Up Like a Rocket, Down Like a Feather: The State of California's Gasoline Market

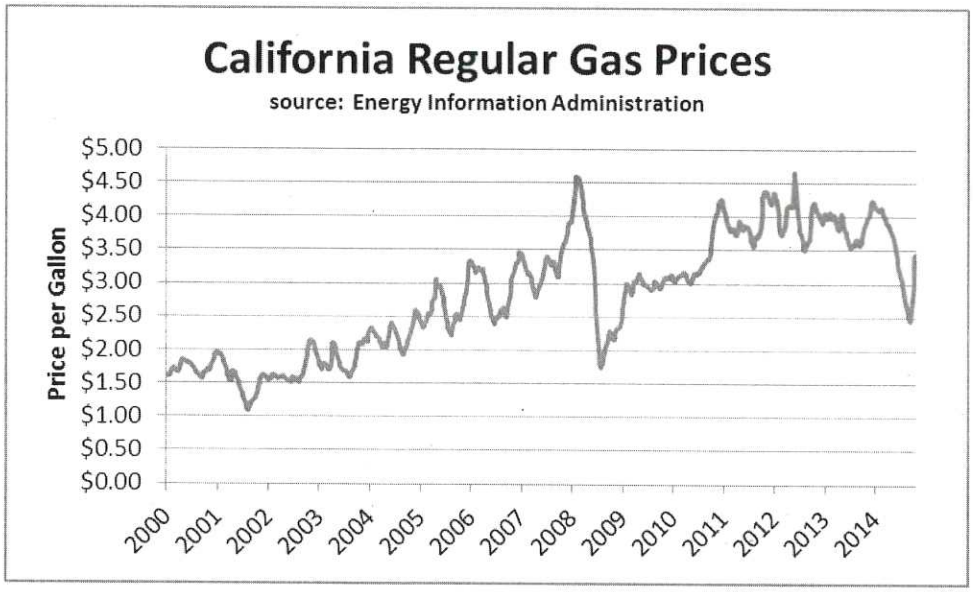
An Oversight Hearing of the
Senate Transportation and Housing and
Energy, Utilities and Communications Committees

Tuesday, March 24, 2015
1:30 p.m. — John L. Burton Hearing Room (4203)

BACKGROUND PAPER

On February 18, 2015, an explosion shut down the Exxon Mobil refinery in Torrance, a plant that provides about 10% of California's gasoline supply. Gasoline prices reacted quickly, with reports of price increases of $0.25/gallon within a week. More broadly, several factors have combined at multiple California refineries to tighten supplies, including a labor dispute and planned maintenance outage, which drove prices up by more than $1.00/gallon by early March. The phenomenon that gasoline prices go up quickly like a rocket but come down slowly like a feather has proven true over the years, not just in California but across the country and in other nations. Price changes over the last month confirm at least the first half of the statement. Whether the second half holds true we'll soon see. But the larger question is whether a market that results in these outcomes is functioning well for the people and economy of California.

Californians are no strangers to gasoline price volatility and increasing gasoline prices generally. The chart below shows that since 2000, California gas prices have fluctuated substantially, with price swings of $0.50/gallon not uncommon.



Little Spare Refinery Capacity

California policymakers have responded to significant gasoline price increases several times since the mid-1990s. Most recently, in 2012, gasoline prices spiked twice: first after a refinery fire in southern California in February, and then after a fire in a northern California refinery and a refinery outage in southern California in the fall. In response to the near-record prices, the Governor authorized the use of a different, less environmentally friendly gasoline blend which increased supplies and helped bring prices down.

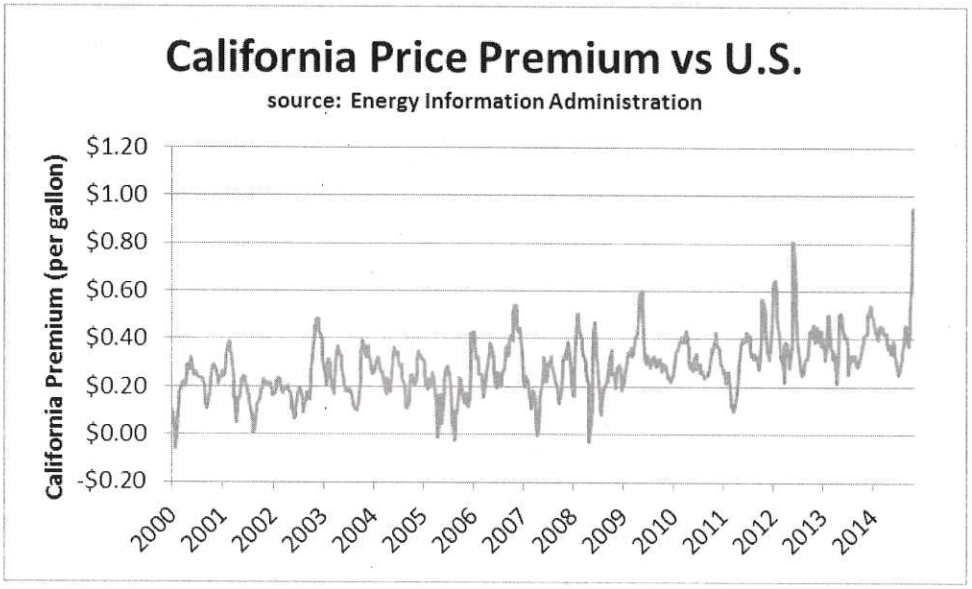
The most comprehensive investigation occurred in 1999-2000 when the Senate Transportation Committee and the Senate Energy, Utilities and Communications Committee considered the causes of then-record gasoline prices. That investigation led to urgency legislation funding a study by the Department of Justice to investigate "industry practices relevant to the production, distribution and pricing" of motor vehicles fuels (SB 1131, Burton, Statutes of 1999). In November 1999, the Attorney General convened a task force of industry, consumer, governmental, and academic representatives. That task force report[1] was focused on the gasoline industry structure and practices. It found that supply disruptions trigger large price increases because California refiners have little spare capacity, California refiners maintain relatively low inventory levels, and alternative sources of supply are insufficient as California has a unique formulation of clean-burning gasoline.

California Prices Much Higher Than Other States

California gas prices are generally higher than those of the rest of the nation. Some of the reasons for the higher prices are well documented: California has a particular fuel blend necessary for the state to meet its air-quality obligations; California taxes are higher;

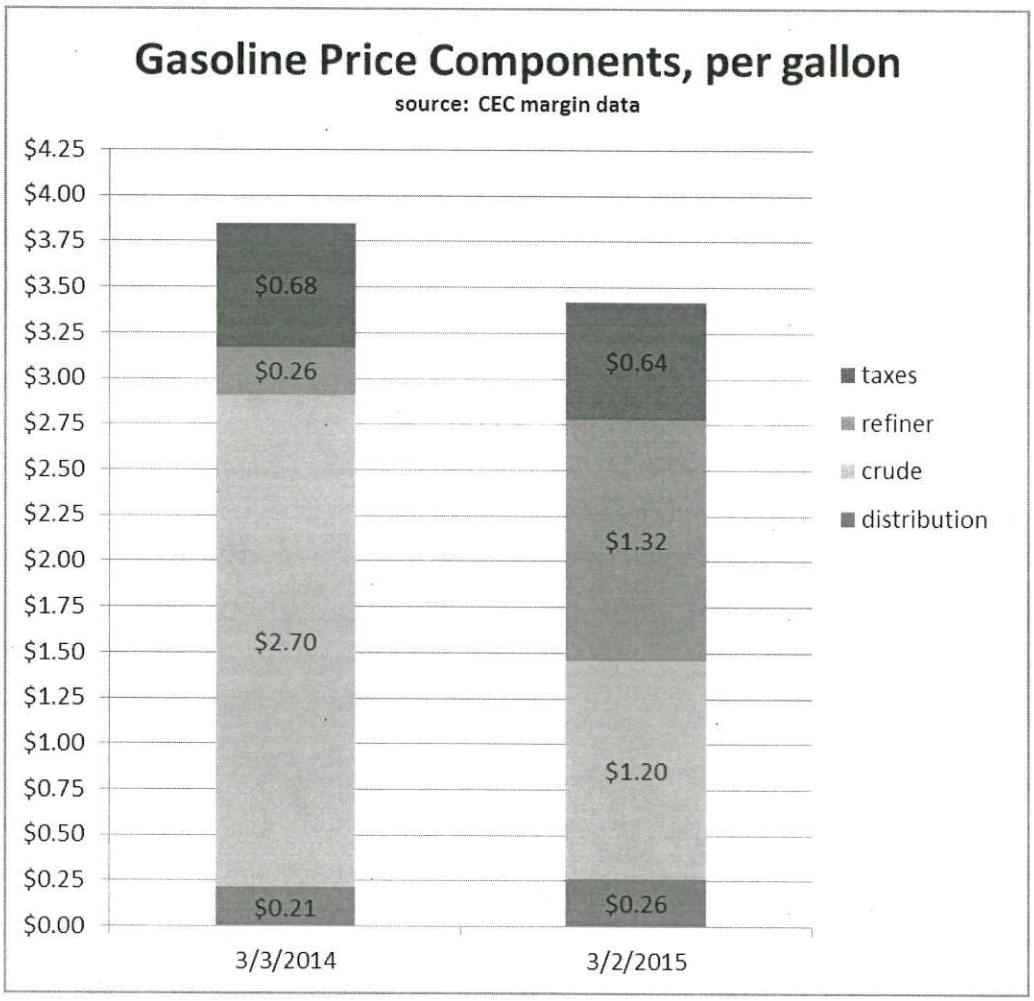
[1] Report on Gasoline Pricing in California, May 2000 by Attorney General Bill Lockyer. This report was updated in March 2004 when gas prices reached another record high.

transportation fuels have recently been included in California's cap-and-trade program to reduce greenhouse gases. But those factors don't explain recent events where California prices have risen much faster than the rest of the nation's. In mid-March, regular-grade California gasoline was selling for about $3.44/gallon compared with $2.49/gallon for the nation as a whole,[2] which is two to three times the normal premium.



So who has benefitted from the higher prices paid by California drivers? The premium that Californians have been paying over the past month has gone to the refiners. The California Energy Commission (CEC) estimates the composition of the cost of gasoline, breaking it down into the cost of crude, distribution costs and profits, refinery costs and profits, and taxes and fees. Their recent data shows the refinery margin (e.g., the revenue from the sale of a gallon of gasoline that goes towards refining) has increased by more than 400%, from $0.26/gallon in early March 2014 to $1.32/gallon one year later (see chart below). During that time the cost of crude oil in a gallon of gas has declined by $1.50, while the other major cost components did not change significantly. While the steep drop in crude oil prices had been a big benefit to California drivers, as a result of California's tight gasoline supplies, the biggest beneficiary of the steep fall in crude oil prices is now the refiners.

[2] Administration Gasoline and Diesel Fuel Update; March 9, 2015.



That the explosion and outage in Torrance have created a windfall to refiners is corroborated by others. An energy expert noted that California has a very tight gasoline market. "If you're not a refiner who had a problem with a refinery this month — if you're not Exxon Mobil — you have been rewarded with incredible profits this month. That's just the way the market works."[3] But the market does not have to work that way. Rules and practices can be established or changed which affect market outcomes. The question for policymakers is whether this market is serving the interests of Californians — and if not, what fixes make sense.

[3] Tom Kloza, global head of energy at the Oil Price Information Service, quoted by the Associated Press in an article in the New York Times, February 27, 2015.

What Can Be Done?

Solutions to California's high and highly volatile gasoline prices fall into three general categories: 1) enforcement of existing law to ensure that parties are not manipulating markets; 2) increasing the supplies of gasoline; and 3) reducing demand for gasoline.

Enforcement — As the chief law officer of the state, the Attorney General has the responsibility to enforce the state's laws. The most recent investigation by the Attorney General's office, in 2003, found no evidence of illegal market manipulation. In January 2015, 21 Senators wrote to the Attorney General requesting that the Department of Justice closely monitor gasoline prices and, if appropriate, open an investigation into gasoline market manipulation.

Increasing Supplies — The Attorney General's Task Force report of 2000 considered a number of proposals for increasing gasoline supplies:

1. Consider creating a Strategic Gasoline Reserve, which is a privately operated supply of gasoline that would be released in response to market conditions
2. Examine barriers to importing gasoline into California by pipeline
3. Increase in-state refining capacity
4. Allow gasoline which does not meet California's specifications to be imported subject to a surcharge

The Legislature directed the CEC to consider the first two recommendations. After much consideration and several reports, the CEC did not support either. Creating a Strategic Gasoline Reserve was seen as potentially creating a number of unintended consequences, such as displacing private inventories and reducing the total supply of gasoline.[4] Developing a gasoline pipeline between the Gulf Coast and California was seen as costly, about $1 billion, and inadequate for providing access to new supplies of California-specific gasoline.[5]

Some observers have suggested a variation on the Strategic Gasoline Reserve, which is to require refiners to maintain a higher minimum level of gasoline in storage. Theoretically, this would blunt supply disruptions, reducing volatility. While holding larger inventories of gasoline would increase carrying costs for refiners, which would be passed through to customers, it would level out the worst of the price spikes. There is precedent for this. Similarly, isolated markets such as Japan, South Korea, and the European Union require minimum levels of storage.

Allowing the importation of gasoline that does not meet California's clean-air specifications (non-CARB gas) subject to a surcharge was discussed in the Attorney General's Task Force report but was not a recommendation of the Attorney General. Under this proposal, gasoline suppliers could sell non-CARB gas if they paid a fee that would mitigate the increased pollution resulting from the use of that gas. Proponents of this proposal believe it would ensure California prices did not stray far from the prices in other states. If the fee were $0.15/gallon, then once California prices were more than $0.15/gallon higher (exclusive of taxes and transportation

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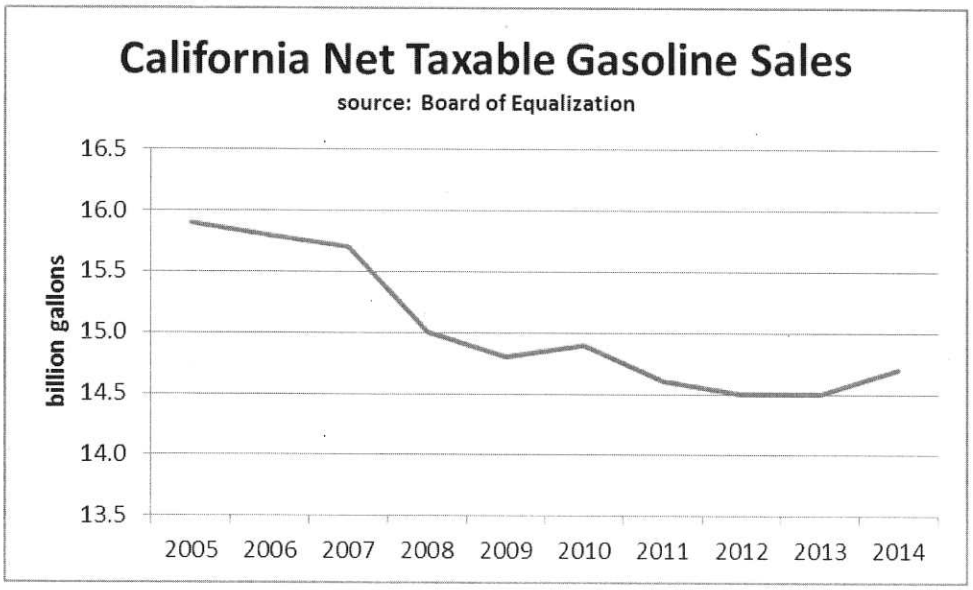
[4] *Feasibility of a Strategic Fuel Reserve in California*; California Energy Commission, July 2003 (P600-03-013CR).
[5] *Gulf Coast to California Pipeline Feasibility Study*; Consultant Report, California Energy Commission, March 2002 (P600-02-010DCR).

costs) than other states, the gasoline seller would import gasoline from elsewhere. The current situation where California prices are about $1.00/gallon more than other states would never occur. Opponents were concerned about the environmental impacts from the non-CARB gasoline; some also were skeptical of the premise that the requirement for California-specific gasoline was a major cause of the price spikes.

Reducing Demand — The third category of solutions, reducing demand for gasoline, has been embraced by California policymakers and is manifested in higher fuel economy standards and a variety of programs supporting electric, natural gas, and hydrogen-fueled vehicles.

California's policies have been effective in reducing the demand for gasoline: The amount of gasoline sold has declined by about 10% over the past 10 years, despite vehicle miles travelled holding relatively flat.



As the use of alternative-fueled cars grows — 1 million zero- and near-zero emission vehicles by 2023 as established in SB 1275 (De Leon, Statutes of 2014) — gasoline sales should continue to decline, and that decline could accelerate as the Governor's policy of reducing petroleum use by 50% by 2030 is implemented.

More can be done, and the policy foundations have been established, if not yet comprehensively integrated. While much has been done to support the technological advancement in automobiles, less attention and funding has been paid to other demand reduction strategies:

1. Making transit, bicycling, or walking easier by focusing new development near transit
2. Expanding transit lines
3. Taking advantage of the new technologies that the network transportation companies have pioneered to facilitate carpooling/car sharing
4. Reducing commutes by making it easier for people to work at home or closer to home

All of these actions can reduce our reliance on petroleum fuels by creating competitive alternatives and thereby reduce the exposure of California residents and businesses to fuel price shocks.

The Future

As California pursues its climate change objectives, the market for gasoline will shrink, creating some slack in gasoline markets which should provide a cushion against price shocks. But at some point, gasoline suppliers will respond to these changes in ways which support their business models and financial expectations. In most markets competitive forces can be expected to check these activities and ensure that prices are reasonable. But is that also true when the market is shrinking and barriers to new entrants are high? Understanding how this new gasoline market works will be a key to avoiding future price volatility and price increases.