Regulation and Competition in Rural Gasoline Markets:
A Northern California Case Study—
Executive Summary

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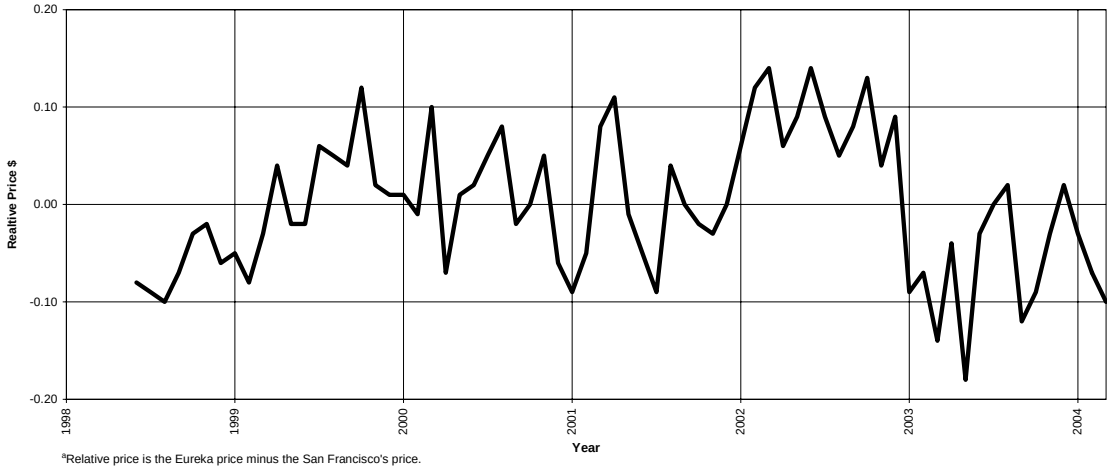
Executive Summary

This paper attempts to explain relative price movements in Eureka compared to San Francisco. It does not attempt to explain the high level of gasoline prices in Eureka, nor does it attempt to determine the degree of market power exercised by local gasoline retailers. We compare the timing of gasoline price changes to changes in other factors. Our data includes retail and rack gasoline price data. In summer 2004 we interviewed a representative from Costco, Inc., a large branded local gasoline retailer, a large local jobber (transporter), and a local representative from the Chevron terminal. We also had informal conversations with other industry experts.

From 1998 until 2001, gasoline in Eureka was no more expensive compared to San Francisco. In 2002, Eureka prices rose to about nine cents higher compared to San Francisco. Compared to the previous year, this was a ten cent increase in the relative price. In January 2003, relative prices fell rapidly and Eureka averaged about seven cents per gallon less than San Francisco. This difference is below the pre-2002 levels.

Figure 2 shows the relative monthly price of gasoline in Eureka compared to San Francisco.

Figure 2. Eureka Retail Gasoline Price Relative to San Francisco[a] (Source: CSAA)



[a]Relative price is the Eureka price minus the San Francisco's price.

Table 1 shows the average annual price of gasoline in Eureka and San Francisco.

TABLE 1

Average Annual Retail Gasoline Price and Retailer Markup, dollars, 1998-2004[a]

	Retail Price	
Year	Eureka	San Francisco
1998	1.27	1.33
1999	1.55	1.54
2000	1.91	1.89
2001	1.92	1.93
2002	1.79	1.70
2003	1.93	2.00
2004	1.98	2.05

	Retail Markup[b]	
	Eureka	San Francisco
2001	0.86	0.92
2002	0.75	0.73
2003	0.70	0.85
2004	0.65	0.81

[a]Data for 1998 for June through December and for 2004 January through March.

[b]Retail markup is retail price minus rack price. This is not a measure of retailer, profit, since it does not subtract retailer costs such as rent, wages, and taxes.

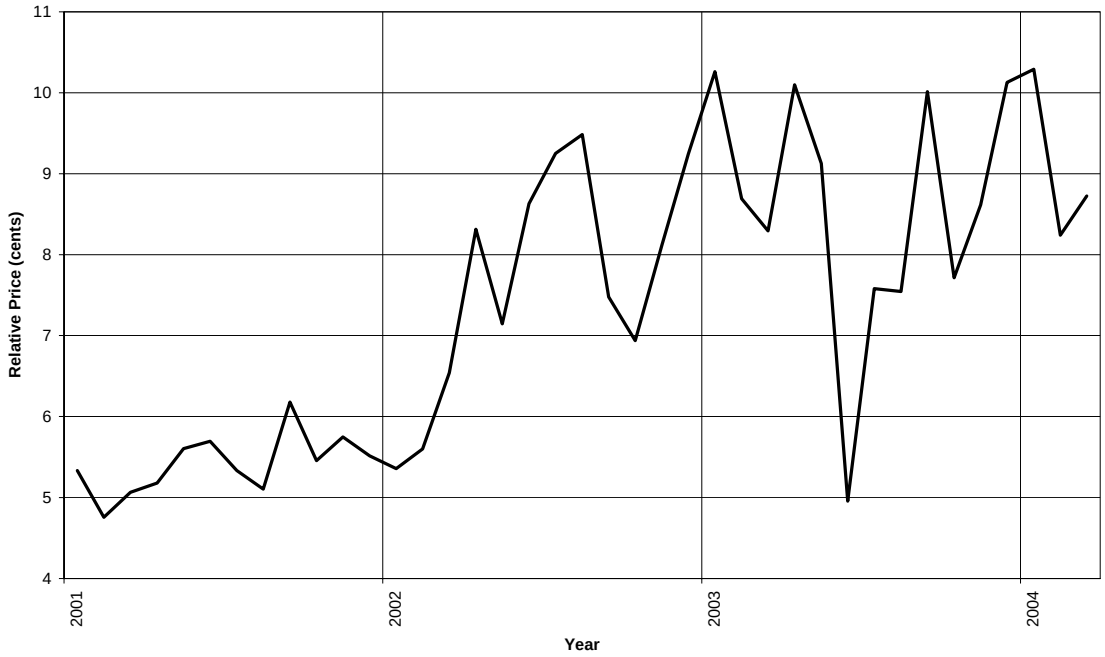
Source: California State Automobile Association and OPIS.

Generally, if markets are well integrated, then prices will move up and down together. Therefore, changes in relative prices indicate a change in market structure, technology, regulation, or some other factor. The three most plausible causes of the relative Eureka-San Francisco price changes are 1) increases in Eureka wholesale gasoline prices due to the state mandated change to Ethanol, 2) the (temporary) increased price competition by integrated retailers in San Francisco, and 3) Costco beginning to sell gasoline in 2003.

Beginning January 2003, California refineries were required to oxygenate their gasoline with Ethanol and discontinue the use of MTBE. This particular switch in oxygenates imposes large fixed costs on the refineries since Ethanol must be blended with the refined gasoline at the terminal while MTBE was added at the refinery. These fixed costs could be spread out over more gallons of gasoline in San Francisco. Additionally, Ethanol is trucked to Eureka from San Francisco, which adds costs to the Eureka terminal. Industry experts tell us that about two or three cents per gallon were added to the Eureka rack price in order to recover the Ethanol conversion costs.

Figure 3 shows relative rack prices in Eureka compared to San Francisco. The relative price rose in 2002 and has remained about eight to ten cents higher.

Figure 3. Eureka Gasoline Terminal Relative Price[a] (Source: OPIS)



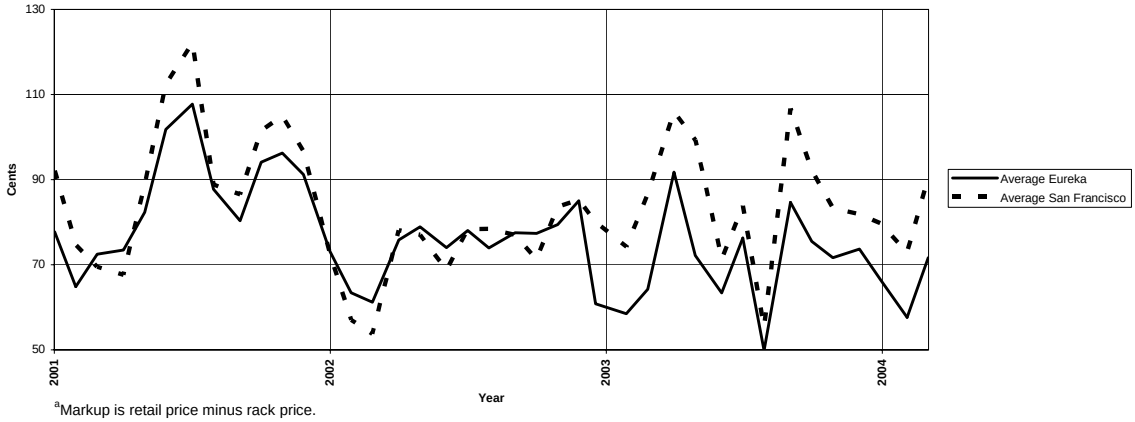
[a]Relative price is the Eureka terminal price minus the San Francisco terminal price.

According to industry experts we interviewed, during 2002 some integrated retailers in California experimented with more competitive retail pricing in order to gain market share. Integrated retailers are retail stores that are owned and operated by refineries. This push to establish more market share was accompanied by Temporary Volume Allowances (TVAs) whereby the integrated retailer would "pay" its refiner division the same rack price as other branded and unbranded dealers and then later receive a "subsidy" from their refiner division. Eureka is the largest market in California without an integrated retailer. Retailer markup series is surprisingly consistent over 2002, while the markups are more volatile in 2001 and 2003. Table 1 calculates the average annual retail markups. Over 2001-2004, Eureka markups consistently fell, while San Francisco experienced a pronounced drop, then a large increase, followed by a minor reduction in markups. While it is impossible to determine the exact causes of these markup changes without additional evidence, the data are consistent with the view that the increase in

relative Eureka retail prices in 2002 is due partly to an abnormally low San Francisco markup.

Figure 4 shows the retail markups, defined as the retail price minus the rack price, for Eureka and San Francisco 2001-2004.

Figure 4. Retail Markup[a]
(Souce: OPIS and CSAA)



[a]Markup is retail price minus rack price.

Costco Inc. began selling gasoline in May 2003. Industry representatives state that the hypermarket's retail station price is consistently eight to twelve cents per gallon lower than competing stations which may be due in part to discounts Costco received at the terminal or subsidies from Costco's $45 annual membership fee. It can be seen in Figure 2 that the relative retail price in Eureka compared to San Francisco dropped in January, 2003 in anticipation of Costco selling gasoline. Note that in 2003, the relative Eureka rack price increased and became three cents. Thus, the drop in the relative retail gas price is due entirely to reductions in the relative Eureka retail markup rather than reduction in costs.

To summarize, we believe that the ten cent increase in Eureka retail gasoline prices relative to San Francisco from 2001 to 2002 has two sources. First, Eureka rack prices rose relatively by two to three cents on account of the switch to Ethanol. Second, Eureka retail markups increased relative to San Francisco by about eight cents on account of the large drop in San Francisco markups resulting from integrated retailer competition in that area. Finally, we believe that the sixteen cent decrease in Eureka retail gasoline prices relative to San Francisco from 2002 to 2004 is due to the large drop in Eureka retail markups relative to San Francisco once Costco began selling gasoline.

Note on local gasoline station price gouging

"Price gouging" is typically defined as charging a high price and earning above normal profits. It is beyond the scope of this paper to determine whether local gasoline stations are price gouging. In general, it is very difficult to determine if gasoline stations, or any other business, are price gouging because it requires detailed information about costs that are not available. It is even more difficult to show that businesses are colluding together to artificially raise prices. In fact, other studies have generally not found evidence of illegal price collusion by California retailers. See California Energy Commission (2003), California Attorney General (2000), and U.S. Department of Energy (2003).

For Eureka, we have constructed gasoline station "markup," which is the retail price minus the wholesale price of gasoline. This is not the same as profit, since it does not include other retailer costs such as wages, rent, and taxes. Nevertheless, we find that Eureka gas stations have consistently reduced markup for four years. San Francisco retailers, on the other hand, reduced, then increased, then further reduced their markup. In examining the data, we find no evidence that local gasoline retailers are price gouging and earning excess profits. See this Slate article about slim gasoline retailer profits: <http://slate.msn.com/id/2100546/>.

Of course, the fact that markups have declined recently in Eureka may indicate that profits were fat in the past and had room to be trimmed. If profits (which we don't observe) continue to decline, then eventually the retailers with the highest costs will drop out of the market when their profits turn negative. But if profits decline and firms stay in business, then it implies that retailers were making above average profits in past years.