

V. HOW GASOLINE PRICES ARE SET

- < **Oil companies do not set wholesale (rack) or retail prices based solely upon the cost to manufacture and sell gasoline; rather wholesale (rack) and retail prices are set on the basis of market conditions, including the prices of competitors. Most oil companies and gasoline stations try to keep their prices at a constant price difference with respect to one or more competitors. As a result of these interdependent practices, gasoline prices of oil companies tend to go up and down together. (F-9)**

- < **In Michigan and Ohio, these interdependent and parallel retail pricing practices have led to sharp daily increases in retail prices across the states. (F-10)**

- < **Oil companies use zone pricing to charge different prices for gasoline to different station operators, some of which are in nearby geographic areas, in order to confine price competition to the smallest area possible and to maximize their prices and revenues at each retail outlet. (F-11)**

- < **For the many stations owned or leased by the major oil companies, it is the major oil company rather than the local dealer that determines the competitive price position of the local station and that benefits from higher prices and profit margins. (F-12)**

- < **The “hypermarket” is rapidly expanding as a highly competitive format for selling gasoline. (F-13)**

The price of gasoline that is paid by consumers at the gasoline pump reflects the cost of crude oil that is purchased by the refiner; the refiner’s processing and distribution costs and profits; the retail distribution, marketing and station operating costs and profits (and sometimes losses); and federal, state, and local taxes. On average, in 2000, the percentage of each of these components of the retail price of a gallon of regular grade gasoline was:

- Crude oil: 46 percent;
- Refining costs and profits: 14 percent;

- Retail distribution, marketing, and station operations: 12 percent; and
- Taxes (not including county and local taxes): 28 percent.³⁵³

(See Figure V.1 on page 325.)

Although retail prices can be broken down into these various components, neither refining nor retail prices are established on a cost-plus-profit basis. The wholesale price a refiner can obtain for refined gasoline is determined largely by the factors influencing the then-current supply and demand situation, including the market's outlook for the future. Competitors' prices also are considered. Similarly, the price a retailer will charge for gasoline on any given day will reflect prevailing market conditions, including the retail prices of nearby competitors. Thus, the profit margin a refiner or retailer obtains depends on the current market conditions.

A. The Crude Oil Market

The price of crude oil is determined by the supply and demand conditions in the global oil market and reflects many transactions between buyers and sellers taking place around the world. Three types of transactions are common in oil markets. Contract arrangements cover most of the oil that is purchased. Oil is also sold through spot market acquisitions, which are cargo-by-cargo arrangements. There also is a very active futures market for crude oil. Futures markets are designed to distribute risk among participants (buyers and sellers) and are rarely

³⁵³ DOE/EIA, *A Primer on Gasoline Prices*, at <http://tonto.eia.doe.gov/FTP/ROOT/other/petbro.html>. Federal excise taxes are 18.4 cents per gallon and state excise taxes average about 20 cents per gallon. Also, some states levy additional state sales taxes, some of which are applied to the federal and state excise taxes. Additional local county and city taxes can have a significant impact on the price of gasoline. Energy Information Administration, "Weekly Petroleum Status Report", October 19, 2001, Table S1.e

used to deliver physical volumes of oil.³⁵⁴ Prices in the spot and futures markets serve as daily indicators of the overall conditions in the marketplace, including the current and future levels of supply and demand for crude oil and petroleum products. As a result, spot and futures prices are often used as references for crude oil and petroleum product contracts.³⁵⁵ Generally, spot and futures prices for all crude oils are based on the prevailing prices for certain grades of crude oil produced in the U.S. Gulf Coast, Northwest Europe, or Dubai in the Middle East.

1. Crude Oil Contract Purchases

Much of the world's crude oil is supplied under contract. Contracts specify the volumes to be delivered for the duration of the contract and state the price to be paid.³⁵⁶ Contract prices are flexible, usually tied to the spot and/or futures market.³⁵⁷ For example, most of the crude oil contract prices are based on a formula: a base price, usually based on one of the three types of crude oil used as a pricing benchmark, plus or minus a quality adjustment. Thus, for example, crude oil delivered into the U.S. Gulf Coast is priced against the base price of West Texas Intermediate crude oil (WTI), a benchmark for crude oils bought and sold in North and South America. The price of Brent – crude oil produced in the North Sea – is used as the benchmark price for most European and African crudes. The price of crude oil produced in Dubai (called “Fateh”) is used as a benchmark for crude oil bought and sold in Asia. Alaskan North Slope oil

³⁵⁴ Energy Information Administration, Oil Market Basics, at http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/default.htm

³⁵⁵ GAO/RCED-93-17, 28.

³⁵⁶ The US General Accounting Office found a wide variance in the length of these supply contracts – from one month to five years.

³⁵⁷ GAO/RCED-93-17, 38-39.

is sometimes used as a benchmark. The quality adjustment is a negotiated amount reflecting the difference in quality between the oil being purchased and the quality of the benchmark oil.³⁵⁸

Credit and delivery terms – such as where delivery is to be made and the time at which the benchmark price is to be calculated – also affect the price calculation.³⁵⁹

Contracts can cover a period as short as one shipment of oil or last as long as one year. Contract terms may also specify different amounts to be delivered at different times in the contract period.

In the United States some domestically produced crude oil is sold at a “posted price.” Refiners “post” the prices they are willing to pay to the producers of crude oil. Posted prices generally apply to a crude oil “stream,” a crude oil or blend of oil of a standardized quality, with quality adjustments when the oil varies from the posted standard. Posted prices closely reflect changes in the spot and futures markets, but posted prices fluctuate less because they are not widely disseminated and transactions may not occur daily. Companies may also add a temporary premium to a posted price to account for short-lived market conditions or for specific delivery terms.³⁶⁰

2. The Crude Oil Spot Market

The spot market is not a formal exchange like the New York Stock Exchange but rather an informal network of buyers and sellers. A spot market transaction is an agreement to buy or

³⁵⁸ The value of a crude oil is based on the ease with which it can be refined into high value products. Usually, a denser crude oil with a higher sulfur content would be worth less than a lighter, low sulfur one.

³⁵⁹ Energy Information Administration, *Oil Market Basics*.

³⁶⁰ Energy Information Administration, *Oil Market Basics* and GAO/RCED-93-17, 39.

sell one shipment of oil at a price negotiated at the time of the agreement.³⁶¹ The spot market provides a market to dispose of or buy the incremental supply of crude oil not covered by contractual agreements at flexible prices in response to the market's current supply and demand conditions. Rising prices on the spot market indicate that more supply is needed, and falling prices indicate that there is too much supply for the current market's demand level. The spot prices of the four benchmark crudes – WTI, Brent, Dubai's Fateh, and Alaskan North Slope oil – thus serve as indicators for all of the crude oils bought and sold on the spot market.³⁶² The spot price is typically guided by references to the prices quoted on the New York Mercantile Exchange (NYMEX) for WTI or on the International Petroleum Exchange (IPE) in London for North Sea Brent for futures contracts which specify the earliest upcoming date of delivery. Since the middle of the 1980's, more and more crude oil has been bought and sold on the worldwide spot market.³⁶³

A number of industry publications and reporting services track and report prevailing prices on the spot market. These publications report the prices of transactions their reporters are able to learn from traders.

³⁶¹ There are also forward contracts, which have features of both the spot and the futures markets. A forward contract is a one-time agreement between a buyer and seller to deliver a certain quantity of a particular type of crude oil at a specified future date. The price may be agreed upon in advance of or on the date of delivery of the oil.

³⁶² One energy information service told us that Alaskan North Slope crude oil spot prices are a benchmark only for California crude oil sales, but it is not a particularly strong benchmark. One oil company told us that they do not consider Alaskan North Slope crude oil a spot market benchmark.

³⁶³ Before 1979, only 1-3 percent of all crude oil traded worldwide was delivered on the spot market. By 1989, it was estimated that about 33 percent of all crude oil was traded on the spot market. (GAO/RCED-93-17, 37; Platt's Oilgram Price Report, November 28, 2001; and DOE/EIA).

3. The Crude Oil Futures Market

While spot markets involve the trade of physical barrels of oil, futures markets are paper markets where contracts for crude oil and some petroleum products are bought and sold.

A futures contract is an agreement by a buyer to accept and a seller to deliver a given quantity of a standardized commodity at a specified place, price, and time in the future. On the NYMEX, all crude oil contracts specify 1,000 barrels of West Texas Intermediate crude oil to be delivered at Cushing, Oklahoma, as a standard.³⁶⁴ West Texas Intermediate crude oil is a light sweet (low sulfur) crude oil. Light, sweet crude oils are preferred by refiners because of their relatively high yields of high-value products such as gasoline, diesel fuel, heating oil, and jet fuel.

A single futures contract can be traded many times before the actual delivery date specified on the contract, each time at a new price as the market's supply and demand situation is reevaluated. Therefore, the futures price should approach the spot (market) price as it gets closer to the delivery date.

Futures prices act as a barometer of the actual supply and demand and the expectation about market conditions in the future. The two primary economic functions of the futures market are to: (1) transfer risk and (2) "discover" prices. The first function occurs as producers and consumers pursue a financial strategy that transfers the risk inherent in volatile prices to those parties most willing to bear it. (Risk is transferred from hedgers to speculators.) Crude oil

³⁶⁴ The contract actually provides for the delivery of several grades of domestic and internationally traded foreign crudes, although the seller will receive either a per barrel discount or premium based on the specific foreign crude the seller delivers. The light sweet crude contract lists the specifications of the deliverable grades of oil with the discounts and premiums delineated.

producers and refiners are most likely to use the futures market for hedging by locking in the prevailing price for future deliveries. For example, an oil producer can establish a sales price for oil that will be produced later by selling a futures contract. Then, if a drop in market price causes the value of the oil to decline, this loss will be borne by the holder of the futures contract. Similarly, a refiner may want to fix the price that must be paid for crude oil that will be needed in the future by buying a futures contract. If the price of crude oil increases in the cash market, the refiner would not have to pay this higher price because he holds a futures contract with a lower price for delivery. By limiting the uncertainty over future costs, the hedge allows companies to offer fixed price arrangements to its customers for its products and to plan and budget for the future without having to bear all of the risks of price changes.³⁶⁵

The second function of futures markets occurs as the free flow of information in a futures market provides a means for buyers and sellers to determine the market prices. The futures market includes geographically dispersed sellers and buyers, thus minimizing regional biases in pricing. Also, the participants in the futures market utilize a substantial amount of information to form their opinions about supply and demand and ultimately, the price of oil. As a result, prices change frequently, as market participants revise or reevaluate their expectations on the basis of new information.

The NYMEX is the leading futures market for trading energy futures in the world. Petroleum futures are also traded at the IPE in London and at the Singapore International Monetary Exchange (“SIMEX”). Futures trading of crude oil on NYMEX began in 1983. Crude oil is the world’s most actively traded commodity, and the NYMEX’s light, sweet crude oil

³⁶⁵ Of course, a hedger is not able to benefit by favorable price changes either.

futures contract is the world's largest volume futures contract trading on a physical commodity. For example, in 2001 over 37.5 million crude oil futures contracts – each for 1,000 barrels of crude oil – were traded on the NYMEX.³⁶⁶ Since the futures market is largely used as a means to hedge against future price changes or speculate on these change rather than buy or sell oil, less than one-tenth of 1- percent of these oil futures contract results in the actual delivery of crude oil. Over the 7 years that the December 2001 NYMEX light sweet crude oil contract was traded – 5 billion barrels were traded, but only 31,000 barrels were actually delivered on those contracts.³⁶⁷ Also, many more contracts are traded than oil is produced. The total volume of crude oil accounted for in open NYMEX light sweet crude oil contracts is approximately 110 times the daily production of all crude grades deliverable under the contract.³⁶⁸

Each time a transaction is completed on the floor of the exchange, the exchange records the pairing of buyers and sellers and reports the transaction price. These prices are available throughout the day from the exchanges via the Internet³⁶⁹, are published in specialty trade publications and daily newspapers, and are reported on a weekly basis by the Department of Energy's Energy Information Administration (EIA). The timely availability of contract prices helps “price transparency,” the ability of any market participant to see the prevailing price level,

³⁶⁶ Data obtained from NYMEX.

³⁶⁷ Information provided to Subcommittee staff. The light, sweet crude oil contract traded may be dated any month during the 30 month period (2 ½ years) prior to the date of delivery. There are also long-dated futures dated 3, 4, 5, 6, and 7 years prior to delivery. (<http://www.nymex.com>).

³⁶⁸ Data obtained from NYMEX.

³⁶⁹ <http://www.nymex.com>.

and makes futures market contracts a price reference for negotiations in the spot and contract markets.³⁷⁰

Several additional factors are important in determining the price of crude oil. Most of the world's crude oil is located within the geographic boundaries of the Organization of Petroleum Exporting Countries (OPEC), and OPEC has nearly all of the world's estimated excess production capacity. As a result, members' decisions (or their influence on other crude oil producing country's decisions) about the supply of oil can have a significant impact on world oil prices. Also, crude oil producers realize that there are few substitutes for petroleum products in the near-term, and the price of crude oil reflects this lack of substitutes.³⁷¹ Finally, the level of supply is also indicated by the level of inventories. When inventories are high, they represent incremental supply immediately available, so prices tend to decline, while lower inventories will be reflected by rising prices to indicate that more supply is needed.³⁷²

B. The Gasoline Wholesale Market

Following the purchase of crude oil, gasoline goes through multiple levels of additional pricing as it refined and distributed. Refined gasoline, like crude oil, is bought and sold in large quantities at the wholesale level in three markets: contract, spot, and futures. Integrated refiners use these markets not only to sell the gasoline they produce at a refinery, but also to purchase gasoline from other oil companies if their own production is inadequate to meet their contractual

³⁷⁰ DOE/EIA-0545(99), "Petroleum: An Energy Profile: 1999," July 1999, 54-55, Energy Information Administration, *Oil Market Basics*, GAO/RCED-93-17, 34-37, NYMEX website, at <http://www.nymex.com>, and information provided to Subcommittee staff.

³⁷¹ GAO/RCED-93-17, 4-6.

³⁷² Energy Information Administration, *Oil Market Basics*.

commitments to supply gasoline. Wholesale prices of gasoline, like crude oil prices, are determined by the amount of supply and demand, inventory levels and the futures market.

1. Most wholesale gasoline is sold by contract.

Most of the gasoline sold at the wholesale level is sold under contract – prearranged agreements between refiners and jobbers or other oil companies to provide a specified amount of gasoline at a specified price, usually using a prearranged pricing formula. Under a contract, the buyer pays a premium (higher price) for the security of having a guaranteed supply of gasoline. Contracts can cover a period of from one day to one year, although they often allow an option to extend the contract. Refiners and oil companies view their contract obligations as a priority and ensure they produce or purchase enough gasoline to meet these obligations.

Contract prices are determined using either a flat rate or a formula based on gasoline prices in the futures or spot markets. As with contracts for the purchase of crude oil, these rates may be adjusted based on the time, manner, and place of delivery.

2. Exchange agreements are used to transfer gasoline between refining companies.

Exchange agreements are a common method for a refiner to get product to a market it serves far from its refineries or to a location where it does not have space at the local terminal. In an exchange, refiner A obtains gasoline from refiner B in a particular location, and refiner A provides its product at another location for refiner B. Refiners may exchange different grades or types of gasoline needed for a specific market and then make “differential” payments to account for the product, transportation, or market differentials. These agreements may be changed over time due to market conditions and are reevaluated regularly to determine if the current

agreement is the most cost efficient. All of the major oil companies we interviewed have established refined product exchanges with other refiners. On occasion, exchange agreements are negotiated to cover for an unexpected event causing a shortfall in supplies.

During the investigation, the Majority Staff asked one company official why a company would agree to supply gasoline to a competitor in the event the competitor had a shortfall in production and thereby forego an opportunity to increase market share at the expense of the competitor with the shortfall. The company official explained that even the best refineries are susceptible to unexpected outages, and therefore if a company refuses to supply its competitors when it experiences problems, that company would not be able to secure supplies in the event it has a problem:

Although we believe we can operate our refineries very reliably and efficiently, because they are such complicated systems, we don't believe we can eliminate all risks that something might go wrong. There is not enough certainty to go-it-alone. The other players are very large. You don't want to poke them in the eye. You may need them someday. It's just not worth it for what may be a relatively small gain.³⁷³

3. The spot market reflects current market conditions.

The spot market is used by wholesalers to purchase gasoline not covered by contracts or exchange agreements. It provides a readily available channel to sell and buy gasoline for immediate delivery in response to the prevailing demand and supply. Participants in the wholesale market typically use the spot market when faced with surpluses or shortages that may arise from their contractual transactions. Refiners use the spot market to sell gasoline that they produce above the level needed to fulfill contracts or to purchase gasoline when their contract requirements exceed their supply. On the spot market, the buyer is free to shop around for the

³⁷³ Documents in Subcommittee files.

lowest price but has no guarantee of supply. The spot market doesn't have a specific location; it is an informal network of buyers and sellers who carry out individual sales and purchases of gasoline.

The spot price can vary significantly day to day. It is typically guided by references to the prices quoted for future contracts, particularly those closest to maturity or those specifying the earliest upcoming date for delivery. Changes in the spot prices for crude oil are quickly and almost completely reflected in the spot prices for wholesale gasoline.

The spot market generally offers the lowest price for wholesale gasoline under normal market conditions, because there is no binding, ongoing supply contract between buyer and seller. Despite the apparent advantage the spot market offers in having the lowest prices during normal market conditions, most gasoline distributors and dealers prefer the security that contractual arrangements offer over the risk that the supply available on the spot market may be inadequate or may cost more, especially during a market shock.

4. The futures market provides critical price information for both the contract and spot markets.

The futures market for gasoline operates in the same manner as the futures market for crude oil. As with crude oil, the futures market is largely used as a means to hedge against future price changes or speculate on such changes rather than to buy or sell gasoline. Also, gasoline futures prices are available almost instantaneously from a variety of sources. Therefore, daily movements in the wholesale prices for gasoline on the futures market serves as the basis for price negotiations for gasoline in the spot and contract markets.

The NYMEX began unleaded gasoline futures trading in 1984.³⁷⁴ The New York Harbor unleaded gasoline futures contract is based on delivery at petroleum products terminals in the Harbor, the major East Coast trading center handling a substantial share of imported and domestic shipments. Domestic shipments can come from refineries in the New York Harbor area or from the Gulf Coast refining centers via pipeline. The contract specifications conform to industry standards for Phase II Complex Model Reformulated Gasoline.³⁷⁵ In 2001, approximately 9.2 million unleaded gasoline futures contracts were traded, about 1/4 of the number of crude oil contracts traded at the NYMEX during the same year. Less than one-half of one percent of these futures contracts results in the actual delivery of gasoline.

Because of the variety of fuel specifications in the United States, the unleaded gasoline futures contract does not always match the commodity being hedged. The market for a particular boutique fuel may or may not be highly correlated with the market for unleaded RFG. This segmented gasoline market causes uncertainty as to how closely the gasoline futures price will follow the spot price of the gasoline being hedged. There may be no direct relationship due to regional supply and demand differences. NYMEX unleaded gasoline futures contracts, though, are still used as a market benchmark in many companies' gasoline purchase and sales transactions. Additionally, some major types of fuels, such as California's CARB, do not have an established exchange for futures contracts as a result of the divergence between the market for CARB and the market for unleaded regular gasoline in the rest of the United States.

³⁷⁴ Leaded gasoline futures were traded on NYMEX from 1981 to 1986. (DOE/EIA-0545(99), 55).

³⁷⁵ For a description of reformulated gasoline, see section III E.

5. Rack price

The rack price refers to the price of gasoline charged by wholesalers at their refineries or company terminals to jobbers or independent dealers. The rack price is not available to dealers who are supplied directly by an oil company. Rack prices can be either contract or non-contract prices, but commonly are the former. Typically, rack prices are set daily by refiners and are generally influenced by prices in the spot and futures markets, as well as the extent of competition among refiners within a particular market. Rack prices for the same brand of gasoline may differ from terminal to terminal. Rack prices are communicated to jobbers or independent dealers electronically. Many refiners use a satellite communication system called the Data Transmission Network (“DTN”), operated by a private company in Omaha, Nebraska, to communicate rack prices. Some oil companies set the daily rack price at all of their terminals from one central office. In other companies, regional offices set the prices for the terminals in that region.

Rack prices tend to track the spot prices. As with contract prices, rack prices include a certain premium associated with the relative certainty of the supply and their stability in comparison to spot prices. Therefore, average rack prices are generally higher than spot prices under normal market conditions. But quoted rack prices may be higher than the actual price paid by purchasers, because suppliers may offer actual purchasers rebates and discounts.

There are two types of rack prices – branded and unbranded. The branded rack price is the price paid by jobbers or independent dealers for gasoline purchased using the trademark of a major oil company such as “Shell” or “Exxon.” The unbranded rack price is the price paid for gasoline that does not carry a trademark name purchased from branded or independent refiners.

(Unbranded gasoline, if purchased from a branded refiner, will not contain the additive that marks the gasoline as associated with a specific brand.)

Unbranded rack prices tend to be lower than branded rack prices, because (a) the unbranded gasoline is generic gasoline while the branded gasoline includes a premium reflecting a recognized brand name, and (b) branded gasoline is usually sold under a long term contract where delivery is guaranteed, while unbranded gasoline may or may not be sold under contract and may or may not be available. Thus branded rack prices also include a premium for this additional security of supply. Therefore, a purchaser of unbranded gasoline may not be guaranteed a secure supply or lower prices, particularly during a market shock. In addition, branded prices generally include costs for using brand trademarks, credit cards and advertising resulting in a higher cost for branded rack than unbranded rack.³⁷⁶ One major oil company stated that it provides the following nine services to its branded jobbers that make it worthwhile for a jobber to pay the premium to purchase branded gasoline: (1) a wider variety of grades of gasoline than unbranded, which leads to higher gross profit margins,³⁷⁷ (2) access to oil company credit card at no fee, (3) oil company third party fee discount for VISA and MasterCard, (4) “subsidies” in the form of soft loans and investments, (5) marketing assistance, (6) rebates based on incremental volume, (7) training and support on how to run a profitable gasoline station, (8) technical support and station startup design, and (9) security of supply.³⁷⁸

³⁷⁶ DOE/EIA, *Motor Gasoline Assessment, Spring 1997*, p. 33.

³⁷⁷ Oil company officials told the Majority Staff that the amount of gross profit increases as the grade of gasoline increases. Regular grade gasoline sales have the lowest level of per gallon profit margin while premium grade gasoline sales include the highest per gallon profit margin.

³⁷⁸ Document in Subcommittee files.

Another oil company was planning on expanding its limited sales of unbranded gasoline, but was very concerned about the impact of marketing unbranded sales on the sales of its branded product. The company decided that it needed to develop a capability to market unbranded gasoline because the unbranded market was growing, i.e. the growth of unbranded gasoline retailers such as supermarkets and convenience stores, which sell gasoline with a generic additive. As a result, the company decided to test the marketing of unbranded product in two markets. To protect its branded sales and to assure sufficient product for its branded customers (the company's system was short gasoline overall), the company decided that the marketing of its unbranded gasoline would be a purchase-for-resale business (could only be sold to retail outlets or jobbers and not to other refiners). Also, the unbranded product would be offered at the rack on an "as available" basis, and there would be no contractual sales of unbranded product.³⁷⁹

Refiners' rack pricing strategies are highly interdependent. Most refiners have contractual commitments to sell certain volumes of gasoline; their refining, distribution and marketing systems are designed to move a certain amount of volume through their refining and distribution system on a daily basis. Because of the lead time necessary to acquire crude oil, refine gasoline, and distribute it to other wholesalers and to retail marketers, fluctuations in throughput volumes can be inefficient and costly. Accordingly, rack pricing strategies usually are designed to maintain the refiner's share and niche of the market. Thus, the rack prices a

³⁷⁹ Document in Subcommittee files.

refiner sets are frequently established by using other rack prices as benchmarks. In this manner a refiner maintains its throughput volumes and market share relative to the other refiners.

In fact, refiners are as averse to gaining market share through rack pricing as they are to losing market share. If a refiner prices a product too high too frequently, jobbers may complain and seek to switch to other brands when their term contract with the refiner expires. If a refiner prices a product too low, jobbers may seek to lift additional volumes and the refiner may run out of product prematurely, leaving other distributors with insufficient supplies. Hence, branded rack prices tend to move together and stay within the same relative price differences.

As explained in Section IV, refiners used to talk directly with each other to facilitate the setting of rack prices. After the Supreme Court held that such direct communication was prohibited, the refiners relied on public postings of rack prices to learn of each others' rack prices.³⁸⁰ After the U.S. Court of Appeals for the Ninth Circuit ruled that public posting was prohibited, the refiners increased their reliance on trade publications and data services to ascertain the prices of competitors.³⁸¹ Multi-branded jobbers and distributors also pass along comparative price information to the refiners as part of their strategy to obtain the lowest rack price possible for their purchases.

6. Gasoline spot prices do not necessarily reflect crude oil prices, but they are reflected almost immediately in rack and retail prices.

The Majority Staff analyzed the Department of Energy's Energy Information Administration's (EIA) crude oil spot price data and regional gasoline spot price data, and the

³⁸⁰ *United States v. Container Corp. of America*, 393 U.S. 333 (1969).

³⁸¹ *In re Coordinated Pretrial Proceedings in Petroleum Products Antitrust Litigation v. Standard Oil Co.*, 906 F.2d 432 (9th Cir. Cal. 1990)

Oil Price Information Service's (OPIS) rack and retail price data for five states – Michigan, Ohio, Illinois, California and Maine. (The methodology the Majority Staff used can be found in Appendix 1 on page 337; the figures referred to in this section can be found in Appendix 2 on page 339.)

Rack and retail prices moved closely with gasoline spot prices. In 2000, when gasoline prices began to rise in the five states during the spring price peak, the margins between gasoline spot and rack prices and between rack and retail prices was small. (See Figures A2.1-A2.5 on pages 340-344.) Notably, in California, during the March and September price spikes, the daily gasoline spot price level was higher than either rack or retail price in the state for at least a week. With relatively stable crude oil prices in 2001 gasoline spot prices in all three regions increased – earlier in Los Angeles than in Chicago and New York. (See Figures A2.6-A2.10 on pages 345-349.) The rack and retail prices in the three Midwest states and Maine largely moved in relationship with the gasoline spot price. When the prices were going up, gasoline spot, rack and retail were very close; when the prices were going down, the margins between these prices were larger. Notably, California's rack and retail prices continued to increase for a number of months as the gasoline spot price fell in 2001.

7. Dealer Tank Wagon (DTW) price

The DTW price is the price paid, pursuant to contract, by those dealers serviced directly by a major oil company for branded gasoline delivered to their outlets.³⁸² Some oil companies set the DTW prices for all of their company-owned and operated stations across the nation from one central office, while others set the prices from regional offices. Price changes are

³⁸² Both lessee and open dealers who are directly serviced by the refiners pay a DTW. Jobbers who own or lease out their own branded stations do not pay a DTW.

communicated to the retail outlets electronically or by facsimile. DTW prices are less volatile and normally are higher than spot and rack prices. Oil companies set their DTW prices using the futures and/or spot prices for gasoline as a reference, as well as the retail prices at other gasoline stations in the market area.

Even though the gasoline is the same and the transportation costs comparable, oil companies routinely charge different DTW prices to retail outlets in neighboring geographic areas. Dealers in the Washington, D.C. metropolitan area told the Majority Staff that this is one of the most vexing problems they face. (See discussion of zone pricing at Section V C 3.) The contractual agreement between the oil company and the dealer generally stipulates, among other things, an exclusive supply arrangement and a minimum purchase, which usually allows the dealer no flexibility to shop around for lower prices. Dealers pay the premium attached to DTW prices in exchange for the security of the supply, the use of the brand trademark, promotional support, such as credit cards and advertising, as well as the higher price that a brand may command at the retail level. Quoted DTW prices may be higher than the actual prices paid by an individual dealer because of rebates and discounts offered by suppliers.

During a market shock, such as a supply disruption, wholesale prices may rapidly rise (particularly spot prices) because the market anticipates that with less supply than normal, the region may end up short of gasoline. As a result, the branded rack price may end up being higher than the DTW price paid by lessee dealers supplied with gasoline directly by refiners. In times of shortages, unbranded rack prices also may be greater than the branded rack prices, as refiners seek to conserve gasoline for their contractual and branded customers. When the unbranded rack price is higher than the branded rack price, it is termed an inversion. As the

supply and demand balance in many markets has tightened, inversions have become more frequent. These inversions have severely affected the independents as they cannot maintain their normally competitive low-cost position without suffering a loss of margin.

8. Rebates and discounts given to branded outlets may help them compete with low priced retailers.

Many refiners provide either rebates or discounts to jobbers and retail outlet owners. These discounts off of posted rack or DTW prices are used to help the outlets maintain a reasonable profit margin and compete with the increasing number of retail outlets that price their gasoline with little or no margin, such as hypermarkets. In addition, some companies institute these discounts because other branded companies in the same sales area provide these discounts to their jobbers and retailers. The companies providing these discounts have found that they can maintain sales volume or recoup volume by offering these discounts.

Oil companies that seek to remain competitive in areas where hypermarkets have penetrated the retail gasoline market may suggest street prices to their branded gasoline retailers that are the same as or only slightly above those of the hypermarkets. Without a discount or rebate in the rack or DTW price, there would be little or no margin for the dealers. These rebates and discounts are usually temporary and may be withdrawn at any time, often with little notice. When provided to jobbers it is done directly one-on-one; these discounts do not show up on the rack purchase invoices. Thus, the oil company's branded rack price will not be affected by the

discounts.³⁸³ This allows the refiner to provide allowances to specific retail outlets without affecting the rack price charged to others.³⁸⁴

The level of the price rebate is based on the company's determination of a price level that will enable the jobber (and the dealers supplied by that jobber) to post a price that is competitive with the low priced retailer and still maintain an adequate profit margin as determined by the company. These discounts often are reviewed on a daily basis. A number of oil companies have enabled a number of their jobbers to remain competitive with hypermarkets and other low priced competitors through this type of support.³⁸⁵

With respect to rebates or allowances for dealers that are charged a DTW price, the oil company will either charge a lower DTW price so the dealer can obtain a determined margin or provide a rebate or a reimbursement from the invoiced DTW price. The margin guarantee may apply either to all grades of gasoline or only to unleaded regular.

C. The Retail Gasoline Market

1. How retail prices are set.

Two-thirds of all gas stations are associated with a brand.³⁸⁶ About one-quarter of these branded stations are company-owned and operated. Federal and state law provide that oil-

³⁸³ For retail outlets supplied by jobbers, the oil company assumes that these discounts will be passed on to the retail outlets.

³⁸⁴ Jobbers and retail outlet owners may receive longer term discounts off of rack or DTW prices. Some oil companies provide fixed discounts over 2-10 years (depending on the contract terms) if the jobber will build a new station under the oil company's brand name or if a dealer will convert an existing station to the oil company's brand.

³⁸⁵ Documents in Subcommittee files.

³⁸⁶ National Petroleum News, *Market Facts*.

company owned and operated stations are the only stations for which the oil company may set the retail price. Even though the oil companies cannot set prices for stations they do not own and operate, the oil company directly affects the retail price the branded open dealers or lessee dealers charge through the DTW price it sets. The DTW price is generally developed by the oil company based on the company's determination of an appropriate margin (depending on the company) for a specific retail outlet or outlets in a region/zone. The "margin" is the difference between the DTW and the retail price that the dealers receive for each gallon of gas that they sell. Retail prices will generally not fall below a certain level, because a station must, at a minimum, cover its costs and taxes. Also, retail prices will not go much higher than the nearby competition to ensure that the station maintains a certain volume of sales. During interviews with gas station owners and operators, the Majority Staff found that generally the branded dealers' margins ranged from a few cents per gallon to 8 -10 cents per gallon.³⁸⁷

³⁸⁷ Some state laws require that oil companies charge a DTW price that enables dealers to achieve a fair return. In *Wilson v. Amerada Hess*, 168 N.J. 236, 773 A.2d 1121, 2001 N.J. LEXIS 681 (2001), the Supreme Court of New Jersey held that although the agreements between defendant Amerada Hess and its lessee dealers gave Hess the sole authority to determine the DTW prices charged to the lessee dealers, the covenant of good faith and fair dealing "is implied in every contract in New Jersey." Hess, therefore did not have the authority to set the DTW at a price that would not allow the dealers to cover operating expenses and achieve profit. "A party exercising its right to use discretion in setting price under a contract breaches the duty of good faith and fair dealing if that party exercises its discretionary authority arbitrarily, unreasonably, or capriciously, with the objective of preventing the other party from receiving its reasonably expected fruits under the contract." 168 N.J. at 239. The New Jersey Supreme Court noted that in some other states, such as Illinois and South Carolina, the courts have found no such restrictions on the DTW that could be charged. See, e.g., *Abbott v. Amoco Oil Co.*, 249 Ill.App. 3d 774, 619 N.E.2d 789, 795-6, 189 Ill.Dec. 88 (Ill.App.Ct. 1993) ("the dealers cannot complain when Amoco merely exercises the discretion the dealers allowed Amoco to possess."); *Adams v. G.J. Creel and Sons, Inc.*, 320 S.C. 274, 465 S.E.2d 84, 85 (S.C. 1995) (there can be no breach of the implied covenant of good faith and fair dealing where a party to the contract has done what the provisions of the contract allow).

Oil companies often “suggest” a retail price to all of their dealers.³⁸⁸ Usually these suggestions are given verbally by oil company representatives sent out to counsel lessee and open dealers on how they should price the branded gasoline. There has been at least one instance when an oil company put these suggestions in writing. In 1999 this oil company sent all of its branded dealers, regardless of class of trade, a daily facsimile with recommended retail prices for all grades of gasoline. The company stated that it was doing this to offer customers consistent pricing across the brand within a competitive price zone. The company included a disclaimer stating that “this recommendation was not a guarantee that performance under this recommendation will result in a specific outcome.” The note ended with the reiteration that “any dealer is an independent business person who makes the final decision as to the retail prices that will be set.”³⁸⁹

Most oil companies focus their retail pricing policies on the retail pricing of their competitor’s outlets. In years past, companies would know or could ascertain the DTW price their competitors would charge and would use those DTW prices as benchmarks for their own prices. Today, however, not all competitors’ wholesale prices are available from price reporting services, and even the wholesale prices that are available may not reflect rebates and discounts jobbers and station owners receive. It is easier to obtain competitors’ retail as opposed to wholesale prices, since they are posted on the street. So companies collect the data themselves or purchase the information from a price reporting or consulting service. Exhibit V.1 (page 326)

³⁸⁸ Compilation of information obtained from Subcommittee staff interviews with gasoline retail outlet owners and lessees.

³⁸⁹ Documents in Subcommittee files.

illustrates one company's frustration with trying to use reported DTW prices "to know if our prices are competitive," and its rationale for moving to retail-based pricing.

Each company's formula for determining an appropriate retail or "street" price is different, but companies rely on a system of identifying which competitors are market drivers for a particular price zone. One type of pricing system prices directly against a specific market driver, usually a low priced competitor, such as Company X's price + 3 cents per gallon. Another method for pricing is to price at the average of the prices of all major market drivers. Sometimes the price is determined using a combination of both methods.³⁹⁰ For example, one company decided that its stations in a Los Angeles zone should price the lower of (1) ARCO stations + 6 cents per gallon, or (2) the average price of major branded drivers in the zone.³⁹¹ Once the recommended retail price is determined, the DTW is "backed-out" by taking this estimated recommended retail price and subtracting both the taxes (federal, state, and local) and the company's level of support (margin) for the region.³⁹² Other companies may price their stations at a predetermined relative position to a set of identified key competitors, rather than pricing against one specific market driver station. The particular strategy adopted will depend on the particular market conditions and competitors. Both strategies, however, use the street prices of the competitors in a particular area and place and maintain the oil company's dealers at a certain level within that pricing structure.

³⁹⁰ Document in Subcommittee files.

³⁹¹ Document in Subcommittee files. For years, ARCO has been recognized as a low-price leader on the West Coast.

³⁹² Document in Subcommittee files.

In the late 1980's one oil company described its pricing strategy for the Metropolitan Washington, D.C. area. This description demonstrates how pricing strategies are established for specific markets and that those strategies involve a relationship among the particular competitors.

“Baltimore

Very high direct refiner presence (including Crown) and all dealer (by law)...only 4 key brands...Crown, Amoco, Shell, and Exxon...very little price segment except when Crown provides. There is more...jobber etc. as one moves out into Maryland...but Baltimore dictates all Maryland prices due to uniform price change law...so big price decision.

“Very high rack to retail margins, rack of no consequence. [DTW] strategy is to set [DTW] as high as reasonable given overall industry conditions, and interface problems with surrounding states. We will initiate upward, we will follow Amoco, Shell quickly..we will be slow to come down in a dropping market...but will respond to Amoco, Shell, or Crown if they seek to gain an edge. Unlike in [New Jersey] etc. Amoco will not sit high in this market.

“High prices set by Baltimore may create problem in Salisbury...where [REDACTED] jobbers have from time to time served direct dealers.

“D.C.

Similar to Baltimore in that majors dominate the market. Key difference is that Amoco has almost half the market and we have almost half the remainder...there is no Crown and Shell is less dominant. Strategies are similar to Baltimore. Boundary conditions are a problem since as one goes over to [Northern Virginia] and as one goes south conditions are more competitive...and prices have to be lower.

“Northern [Virginia]...Fairfax, etc.

A hybrid market or area...between the high priced [Maryland]/D.C...the low priced [Pennsylvania] and the low priced South [Virginia]/[North Carolina]. Tends to be major brand refiner direct dominated...rack to retail margins have been high...rack prices not too significant. Exxon and Shell are neck and neck, followed by Amoco, Texaco, Mobil, Crown...the last tends to take up the price segment...although a few independent stores surface.

“[DTW] strategy...price as high as reasonable, watch retail for way price segment is moving and how low they are sitting...adjust if needed to stay competitive further south. We will initiate upward but when conditions are right we are usually already high versus the southern [Virginia] and that market is usually not quite ready. Our [DTW] position over time is usually in line with Amoco, Mobil, Shell.”

Because many oil companies and gasoline retailers set their retail price on the basis of the prices of their retail competitors, prices in each specific market tend to go up and down together. Moreover, most oil companies and retailers will try to maintain a certain price position in a particular market – namely a fixed price difference with respect to one or more other retailers. Hence, it will often appear that, over time, gasoline prices in that market move together in a “ribbon-like” manner – so that as a brand moves up and down it nonetheless remains at a constant differential with respect to the other brands. Figures A2.38 (page 377) (Illinois: June 2001); A2.56 (page 395) (California: January - August, 2001); and A2.57 (page 396) (Maine: January - August, 2001) illustrate this effect.

All of the companies interviewed consider their pricing strategies confidential, business sensitive information. Many companies also are concerned that public discussion of these policies may be “misconstrued” as facilitating parallel pricing. The companies interviewed by the Majority Staff generally stated their policy was to charge prices that would allow them or their dealers to obtain a fair return and to remain competitive with the other retailers they considered the main competition. Some admitted, privately, that on occasion, depending on the market conditions, they set their prices based on a differential from one or more competitors; others would not state that they ever used such policies.

Exhibit V.2 (page 327) illustrates how a public communication of a pricing policy may not fully reflect a company’s actual policy. In an initial e-mail that appears to have been generated to reflect one company’s pricing strategy, the listed strategies include the following. “Use Chevron and Aloha as benchmarks.” “Price on a site by site comparative basis, not on price alone.” “Optimize profitability by avoiding price wars and undercutting prices unnecessarily.”

“Optimize profitability and margins by pricing gasoline at the highest achievable price to volume point.” As a result of concerns expressed in response to that e-mail over the appearance of “conscious parallelism,” all references to specific competitors and avoiding price wars were deleted from the next draft of the written strategy, although the response stated that “The oral discussions of this strategy can go into greater detail.”³⁹³

Because most companies determine the DTW by backing it out from the recommended retail price with a fixed margin, most branded dealers receive a fixed margin, regardless of the retail price they charge. The net result of this practice is that the oil company rather than the dealer captures most of the profits in times when prices rise.

Several branded lessee dealers told us if they tried to increase their margins over that “recommended” by the oil company, the increase would be reflected in their next DTW price, calling into question the degree to which the price is actually recommended.

During the summer of 2001, as wholesale prices were dropping following the spring price spike, members of the public believed retail gasoline dealers were price-gouging when they failed to lower the retail prices to match the declines in the wholesale prices. “Dealers say they’re frustrated;” OPIS reported in early August, “they’re accused of highway robbery by motorists who’ve heard about the plunge in global gasoline values, and those customers don’t

³⁹³As the California courts noted in *Aguilar*, conscious parallelism does not violate the antitrust laws, as long as the market participants are acting independently. “Uniform pricing is most frequently seen in oligopolistic industries producing standardized goods. Often, the industry leader will set a price which is consciously followed by its competitors. Absent any additional factors, the resultant price uniformity throughout the industry does not constitute an antitrust offense, even though the effect is the same as if price fixing had been involved. Conscious parallelism, i.e., a pattern of following the industry leader in pricing, continues to be recognized as unilateral and hence lawful behavior.” Von Kalinowski on Antitrust, §13.05, at 13-24.

understand that DTW prices have been virtually disconnected from sweeping trends in the big bulk markets. Motorists inaccurately calculate that dealers are reaping record margins; if street prices have dropped by only 10-20 cents per gallon, then somebody must be pocketing the additional 30-50 cents per gallon decline that has been witnessed in spot markets.”³⁹⁴

As the OPIS article correctly notes, refiners generally set the wholesale price of gasoline they will charge one of their lessee dealers by calculating an appropriate competitive retail price for the dealer—which is done by surveying the competitive prices in the retailer’s local market—and then subtracting a fixed margin, usually between 7 and 10 cents per gallon.³⁹⁵ Although retail prices fluctuate, the dealer’s margin stays fixed. As retail prices rises or falls, it is the refiner, rather than the retailer, that receives either the profit or the loss.

Figures V.2 (page 329) - V.5 (page 332) show how retail-wholesale margins have varied in the United States and a number of markets over the past three years.³⁹⁶ These charts demonstrate that the retail-DTW margins, which are the margins realized by lessee and some open dealers, have exhibited the least volatility over the past three years. Although there has been some fluctuation of a few cents per gallon during periods of extreme volatility, the retail-DTW margins have remained within a relatively narrow band throughout this period. In California, for example, although retail-rack differentials have fluctuated by as much as 35 cents,

³⁹⁴ OPIS, *Gasoline Dealers Battle Market Disadvantage and Angry Public*, July 2001.

³⁹⁵ Jobbers, or distributors, generally purchase branded gasoline at the branded rack price, which is set by the refiner in relation to other wholesale prices.

³⁹⁶ EIA Data.

the retail-DTW margin has stayed within a narrow band of 5 to 10 cents for the entire period, with an average margin of about 7 cents.

Most of the focus on retail pricing is for regular grade (usually 87 octane) unleaded gasoline. Approximately three-fourths of all gasoline sold by retail outlets is regular grade.³⁹⁷ Each company determines if its target price for mid-grade and premium grades of gasoline will be priced by a fixed differential compared to its regular grade gasoline or a floating differential based on what competitors are charging. Some companies use a mix of both methods depending on the region being priced. For example, the retail price spreads between regular, midgrade, and premium for one company's stations in Northern Virginia were fixed: midgrade = regular + 6 cents per gallon and premium = regular + 13 cents per gallon. The same company had a floating differential for these premium grades in the Richmond, Virginia, area because the company recommended pricing all grades against the prices charged for those grades by a private brand (such as Sheetz, Wawa, or RaceTrak). The general company rules for pricing premium grades against a private brand are:

- intermediate = private brand's intermediate price + 5 cents per gallon, and
- premium = private brand's premium price + 5 cents per gallon.³⁹⁸

Regional factors also affect the retail price of gasoline. First, the retail price is affected by the distance between the retail outlet and the source of its supply of gasoline. For example, the further the station is from the nearest terminal, the higher the cost of transportation, which is

³⁹⁷ DOE, Energy Information Administration, Petroleum Marketing Monthly, March 2002 (DOE/EIA-0380(2002/03), 19-20.

³⁹⁸ Document in Subcommittee files.

passed on to the consumer. Second, disruptions in the regional supply of gasoline, such as breaks in a pipeline that serves the local terminal, will usually increase prices temporarily. The prices will not decline until alternative supply can be brought into the region or the problem with the supply delivery system can be fixed. Third, state or local regulations may adversely affect the ability for new stations to enter the market to increase competition or for current stations to increase their size to become more cost efficient. Fourth, differences in operating costs affect retail prices. Land costs or lease payments may differ based on the location of an outlet. Urban areas tend to have higher real estate costs than rural areas, and these higher costs are passed on to the consumer. One oil company official stated that a station's DTW price may take into account that the outlet's lease rate from the company for the station's property may not give the company an adequate return on the property. The DTW price then may include some return element for the property.³⁹⁹

As explained in Section IV, the nature and extent of the competition significantly affects retail prices, too. Generally the greater the degree of competition, the lower the rack-retail margin.

The retail pricing strategies of jobbers and independents also are interdependent with other retailers. Jobbers and independents will try to establish a particular niche in the marketplace – be it as a location with brand value or as a low-cost high volume independent outlet – and price relative to the competition in order to achieve such objectives.

³⁹⁹ Document in Subcommittee files.

2. Retail price trends vary by region with the Midwest experiencing a high degree of price volatility.

The Majority Staff analyzed the Oil Price Information Service's (OPIS) rack and retail price data for five states – Michigan, Ohio, Illinois, California and Maine – from January 2000 to August 2001. (The methodology the Majority Staff used can be found in Appendix 1 on page 337; the figures referred to in this section can be found in Appendix 2 on page 339.) During this time period, retail price trends varied by region for both 2000 and 2001, with retail prices for regular unleaded gasoline experiencing significantly more fluctuations in the Midwest than in California or Maine.

The fluctuations in price for regular unleaded gasoline in Illinois, Michigan, and Ohio (referred to in this analysis of OPIS data as the “Midwest”) generally followed the same patterns. The price trends for both Maine and California (referred to in this analysis of OPIS data as the “Coasts”), while different than the Midwest, generally followed patterns somewhat similar to each other.

The Midwest: In both 2000 and 2001, the Midwest experienced one significant price spike in the spring/early summer. (See Figures A2.11-A2.16 on pages 350 - 355.)

- In 2000, Midwest prices started to rise at the beginning of May and peaked mid-June.
- In 2001, Midwest prices started to rise in March and peaked at the end of May.
- In 2001, Michigan's retail prices began to rise 1 ½ weeks earlier than Illinois or Ohio and kept increasing 1 ½ weeks longer.

The Coasts:

– In 2000, both California and Maine prices peaked in mid-March, early July, and in the middle of September. (See Figures A2.17 on page 356 and A2.18 on page 357.) While California's prices gradually dropped after the September peak, Maine's prices stayed fairly even at the peak until December. Just prior to the September peak in California, the average rack prices were significantly higher than the state's average retail prices.

– In 2001, prices remained relatively high in both California and Maine, peaking during May, and then falling through the beginning of August. (See Figures A2.19 on page 358 and A2.20 on page 359.)

In the Midwest the retail price of gasoline rose from 20 to 35 cents per gallon from January 2000 to August 2001; on the Coasts, the increase was 10 to 15 cents per gallon.

The Midwest experienced greater volatility in retail prices than either California or Maine during the period of time reviewed by the Majority Staff. During 2000, retail prices in the Midwest varied from 60 to 70 cents per gallon as compared to a 50 cent per gallon variation in California and a 30 cent variation in Maine. In 2001, the retail prices in the Midwest ranged from about 85 cents per gallon to over \$1.40 per gallon, a variation of approximately 55 cents. Maine's retail prices in 2001 ranged from 90 cents to \$1.20 per gallon, a variation of 30 cents, while California's retail prices fluctuated from \$1.05 to \$1.45 per gallon or a variation of 40 cents.

Although the variation in prices in 2001 was smaller than in 2000 in the Midwest, the prices consumers paid each week for gasoline in 2001 varied more frequently. Particularly noteworthy are the weekly mini retail price spikes in the Midwest in 2001. In 2001 in most

weeks in Michigan and Ohio, and to a lesser extent in Illinois, retail prices were pushed up significantly (7-10 cents per gallon) over 1 or 2 days, only to fall over a slightly longer period of time. (See Figures A2.14-A2.16 on pages 353 - 355.) These mini price spikes are not evident with respect to the rack prices.

In Michigan, although rack prices had 4 major price spikes as seen in Figure A2.21 (page 360), with the price trend heading up by the end of August 2001, there were 4 times as many significant price increases in retail prices than rack prices. These mini price spikes can be seen in Figure A2.22 (page 361). Speedway (owned by Marathon) was the price leader in most cases, bringing retail prices up every one to two weeks. (See Figures A2.23-A2.25 on pages 362 - 364.)

– In Ohio, retail price volatility was even greater. Like Michigan, Ohio rack prices had 4 major price spikes in 2001, but Ohio's branded retail prices had 5 times as many retail price peaks. (See Figures A2.27-A2.28 on pages 366 - 367.) Speedway was not only the price leader for these short price spikes, but Speedway usually ended up with the highest and then the lowest prices for each significant price fluctuation interval. (See Figures A2.29-A2.31 on pages 368 - 370.)

– Illinois's price volatility was not as great as either Michigan's or Ohio's, nor was price leadership apparent. Illinois had half as many branded retail price spikes as Ohio, but Marathon has only about 9 percent of the retail gasoline market in Illinois, as compared to 14 percent in Michigan and 26 percent for Ohio. Retail price spikes in 2001 were still greater than the 4 peaks in rack prices for the state. (See Figures A2.33-A2.37 on pages 372 - 376.)

The only time in 2001 where this weekly volatility didn't appear was in June when prices fell from the May peak, and retail margins were approximately 12-24 cents per gallon. This Midwest retail price volatility can most easily be seen by comparing the rack-to-retail margins for the Midwest (Figures A2.39-A2.41 on pages 378 - 380) to the margins on the Coasts (Figures A2.42 and A2.43 on pages 381 and 382).

Section IV of this report discusses the effect of concentration in the market in determining retail price margins.

3. Zone Pricing

Most oil companies follow the practice of grouping their retail outlets into geographic or market zones and charging retail outlets in different zones different DTW prices for the same brand and grade of gasoline. This practice is called "zone pricing."⁴⁰⁰ Companies create zones, they told the Subcommittee, to account for differences in such factors as demand for their product and competition. Almost all of the companies interviewed by the Majority Staff

⁴⁰⁰ In 1936 Congress amended the Clayton Antitrust Act by passing the Robinson Patman Anti-discrimination Act, which makes it illegal to "discriminate in price between different purchasers of commodities of like grade and quality . . . and where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce, or to injure, destroy, or prevent competition . . ." 15 U.S.C. 13(a). The Act allowed, however, price differentials that "make only due allowance for differences in the cost of manufacture, sale, or delivery," that result from "changing conditions affecting the market for or marketability of the goods concerned," or that were established "in good faith to meet an equally low price of a competitor." 15 U.S.C. 13(a),(b).

One company explained the effect of this Act on its zones. "The Robinson-Patman Act prohibits discrimination in price to competing resellers of the same product. Therefore, when a district proposes new or adjusted price zones, the district must check to see that price zone boundaries for each market are drawn so that (brand name) stations that receive DTWs do not compete with each other...The question is, will a DTW differential across any zone boundary create significant competition between any two (brand name) stations in different zones? If yes, then the zone boundary must be adjusted to include the competing locations (or the differential reduced)." Document in Subcommittee files.

indicated they employed some form of zone pricing so they could respond to local competitive conditions.⁴⁰¹

Each company has its own zones. The number of outlets in a zone, the shape of a zone and the number of zones in a particular area vary from zone to zone and company to company. Zones can be very small; some contain only one retail outlet. According to the Connecticut Attorney General, in 1997 representatives of Mobil Oil testified that the company had 46 zones in Connecticut.⁴⁰² A Maryland task force report on zone pricing reported that in Maryland refiners appeared to have at least 10 but not more than 200 zones per company.⁴⁰³ One Maryland refiner indicated that it typically had 5 to 8 outlets in a zone.

Some companies employ independent firms to help establish the parameters used to define zones and identify the outlets that belong in the defined zones.⁴⁰⁴ Complex computer models and techniques are sometimes used to design zones. Factors such as location, geographic characteristics, traffic volume, population, strength of demand for a product and competition are considered.

⁴⁰¹ The companies contend that by pricing according to market areas or zones that group together outlets facing similar local conditions and/or competitive environments (that differ from conditions confronting outlets in another area) they can be more responsive to the particular conditions of each area and therefore more competitive. Critics of zone pricing maintain that the practice does not increase competitiveness, but rather it impairs the ability of some outlets to compete with other outlets and enables companies to confine the areas in which they establish competitive prices and to set higher prices in nearby areas that aren't as competitive.

⁴⁰² Statement of the Honorable Richard Blumenthal, Attorney General, State of Connecticut. Hearings on "Solutions to Competitive Problems in the Oil Industry." The Committee on the Judiciary, House of Representatives, Friday, April 7, 2000. Serial No. 127.

⁴⁰³ Document in Subcommittee files.

⁴⁰⁴ Document in Subcommittee files.

In a recent trade publication, an official from the most widely used industry consultant on the creation of pricing zones, MPSI, Systems, Inc. (MPSI), explained MPSI's approach to zone pricing:

Pricing has been looked at as an art in the petroleum industry; something you determine by gut feel reacting to what everybody else is doing," said Don Spears, MPSI managing director, pricing systems and consulting. "If you raise or lower prices, it's usually a couple of cents across the board for all grades of gasoline. However, with technology you can begin to look at pricing as a science and get greater returns for your efforts."

The concept is based on gasoline sales forecasting and price elasticity, which is the price range a specific customer will accept for his or her favored grade of gasoline before he or she looks elsewhere.

"The majority of people can figure out that if they are buying 12 gallons of gas, at one cent extra, the fill up will cost them an extra 12 cents," says Spears. "How convenient is it to find that 12-cent savings and how much gasoline will they burn trying to find it?"

In general, Spears said there are three types of customers: pricers, who will switch for a penny difference; switchers, who will do the same for two to three cents' difference; and loyalists who follow the same patterns and may not even look at price.

People exhibit specific pricing behaviors linked to the grade of gasoline. . . . MPSI has researched to find out the point at which customers start to react to a higher price for a specific grade of gasoline. Although it varies by site, in a typical elasticity curve a 1 percent change in price will result in a 6 percent loss in volume for regular, a 4.5 percent loss in volume for mid-grade, and a 3 percent loss for premium. Spears notes gasoline is not as elastic as people think, even for regular grade.⁴⁰⁵

⁴⁰⁵ Keith Reid, National Petroleum News, *Which Price is Right?* February 2000. In a 1997 presentation before the Society of Independent Gasoline Marketers of America (SIGMA), Spears explained that MPSI's "Price Optimization Model" calculates a variety of elasticity curves for different grades of gasoline at a particular filling station (the volume gain or loss that results from a change in price), and the cross elasticity of supply (how much a competitor will gain from that change in price). The Price Optimization Model then calculates the equilibrium range – "a range in price where consumers will buy the same volume." According to MPSI, a

In its promotional materials, MPSI states, “To maximize profits, you need to establish a large number of price zones. To maintain good dealer relationships, you need objective zones that can be successfully defended against legal challenges. Finally, you need to actively manage the pricing process for these zones.” MPSI states its models will allow price managers “to set DTW prices to each zone without adversely affecting dealers in neighboring zones. You will be able to charge more in areas that can support higher prices and separate the areas of heavy competition.”⁴⁰⁶

Similarly, companies may apply many of the factors and modeling techniques that are used to determine the size and shape of a zone to determine how to price the DTW in each particular zone.⁴⁰⁷ Studies have shown that the DTW price for the same brand and type of dealer’s goal should be to set prices in the upper end of the equilibrium range. Presentation by Don Spears, MPSI, *Improve Profits While Maintaining Sales Volumes!*, 1997 Sigma Annual Meeting.

⁴⁰⁶ Documents in Subcommittee files. MPSI’s Price Tracker, Equilon Documents.

MPSI claims that its model is flexible enough to allow for multiple price changes in one day, depending on the market conditions at those times. “The theory is simple. During the two daily rush hours, commuters will be less conscious of cost and more conscious of convenience. These customers can be charged more because they are less likely to shop around. In between the rush hours, the stay-at-home population is less rushed and more price-conscious. Prices should be lower to keep volume up. In overnight hours, when the station may be the only place open for miles, the price can be much higher.” *Which price is right?*, supra.

However, it is reported, this concept “is approached with extreme caution due to the potential emotional backlash among local consumers over the perception of ‘price-gouging.’ This is particularly the case with the after-hours increase. . . . In October, 1999, Coca-Cola announced it was considering deploying a vending machine that adjusted the price for soft drinks based on outside temperature – the hotter the day, the higher the price. This casual disclosure generated considerable media coverage, mostly negative.” *Id.*

⁴⁰⁷ Sometimes the result of the modeling is not a fixed number, but a formula based on a relationship to other zones. For example: “the price in zone 42 should be set at 3 cents above the price for zone 41.”

gasoline may vary by as much as 10 cents per gallon between zones. As previously stated in setting DTW prices, companies regularly track the prices charged by competitors. Some companies contract with firms to survey competing prices up to 2 or 3 times per week. Other refiners use their own employees to survey the competition on a daily basis.

Companies regard information about the configuration of their zones, the criteria used to establish zones, the criteria used to establish prices in the different zones and the price differentials between zones as proprietary. They do not inform their dealers of zone configurations or the factors used to define zones or set zone prices. Zone assignment and pricing can have a significant affect on consumers and on the competitiveness and income of retail outlets, particularly outlets that are located near other outlets of the same brand but are in a different zone and are charged a different DTW price. For example, a retailer in one zone may be charged a higher DTW price than a nearby retailer who is in a different zone, even though both are purchasing the same type and brand of gasoline. The retailer who pays the higher DTW will likely have to charge customers a higher price to maintain the same margin as the competitor who pays a lower DTW. The retailer charging the higher price may lose customers to the nearby retailer charging a lower price. Interviews with refiners and representatives of companies that assist in establishing zones indicate that the zone modeling process takes into account the strength of demand for a particular brand, the impact of price differentials on sales volume, and the level of competition in the particular zone.

The Majority Staff interviewed several retailers in the Washington, D.C., area who felt they were not able to compete with other stations due to their zone positioning. Several dealers spoke of their frustration that in the zone system, a dealer must pay the DTW set for him/her

according to zone pricing, with the result that a dealer in the same area – maybe just across the street – selling the same brand of gasoline has a lower DTW price, because that dealer is in a different zone. Dealers felt they could not be as competitive as they want to be, because of the limitations on DTW prices according to zones.⁴⁰⁸ One dealer stated, “In a perfect world, there would be no zoning” and an entire state would have one price of gasoline.⁴⁰⁹

4. How retail prices are changed.

There are a number of different explanations of how retail prices change. At the most basic, qualitative level, however, the descriptions of how prices change are very similar. Because retail prices reflect interactions in at least three different markets – crude oil, wholesale gasoline, and retail gasoline – it is not surprising that retail prices change almost daily and, in times of high volatility, may change several times per day. Because prices at all levels within the market are based on the market conditions at that instant, rather than costs for production or delivery, price changes can occur very quickly, as both retailers and their suppliers, including refiners, continually monitor market conditions at all levels of the market and have sophisticated data transmission systems to pass along price changes electronically.

Changes in the price of crude oil, for example, are not always transmitted directly to the pump, but pass through the intermediate pricing stages of the gasoline spot market and the branded and unbranded rack or DTW before they are reflected in the pump price. In some cases there is a slight “lag” in each step of the process as these price changes are transmitted up the pricing chain: first, wholesale gasoline spot prices change, then rack prices change, and then

⁴⁰⁸ Document in Subcommittee files.

⁴⁰⁹ Document in Subcommittee files.

retail prices change.⁴¹⁰ According to this view, as wholesalers and retailers are reluctant to increase prices too quickly, lest they lose market share, or too slowly, lest they run out of product, market participants will not respond immediately to price changes; rather they will change prices slowly, in step with each other. In this view, it may take several days before changes in the price of crude oil are fully felt at the pump. As a result of the time lag between rack price changes and retail price changes, retail-wholesale margins are compressed as wholesale prices rise. (See Figure V.6. on page 333.)

However, the converse is true as crude prices decline. As crude prices fall and margins expand, marketers and retailers will be reluctant to lower their prices and lose the opportunity to at least recapture the revenue lost as prices were rising. Retail-wholesale margins will then expand as wholesale prices decline.⁴¹¹

Another explanation notes that price changes are not necessarily passed through the distribution chain on a penny-for-penny basis: as one moves up the distribution chain these changes in price are “flattened out.” (See Figures V.7 and V.8 on pages 334 and 335.) Thus, it is not necessarily a time lag that leads to the compression and expansion of margins, but rather the fact that as one moves up the distribution chain the price cycles are less pronounced. The

⁴¹⁰ See, e.g. John Cook, *Energy Information Administration, Factors Impacting Gasoline Prices and Areas for Further Study*, FTC Public Conference, August 2, 2001 (“retail price changes lag spot prices”).

⁴¹¹ It is unclear whether the retail – wholesale price lag that occurs when prices rise is symmetrical with the lag that occurs as prices decrease – i.e. whether gasoline prices “go up like a rocket and down like a feather.” See e.g., Energy Information Administration, *Price Changes in the Gasoline Market, Are Midwestern Gasoline Prices Downward Sticky?*, February 1999; Borenstein, Cameron, and Gilbert, *Do Gasoline Prices Respond Asymmetrically to Crude Oil Price Changes?*, Quarterly Journal of Economics, February 1997.

resulting “stratification” of price cycles thus produces the same result as does the time-lag explanation.⁴¹²

In other cases, price changes along the pricing chain for gasoline can be instantaneous. One industry executive interviewed by the Majority Staff stated that the spot and futures markets for gasoline are “immediately” affected by any changes in crude oil markets. These changes are immediately reflected in rack price changes and in retail price changes at company-owned stores, as well as in DTW prices.

Of course, not all price changes are precipitated by changes in the price of crude oil. A pipeline disruption or a refinery outage will alter the perception or reality of the supply/demand balance and therefore affect prices. The mechanism by which these events alter the retail price is no different from the mechanism by which crude oil price changes alter the retail price, but it starts further downstream. Thus, a significant refinery outage or other supply disruption will immediately affect the spot price of gasoline in the affected area. The changes in the spot price will then affect rack and DTW prices in the same manner as previously discussed.

5. Midwestern retail gas prices changed quickly and often in 2001.

The day-to-day changes in retail prices in Michigan, Ohio, and Illinois during 2001 can be seen in Figures A2.44-A2.55 (pages 383 - 394).⁴¹³ These charts show the day-to-day changes in retail price by brand for selected weeks in each of the three Midwest states. Michigan’s, Ohio’s, and to some degree Illinois’, weekly price increases were led by Speedway, but other brands increased significantly as well. Speedway’s big price increases usually occurred in one

⁴¹² These hypotheses are not mutually exclusive; elements of both explanations may be accurate.

⁴¹³ The figures referred to in this chapter can be found in Appendix 2.

day (sometimes two), while the other brands' increases took at least two days. For example, as seen in Figure A2.44 (page 383), in Michigan, Speedway's average retail price increased by over 16 cents per gallon between March 27th and 28th. During the two-day period of March 27th and 29th, Shell and Marathon's average prices increased by about 12 cents and BP's and Mobil's average retail prices increased over 9 cents. These rapid price jumps usually occurred on Wednesday or Thursday, followed by a slower decline in prices. This pattern was typical for these brands in the Midwest in 2001.

The declines in retail prices, even for these small price peaks, were more gradual than the preceding increases, taking 4-5 days as the overall price trend continued its steady climb upward, or up to two weeks when prices were relatively stable. For example, in Ohio, Speedway's average retail price increased about 7.5 cents per gallon between April 18th and 19th, with a small increase the following day of 2 cents. Afterwards, prices fell for 8 consecutive days. All of the competing brands – BP, Marathon, Shell and Sunoco – had price increases over the same two days, followed by 7 or 8 days where the price either declined or remained the same. By May 2nd, all of the retail prices were about to peak again.

Officials at one oil company told us that Speedway/Marathon believes that the rack-to-retail margins in the Midwest (where most of their operations are concentrated) are too low. According to this official, in an effort to increase these margins, Speedway/Marathon tries to lead the competing brands up in price by increasing its prices in the hope that the competition will follow their lead. This official also stated that the market did not support most of these substantial price increases, because the prices fell shortly after they were increased.