drop in prices – so as to defeat any expected market gains. One document obtained by the Subcommittee indicates that a refiner in California lost approximately \$2 million as a result of a drop in wholesale prices during the transit of a shipment to California from the Gulf Coast.²⁵⁵

²⁵³ Documents in Subcommittee files.

²⁵⁴ Documents in Subcommittee files.

²⁵⁵ Documents in Subcommittee files.

Moreover, if refiners in California learn of cargoes of CARB about to enter the state, they may increase local supplies or lower prices to make such imports uneconomical.²⁵⁶ The knowledge that additional cargoes are about to enter the market may itself be sufficient for market prices to drop. For example, one newsletter reported, “‘Everyone is expecting the market to fall off in December,’ said a trader. ‘There is talk of cargoes coming in, and that had everyone spooked.’”²⁵⁷

Even for California refiners, it takes a high and sustained price differential to attract imports. The volatility of the California market, together with its distance from other possible sources of CARB gasoline, create significant market risks for persons attempting to import gasoline into California. Because of the relative scarcity of imports, as well as the difficulty in obtaining relevant records, it is difficult to ascertain the exact price levels necessary for in-state refiners to begin to import gasoline. One document obtained by the Subcommittee indicates that it may take a differential of 20 cents per gallon before one of the major in-state refiners will import CARB gasoline.²⁵⁸ Verleger’s analysis concludes that “the largest volumes of shipments have taken place when the spread exceeded 10 cents per gallon.”²⁵⁹ A comparison of retail prices in PADD 5 with retail prices in the Gulf Coast (as shown in Figure IV.5 on page 267)

²⁵⁶ During the investigation the Subcommittee staff received several allegations that this in fact has occurred. The staff was unable to either substantiate or disprove these allegations.

²⁵⁷ *US West Coast: Gasoline Fizzles Out*, Platt’s Oilgram Price Report, October 23, 1995.

²⁵⁸ Documents in Subcommittee files.

²⁵⁹ *The California Conundrum*, at 19.

show no appreciable increase in imports into the West Coast until the difference in retail price reached 20 cents per gallon.²⁶⁰

The net result of these market dynamics is that few imports reach California. In 1997 EIA reported, “imports are not a major supply source for PADD 5. For example, in 1996 PADD 5 gasoline imports only averaged 15 thousand barrels per day.”²⁶¹ A recent report prepared for the California Energy Commission concludes, “To the foreign refiners, exports to California are only an incidental occurrence with uncertain margins given the shipping delays, the volatility of the California market, and the lack of a forward or futures market.”²⁶² Although in 1999 and 2000 imports increased somewhat, Figure IV.6 (page 268) shows imports have still provided a relatively minimal contribution to the gasoline supply in PADD 5 from 1990-2000.

b) Other West Coast Markets

Other West Coast Region (PADD V) states are similarly concentrated and have comparably high retail gasoline prices. Figure IV.7 (page 269) shows that since 1992 the prices in PADD 5 have been the highest in the nation; Figure IV.8 (page 270) breaks out the PADD 5 prices by state; and Figure IV.9 (page 271) shows the widening of retail price differences between the PADD 5 states and Texas. In 2000, average gasoline prices in California (4-firm

²⁶⁰ A more accurate comparison would compare West Coast and Gulf Coast spot prices, but this data is not freely available. Figure IV.5 was derived from publicly available EIA data on retail prices. Nonetheless, the difference in retail prices between the two regions can reasonably be used to approximate the differences in margins an integrated refiner can obtain by selling in one region rather than the other.

²⁶¹ Department of Energy, Energy Information Administration, *Assessment of Summer 1997 Motor Gasoline Price Increase*, May 1998, at 19.

²⁶² *MTBE Phase Out in California*, at 9.

ratio of 74; HHI of 1477), excluding taxes, were the fifth highest in the nation, at \$1.155 per gallon. Nevada (4-firm ratio of 64; HHI of 1360) had the third highest gasoline prices in the nation, at \$1.217; Oregon (4-firm ratio of 74; HHI of 1640) the fourth highest prices at \$1.183; and Washington State (4-firm ratio of 75; HHI of 1528) the sixth highest at \$1.155.²⁶³

The one other state in PADD V state – Arizona – is only slightly less concentrated (4-firm ratio of 63; HHI of 1257), but has significantly lower prices (\$1.114 per gallon in 2000; twenty-first in the nation). The Arizona market, however, has pipeline access to gasoline refined in Los Angeles and gasoline from Texas, which facilitates imports.

In January, 1998, the Attorney General of the State of Arizona issued a report on competition in gasoline prices in Arizona. “[F]aced with the need to explain the fact that prices rise at all levels at once, that prices stay high even when crude prices fall and that fewer and fewer firms control bigger and bigger pieces of the retail pie,” the study was intended to answer the following “fundamental question”: “Are natural market forces of supply and demand at work, or is there collusion, monopoly or some other market-distorting and consumer-harming process driving prices.”²⁶⁴

In the Executive Summary, the Attorney General’s report stated:

Following an exhaustive investigation, the Attorney General has concluded that “they” are not “fixing prices.” However, in key markets, mergers, oligopoly market-harming supply and distribution structures have lessened competition and injured consumers. In some markets in Arizona, specifically in Cochise County

²⁶³ Prices and concentration figures are from EIA. Concentration figures reflect market shares in the year 2000.

²⁶⁴ Arizona Attorney General’s Report, at 1.

and Pima County, the Attorney General has concluded monopoly-type conditions warrant further action. In other markets, the free enterprise is alive and well.²⁶⁵

The Arizona Attorney General's report cited several factors for the lack of competition in a number of Arizona cities: exclusive supply contracts between branded retail stations and their suppliers, the disappearance of independent suppliers, the relative parity in pricing between major oil companies, and the increased integration between refiners and retailers.

In Hawaii, the gasoline market is highly concentrated at several levels. In Hawaii there are only two refineries, owned by Chevron and Tesoro. Four firms—Chevron, Tesoro, Equilon and Tosco—account for all of the gasoline sold wholesale within the state; the HHI for the wholesale market is 2889. Equilon, which markets gasoline under the Shell and Texaco brands, and Tosco, which markets under the Unocal brand, purchase gasoline wholesale from Chevron and Tesoro. All of the gasoline sold at the retail level in Hawaii is sold at retail gas stations either directly owned by these firms or through their franchisees.

Hawaii has the second highest gasoline prices in the nation; in 2000 averaging \$1.289 per gallon, excluding taxes, for regular grade unleaded.²⁶⁶ From 1995 through the first half of 1998 gasoline prices in Hawaii averaged more than 30 cents per gallon higher than mainland prices.²⁶⁷

²⁶⁵ Arizona Attorney General's Report, at 1.

²⁶⁶ EIA Data provided to Subcommittee. Hawaii has the highest taxes in the nation, totaling 54.9 cents per gallon as of February 2001. API, *How Much We Pay for Gasoline*, April 2001. The highest gasoline prices in the nation, excluding taxes, are in Alaska, at \$131.4 cents per gallon in 2000. Alaska is also highly concentrated—the HHI is about 2600 and the 4-firm concentration ratio is about 96. Because of its geographic isolation, Alaska can be considered a distinct market. EIA, *supra*. Taxes in Alaska, however, are the lowest in the nation, at 26.4 cents per gallon. API, *supra*.

²⁶⁷ *Bronster v. Chevron, et al.*, Civil-No. 98-00792-SPK (D. Hawaii 1999) (second amended complaint for injunctive and other relief under the Sherman Act).

According to the Attorney General of Hawaii, the higher price in Hawaii can not be attributed to higher refining costs within the state or higher transportation costs to the state. The Attorney General states that over this period the price in Hawaii “exceeded the cost of buying gasoline in California and transporting it to Hawaii . . . by more than \$0.20 per gallon.”²⁶⁸ Moreover, according to the Attorney General, the cost of transporting crude oil to Hawaii or refining gasoline in Hawaii is not higher than such costs on the mainland. The State of Hawaii attributes the higher retail prices within the state to the lack of competition within the state and the market power of the defendants.²⁶⁹

2. The Midwest

Fifteen Midwestern states comprise one of the five regional markets for petroleum products in the United States. PADD 2 consists of the following states: Indiana, Illinois, Kentucky, Tennessee, Michigan, Ohio, Minnesota, Wisconsin, North Dakota, South Dakota, Oklahoma, Kansas, Missouri, Nebraska, and Iowa.

As a region, the Midwest consumes approximately 4 million barrels of gasoline per day. Refiners in the Midwest supply about three-fourths of the region’s demand. Although a small amount of the balance is imported from refineries in neighboring states, most of the additional supply is imported from the refineries along the Gulf Coast. Two major pipelines, the Explorer

²⁶⁸ *Id.* Without any retail or wholesale outlets in Hawaii no other refiners could take advantage of these price differentials and ship gasoline to Hawaii.

²⁶⁹ *Id.* The State has alleged that the refiners in the state willfully misled the state regarding the nature of the Hawaiian market and entered into a conspiracy amongst themselves to maintain high, non-competitive retail prices in the state. The lawsuit is pending.

Pipeline and the Centennial Pipeline, run from the Gulf Coast into the Midwest. A significant amount of gasoline also travels from the Gulf Coast to the Midwest by barge along the Mississippi River. It takes approximately three weeks for a shipment from the Gulf Coast to arrive in the Midwest.

A number of the markets within the Midwest are highly concentrated, although the region as a whole is not. In Michigan, 4 firms – Marathon Ashland Petroleum (Marathon), BP, Mobil, and Equilon– provide more than two-thirds of the gasoline sold within the state. Citgo, Sunoco, and Clark account for about an additional 20 percent. In Ohio, Marathon, BP, Equilon, and Sun provide about 82 percent of the gasoline sold in the state; the HHI for the Ohio wholesale market is 2099, well into the “highly concentrated” range.²⁷⁰

Many of these same firms with large market shares for the gasoline sold in the state also possess large shares of the ownership of the pipelines that transport gasoline into these regions. Marathon, Citgo, and Sunoco have major shares in the Explorer Pipeline Company, which provides, from refineries along the Gulf Coast, about 10 percent of the gasoline consumed in the Midwest.

In addition, the major marketers in Michigan own substantial pipeline and terminal assets in the state. Mobil, Equilon, Citgo, and Marathon own about two-thirds of the Wolverine Pipeline, which provides approximately 30 percent of the gasoline sold in the state.²⁷¹

²⁷⁰ Market share data compiled from EIA data, and documents in Subcommittee files.

²⁷¹ See FERC, Wolverine Pipeline Company, Order on Application for Market Power Determination and Establishing a Hearing, Docket No. OR99-15-000 (Sept. 29, 2000).

Marathon also owns most of the terminal capacity in the lower peninsula of Michigan. As a result of Marathon's acquisition of the Ultramar Diamond Shamrock assets in Michigan, Marathon now owns just over 60 percent of the terminal capacity in the northern lower peninsula (HHI almost 3,900), and just over 50 percent of the terminal capacity in the lower peninsula, excluding Detroit (HHI almost 3,000). For unbranded product in the lower peninsula, excluding Detroit, Marathon's share of terminal capacity is over 71 percent (HHI almost 5,500).²⁷² This high degree of concentration in the ownership of terminal capacity has raised concerns regarding the continued availability of supply of unbranded gasoline at competitive prices.

There are several examples of situations in which the decisions of a few of the major refiners in the Midwest with significant market shares have affected the overall supply and demand balance. These decisions served to restrict or reduce the overall amount of supply available, which has contributed to the dramatic fluctuation of prices in the Midwestern markets.

The Subcommittee's analyses of the three price spikes in the past two years reveals several common factors. Prior to these price spikes supply and demand were closely balanced; inventories were low; and in each of the price spikes supply was disrupted in some manner. Because demand for gasoline is inelastic, even a small reduction in supply in a closely balanced market will lead to large price increases.

As these price spikes demonstrate, because the domestic market is held in such a tight balance between supply and demand, it is highly vulnerable to such disruptions. Refineries are large, complex, capital-intensive industrial facilities that process large quantities of flammable

²⁷² The terminal concentration figures are based upon the Declaration of the Michigan Petroleum Association, Michigan Association of Convenience Stores, to the Federal Trade Commission.

and hazardous materials; they are expected to operate near peak capacity for much of the year. Only a few major pipelines supply large amounts of refined products to entire regions of the country. The rest of the transportation system—tankers, barges, and trucks—are vulnerable to weather, natural disasters, and man-made bottlenecks. Projections of future supply and demand are made on the basis of incomplete information about current and future conditions and trends.

As in California, but to a lesser extent, concentration and integration among the refiners in the region has exacerbated these factors. In a tight market where each refiner has a significant market share, each refiner's decisions regarding inventories and production rates can affect the overall supply/demand balance.

a) Spring Price Spike, 2000

During a three-week period in the spring of 2000, the retail price for reformulated gasoline in Chicago rose almost 30 cents (from \$1.85 per gallon on May 30 to \$2.13 on June 20) while the national average price for RFG rose only about 6 cents. Over the next month prices in Chicago fell 56 cents, to \$1.57 on July 24, whereas over a similar period national prices slipped about 6 cents, to \$1.61 per gallon. At the peak of the Midwestern spike, the wholesale price of RFG in Chicago had risen from parity with the wholesale price in Dallas to 45 cents more than the price in Dallas.²⁷³ Similar increases were seen in other Midwestern cities.

The Federal Trade Commission's review of the spring 2000 price spike found no collusion and reported that gas prices rose "both because of factors beyond the industry's immediate control [including production problems and pipeline disruptions] and because of

²⁷³ Final Report of the Federal Trade Commission, *Midwest Gasoline Price Investigation*, March 29, 2001.

conscious (but independent) choices by industry participants.” The FTC found that “each industry participant acted unilaterally and followed individual profit-maximization strategies.” The FTC also noted that the problems that occurred were “exacerbated because gasoline inventories in the Midwest were at or near minimum operating levels in May and June 2000.” Inventories were low, the FTC said, because of the high price of crude oil at the time and the expectation that the prices would fall, the decision by the oil industry to follow just-in-time inventory practices, and pipeline problems.

The FTC also found that “the industry as a whole made errors in supply forecasts and underestimated the potential for supply shortages in the Midwest in the spring and early summer 2000.” The FTC report goes on to say, “A significant part of the reduction in the supply of RFG was caused by the investment decisions of three firms. When determining how they would comply with the stricter EPA regulations for summer-grade RFG that took effect in the spring 2000, three Midwest refiners each independently concluded it was most profitable to limit capital expenditures to upgrade their refineries to the extent necessary to supply their branded gas stations and contractual obligations. As a result of these decisions, these three firms produced, in the aggregate, 23 percent less summer-grade RFG during the second quarter of 2000 than in 1999. Consequently, these three firms were able to satisfy the needs of only their branded gas stations and their contractual obligations and could not produce summer-grade RFG to sell on the spot market as they had done in prior years.”²⁷⁴ The FTC also found that while Marathon actually did increase its production of RFG and had excess supplies of RFG, it

²⁷⁴ These three companies did, the FTC notes, produce more conventional gasoline in April/May/June than they had in 1999 and as a result, in the aggregate, they produced roughly the same amount of gasoline in that timeframe in 2000 as in 1999.

“limited the magnitude of its response [to the supply shortage] because it recognized that increasing supply to the market would push down prices and thereby reduce the profitability of its overall RFG sales.”

EPA regulations required that a new, more complex RFG be used in the summer of 2000. Difficulties in producing the new blendstock for summer-grade RFG and economic and physical trade-offs between the production of this summer-grade RFG and conventional gasoline led several refiners to limit the amount of RFG they produced in the spring of 2000. Three refiners—Exxon-Mobil, Equiva, and Premcor—produced enough RFG to meet their branded needs only, thereby resulting in 23% less RFG than they had produced in 1999. Consequently they did not produce enough summer-grade RFG to sell it on the spot market as they had done the previous year, which helped tighten the market for RFG. Another refiner increased the production of RFG blendstock over 1999, but at the expense of a 5 percent reduction in overall gasoline production. The FTC found a number of officials in refining companies were aware of possible shortfalls in supply in the Midwest in the first quarter of 2000. For example, BP provided to the FTC documents that showed that a number of BP officials knew in January that it was likely that overall the Midwest would be short on supply of RFG in the April/May/June 2000 time frame. BP told the FTC that it wasn't until May 2000, after it actually experienced terminal outages, that it took action to increase supplies.

In January 2000, Exxon-Mobil stated in an internal company document obtained by the FTC, “Some uncertainty regarding competition’s ability to meet summer gasoline requirements (sic). It is possible other refiners. . . will be in a similar situation. Consequently, can expect any refinery or supply problem this summer to have a significant market impact.”

The FTC found that CITGO also had warnings of a possible shortage in the upcoming spring or summer. As it approached other oil companies early in 2000 about available supplies of RFG that CITGO could purchase for the spring/summer of 2000, CITGO learned that both BP and Exxon-Mobil would not be able to provide CITGO with any RFG, since they anticipated having only enough to supply their own dealers. Yet, according to the FTC, CITGO did not convert from winter grade to summer grade sufficiently in advance to address the upcoming shortage. The FTC reports that, in retrospect, it would have been “reasonable” for CITGO to make and store its summer gasoline earlier than April 1st, the time it began summer production. In the end, CITGO waited 4 to 6 weeks, until late May, before it ordered its Gulf Coast refineries to make RFG for shipment to the Midwest because it was uncertain as to how long the price spike would continue. CITGO told the FTC that it should have made that decision earlier, and the FTC quotes a CITGO official as saying “the industry got caught napping on this one.”

The FTC found that “some firms delayed taking action to see whether the price spike was short lived or longer lasting.” The FTC found that CITGO delayed producing more gasoline in its Gulf Coast refinery because it said it didn’t know how long the price spike would last and didn’t know whether rushing in new product would be profitable by the time it got there.

Although Koch Industries increased its production capacity for RFG in the summer of 2000 to 20,000 barrels per day (BPD), twice its projected need for serving the Milwaukee area, it produced RFG at the rate of 10,000 BPD until the price spikes of late May and June 2000. It then increased its production to 20,000 BPD, but the FTC reports that the increased level of production lasted only a few days, however, since Koch said it found the demand was insufficient for that level of production.

The FTC also found that Marathon had additional gasoline available but limited its response because “selling extra supply would have pushed down prices and thereby reduced the profitability of its existing gasoline sales.” The FTC noted that, unlike a number of other refiners in the Midwest, Marathon had increased production of summer-grade gasoline blendstock by 33 percent over the previous year and had a 10-15 day reserve inventory of summer-grade RBOB²⁷⁵ for its customers in Chicago and Milwaukee in the spring of 2000. At one point during the spike, BP sought to purchase some additional supply from Marathon. The price offered by BP was 13 cents lower than the then-current rack price. Marathon was unwilling to sell to BP at a price 13 cents less than it was selling to its own branded customers. According to one Marathon executive, “So the question we had was if we sell to them, essentially you are undercutting your own price. If we agreed to that price, we are undercutting 39,000 barrels a day that we sell to our customers for 13 cents.”²⁷⁶ Marathon also explains that it wanted to maintain its 15-day reserve throughout this period. According to Marathon, it was unsure how long the price spike would last and wanted to ensure that it had sufficient supplies for its own customers throughout any extended shortage. Thus, Marathon states it was reluctant to sell from its inventory to provide supplies to its competitors. No sale to BP ever occurred.

Marathon officials recognized that their decision on whether to put additional supplies into the market would affect the price of the entire market. In memos discussing the sale of the RFG, Marathon officials expressed concern about the “need to remember the leverage impact of any sale.” In one intra-office e-mail one of the discussants of the BP offer said, “We bring the

²⁷⁵ RBOB is the “blendstock” that is mixed with ethanol or MTBE to produce oxygenated gasoline.

²⁷⁶ Document in Subcommittee files.

whole market up or down based on these spot sales.” “If we cannot sell as of the RBOB we project to make it isn’t my biggest concern,” the Vice President of Operations Planning and Supply wrote in one e-mail. “I would rather have \$.40/gallon margins of 40,000 bpd than \$.10/gallon margins on 50,000 bpd.” Another employee remarked that Marathon not “get to the place of being a seller to the point that we have to unload any product and trash the market.”²⁷⁷ Thus, concluded the FTC, Marathon had additional supplies of RFG during the Midwest price spike in the spring of 2000 but “limited its response because selling extra supply would have pushed down prices and thereby reduced the profitability of its existing RFG sales.”²⁷⁸

The FTC report illustrates how the supply decisions of a small number of companies—even as few as one or two—can have a significant effect on supply and prices in a market. Most of the companies involved knew that supplies would be tight in the spring/summer of 2000, and the system was extremely vulnerable to any disruptions. Despite this impending overall vulnerability, the oil companies allowed the supply situation to remain precarious, with each company having limited incentive to bring in additional supplies prior to the price spike.

The FTC concludes based on its investigation that “similar price spikes are capable of replication.” “Notwithstanding the industry’s ability to respond to the short-term problem, the long-term refining imbalance in the United States must be addressed, or similar price spikes in the Midwest and other regions of the country are likely.”

²⁷⁷ Document in Subcommittee files.

²⁷⁸ FTC Report, at 45.

b) Spring Price Spike, 2001

Many of the factors that led to the price spike in the spring of 2000 also contributed to the price spike in the spring of 2001. First, crude oil prices in early 2001 hovered near \$30 per barrel, the same level as the same time the previous year. When crude oil prices are high, refiners will minimize their purchases of crude and draw down existing crude inventories in anticipation of lower crude prices in the future. Similarly, these refiners will sell off existing inventories of refined products when near-term product prices are high in relation to anticipated future prices. Thus, as a result of the relatively high prices for crude oil, in early 2001 stocks of both crude oil and refined gasoline again fell to very low levels.²⁷⁹

Other seasonal environmental and economic factors contributed to the low inventories of gasoline for the upcoming summer driving season. The early spring is the season in which refiners switch substantial production from home heating oil, for which demand peaks during the winter, to gasoline, for which demand peaks during the summer. In a number of urban areas, refiners also must switch from winter-grade gasoline to summer grade gasoline. Refiners will attempt to maximize the sales of winter-grade gasoline prior to fully stocking up on summer-grade gasoline, further dampening amounts of gasoline in stock throughout the spring.²⁸⁰

With this background of low inventories, the stage was again set for price volatility.

²⁷⁹ In early March 2001, stocks were more than 12% less than “normal” (i.e. the 5-year rolling average) for that time of year. In mid-April, PADD II stocks had fallen to approximately 45 million barrels, which was about 2 million barrels, or 4% lower than the lowest inventory levels in PADD II in the spring of 2000. EIA Data provide to Subcommittee.

²⁸⁰ Statement of John Cook, Before the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs, House Committee on Government Reform, June 14, 2001.

Indeed, the volatility in 2001 was entirely foreseeable in light of the experience in 2000.

On March 30, 2001, the EIA reported:

[G]asoline inventories going into the driving season are projected to be about the same or even less than last year, which could set the stage for regional supply problems that once again could bring about significant price volatility, especially in the Midwest and on both coasts. With little stock cushion to absorb unexpected changes in supply or demand, regional problems can arise from temporary or permanent losses of refining capacity, or pipeline disruptions, particularly since there is no excess U.S. refining capacity available in the summer.²⁸¹

In early April, an explosion at a Conoco refinery in England disrupted the production of about 20,000 barrels a day of gasoline for U.S. markets for about three weeks. “The market impact of Monday’s fire at Conoco’s Humberside refinery in England has been felt far and wide,” reported the Financial Times, “and nowhere more so than the US where the spread between a barrel of gasoline and a barrel of crude oil rose yesterday to more than Dollars 15. [A senior energy analyst at Merrill Lynch] put this in historical perspective. ‘In the previous 15 years before 2000, which was an exceptional year, this spread (between gasoline and crude) has only ever risen above Dollars 10 three times, and then only for a matter of weeks.’”²⁸²

According to the Financial Times, the extraordinary margins for refined gasoline were even

²⁸¹ Summary Statement of John Cook, Director, Petroleum Division, Energy Information Administration, U.S. Department of Energy, before the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives, *The Drivers Behind Current U.S. Crude Oil and Petroleum Market Prices*, March 30, 2001.

²⁸² David Buchan, *Heat From Conoco Fire Felt Across World Oil Market*, Financial Times (London ed.), April 18, 2001.

leading to increased crude prices. “US gasoline prices have recently been dragging crude oil prices up more effectively than production cuts by the OPEC cartel,” the paper reported.²⁸³

In late April, a fire at Tosco’s 385,000 barrel/day refinery at Wood River, Illinois, cut the facility’s ability to produce reformulated gas by approximately 50 percent for 2 to 3 weeks. “Observers say that, for a variety of reasons, including a general fear of tightening supply by wholesale buyers and distributors, prices are very unstable,” the St. Louis Post-Dispatch reported. “The Tosco fire only helped to drive them higher.”²⁸⁴

In response to the tight supply and demand situation, and fueled by these refinery outages, spot prices for gasoline began to rise in early April and continued to rise throughout April and May. Wholesale (rack) prices—the prices refiners charge to gasoline distributors—and retail pump prices rose shortly after the increases in the spot prices, so that the increases in the spot prices were soon passed on to the public at the gasoline pump.²⁸⁵

In mid-May, in the midst of the spring price spike, the EIA projected prices peaking between \$1.65 and \$1.75 per gallon and further volatility. “We are projecting continued low

²⁸³ Buchan, *Financial Times*; On the same date the *London Daily Telegraph* reported “London’s benchmark Brent contract for June delivery jumped by as much as 88 cents to \$28.25 a barrel in early trading, although prices later dropped back to close at \$27.62, up 25 cents. The move followed a similar jump in American crude oil prices on Monday after the explosion at Conoco’s plant, which produces up to 90,000 barrels of gasoline a day and is one of the only European refineries to export to the US. The explosion came just days after a similar incident at a Venezuelan refinery owned by American oil company Coastal.”

²⁸⁴ Repps Hudson, *Refinery Fire Adds to Fears About Gas Supply; Average Price Here Could Hit \$1.80 This Week*, St. Louis Post-Dispatch.

²⁸⁵ EIA, *Midwest/Chicago Crude Oil and Gasoline Prices*, in Subcommittee files.

inventories, which, along with the other factors mentioned, keeps us exposed to further volatility, particularly during summer when demand peaks.”²⁸⁶

On May 28, 2001, the average price in the Midwest for regular, conventional unleaded gasoline reached \$1.77 per gallon while prices peaked nationally at about \$1.66 per gallon.

With prices high, production and imports increased. As the supply increased, prices began to fall.²⁸⁷ Within a couple of weeks prices in the Midwest had fallen by almost 15 cents a gallon and within 3 weeks by almost a quarter, to \$1.53 per gallon.²⁸⁸

In a brief analysis of gas prices in Michigan during May 2001, the EIA noted that the retail prices in Michigan fluctuated more often than retail prices in other Midwestern markets. The EIA said such fluctuations “can possibly be attributed to local competitive market conditions” rather than any supply issues peculiar to Michigan or that disproportionately affected Michigan. “There is no indication of other influences, such as supply problems, affecting gasoline markets in Michigan during this period, beyond those driving overall price levels throughout the Midwest,” the EIA stated.²⁸⁹ The EIA did not analyze what the “local market conditions” might be. (But see Section V C 2 and V C 6, discussing the Majority Staff’s analysis of pricing data in the Midwest.)

²⁸⁶ EIA, Statement of John Cook, Director, Petroleum Division, Energy Information Administration, U.S. Department of Energy, before the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives, May 15, 2001.

²⁸⁷ EIA, *Motor Gasoline Watch*; May 23, May 31, June 6, 2001.

²⁸⁸ EIA, *Retail Gasoline Historical Prices, Midwest*, <http://tonto.eia.doe.gov/oog/ftparea/wogirs/xls/pswrgvrmw.xls> .

²⁸⁹ EIA, *A Brief Analysis of Michigan Gasoline Price Behavior During May 2001*, June 14, 2001.

Since throughout the spring of 2001 the price for crude oil remained relatively constant, the spring 2001 price spike cannot be attributed to changes in the price of crude oil. Rather, the spike can be attributed to the continuing tight balance between supply and demand and low inventories (which had been projected by the Energy Information Agency in March) coupled with actual supply disruptions and constraints on the availability of alternative supplies.

c) The Labor Day Price Spike, 2001

As supply increased and prices fell following the Memorial Day price spike, demand also increased.²⁹⁰ Throughout the month of June production and imports remained at high levels and inventories continued to build.²⁹¹ In early July, the EIA reported optimistically, “As of July 4th, gasoline supplies throughout the United States appear adequate, and retail prices have been declining for the past 3 to 5 weeks in all regions. While the outlook for the remainder of the summer cannot be certain, declines to date in wholesale prices suggest further decreases at retail in the coming weeks.”²⁹²

Indeed, by mid-July, prices in the Midwest dropped to about \$1.29 per gallon.²⁹³ Nationally, by late July prices dipped to about \$1.32 per gallon.²⁹⁴

²⁹⁰ EIA, *Motor Gasoline Watch*, June 6, 2001.

²⁹¹ EIA, *Motor Gasoline Watch*, June 13, June 20, June 27, July 5, 2001.

²⁹² EIA, *Midwest Gasoline Update*, July 6, 2001.

²⁹³ EIA, *Gasoline Historical Prices, Midwest*, at <http://tonto.eia.doe.gov/oog/ftp/area/wogirs/xls/pswrgvrmw.xls> .

²⁹⁴ EIA, *Retail Gasoline Historical Prices, Regular*, at <http://tonto.eia.doe.gov/oog/ftp/area/wogirs/xls/pswrgvwreg.xls> .

These favorable conditions did not last. As a result of falling prices (and hence falling profit margins for refiners), in early July a number of refiners cut back on production.²⁹⁵

Although demand remained strong—setting a one-week record high at the end of July—refinery cut-backs continued throughout the month.²⁹⁶

In late July, the Oil Price Information Service (OPIS) published an article entitled “Flagging Margins Spark Unseasonal Maintenance, Run Cuts,” that described a number of upcoming reductions in refinery production. The article began, “With some refiners recently contending with 3-2-1 crack spreads as miserable as \$1.50 bbl, several processors are taking the unusual step of scheduling mid-summer maintenance or simply reducing crude runs.” According to OPIS, their “comprehensive survey” revealed “that, at some point during late July or early August, upwards of 770,000-850,000 barrels/day of refining capacity could be off line as the result of unplanned unit problems or conscious decisions to reduce crude runs or perform maintenance. That figure represents about 5.0 percent of the roughly 16 million barrels/day of total U.S. refining capacity, excluding Puerto Rico and the Virgin Islands. With many of the operations changes still pending, the 96.6 percent of capacity utilization reported in the most recent API statistics could be whittled down in the coming weeks.”

“Refiners don’t always announce maintenance schedules or run cuts,” OPIS noted, “and there’s a particular reticence to comment on cutbacks this year because of ugly publicity attached to the Spring price hike. But in discussions with refinery supply personnel, OPIS editors have arrived at a consensus estimate of 770,000-850,000 barrels/day.”

²⁹⁵ EIA, *Motor Gasoline Watch*, July 11, 2001.

²⁹⁶ EIA, *Motor Gasoline Watch*, July 18 and July 25, 2001.

Refinery outages and maintenance are normally scheduled for the first and fourth quarters of the year—when demand for gasoline is low and margins typically are low as well. Normally, refiners operate their refineries at full capacity during the summer in order to keep up with demand. “Because gasoline tends to be the highest-margin product a refinery makes, particularly during the summer months, refiners generally operate to make as much gasoline as possible.”²⁹⁷ Thus the actions by the oil companies in the latter part of summer 2001 were a very unusual departure from their normal business practice of producing as much gasoline as possible during the peak driving season.

The OPIS report also was unusual because many refiners attempt to keep specific information about their turnarounds confidential, as they may have to purchase gasoline on the open market to compensate for their reduced production. Their competitors may be able to obtain higher prices if they know the prospective purchaser needs bulk purchases on the spot market to substitute for lost production.

During the FTC’s investigation into the Midwestern price spike in the spring of 2000, one senior executive of a major oil company explained the importance of keeping information about refinery outages confidential:

A. . . . Every company has a different policy. We do not announce turnarounds. We don’t publicize turnarounds. We find that sometimes Reuters has in the past gotten to people in the refineries and got information on turnarounds, which we make great efforts to try and stop that.

I won’t tell you that we have been as successful as we would like to be. We don’t want people to know when we are in turnaround because we feel that when we have to go out and buy all of that product, it puts us at a competitive disadvantage.

²⁹⁷ FTC, *Midwest Gas Price Investigation*.

Other people will announce them. Citgo announced their turnaround in the Gulf Coast. And people will pick up rumors of turnaround from buying activity. But primarily the source would be a Reuters story or a Knight-Ridder story, one of those reporters for one of those organizations pick it up and report it. Sometimes it is true. Sometimes it is not. And I know that because of the reports on our turnarounds that sometimes they are off and sometimes they are correct. We have a policy of not commenting, period.

Q. So I take it short of using our subpoena power, there is no published source that would give specifics that would be reliable in terms of industry turnarounds?

A. That's correct. That's correct. You can go to PIRA [a petroleum industry consulting organization]. We give them our turnaround information on the condition that it is kept confidential and not revealed to anybody in the sense of any kind of specifics about us. If we ever found out that they were passing that information on to anybody, I guarantee you that it would be stopped.²⁹⁸

In an interview with Majoriy staff, another senior industry executive stated "Any refinery personnel who would tell information about outages is doing a disservice to the company."

OPIS nonetheless obtained specific information about maintenance outages at a number of refineries. OPIS reported the following specific shutdowns during the late summer of 2001:

- **Koch** (38,000 barrels/day cut for 7-10 days during maintenance at Pine Bend, Minnesota refinery),²⁹⁹
- **Tosco** (maintenance at Alliance refinery in Louisiana; 40 days of maintenance at Trainor, Pennsylvania refinery, beginning in August);
- **Premcor** (10 days of maintenance at refinery at Port Arthur, Texas; "The refinery is one of the largest at the Gulf Coast, running 250,000 b/d of crude. Based on recent 3-2-1

²⁹⁸ Documents in Subcommittee files.

²⁹⁹ Koch informed the Subcommittee staff that the Pine Bend refinery was shut during the summer due to an unplanned event and the Corpus Christi refinery was shut for several days in June due to planned maintenance on the alkylation unit. Koch states that low margins did not affect the scheduling of these maintenance activities.

refinery cracks of less than \$3 bbl, there is no urgency to bring units back on line, sources say.”³⁰⁰

- **Citgo** (5% cut at all six of its U.S. refineries);³⁰¹
- **Ultramar Diamond Shamrock** (85,000 b/d off-line as a result of a fire and explosion that damaged an alkylation unit at the Three Rivers, Texas refinery; shutdown is expected to last for “some time.”);³⁰²
- **TotalFinaElf** (5% cut at Big Spring and Port Arthur refineries in Texas);
- **Crown** (25% cut at Pasadena, Texas refinery; reduction of 25,000 b/d);³⁰³

³⁰⁰ Premcor informed the Subcommittee the shutdown of its Port Arthur, Texas, refinery from July 7 to 17 was “the direct result of a lightning strike that occurred on May 12, 2001.” Premcor also states that due to the high refining margins in the spring of 2001 several planned, early spring maintenance activities at the Port Arthur refinery were postponed “in order to continue a reliable supply of gasoline to the market place.” Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Jeffrey N. Quinn, Executive Vice President-Legal, Human Resources and Public Affairs, Premcor, September 21, 2001.

³⁰¹ CITGO informed the Subcommittee the Lake Charles, Louisiana, refinery was shut from July 29-for unscheduled maintenance to repair a leak in the Unicracker unit; the Lyondell-CITGO refinery in Houston, Texas, was shut twice during the summer due to unscheduled events—the first time from June 8-27 due to the heavy rainfall flooding from tropical storm Allison, and again from August 10-28 to regenerate the platinum catalyst. The Lemont, Illinois, refinery was shut from July 8 - 18 to replace the catalyst in the diesel distillate Unionfiner. CITGO states that low margins did not affect the scheduling of these maintenance activities. *Answers from CITGO Petroleum Corp. to Permanent Subcommittee on Investigations.*

³⁰² UDS informed the Subcommittee the Three Rivers, Texas, refinery was shut from July 9 until mid-August as a result of a fire in the alkylation unit on July 9. The Wilmington, California, refinery was shut from August 18 for about nine days as a result of a loss of electricity from the Los Angeles Department of Water and Power. UDS states that low margins did not affect the scheduling of these maintenance activities. Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Jean Gaulin, Chairman, President, and Chief Executive Officer, Ultramar Diamond Shamrock Corporation, September 25, 2001.

³⁰³ Crown informed the Subcommittee that tropical storm Allison forced the shutdown of the Pasadena, Texas, refinery from June 7 through 19. Gasoline production was again reduced by 30% from July 4 through 17 “for economic reasons.” Several unanticipated

- **El Paso** (15% cut at Eagle Point, New Jersey refinery);³⁰⁴
- **Valero** (50,000 b/d cut in gasoline production and 31,000 b/d cut in distillate production at Texas City, Houston, and Krotz Springs, Louisiana refineries);³⁰⁵
- **Sun** (73,000 b/d cut at Girard Point refinery beginning on August 4, to last 3 weeks; 30-35 days of work at Pt. Breeze refinery, beginning July 20; according to OPIS this maintenance has been “accelerated” due to “poor profit margins.”);³⁰⁶

mechanical and operational problems led to a reduction in the output of the Tyler, Texas, refinery at several times during the summer. Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Andrew Lapayowker, Deputy General Counsel, Crown Oil, September 26, 2001.

³⁰⁴ El Paso informed the Subcommittee it reduced production at its Eagle Point, New Jersey, refinery on two occasions during the summer when as a result of “a decline in product pricing . . . refinery operations were losing money.” Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Thomas M. Wade, President, El Paso Petroleum Markets, September 21, 2001.

³⁰⁵ Valero informed the Subcommittee that needed maintenance was performed at the Houston refinery from August 10 through 18 and at the Texas City refinery from July 25 through 31. Valero stated that the maintenance was scheduled for this particular time because they were experiencing “negative variable margins.”

³⁰⁶ Sun reported to the Subcommittee that in July 2001 it “made a decision to accelerate certain of the turnarounds it had contemplated taking in the fall at its Philadelphia and Marcus Hook refineries. A press release was issued, as is our custom with major turnarounds, to inform our investors as well as our customers of our plans. . . There were many factors that led to this decision, including the fact that Northeast gasoline inventories were higher than we had originally anticipated, indicating that the region was well supplied.” Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Michael Kuritzkes, Vice President and General Counsel, Sunoco, September 28, 2001.

OPIS remarked that “major refineries operated by BP Amoco,³⁰⁷ ExxonMobil,³⁰⁸ Chevron, and the units operated by Shell/Texaco” were “conspicuously absent,” but “traders believe that these firms are also eyeing run cuts, but will keep plans close to the vest.” Thus, on July 25, EIA reported “several refiners continued to cut runs and go down for maintenance due to weak margins despite the announcement of a stock draw last week.”³⁰⁹ On August 1, EIA again reported, “Stocks declined a fourth consecutive week as demand continues on a record setting pace.”³¹⁰ By August 3, following a continued decline in stocks, high demand, and intentional refinery shutdowns, stocks declined to levels lower than the same date of the previous year.³¹¹

As production and inventories fell and demand continued at near-record high levels, prices began to rise again. In the Midwest, starting in mid-July prices began to climb gradually, from \$1.29.1 per gallon on July 16th, to \$1.29.7 on July 23rd, to \$1.32.3 on the 30th, and to \$1.33 on August 6th.

³⁰⁷ BP informed the Subcommittee that there were no shutdowns or reductions in refining operations in the U.S. that resulted in any decrease in gasoline production. Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from Larry D. Burton, Vice President U.S. Government and International Affairs, BP, September 21, 2001.

³⁰⁸ ExxonMobil reported “There were no scheduled shutdowns of units that impacted gasoline production or reductions in crude runs at ExxonMobil refineries during this time period.” Letter to Senator Levin, Chairman, Permanent Subcommittee on Investigations, from James S. Carter, Regional Director U.S., ExxonMobil, September 21, 2001.

³⁰⁹ EIA, *Motor Gasoline Watch*, July 25, 2001.

³¹⁰ EIA, *Motor Gasoline Watch*, August 1, 2001.

³¹¹ EIA, *Motor Gasoline Watch*, August 8, 2001. As of June 22, 2001, PADD II stocks were approximately 770,000 barrels, or about 1.5%, less than “normal” (i.e. 5-year rolling average). By July 13, stocks had dropped to about 10% less than normal. As of August 24, stocks were still about 10% less than normal. EIA Data provided to Subcommittee.

By August 10th—in the peak of one of the heaviest summer driving seasons in years—gasoline production had fallen almost 500,000 barrels per day from its level on July 20th. This level of production was “the lowest daily average gasoline production since the week ended March 30.” This level of refinery production was about 250,000 barrels per day (about 3 percent) less than during the first week of August, 2000, even though demand was about 4 percent greater.³¹²

With high summer demand, declining inventories, and loss of refining capacity nationwide due to “unusual” mid-summer maintenance and run cuts, the domestic market was once again ripe for a price spike.

In the second week in August, average prices in the Midwest jumped five cents, to \$1.38.2 on August 13th. National prices also began to rise more rapidly in the second week of August, from \$1.31.9 per gallon on August 6th to \$1.34.7 on August 13th, almost a 3-cent increase.

On August 14, a fire broke out at the Citgo refinery in Lemont, Illinois. The fire and associated structural damage abruptly halted all production at the 163,000 barrel-per-day refinery. Prices rose even more rapidly following the Citgo fire, reaching \$1.47 cents per gallon in the Midwest on August 20th, \$1.65 on August 27th, and \$1.71 on Labor Day, September 3rd. Nationally, the rise was not as steep, with prices peaking at \$1.54 per gallon on Labor Day.³¹³

³¹² EIA, *Motor Gasoline Watch*, August 15, 2001. Gulf Coast production was higher than last year’s levels by about 200,000 b/d; Midwest production was lower by about 50,000 b/d; East Coast production was about 270,000 b/d lower; and West Coast production was lower by about 100,000 b/d.

³¹³ EIA, U.S. Retail Gas Prices, Gas Historical Data at www.eia.doe.gov.

A number of industry analysts observed that the Citgo fire was just one of the factors contributing to the August price increases. “The Citgo refinery is having an impact, but you can’t just blame one refinery outage in Illinois,” one industry analyst said. “It’s the demand picture, which has been incredible. This is a pattern we’ve seen for the last four weeks.”³¹⁴

On August 27th, Fox News reported, “The price increase was attributed to the shutdown of several refineries for repairs and maintenance, as well as a dwindling inventory of U.S. motor gasoline stocks, said analyst Trilby Lundberg. ‘It’s not very surprising considering the phenomenal price crash of three months duration during the time of our greatest consumption,’ Lundberg said. ‘It had to end sometime.’”³¹⁵

The Majority Staff examined the “unusual” summer maintenance and run-cuts first reported by OPIS to determine whether these cutbacks in refinery operations during the peak driving season were undertaken for the purpose of reducing supplies of gasoline in order to raise prices. The companies mentioned in the OPIS article told the Subcommittee that the summer reductions were undertaken at a time when supplies were plentiful enough so that refining margins were low; they argue that such conditions are the best time to perform maintenance, since it makes more sense to cut production when supplies are plentiful rather than when they are tight.

³¹⁴ Mark Shank, *U.S. Gasoline Inventories Fall on Strong Demand (Update 1)*, Boomer.com, 08/28 18:12, quoting Phil Flynn, Vice President and senior market analyst at Alaron Trading Corp.

³¹⁵ Associated Press, *Gas Prices Up 6 Cents a Gallon*, www.foxnews.com/story/0,2933,32942,00, August 27, 2001.

Although each of the refineries mentioned in the OPIS article would appear to have insufficient market power, alone, to affect prices, the cumulative effect of all the cutbacks was, according to OPIS, to cut production by about 5 percent. As a consequence of reduced production, inventories again fell well below average inventory levels for the summer, and the stage was set for another price spike.

The dissemination and publication of information about a significant number of upcoming refinery outages in the summer of 2001 appears to conflict with the competitive interests that other refiners have stated for keeping such information confidential. Although it would appear not to be in the competitive interests of any single refiner to disclose outage information, if that refiner also knew that many other refiners would be cutting back at the same time then the competitive disadvantage would be much less. Thus, it would appear that although there may be a competitive disadvantage to unilateral disclosures of upcoming shutdowns, there may well be a common anti-competitive advantage to sharing such information among many refiners.³¹⁶

Last year's Labor Day price spike demonstrates that supply can be tight simply because refineries are not operating at full capacity. In fact, last summer's experience indicates that refiners will decrease utilization rates — leaving unused capacity even in the face of peak demand — when margins are not, according to them, sufficiently high. Thus, the problem

³¹⁶ The responses by the refiners to the Subcommittee's questions all stated that the decisions to reduce capacity or perform maintenance during this past summer were based solely on refinery economics—whether marginal production was justified in light of the current refining margins. This fact does not negate the benefits obtained from knowing what competitors are doing.

appears not simply of refinery capacity, but also refiners' ability and willingness to use existing capacity in light of existing market conditions.

The Labor Day price spike (40 cents between the end of July and Labor Day) demonstrates that price spikes can happen at any time of the year due to profit-maximizing operational decisions of a limited number of competitors. The cutbacks in production in the summer of 2001 were due both to unforeseen refinery problems and intentional decisions to take refineries off-line to reduce the amount of lower-margin gasoline sold to the public. There were no issues regarding how best to plan for a switchover in seasonal fuels, either in production or in tank storage; crude prices were relatively stable throughout this period.

d) Spring Price Increases to Date, 2002

An example of one oil company signaling its intent to others occurred in December 2001, as gasoline prices were falling due to the decline in oil demand resulting from the economic recession, the decline in gasoline and jet fuel use following the terrorist attacks on September 11, and the warmer-than-normal winter weather. At the "Andersen Energy Symposium" in Houston at the beginning of the month, Valero Chief Executive Officer Bill Greehey told reporters that the reduction in margins due to falling retail prices would lead to a decline in earnings for Valero, as well as cutbacks in its refinery operations. "We've cut back at a couple of the refineries," Greehey stated. "We're probably producing 48,000 or 50,000 barrels a day less gasoline than we were a couple of weeks ago."³¹⁷

³¹⁷ Andrew Kelly, *Valero Cuts Gasoline Output Due to Poor Profit Margins*, Reuters, December 4, 2001.

Greehey went on, however, to state that industry margins would improve if other refiners cut back on production as well. According to one news account, “Greehey said margins could increase quickly if, as he expects, other refiners also cut back on the amount of crude oil they process and inventories of refined products held in storage start to fall.” The article quotes Greehey: “You’re going to see a lot of crude run cuts between now and the end of the year. As we get inventories more in balance, you’ll start seeing margins improve.”³¹⁸

If this quote is accurate, it is difficult to ascertain any pro-competitive rationale for openly telling all of one’s competitors how they can obtain higher prices and margins. At the very least, the Valero CEO’s statements reflect one refiner’s deliberate intent to raise prices through supply and inventory reductions.

Total refinery utilization already had been decreasing at the time of Greehey’s statements, and it continued to decrease afterwards. Refinery utilization dropped from around 90 percent in late November 2001 to about 86 percent in March 2002. (See Figure IV.10 on page 272.) Inventories fell, too.³¹⁹

As Greehey predicted, the reduction in capacity and inventories has helped push prices up, along with increasing crude prices and market speculation. From early February to early April, prices increased an average of just over 30 cents, with the national average price for unleaded regular gasoline jumping from about \$1.10 per gallon to over \$1.41 per gallon. In California, prices have risen 37 cents in 8 weeks and about 50 cents since the first of the year. In the Midwest prices have risen nearly 34 cents in 8 weeks; in Chicago they have risen almost 49

³¹⁸ *Id.*

³¹⁹ EIA, *This Week in Petroleum*, April 10, 2002.

cents during this period. According to the EIA, these 8-week increases are the second highest in history.

In early April, the EIA explained the reasons for this price spike:

In our view, therefore, prices are high today, and may rise further, principally because petroleum markets are tightening, and that it is likely that within the next several weeks, total commercial petroleum inventories may actually drop below year-ago levels! In short, the market has bid up prices (especially for physical barrels) to acquire incremental supply in anticipation of potentially much tighter conditions.

Rather than build inventories, however, refiners are continuing to trim inventories so that margins will increase. It therefore appears likely that prices will continue to rise throughout the spring.

e) Company Documents

As the California situation indicates, refiners in a highly concentrated market will seek to maintain a close balance between supply and demand, including taking measures to reduce what they deem to be excess supplies. Several documents obtained during the Majority Staff's investigation indicate that refiners in the Midwest may also desire to ensure supplies are "tight" so that margins will be high. These documents do not provide any evidence whether or not these companies actually undertook any action to limit the amount of supply available, but they do provide evidence of a desire to see that supplies are limited.

An internal Marathon document from 1998 obtained by the Subcommittee illustrates a motive and desire within the company to keep supplies limited so that prices would remain high, even if that meant benefitting from a natural disaster. Titled "Summary: Short-Term Price Outlook," dated October 1, 1998, the memo begins, "As OPEC and other exporters' efforts to

rein in output began bearing fruit, Nature stepped in to lend the oil producers a helping hand in the form of Hurricane Georges, which caused some major refinery closures, threatened off-shore oil production and imports, and generally lent some bullishness to the oil futures market.” (See Exhibit IV.14 on page 273.)

A 1999 presentation to BP senior executives presents a variety of strategies for increasing refining margins within the Midwest. (See Exhibit IV.15 on page 274.) The document notes that “Prices (and therefore asset value) in the Midwest/MidCon are set by the supply/demand in relation to logistics capability,” and that “(s)upply/demand balances are driven by macro-economic issues such as crude prices, crude field decline rates, economic growth.” It further states that “(t)here are significant opportunities to influence the crude supply/demand balance.” It also notes, however, that these “opportunities” can increase Midwestern prices by 1 to 3 cents per gallon, but need to affect approximately 50,000 barrels per day to be sustainable over a 3-year period.

Two basic strategies are discussed—to reduce product supply (“product short”) and to lower the cost of crude supplies (“crude long”). A variety of options are put forth to reduce the supply of gasoline in the Midwest, including shutting down capacity, “offer supply agreements in exchange for capacity shutdown,” convince cities to require reformulated gas that is not readily available, export product to Canada, lobby for environmental regulations that would slow down the movement of gasoline in pipelines, ship products other than gasoline on pipelines that can carry gasoline, and provide incentives to others not to provide gasoline to Chicago. BP officials stated to the Subcommittee staff that these ideas were only part of a “brainstorming” session, and none of the options for reducing supply were adopted.

f) The Wolverine Pipeline Case.

The Wolverine Pipeline case illustrates how control over storage facilities and pipelines can be used to limit gasoline supplies and competition in a market. (F-14)

As previously noted, the major refiners also own much of the storage and transportation infrastructure in the Midwest. The Quality Oil/Wolverine Pipeline case provides a case study of the effects of concentration and integration in the ownership of pipelines and terminals on gasoline prices and supplies.

i. Background

Wolverine Pipeline is a pipeline that transports refined petroleum products, primarily gasoline and diesel fuel, from Chicago to destinations in Illinois, Indiana, Michigan, and Ohio. The pipeline is owned by Wolverine Pipeline Company. The affiliates or subsidiaries of the following companies comprise the ownership of Wolverine Pipeline Company: Exxon-Mobil (36.17%), Unocal (31.4%), Equilon (17.2%), CITGO (9.5%), and Marathon Ashland Petroleum Company (5.63%).³²⁰

³²⁰The subsidiaries or affiliates that are the owners of Wolverine are: Mobile Pipeline Company (Exxon Mobil), Midwest Pipelines Company (Unocal), Equilon (Texaco Trading & Transportation, Inc. and SPL Holdings Inc., an affiliate of Shell Pipe Line Corporation), CITGO Pipeline Investment Company (CITGO), and Marathon Ashland Petroleum Company (MAP).

Wolverine began operations as an interstate, common carrier pipeline in 1953.³²¹ Its main line extends from Chicago to Detroit, a distance of approximately 300 miles.³²² It also has spur lines which extend from points on the main line to Lockport, IL; Hammond, IN; Toledo, OH; Grand Haven, MI; and Woodhaven, MI. These spur lines total an additional 216 miles of pipeline. In addition, in December 1999 Wolverine acquired some 400 miles of crude and refined products pipelines in Michigan that were previously owned by Total/Ultramar Diamond Shamrock (UDS).³²³

In June 1999, Wolverine filed an application with the Federal Energy Regulatory Commission (FERC) for permission to file market-based rates for delivery services in certain market areas served by its pipeline.³²⁴ Normally, rate changes must be approved by FERC before they can be implemented. Granting a company permission to file market-based rates allows a company to implement rates immediately upon filing.³²⁵

³²¹ Most pipelines operate as common carriers, which means that the pipeline owner does not take title to the oil being shipped but simply provided the transportation service. As common carriers, pipelines must be accessible to all oil that meets the pipeline's shipping specifications, regardless of ownership. Further, they are subject to government regulation concerning rates and operating practices.

³²²Wolverine's pipeline mainline system from the Chicago area to Detroit consists of one segment of 18" pipe and three segments of 16" pipe, which, in total, are almost 300 miles long.

³²³On December 13, 1999, Total/Ultramar Diamond Shamrock and Marathon completed an agreement in which Total/UDS sold its assets in Michigan including its retail stations, terminals and pipelines to Marathon. Marathon then assigned its right to purchase Total/UDS' Michigan pipeline assets to Wolverine. Wolverine acquired approximately 400 miles of crude and refined products pipelines previously serving the Total/Ultramar Diamond Shamrock refinery at Alma, MI.

³²⁴The markets were its origin market in the Chicago, IL, and the destination markets in Chicago, IL; Elkhart, IN ; Grand Rapids, MI; Detroit, MI; and Toledo, OH.

³²⁵Under 218 C.F.R. 348, if FERC determines that a pipeline does not have significant market power, that is, the area in which it operates has sufficiently competitive alternate sources

Quality Oil Company, a privately owned oil company in West Michigan, and the Michigan Attorney General and the Michigan Public Service Commission filed protests to the application, claiming that some of the markets in which Wolverine sought to file market based rates were too concentrated and lacked the degree of competition needed to serve as an effective check on rates. Quality Oil also protested the application because some of the owners of Wolverine controlled all of the terminals at one destination point (Niles, Michigan) and had used that control to limit competition in the area served by the Wolverine spur line that originates at Niles and serves the Grand Rapids area of West Michigan. The filings and findings related to this aspect of Wolverine's application reveal how oil companies can use their ownership and control of critical transportation and storage facilities to limit competition and keep prices artificially high.

ii. The Niles Terminal

The Wolverine Pipeline has two 16-inch lines running from Hammond, Indiana, to Niles, Michigan. At Niles, one of the lines terminates and the other continues on to Detroit. At Niles, Wolverine has an 8-inch, 96-mile northern spur line that transports product north to terminals in Holland and Grand Haven, Michigan (also called the Ferrysburg terminal), near Grand Rapids. Any product shipped to Holland or Grand Haven/Ferrysburg over Wolverine's lines must be

of supply, then the pipeline company may set its rates according to the market. "A standing Commission premise on oil pipeline rate proceedings has been that if there are sufficient alternative sources of supply, these will act to constrain a pipeline's ability to exercise significant market power in a destination market because shippers will shift their business away from the pipeline to other sources of supply. The alternative sources of supply that must be evaluated are other pipelines that enter the market, refineries located in the market, waterborne deliveries into the market, as well as supplies external to the market that can be trucked into the market." *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277, Docket No. OR99-15-00, Issuance 20001002-0465, at 12.

moved into tankage (called “breakout tankage”) at Niles, Michigan, in order to be transferred from the 16" main lines into the 8" northern spur line. However, Wolverine does not own any tankage at Niles. The tanks located at the Nile facility have an aggregate storage capacity of approximately 750,000 barrels. All of the tanks are privately owned, and every tank owner is a partner in the Wolverine Pipeline Company: Equilon (41,900 barrels) CITGO (271,131 barrels), Exxon-Mobil (110,000 barrels), and Marathon (332,000).³²⁶ Thus all of the breakout tankage necessary to access the northern spur was controlled by owners of Wolverine.

iii. The Grand Rapids Market

The Wolverine pipeline is a major source of supply for the Grand Rapids market. Figures provided to the FERC by Wolverine showed that the pipeline had a capacity-based HHI of 2781 with a market share of 41%, and a delivery-based HHI of 3831, which suggests that Wolverine does possess significant market power in the area.³²⁷ (Wolverine’s delivery based market share is not public because it is proprietary information.) As the Commission noted:

Wolverine’s effective delivery-based results as well as its effective capacity-based results (including external supply within a 75-mile radius of the Grand

³²⁶This data was provided to FERC by Wolverine. Wolverine obtained the data from the Oil Price Information (OPIS) Petroleum Terminal Encyclopedia, 2001. The Encyclopedia provides the capacity, but not the number of tanks, controlled by each party.

³²⁷ “HHI . . . measures the likelihood of a pipeline exerting market power in concert with other sources of supply. . . A high HHI indicates significant concentration. This means that a pipeline is more likely to be able to exercise market power either unilaterally or through collusion with rival firms in the market. A shipment-based HHI is derived using estimated shipments based upon actual shipments that pipelines made from an origin market. A capacity-based HHI is based upon the estimated effective capacity pipelines have to move products from an origin market, thus it addresses whether there is additional capacity to move products from a market in the event of a price increase by the applicant.” *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277, footnote 16, at pp. 5-6.

Rapids BEA) exceed Commission precedent [for a finding that a petitioner lacks significant market power]The figures for the delivery-based and capacity based calculations (assuming a 75 mile trucking radius) exceed the market power levels the Commission found unacceptable in *Williams*.³²⁸

The state of Michigan and the Michigan Public Service Commission noted:

The evidence does not support Wolverine’s claim that its market share is modest in the destination market it serves and that such markets have low levels of concentration and excess supply. To the contrary, a review of Wolverine’s HHI analyses, indicates that both the Grand Rapids and Detroit, Michigan, destinations markets are highly concentrated. Moreover, Wolverine’s market share is substantial and there is no evidence of excess capacity in these markets.

Wolverine’s HHI analyses indicates that the delivery-based HHI for Grand Rapids is 3,666. This is not a ‘low level’ of concentration. In fact, the 3,666 HHI is twice the 1800 level that the Department of Justice (“DOJ”), in its merger guidelines defines as “highly concentrated.

Michigan also notes that Wolverine’s “capacity-based calculation” (2602) is an indication of a highly concentrated market.³²⁹

³²⁸ *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277 at p. 14. Wolverine also presented the Commission with HHI capacity-based data that included external suppliers within a 100 mile radius of Grand Rapids and HHI capacity-based data based on laid-in cost analyses. Both were within the market power levels that the Commission had accepted in previous requests to charge market based rates. However, the results supplied by Wolverine were based on trucking costs that the Commission was concerned were too low, so it did not accept the figures. Therefore, the Commission ordered that a hearing be held to develop a complete record before a conclusive market power ruling could be made. *Id.* at 16.

³²⁹ Motion to Intervene and Protest by The State of Michigan and of the Michigan Public Service Commission re Wolverine Pipeline Company under OR99–15, Submittal number 20000808-0089. The HHI figures cited by Michigan, which were lower than those reported above, were based on Wolverine’s initial submittal. Wolverine subsequently revised its figures upward, to those cited earlier.

Given the dominance of Wolverine in this area, access to Wolverine's northern spur line, and therefore access to tankage at Niles, is critical to shippers wishing to compete in the Grand Rapids market.

The Grand Rapids market is served by a number of terminals - the Holland terminal, the Grand Haven/Ferrysburg terminals, the Muskegon terminal and the Marshall terminal.³³⁰ The Holland and Grand Haven/Ferrysburg terminals are served by the Wolverine northern spur line. The Holland terminal, located in Holland, Michigan, is owned by Quality Oil, a family owned business. Approximately 25 miles north of Holland are two additional terminals in the Grand Haven/Ferrysburg area: one is owned by CITGO and Mobil; the other is owned by Equilon. The Muskegon terminal is owned by Marathon and served by a pipeline owned by Marathon. The Marshall terminal is owned by Equilon and is served by the Wolverine main line. Except for the Holland terminal, every terminal served by a pipeline in the Grand Rapids area is owned by affiliates of the owners of Wolverine, and all the owners of those terminals - except for Quality Oil, the owner of the Holland terminal - own tankage at Niles.

The northern area of Michigan has a large number of independent dealers that sell unbranded gasoline. The Holland terminal is a significant regional supplier of unbranded product.

³³⁰ Of all of the deliveries made to the Grand Rapids market by the Wolverine pipeline in 1999 and 2000, the largest amount of product went to Grand Haven/Ferrysburg; the second largest amount went to Marshall, and the least went to Holland. The Marathon terminal at Muskegon is connected to the Marathon pipeline. Chart: "Deliveries Through Wolverine Terminals in Grand Rapids destination Market," "Wolverine Pipeline Company's Response to First Data Request of Quality Oil Company, Inc.," January 22, 2001, p.38

Before they merged with or were acquired by Marathon, both Ashland and Total/UDS had been significant suppliers of unbranded product to independents in West Michigan. Both had been able to access tankage at Niles. In fact Ashland owned tankage at Niles. Total/UDS gained access at Niles through exchange agreements with oil companies that owned tankage at Niles and received access to Total/UDS's terminals in other parts of the state.

Marathon has emerged as a major supplier of unbranded product to West Michigan. As noted above, it owns the pipeline that delivers product to its terminal at Muskegon, owns and controls the second largest amount of tankage at Niles, and is one of the owners of Wolverine. Marathon merged with Ashland in January 1998 and in 1999 Marathon acquired Total/UDS's assets in Michigan. This eliminated two competitive suppliers of unbranded product which could readily access Niles tankage and placed much greater control of both Niles tankage and the supply of unbranded product to West Michigan in Marathon. Marathon also owns a chain of low cost stations - Super Speedway America - which is operated as a low cost retailer and competes with independent retailers of unbranded gasoline for market share. Thus, Marathon has an interest in controlling unbranded sales and prices and in the ability to influence the amount delivered into the area.

Other owners of tankage at Niles are primarily sellers of branded gasoline that is sold through name brand stations and competes with unbranded sales. However, some do enter into contracts or supply agreements that allow other sellers of unbranded gasoline to access their tankage at Niles.

iv. Anti-Competitive Practices

The protest filed with FERC by Quality Oil in the Wolverine Market Based Rate Request identified practices employed by Wolverine and its affiliates that had the effect of 1) limiting access to tankage at Niles and 2) increasing the product and transportation costs of unaffiliated shippers (shippers of product over the pipeline who are not affiliated with the owners of the pipeline), thereby limiting the amount of competition in the Grand Rapids market.

aa. Lack of Access to Breakout Tankage

Foremost among the practices was the failure of Wolverine to provide shippers breakout tankage necessary to access its northern spur line. As noted above, all of the tankage at the Niles station is privately owned. Wolverine took the position that it did not have control over the tankage facilities at Niles and that its affiliates that owned tankage at Niles had no obligation to allow a shipper to use their tanks. Wolverine's tariff required shippers to make their own arrangements for tankage before it would accommodate any request for transportation. Thus, shippers had to make their own arrangements with the affiliates of Wolverine who owned tankage at Niles. Owners could impose any conditions they wished. The situation reduced the certainty and amount of access the unaffiliated shippers had and increased their cost of obtaining product.

Quality Oil claimed that prior to the Marathon-Ashland merger in 1998, it primarily used its terminal to store products for other companies – such as Ashland Oil and UDS/Total – that shipped unbranded product and had access to Niles tankage. After the Marathon-Ashland merger in 1998, Quality Oil began to attempt to ship its own product and it claimed then it was able to get access to Niles tankage only through Marathon, and then only under short term access

agreements. As a result, Quality Oil was unable to enter into longer term purchase commitments for unbranded product because, with only short term access contracts, it was not sure that it could accept prolonged delivery at Niles on a regular basis. As a result, Quality Oil had to engage in spot purchases for unbranded product, which are generally more costly and less firm than longer term purchase commitments.

After Marathon's acquisition of UDS/Total's assets in December 1999, "Quality found that it was unable to obtain any type of access to Niles tankage for its own product from any Niles tankage owner, despite repeated efforts."³³¹ In addition, Quality Oil's General Manager testified:

I was told by a MAP [Marathon] official in May of 2000 that MAP had 'no need, want or desire' to allow Quality to use its tankage. By that time, supplies of unbranded product in Western Michigan were becoming scarce; and, at times, the price of unbranded supplies rose, even to the level where unbranded gasoline became more expensive than branded (an inverted relationship, since branded gasoline normally sells at a price premium above unbranded). Had access to Niles tankage been available, independents such as Quality would have been able to move unbranded supplies into the market place and create more competition that might have mitigated that situation.³³²

Finally, in June 2000, Marathon indicated to Quality Oil that it would be willing to enter into a one year throughput agreement. This contact from Marathon took place after the Attorney General of Michigan made inquiries of Marathon and other oil companies as part of its investigation into the causes of the spring 2000 price gasoline price spike.

³³¹Narrative Summary and Prepared Direct Testimony of Michael D. Swan on Behalf of Quality Oil Company re Wolverine Pipeline Company under OR99-15. Submittal 20010305-0377, at p. 15.

³³²Ibid.

To alleviate some of the access problems they faced, Quality Oil and some other independent suppliers of unbranded product in West Michigan constructed a breakout tank at Niles that would enable the shippers to transport supplies of unbranded, no lead gas into the northern spur without having to use the tankage of the Wolverine affiliates. After Quality Oil and its partners threatened to file a formal complaint with FERC, Wolverine agreed to connect the tankage into its pipeline system, but at Quality Oil's expense. While this tank affords Quality Oil and other shippers access for one product (unleaded gasoline), they continue to face access constraints for other products.

In September 2000, FERC issued an order requiring a hearing to determine, among other things, Wolverine's ability to exercise market power in the Grand Rapids-Muskegon-Holland market and whether Wolverine (and/or its constituent owners) violated Sections 1(309a), 1(4) and/or 2 of the Interstate Commerce Act ("ICA") regarding the question of tankage at Niles Michigan, access to Wolverine's pipeline running from Hammond, Indiana, to Holland, Michigan, and access to the through rate applicable to that line. In its order, the Commission clearly stated that a common carrier has the responsibility to provide all essential facilities necessary for transport, including tankage, and Wolverine could not require shippers to obtain their own access to breakout facilities:

. . . Under Section 1(4) of the ICA, Wolverine, as a common carrier, (as well as its constituent owners) must transport products 'upon reasonable request therefor' and 'it shall be the duty of every such common carrier establishing through routes to provide reasonable facilities for operating such routes and to make reasonable rules and regulations with respect to their operation' Transportation is broadly defined under Section (3)(a) of the ICA to include 'all instrumentalities and facilities of shipment or carriage . . . and all services in connection with the receipt, delivery . . . transfer in transit . . . storage, and handling of property transported.'

. . .The Commission recently affirmed the duty of common carrier pipelines to transport products and ‘furnish services in connection therewith, on its system upon reasonable request.’ (*Lakehead Pipeline Company, L.P.*, Opinion No. 397, 71 FERC ¶ 61,338, at p.62,324 (1995), *reh'g denied*, Opinion No. 397-A, 75 FERC ¶ 61,181 (1996)).

. . .Wolverine appears to be very similar to *Lakehead*. Like *Lakehead*, Wolverine requires that its shippers must provide their own tankage. Additionally, it appears that the tankage facilities are essential for petroleum products to be transported from Hammond, IN to the destinations of Holland and Grand Haven, MI. Wolverine has effective rates on file with the Commission to provide transportation from Hammond, IN to Holland and Grand Haven, MI, and it appears that this through transportation service is impossible to provide without tankage at Niles. As was the case with *Lakehead*, it seems that tankage is an integral part of Wolverine's transportation system and it is necessary for the performance of Wolverine's common carrier responsibility .³³³

After the Commission order was issued, a FERC staff member re-emphasized what the

FERC order stated:

The breakout tankage storage and interconnection facilities at Niles are integral to the transmission function on that portion of Wolverine’s pipeline. These facilities are part and parcel of the through transportation service at issue. Wolverine cannot render that specific through rate common carrier service today in the absence of the existing tanks.

. . .These are essential facilities, in lieu of pipe, connecting Wolverine’s system upstream of Niles and downstream of Niles on the northern spur line. A significant purpose of the tankage storage can be reasonably interpreted as a service in connection with the subject transportation. . . the tankage storage falls under the broad definition of transportation stated in the ICA. It is no different than if Wolverine sold a section of its interstate pipeline to an affiliate, then

³³³ *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277 at pp. 20-22. In *Lakehead*, FERC also rejected the company's claim that it could require shippers to provide their own breakout tank facilities: [t]he common carrier can make reasonable and appropriate rules respecting the acceptance and transportation of traffic. However, those rules cannot be such that they vitiate the common carrier's obligation to hold out service upon reasonable request.... [That] would be unreasonable because It would render its common carrier obligation a nullity and convert *Lakehead* into a private carrier. . . This would violate its common carrier obligation under the ICA to provide transportation upon reasonable request.

indicated in the tariff that shippers must provide their own “private” service between the ends of that section in order to obtain common carrier service to the end of the line.³³⁴

The staff member noted that this situation could have an anti-competitive effect on Quality Oil and similarly situated shippers:

. . . Quality Oil's inability to acquire assurances to access the existing privately owned storage tanks or common carrier tankage storage, the northern spur line, and the through rate service may raise Quality Oil's costs by forcing it to seek out spot purchases for shipment on Wolverine's pipeline system which tend to be more costly and less firm than longer term purchase commitments. Other shippers that are not affiliated with Wolverine or its owners may be similarly affected.³³⁵

He concluded that Wolverine was not fulfilling its requirements under the ICA:

Q. Is Wolverine doing what is required under the ICA?

A. No. Shippers have been effectively precluded from taking service under the through rates because they have been unable to obtain the required common carrier tankage at Niles. . . The owners of the storage tanks are themselves shippers owning percentage shares in the joint interest Wolverine pipeline. Other shippers have to make individual arrangements with the storage tank owners, and those owners can dictate the terms and types of access arrangements for tank storage they are willing to engage in, if any. I conclude that Wolverine has not complied with the requirements of Sections 1(3)(a) and 1(4) of the ICA.³³⁶

Despite the language of the ICA and the more recent affirmation of the law in the *Lakehead* case, FERC staff testified that the requirement that shippers obtain their own tankage has existed in Wolverine tariffs since at least 1973.

³³⁴ Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 18-20.

³³⁵ *Ibid.*, p. 15.

³³⁶ *Ibid.*, p. 20.

Wolverine, in response to requests made by Quality Oil as part of the market rate hearing, stated that as of May 2000:

. . . no party other than Quality had ever made any inquiries of Wolverine involving the issue of tankage at Niles. Since no requests for common carriage tankage services at Niles had been made to Wolverine, Wolverine finds it difficult to understand how it could be deemed to be in violation of any law regarding the matter . . . After the issuance of the Commission's initial Order in this proceeding, Wolverine decided that if the law required Wolverine to provide tankage on a common carrier basis in the Niles, Michigan area, then it would be necessary to determine the identity of a party or parties who might seek such services and the nature of the service or services desired. The purpose of letter [sic] referenced in this request was to determine if anyone wanted tankage service, and if so, what service or services were desired. Again, the only party who had ever raised the issue of tankage at Niles with Wolverine was Quality, and Quality's needs were addressed incident to the Connection Agreement referenced above.³³⁷

FERC staff stated that the letter cited by Wolverine "can be viewed as nothing more than a shipper survey, at best. Wolverine has not provided information in response to data requests . . . that common carrier storage will actually be available."³³⁸

There is also indication that Wolverine had some understanding that shippers were interested in obtaining a way to transfer to the northern spur that was independent of the private owners of the breakout tankage at Niles. An internal Wolverine memo addresses a bypass or splitter facility that would allow continual movement of product from the mainline into the

³³⁷ Wolverine Pipeline Company's Response to First Data Request of Quality Oil Company, Inc., January 22, 2001, p.8. However, as noted in footnote 13, FERC ruled in 1995 that common carriers could not require shippers to provide their own breakout tank facilities, which is what Wolverine did in its tariff. Moreover, in the same response, Wolverine identified 13 companies that had inquired about or requested transportation to destinations within the Grand Rapids market in 1999 and 2000. Three were Wolverine affiliates. The others were non-affiliates who did not own tankage at Niles. Clearly, they required tankage to utilize the northern spur.

³³⁸ Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, p. 21.

northern spur without having to go through breakout tankage. Quality Oil's General Manager testified that Quality Oil had been seeking the installation of such a facility "since at least 1994" and had even offered to pay for the facility.³³⁹ The internal Wolverine memo indicates that "several shippers remain interested in this project, especially Quality Oil." It concludes that the facility "would greatly expand Wolverine's ability to move incremental volume through Niles to Ferrysburg and Holland" and that even if Wolverine paid \$150,000 (with Quality Oil and other parties paying \$500,000), "the project would reach payout within one year of operation."³⁴⁰ Even so, Wolverine decided not to go forward with the project, noting "[t]here is no significant increased revenue for Wolverine Pipeline. . . the bypass helps a couple of our shippers at Niles (shippers with no or limited tankage), but harms the remaining shippers."³⁴¹

Testimony presented on behalf of Quality Oil by Dr. Robert C. Means, former Director of the Office of Regulatory Analysis at FERC, illustrated the fact that the constraint on access to breakout tankage at Niles caused the price of product transported over the northern spur to rise above what it would be in a competitive market. Dr. Means noted that where there is unrestricted access to transportation, the difference in the price of a commodity at two points will generally equal the cost of transporting the commodity between two points.³⁴² To apply this

³³⁹ Narrative Summary and Prepared Direct Testimony of Michael D. Swan on Behalf of Quality Oil Company re Wolverine Pipeline Company under OR99-15. Submittal 20010305-0377, pp. 23-24.

³⁴⁰ Document titled, *Niles Connection and Bypass*, Document No. WPL 000146, Ibid., Exh. No. (QOC-12).

³⁴¹ Memo from Mark D. Cline to D.H. (Dave) Welsh, *Re: Gate 1 Review for Niles Bypass*, April 18, 2000, Document No. WPL 000158, Ibid., Exh. No (QOC-13).

³⁴² According to Dr. Means, if the price disparity is greater than the cost of transportation there is an incentive for sellers to send more product into the higher priced area to take

to the case at Niles, Dr. Means compared the monthly rack price of unleaded gasoline in Grand Haven/Ferrysburg with the monthly rack price of unleaded gasoline at the Hammond, Indiana, terminal served by Wolverine's main line, between January 1998 and October 2000. A similar comparison was made between prices at Hammond and Jackson, Michigan – another terminal on Wolverine's main line.

According to Dr. Means, with unrestricted access to transportation, the difference between rack prices at Hammond and Grand Haven/Ferrysburg would be expected to be roughly equal to the cost of transporting product between those two points. However, the comparison of prices at Hammond with the prices at Grand Haven/Ferrysburg showed that the rack price at Grand Haven/Ferrysburg exceeded the price at Hammond, and that the difference between the two prices exceeded the transportation (and tankage) cost in almost every month, and sometimes exceeded it by a wide margin. By contrast, the comparison of the prices at Hammond and Jackson showed that the difference in prices was equal to or slightly less than the transportation cost for nearly every month studied.

Dr. Means concluded that the unexplained price difference (the portion of the price difference not explained by transportation cost) between Hammond and Grand Haven/Ferrysburg:

indicates that there is a significant constraint on the availability of transportation to Ferrysburg...the fact that the price difference is significantly greater than the cost of transportation creates an incentive for both buyers and sellers of gasoline. It creates an incentive for sellers to shift volumes from Hammond to Ferrysburg, and for buyers to shift purchases from Ferrysburg to Hammond. The price

advantage of the higher price, and for buyers to purchase from the lower price area. Those actions tend to erase the disparity that exceeds transportation costs.

difference evidently persists because the transportation constraint makes it impossible for sellers and buyers to respond to the incentive.³⁴³

bb. Higher Transportation Rates

Wolverine's failure to provide access to breakout tankage also resulted in higher tariff rates for shippers. Under the interstate tariff filed with FERC by Wolverine, the through rate (the cost of shipping to one destination through another) from the Wolverine station at Hammond to the Holland terminal was 40.12 cents per barrel. However, the rate Wolverine charged to shippers was higher than the interstate through rate it filed with FERC. Wolverine charged shippers its posted interstate tariff rate of 21.78 cents per barrel to transport product from Hammond to Niles, and then charged shippers an intrastate rate of 22.10 cents per barrel to transport product from Niles to Holland. Thus shippers who sent product from Hammond to Holland through Niles were charged a rate of 43.88 cents per barrel, which was 3.76 cents per barrel higher than the interstate through rate that Wolverine had filed with FERC.

Wolverine's justification for charging a combined interstate and intrastate rate rather than the through interstate rate was that the transactions involved in moving product from its main line through the breakout tankage at Niles and into the northern spur line created separate transportation transactions which enabled it to charge separate rates for each segment, rather than a through rate. Wolverine affiliates, who owned and controlled the tankage at Niles used their position to impose conditions on shippers that facilitated Wolverine's ability to circumvent the interstate rate. For example, when Quality Oil was able to access Marathon's tankage at Niles, it was required to sell its product to Marathon at its Niles terminal and then buy back the

³⁴³Prepared direct Testimony and Exhibits of Robert C. Means on Behalf of Quality Oil Company re Wolverine Pipeline Company under OR99-15. Submittal 20010305-0376, p.8.

same barrels as they left Niles for the Holland terminal. As a result of these buy/sell transactions, Wolverine viewed the transportation of the product into and out of Niles as two separate shipments, rather than the same shipment. Therefore, it charged the higher interstate/intrastate rate rather than the interstate through rate posted in the tariff that it filed with FERC. In its Order requiring a hearing to resolve a number of issues related to the Wolverine request, FERC suggested that Wolverine may be violating the requirement of the ICA to charge the same rate for the same service:

Section 2 of the ICA prohibits a common carrier from charging a different rate for a like service. In this instance, it appears that Quality Oil is paying 3.76 cents per barrel more for the same transportation service that shippers qualifying for Wolverine's interstate rate pay. However, in order to get the lower interstate rate, a shipper must have tankage at Niles, and all the tankage at Niles is owned by four of the owners of Wolverine. As a result, it appears that the owners of Wolverine receive the same service as other shippers, but at a lower price.³⁴⁴

In subsequent testimony, a FERC staff member concluded that Wolverine's two-step rate assessment failed to comply with the requirements of the ICA:

I conclude Wolverine has not met the requirements to comply with Section 2 of the ICA with respect to the transportation rates charged to shippers. Wolverine chooses to charge separate, not through rates, for identical services, which discriminates against and disadvantages the non-affiliated shippers bound for Holland.³⁴⁵

At the same time, Wolverine used this two-step rate assessment to benefit shippers who used the Ferrysburg/Holland terminals - both of which are owned by Wolverine affiliates. The interstate through rate for transportation from Hammond to Ferrysburg/Grand Haven (which is

³⁴⁴ *Wolverine Pipeline Company*, Order on Application for Market Power Determination and Establishing A Hearing, 92 FERC ¶ 61,277, at p. 21.

³⁴⁵ Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in *Wolverine Pipeline Company*, Docket No. OR99-15, Submittal 20010315-0230, pp. 23-24.

25 miles north of Holland) was 45.31 cents per barrel. Yet, the combined interstate/intrastate rate that Wolverine charged shippers was 44.88 cents per barrel - a cost that is .43 cents per barrel less than the interstate through rate. While shippers who transported product from Hammond to Holland paid a rate 3.76 cents higher than the interstate through rate, shippers who transported product to Ferrysburg/Grand Haven paid a rate .43 cents less than the interstate through rate.³⁴⁶

According to Wolverine, it has employed this practice for over twenty years, even though it is proscribed by the ICA, yet it was unable to articulate the basis for its actions. In response to inquiries made by FERC, Wolverine stated:

Currently, and for a number of years, the only rate available for outbound movements from Niles to Grand Haven and Holland have been an intrastate rate. Hence, that rate applies and has applied to such movements in all circumstances... To the best of Wolverine's knowledge and belief, this has been the custom and practice for over twenty years. Wolverine does not know what reasons giving rise to this custom and practice were. One possible explanation is that it was believed that the movement of petroleum products into proprietary, non-common carrier tankage disrupted the interstate nature of the transportation.³⁴⁷

FERC staff dismissed Wolverine's argument that all shippers were charged the two step rates, noting:

Instead of looking only at rates that were charged, it is equally important to look at the rates that are available, but were not charged for a service for like kinds of

³⁴⁶ The FERC staff also pointed out that shippers at Grand Haven/Ferrysburg (terminals owned by Wolverine affiliates) were better off paying the two step rate than the interstate rate, so there had been no reason for the shippers using the Grand Haven/Ferrysburg terminals to complain. However, the two step rate worked to the disadvantage of shippers who used the Holland terminal. Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 22-23.

³⁴⁷ Wolverine responses to FERC data request, cited in *Ibid.*, pp. 24.

traffic under substantially similar circumstances and conditions. That type of differing treatment is prohibited under Section 2 of the ICA. Indeed, Wolverine could have tendered a virtually identical service using the relatively lower through rates to Holland posted in its currently effective tariff.

. . . Additionally, to the extent that Wolverine simply abandons its posted through rate service to destination points at Holland and Grand Haven, Michigan, that action should be construed as an attempt to circumvent Wolverine's duties under the ICA.³⁴⁸

v. Conclusion

A FERC staff witness summarized how Wolverine and its affiliates circumvented the requirements of the ICA and impaired competition through the way they structured the ownership of the breakout tankage at Niles and applied their tariff rates:

The lack of access to tankage is directly related to the behavior of Wolverine and its constituent owners. Although Wolverine claims it operates independently of its affiliates, together they have created a patchwork of regulated and non-regulated facilities which circumvents the intent of ICA. The use and control of tankage storage is an essential element since it drives the need for and use of many of the product transaction arrangements; *e.g.*, exchanges, swaps, and buy/sell arrangements, which then effectively creates the need for separate transportation transactions, in lieu of using the through rates posted in the tariff. Tankage storage is used as a barrier by which Wolverine can withhold common carrier service from shippers. Wolverine, as the pipeline entity, does not claim control over all of the facilities essential for transportation movements into its northern spur line, namely, the breakout storage tanks near its Niles pump and meter station. For example, the tariff requires shippers to make their own arrangements for facilities, such as tankage storage at Niles, before Wolverine will accommodate any request for transportation to destinations (Exhibit No. S-3, page 2, Item No. 3S (b)). Also, see Exhibit No. S-2, page 4, Item No. 35(b). Wolverine relies on these practices and policies to affect the interstate movement of refined petroleum products.

Q: What is the competitive effect of limited or no access to Niles storage tanks?

³⁴⁸ Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 22-24.

A. Wolverine asserts that its owners and/or affiliates have no obligation to allow a shipper to use the privately owned tanks constructed at Niles. As a result, this lack of assurance that shippers can obtain access to tanks restricts competition. It fetters shippers' access not just to the northern spur line, but also access to the pipeline from either Hammond to Holland or Grand Haven. Wolverine's owners have an economic incentive to restrict Quality Oil and others from access to the northern spur line by using access to Niles tankage storage as an impediment. Wolverine and its owners stand to gain by lessening the competition from Quality Oil at Holland. This may allow them to drive up the product price they charge in the Grand Rapids market.

The inability to acquire some assured commitment from Wolverine to access the tankage storage precludes the use of the through rates posted in the tariff and discourages shippers not affiliated with Wolverine from entering into long term purchases of the commodity products which could lower procurement costs. This prejudice towards shippers without storage tanks disadvantages them vis-a-vis the shippers owning storage tanks, which are Wolverine's affiliates, and therefore is discriminatory. The Commission has not limited the issue of ICA violations just to Wolverine, rather as the Commission said, the issue is also relevant to its constituent owners.³⁴⁹

In June of 2001, Wolverine reached a settlement on its case. Among the provisions of the settlement, Wolverine agreed to:

- Withdraw its application for Market-based rates in the Grand Rapids market;
- Establish a new tariff that it will provide common carrier access to breakout storage at Niles and make reasonable efforts to obtain a lease for 30,000 barrels of common carrier tankage, and offer Quality Oil the use of 75% of that capacity;
- Negotiate with FERC to establish a common carrier rate for use of the Niles storage tanks;
- Establish transportation rates based on service tariffs and eliminate affiliate preferences; and
- Negotiate with FERC to establish new tariff terms and conditions to eliminate unspecified provisions identified by the staff during the proceedings.

³⁴⁹ Prepared Testimony and Exhibits of Commission Staff Witness Robert T. Machuga in Wolverine Pipeline Company, Docket No. OR99-15, Submittal 20010315-0230, pp. 16-18.

The case study reveals how control of supply is not the only way in which oil companies and pipelines may influence market competition. Control of critical transportation and storage facilities are a less visible and very effective way to influence cost, supplies and market competition. The laws and regulations governing access and control to such critical facilities are complicated and often not well understood - even by the parties most affected by them. Although on the surface common carriage appears to be a neutral means of transporting supplies, this case demonstrated that parties who control the transportation and storage facilities can take advantage of the complexity of the laws and regulations to circumvent the requirements of the law and limit competition in the market, at least until such practices are revealed. In this case that took 20 years.

g) Upcoming Pipeline Expansions

The Explorer Pipeline is owned by Marathon, Chevron, Shell and Sun, Conoco, CITGO and Phillips. For years, Marathon, Citgo, and Sun objected to a proposed expansion of the Explorer pipeline, effectively preventing the expansion during this period.³⁵⁰ “There’s plenty of capacity in the Midwest to get the products out from the Gulf Coast,” a Citgo spokesman stated. “For the foreseeable future, our people say we don’t need it.”³⁵¹ However, following a lawsuit by the minority shareholders of the pipeline, the pipeline is being expanded. When construction is completed, which is now anticipated to be later this year, it will provide the capacity for an

³⁵⁰ As a result of a lawsuit initiated by several of the pipeline’s other owners, construction has begun on the expansion, which is now expected to be completed by the end of 2002.

³⁵¹ *Explorer Pipeline Expansion Set for 2002, After Courtroom; Pipeline Company Wins Stockholder Suit*, Oil Daily, July 31, 2001. Steve Everly, *Block of Pipeline Expansion Contributes to Fuel Prices*, The Kansas City Star, Aug. 31, 2001.

additional 100,000 barrels per day to be shipped from the Gulf Coast to the Midwest. Prior to this expansion the Explorer Pipeline had a capacity of 700,000 barrels per day and was nearly always fully subscribed.

The Centennial Pipeline is owned by Panhandle Eastern Pipe Line Company, a subsidiary of CMS Energy, Marathon, and the Texas Eastern Products Pipeline Company. In early April of this year, the Centennial Pipeline began operation. Initially, this pipeline has the capacity to carry 200,000 barrels a day from both Texas and Louisiana to Illinois and, from there, through connecting pipelines, to other Midwestern destinations.

This additional pipeline capacity should improve the supply/demand balance in the Midwest and help avoid product shortages. Should a shortage occur, this new capacity could also facilitate the shipment of additional gasoline into the Midwest in a more timely manner than by barge.³⁵² Thus, this new capacity may help alleviate price spikes once they occur.

Marathon also is attempting to get permits for the Cardinal Pipeline, which would transport gasoline from its refinery in Catlettsburg, Kentucky, to Columbus, Ohio. This pipeline would further improve the supply/demand situation in a number of Midwestern markets and could lessen the effects of supply disruptions.

³⁵² If the supply disruption is significant enough, prices still may rise to the amount at least necessary to bring in additional shipments by barge. However, with this additional pipeline capacity the amount of shipments by barge may be much less than has been the case. This would have the effect of shortening the duration of the price spike.