

**Prepared Statement of**

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Gasoline Competition, Marketing, and Pricing**

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Thank you for the opportunity to address this Select Committee on Gasoline Competition, Marketing, and Pricing. My name is Richard Gilbert. I am Professor and Chair of the Department of Economics at the University of California at Berkeley. From 1983 to 1993 I was the Director of the University of California Energy Institute. From 1993 to 1995 I was Deputy Assistant Attorney General for Antitrust Economics in the U.S. Department of Justice, the highest-ranking economics position in the Antitrust Division. In that capacity I was responsible for economic analysis relating to mergers and investigations of anticompetitive behavior in many sectors of the economy. I also directed programs at the Antitrust Division to promote competition and I helped to formulate antitrust guidelines for industry practitioners. My current research interests include competition in the petroleum industry.

- *Competition functions in the California gasoline market, but there is not enough of it.*

This committee poses the question, “Does California Have a Functioning Competitive Market for Motor Fuels?” Interpretations of a functioning competitive market can range from perfect competition to any market in which prices equate supply and demand. In a perfectly competitive market, the price of each good and service is equal to its marginal cost of production, is the same for all consumers, and balances supply and demand. Perfect competition is a theoretical benchmark that is rarely achieved in actual market situations. A more realistic goal is workable competition. Markets are workably competitive when supply and demand are in balance, prices provide firms with adequate investment incentives to supply products and services that meet consumer needs, and entry barriers are low enough to prevent firms from earning exorbitant profits.

When do markets fail to be workably competitive? In the year 2000, the average monthly wholesale price of electricity in the deregulated California power exchange increased by a factor of about ten, and many consumers were forced to curtail their electricity usage. California generators made extraordinary profits and utilities that were net purchasers of electricity fell into bankruptcy. The California wholesale electricity market was not workably competitive in 2000, although debate continues today in both classrooms and courtrooms as to whether the surge in wholesale electricity prices was a failure of competition or a flawed design of the rules of the game for the newly deregulated market.

Fortunately, the California gasoline market has not reached the depths attained by the deregulated California electricity market in 2000. Supply equals demand for gasoline in California. There are no dreaded rationing lines at service stations. Although prices have increased dramatically and exceed levels elsewhere in the nation, we have yet to see price increases that approach the electricity experience in 2000. Refiners are earning record profits, but we don’t have petroleum companies clamoring to build new refineries in California so they can share the extraordinary spoils from selling gasoline in our State.

A conclusion that the California gasoline market is workably competitive should not provide a great deal of comfort to policy-makers. In 1999, it would not have been unreasonable to conclude that the de-regulated California electricity market was

workably competitive, despite the storms that loomed on the horizon. Furthermore, even if the California gasoline market is workably competitive, it is not as competitive as it should be.

- *Refiner margins are higher in California than in most of the rest of the nation.*

The price of a gallon of gasoline pays for the cost of crude oil and other inputs, reimburses taxes, and provides a margin of profit for refiners and marketers. There is little that the State of California can do about the world price of crude oil, which currently accounts for about 85 cents of the cost of a gallon of gasoline. It is not a failure of competition for gasoline prices to respond to higher crude costs.

California too often enjoys the dubious distinction of having the highest gasoline prices in the nation. Taxes are responsible in part for these higher prices, but only a small part. Figure 1 compares the components of the price of a gallon of regular gasoline in California to the nationwide average for March 2004. The main culprit is the high California refiner margin, typically measured by the difference between the wholesale spot or rack price of gasoline and the refiner's average cost of crude oil. The California Energy Commission reported that in March 2004 the refiner margin in California averaged about 60 cents per gallon. The U.S. Energy Information Administration estimated that nationwide the average refiner margin was about 33 cents per gallon. The difference, 27 cents per gallon, may understate the comparison of refiner profits because the U.S. average includes California prices. The difference may overstate the comparison of refiner profits to the extent that California gasoline is more expensive to produce. The incremental cost of producing gasoline that meets the CARB standards depends on many factors. Typical estimates are in the range of 5-10 cents per gallon, and perhaps less if the comparison is to non-CARB reformulated gasoline blends. Taking these factors into account, if the refiner margin were equal to the national average in March 2004, a gallon of gasoline in California would have cost about 20 cents less and California consumers would have saved about \$250 million in that month alone.

What can we do about these high refiner margins in California? There is no shortage of recommendations. Many of these proposals are unlikely to lower prices for California consumers and may result in higher prices. I will list some of the more popular proposals and briefly describe why I conclude that they are unlikely to benefit consumers. I will end my testimony with a proposal that I present jointly with my colleague Professor Justine Hastings, which has the potential to lower gasoline prices significantly in California.

- *Direct regulation is not a solution for high California gasoline prices.*

I do not support proposals to regulate directly the prices or margins of fuels sold in California. Economists have shown that regulation rarely delivers low prices. This is not to say that regulation has no role whatsoever in the U.S. economy. The experience with California electricity deregulation is a painful demonstration that completely unregulated markets can be hazardous to consumers. We should remember, however, that the impetus

for electricity deregulation in California was the poor performance of the previously regulated electricity market.

Regulation is like seasoning. It works best when it is applied with care and in small doses. Few markets can achieve workable competition without some regulatory restraints. We learned that lesson in the savings and loan debacle in the 1980s, when deregulation led to abusive lending practices and tremendous losses. It is rarely the case that either total deregulation or command-and-control price regulation is the best design for markets in the U.S. economy. Instead, the objective is to determine when and where a small amount of regulatory seasoning improves the market stew.

- *Antitrust enforcers are alert to unlawful practices in the petroleum industry. However, antitrust is not a solution for high California gasoline prices.*

The U.S. Federal Trade Commission is the lead federal agency in antitrust investigations involving the petroleum industry, and many industry watchdogs have called upon the FTC to stop the inflation of California gasoline prices. Antitrust is a blunt instrument to deal with high prices. Antitrust policy focuses on firm conduct, not on prices. The antitrust laws condemn certain behavior, such as conspiring with competitors or excluding competition. It is not an antitrust violation to set high prices, provided this does not involve conspiring with competitors or agreements that limit the ability of other firms to compete.

The four largest petroleum refiners in California control about two-thirds of the State's total refining capacity. This is a high but not an extraordinarily level of concentration for U.S. industry. For example, in 1997 the share of revenues accounted for by the four largest companies was 83% for breakfast cereals, 88% for breweries, 72% for tires, 81% for household refrigerators and freezers, and 82% for motor vehicles.<sup>1</sup> The comparison should not end with market shares because other factors magnify the ability of large California refiners to affect prices. Consumer price sensitivity to gasoline prices is low, at least in the short run. Barriers to entry are high for new refineries and for gasoline imports, and capacity constraints limit the ability of refiners in California to increase output in response to supply disruptions or increases in demand. Low consumer price sensitivity and barriers to new supply mean that even relatively small reductions in output by a California refiner can result in dramatic price increases. Estimates of the magnitude of the short-run elasticity of demand for gasoline are in the vicinity of about 0.2. The implication is that unless there are compensating increases in supply, a five percent reduction in total gasoline output can result in about a twenty-five percent increase in price in the short term.

Supply decisions and unplanned outages at California refineries can elevate prices because the elasticity of demand for gasoline is low, a few individual refiners account for a large fraction of total output, and there is little ability for supply to adjust to higher prices. California is isolated from the rest of the nation as a consequence of its

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<sup>1</sup> 1997 Economic Census, Concentration Ratios in Manufacturing, U.S. Department of Commerce, U.S. Census Bureau.

geography and the CARB specifications that gasoline must meet to be sold in California. Another factor that distinguishes California from most of the rest of the nation is that the California gasoline market has very few stations that are not affiliated with a refiner, either through ownership or contract. This makes it more difficult for new suppliers to find markets for their gasoline and for retailers to shop for cheaper supplies.

These factors make the California gasoline market very sensitive to the actions of suppliers, but they do not imply that high prices in California are the consequence of conduct that violates the antitrust laws. Large refiners in California have considerable power to elevate prices without having to conspire with a competitor or exclude other competitors. Shell's decision to retire its Bakersfield refinery is a case in point. The closure of the Bakersfield refinery could raise prices in California if the crude oil that supplied this refinery is not refined elsewhere and turned into gasoline for California consumers. However, antitrust policy rarely intervenes to constrain decisions by firms to retire a plant or remove a product from the market, even when those firms have market power.

- *Lawmakers should be skeptical of proposals to regulate the California gasoline market. Laws that guarantee retail margins harm consumers.*

Several states and municipalities have considered legislation to impose minimum mark-ups for gasoline retailers. It is obvious that a legislated floor below which margins cannot fall will only increase gasoline prices in the short run. The proponents of these minimum mark-up laws counter that they will lower prices in the long run. They claim that integrated refiner-dealers have squeezed retailer margins in an effort to eliminate other dealers with the intention of subsequently increasing retail prices.

Neither economic theory nor empirical evidence supports a conclusion that consumers benefit from minimum mark-up laws for gasoline retailers. As in other industries, the petroleum industry employs a mix of organizational arrangements to deliver its products to consumers. These include retail stations that are owned and operated by the refiner (vertically integrated refiner-dealers), stations that are leased from the refiner, stations that are independently owned and sell the refiner's brand of gasoline<sup>2</sup>, and stations that are independently owned and sell the refiner's gasoline without a distinctive brand. All of these retail outlets provide a means for the refiner to profit by delivering its gasoline to consumers. The profit-maximizing mix of station types may change over time and may differ across regions, however all types potentially benefit the refiner.

One has to question why a refiner would incur losses to replace one means of distributing its product by another. At the same time, it is facially obvious that an independent dealer would like a guaranteed profit margin for its sales, even at the expense of consumers.

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<sup>2</sup> These stations are sometimes called branded open dealers. The owners of these stations have a contract to supply a particular brand of gasoline, but they can choose a different supplier of the same brand or a different brand, or they can choose to sell unbranded gasoline.

Profit margins for independent retailers that purchase gasoline at spot or rack rates are highly variable. These margins are sometimes negative, forcing a dealer to sell below cost or to curtail sales. At other times, these margins can be much larger than the margins earned by dealers with long-term supply contracts.<sup>3</sup> These variable margins are a risk of doing business on a spot basis and are not a cause for price regulation.

The composition of service stations has changed over time in California, with an increasing share of company owned and operated stations and a decreasing share of independent, unbranded stations. These changes are the result of many factors. Company ownership and operation can be an efficient way to develop brand value by investing in station amenities and to market gasoline by limiting margins at the retail level. These actions potentially benefit California consumers.

Laws that guarantee profit margins for retailers reduce competition at the retail level and impose avoidable costs on consumers. These laws are also unnecessary, because the antitrust laws are available to constrain below cost pricing that harms consumers.

- *Laws that require uniform wholesale prices will harm some consumers and are not likely to lower average prices.*

Another proposal is to eliminate zone pricing. Zone pricing allows refiners to set wholesale prices that respond to competitive conditions at different locations. If zone pricing were eliminated, refiners would have to offer a uniform price. It is not realistic to assume that the single price would be the lowest price that exists with zone pricing. It is likely that some consumers would be better off without zone pricing and some would be worse off. A practical problem is how to implement a rule that eliminates zone pricing. Would wholesale prices have to be the same for every street, for every community, for every city, or across cities? This would be a complicated re-districting problem.

A branded open supply requirement is an alternative to zone pricing. Open supply would allow branded dealers to shop for the best price, which would tend to eliminate differences in dealer wholesale costs. Open supply may be easier to implement than zone pricing. However, open supply does not guarantee lower prices and may even cause refiners to increase their rack prices.

- *Proposals that require refiners to divest stations they own and operate are unlikely to benefit consumers.*

Several states have enacted legislation intended to reduce the degree of vertical integration in the petroleum industry, and many other states and municipalities have considered such legislation. These go under the general heading of divorce laws. Most divorce legislation is intended to limit the ability of refiners to own and operate retail stations. These laws do not limit the ability of branded refiners to contract

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<sup>3</sup> See, e.g., Severin Borenstein and Richard Gilbert, "Uncle Sam at the Gas Pump: The Causes and Consequences of Gasoline Distribution Regulations," *Regulation*, vol. 16, no. 2, (1993), pp. 63-75.

with a lessee dealer or an open dealer to sell their brand of gasoline; indeed, most of the political pressure for these laws appears to come from non-integrated dealers. There is little economic theory to suggest that substituting leased or independently owned and operated branded stations for company owned and operated stations will lower prices.

The available empirical evidence also does not support a conclusion that retail divorce legislation benefits consumers. Professor Justine Hastings has done extensive empirical research on the pricing behavior of retail stations. She finds little difference in pricing behavior among company owned and operated stations and other stations that sell the same brand of gasoline.<sup>4</sup> Comparisons of prices before and after the implementation of divorce laws and between states with and without such laws also do not support a conclusion that these laws benefit consumers.<sup>5</sup>

- *Independent, unbranded retailers are a source of vigorous competition, but are almost extinct in California.*

Recent research demonstrates that independent unbranded stations provide a competitive force in retail gasoline markets that is not matched by branded stations.<sup>6</sup> A high degree of vertical integration, in the form of control of refineries and retail outlets by the same entities or contractual integration between refineries and retailers, appears to be associated with higher gasoline prices, particularly in markets such as California where the ownership of refineries is concentrated. Independent unbranded stations are a source of competitive vigor in gasoline markets.

Most divorce proposals focus on company owned and operated stations and do not recognize the competitive role of independent, unbranded marketers. They may require a refiner to divest a retail station to an independent marketer, but that marketer still could sell the refiner's brand of gasoline. An independent unbranded marketer sells product that is not identified with a refiner's brand. A Chevron station could be owned and operated by Chevron or it could be operated by a different entity that either owns the station or leases it from Chevron. An unbranded dealer may purchase unbranded or branded gasoline for resale, but does not market the gasoline under a refiner's brand.

Independent, unbranded gasoline marketers promote competition for several reasons. Independent marketers can shop for the cheapest gas that is available at any point in time.

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<sup>4</sup> Justine S. Hastings, "Vertical Relationships and Competition in Retail Gasoline Markets: Empirical Evidence from Contract Changes in Southern California," *American Economic Review*, vol. 94, no. 1, (March 2004), pp. 317-328.

<sup>5</sup> Michael Vita reported that as of 2000, forty-one state legislatures and the cities of San Diego and San Francisco had considered divorce legislation since 1974. He found that, on average, retail prices in states with these laws were about 3 cents per gallon higher than prices in states without these laws. See Michael G. Vita, "Regulatory Restrictions on Vertical Integration and Control: The Competitive Impact of Gasoline Divorce Policies," *Journal of Regulatory Economics*, vol. 18, no. 3, (2000), pp. 217-233.

<sup>6</sup> See Hastings, note 4, and Richard Gilbert and Justine Hastings, "Market Power, Vertical Integration, and the Wholesale Price of Gasoline," University of California Energy Institute Working Paper No. 84 (2001).

That can be unbranded gasoline or even branded gasoline that is sold at a distribution rack or by an independent jobber. Shopping by independent unbranded marketers injects competition in the wholesale market because suppliers can compete head-to-head for sales at independent unbranded stations. This type of competition does not exist for suppliers that sell only through affiliated retailers. If Chevron cuts its wholesale price, it cannot cause Shell stations to purchase Chevron gasoline unless they switch their brand. This is expensive to do and may not even be feasible for dealers that have contractual commitments to sell the Shell brand. When retailers are all branded and do not switch brands, the only way that Chevron can sell more gasoline is to lower the retail price at stations that it owns or to induce Chevron stations that it does not own to lower their prices. Branding reduces the ability of retailers to shop for lower-priced supplies. In this way, branding reduces competition at the wholesale level, and wholesale prices influence the retail prices that consumers pay.

In addition, branding narrows the demand that is available for suppliers who would like to compete in the California gasoline market. Suppose a refiner in the Caribbean fills a tanker with gasoline that meets the California environmental quality standards. The refiner can sell to an existing refiner in California, to a branded retailer who is not contractually obligated to purchase gasoline from its affiliated refiner, or to an unbranded retailer. California has very few unbranded retailers and few branded retailers that are not contractually supplied by their refiners. If our Caribbean refiner wants to sell a lot of gasoline in California, it has to sell the gas to an existing California refiner or to stations that are controlled by a California refiner.

The available market for entry of new suppliers in California is very limited. This is a consequence of both corporate vertical integration, in which the refiner owns and operates the retailer, and contractual vertical integration, in which the refiner contracts to supply a retailer under its brand. Both forms of vertical integration limit the retail outlets that are available to a new supplier in California. My colleague, Professor Justine Hastings, estimates that almost ninety percent of retail stations in San Diego and Los Angeles are either owned and operated by a refiner or affiliated with a refiner's brand. These corporate and contractual ties between refiners and marketers raise barriers to entry for new competitors. A new gasoline supplier in California needs markets to sell its gasoline, which can be difficult to find if nearly all retail stations in California are affiliated with an existing brand. Operators of branded stations are rarely interested in switching brands or selling unbranded gasoline. This leaves a new supplier with the task of negotiating with existing California suppliers, who have little interest in driving down prices.

A key to lower gasoline prices in California is to unlock the ties that currently exist between California refiners and retail stations. These ties lower incentives for retailers to shop for cheaper gas and in this way make it less profitable for refiners to lower prices. These ties also make entry difficult for new wholesale suppliers and narrow the supply available to independent, unbranded marketers.

Along with my colleague, Justine Hastings, I propose a policy that we call **Unbundled Supply**. Unbundled Supply would break the tie that currently exists between refiners and marketers in California without requiring changes in the ownership of retail outlets. Unbundled Supply affects only the way that gasoline is priced in California; it does not affect the organization of gasoline supply. By breaking the financial tie between gasoline refiners and retailers, Unbundled Supply will improve access for sellers and buyers of wholesale gasoline and promote competition in California.

- *Unbundled Supply separates the sale of gasoline from the marketing of gasoline brands.*

The logistics of Unbundled Supply are not fundamentally different from the way gasoline is currently supplied. Gasoline produced at California refineries is a generic product. All gasoline sold in California has to meet the same environmental specifications. Gasoline refiners often exchange gasoline and store gasoline at terminals in commingled facilities. Gasoline is fungible when it emerges from the refinery. The gasoline that is produced at a Chevron refinery is not substantially different from the gasoline produced at a Shell refinery.

Branded gasoline becomes a distinctive product when brand-specific additives are introduced, such as Chevron's Techron. These additives are blended with gasoline streams at the distribution terminal before the gasoline is loaded into tanker trucks for delivery to stations. In the current supply system, generic gasoline and the additives that identify the brand of gasoline are essentially separate products. Our proposal requires that California suppliers market generic gasoline and their additives as truly separate products. They would not sell branded gasoline. Instead, they would sell generic gasoline and brand-specific additives to retailers who want to market their brands.

- *Unbundled Supply does not change the ability of refiners to brand their products.*

Our proposal does not eliminate the sale of branded gasoline and does not prevent refiners from charging for their brands. To the extent that Chevron or Shell has a reputation for supplying better gasoline, we endorse their right to benefit from that reputation. Nothing in our proposal should be interpreted as denying consumers the opportunity to pay more for a brand that they prefer.

Refiners might respond that our proposal allows retailers to sell, e.g., Shell gasoline that was not produced by Shell. In fact, the gasoline that is sold at a Shell station could have been produced at a refinery that is not owned or controlled by Shell. In many cases it was stored at a distribution terminal in the same tank with gasoline produced by other companies. It is the company-specific additives that distinguish the gasoline brand. Under our proposal, refiners would charge separately for the additives that identify their brand. All California refiners would be required to sell only unbranded gasoline at the wholesale terminal. If a retailer is a Chevron dealer, it would purchase the Chevron additive. The retailer could purchase the gasoline commodity from any refiner.

- *Unbundled Supply promotes competition by allowing anyone to buy or sell gasoline in California.*

Unbundled supply allows all California retailers to shop for commodity gasoline. This creates wholesale competition because with Unbundled Supply, Chevron dealers can buy wholesale gasoline from Shell and vice-versa. A Shell retailer only has to buy the additives from Shell. It does not have to buy wholesale gasoline from Shell. A Chevron retailer is no longer locked into purchasing only Chevron gasoline. By eliminating this lock-in between the refiner and the retailer, Unbundled Supply allows retailers to shop for the gasoline that is available at the lowest price and refiners have an incentive to lower prices to increase their sales. Unbundled supply expands the market that is available to each refiner and makes wholesale demand more sensitive to price.

Unbundled Supply has another benefit. It opens the market to new competitors. Under our proposal, a supplier of gasoline that meets California environmental standards can sell that gasoline to any retailer. It can sell to a Chevron retailer, who would identify the gasoline as Chevron by purchasing the Chevron additive. Our proposal lowers the artificial barriers to new competition that are created by the current distribution system, which allows branded retailers to purchase only gasoline supplied by the refiner of their brand.

We are well aware of the dictum “do no harm” and our proposal provides that insurance. If all branded retailers merely purchase the additives for the brand they currently sell and do not otherwise change their behavior, the status quo of the market would be unchanged. Prices, the number of retailers, their brands, and their sales would be the same as in the current market organization. But our proposal has the potential to do much better. Under our proposal, all retailers can shop for gasoline, unbranded retailers have a guaranteed supply, and new wholesale suppliers have guaranteed outlets for their gasoline. Unbundled Supply will promote competition and lead to lower prices by unlocking the tightly integrated California gasoline market.

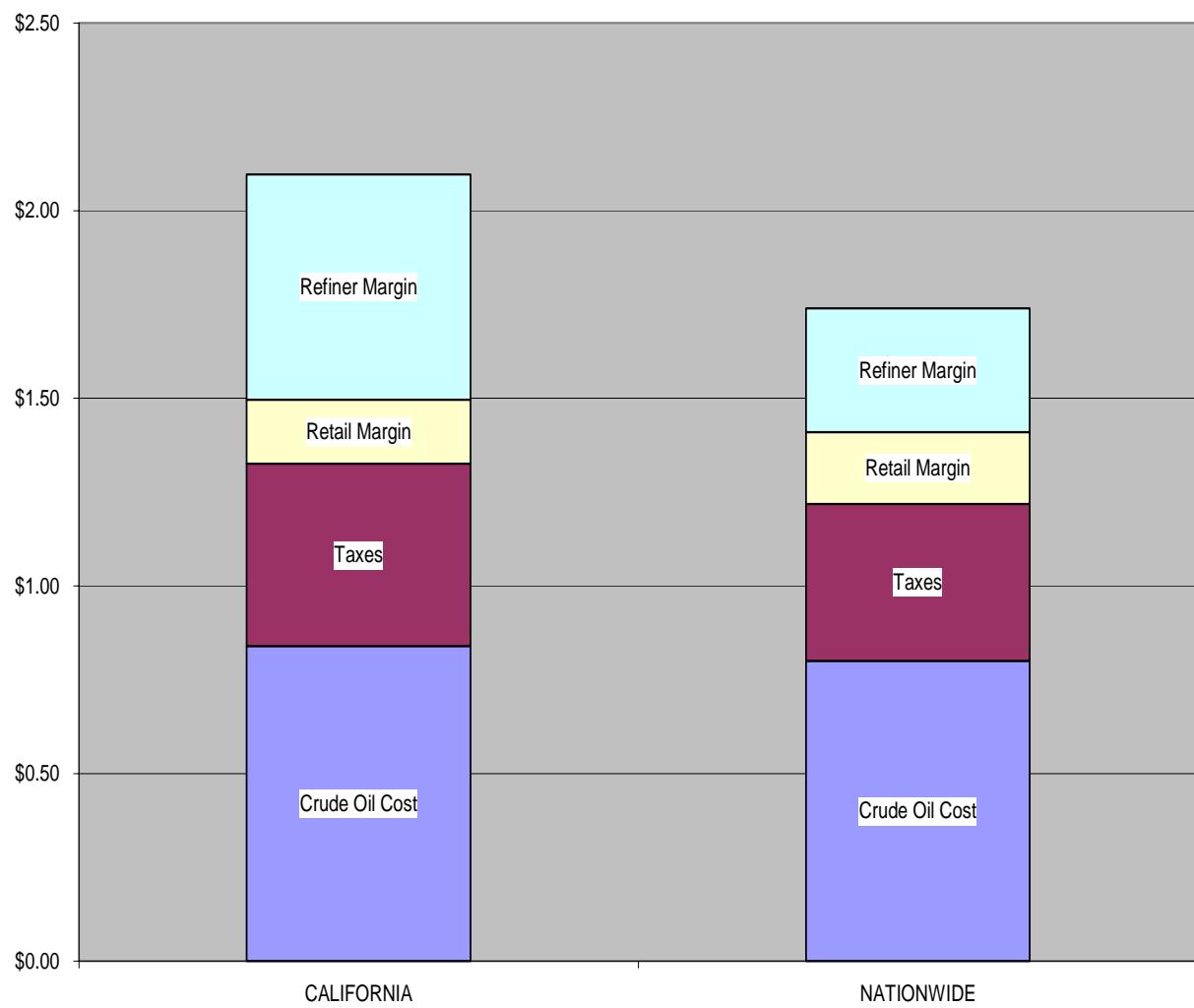


Figure 1. Components of the price of a gallon of gasoline in March 2004. California is regular CARB gasoline and nationwide is the average of regular unleaded gasoline.