

A more recent version of this article has been published in Law360, 2012

Blowing Up the “Rockets and Feathers” Conspiracy

Dr. Michael D. Noel
Edgeworth Economics

January 2012

The volatility in gasoline prices over the past decade has raised concern in public and congressional circles. There have been calls for investigation with a particular hypothesis in mind – that oil companies at one or more points on the supply chain are colluding and raising prices to the detriment of consumers.

The FTC has conducted numerous comprehensive investigations, most recently in September of 2011, but found the U.S oil industry to be unconcentrated and competitive.¹

Consumers are not satisfied. The well documented “rockets and feathers” phenomenon in retail gasoline in the United States is often cited as an obvious example of anticompetitive pricing. Rockets and feathers is so named since retail prices seem to go up like “rockets” after an increase in wholesale costs but fall like “feathers” after a decrease.

One argument is that rockets and feathers is how retailers tacitly collude with another, pad their profits and hurt consumers. Some observers estimate the loss to U.S. consumers to be 2.6 cents for each time cost rise and then fall by a penny.

Rockets and feathers is real but does it actually hurt consumers?

The anti-competitive theory of rockets and feathers implicitly assumes that, if rockets and feathers somehow ceased, retail gasoline prices would now fall after a cost decrease just as fast as they currently rise after a cost increase. The argument follows that margins and gasoline prices would be lower overall.

However, this fundamental presumption underpinning the anti-competitive theory of rockets and feathers is not correct. Rockets and feathers are not anti-competitive and there is no reason to suspect consumers are hurt by them.

To understand this, we need to review why rockets and feathers occurs. The primary reason is that consumers are more sensitive to price changes when gasoline prices are rising than when they are falling.²

¹ FTC, “Gasoline Price Changes and the Petroleum Industry: An Update”, September 2011.

Why? Rising gasoline prices means tighter budgets and many consumers' immediate response is to search more intensely for low gasoline prices still available. In contrast, falling prices, from levels consumers have been acclimatized to, tend not to trigger as much search. For consumers, paying less is welcome news even if they end up paying a bit more than what they could have had they shopped around.

The difference in consumer search drives differences in retailer markups when wholesale costs rise versus when they fall. Retailer responses are both rational and competitive. Contrary to popular belief, retailers do delay price increases when costs rise, but cannot for long.

Retailers must raise prices in response to an increase in cost, triggering more intensive consumer search, and this in turn drives retailer margins close to zero. After accounting for daily fixed costs, profits are often negative when wholesale costs rise. Therefore, surprising to some, retailers make little or negative profit in the "rockets" stage of rockets and feathers.

Unlike increasing wholesale costs, decreasing wholesale costs do not force as quick a fall in prices and allows temporarily higher margins. Some retailers sacrifice market share and serve consumers who search relatively little, at a higher price.

Others undercut one another more quickly and serve consumers who search relatively more, at a lower price. Over a short time, prices fall and margins fall with them. It is in this "feathers" stage of rockets and feathers that retailers need to earn enough profit on sales to cover much of the fixed costs of operating a station.

"We lose money on the way up, we make a little bit on the way down hoping that the street prices stay where they are for a little while so that we can make some money back", candidly said a Pennsylvania retailer recently.³

"You need to make up for how hard you got hammered on margins when prices were rising" added Jeff Lenard of the National Association of Convenience Stores.⁴

Given that retailers are losing money on the way up, they cannot also lose money on the way down and still stay in business. So is it a reasonable presumption that, if rockets and feathers somehow stopped, that prices would fall as fast after a cost decrease as they currently rise after an increase? No, it is not.

Overall margins— averaged across times of rising and falling prices — are what matters to the retailers' bottom line and for competition policy.

² Rockets and feathers can also occur as the result of "Edgeworth Price Cycles", a competitive pricing phenomenon present in retail gasoline markets in many U.S. cities and around the world. In this article, I restrict my attention to the majority of markets that do not experience these cycles.

³ CBS Pittsburgh. "Gas Prices Expected to Go Down", May 6, 2011. Available at <http://pittsburgh.cbslocal.com/2011/05/06/gas-prices-expected-to-go-down/> (Last accessed October 24, 2011.)

⁴ Pittsburgh Post-Gazette, "Gasoline Said to Lag Behind Oil Prices Going Up or Down", September 24, 2008. Available at <http://www.post-gazette.com/pg/08268/914436-28.stm> (Last Accessed October 24, 2011.)

According to the National Association of Convenience Stores, retail station profits on gasoline averaged three cents a gallon in the past five years while gasoline itself retailed for about three dollars a gallon on average.⁵

It may be surprising to supporters of the collusion theory of rockets and feathers that retail margins are so low. In fact, eighty percent of retail gasoline sales come from stations with a convenience store where gasoline is used in large part as a loss leader to drive traffic into the store, further reducing the cost of gasoline to consumers.

Rockets and feathers has been present a long time. If they inflated profits, retailers must have been making supra-competitive profits also for a long time. However, this argument ignores market force of free entry.

In response to supra-competitive profits, new entrants would have a strong economic incentive to enter and compete away those profits. We do not observe this. In fact, we observe the opposite - a long run decline in the number of retail stations and exit from the retailing segment by large branded oil companies like ExxonMobil and Chevron.

The reason is that gasoline retailing is neither collusive nor lucrative. It is competitive as a general matter. Higher gasoline margins when prices fall subsidize lower margins when prices rise, but competition and free entry ensures that overall margins - averaged across times of rising and falling prices - settle in at competitive levels.

“Volatile” retail margins are often confused with “anti-competitive” retail margins. But as the FTC found in their latest investigation, there is no evidence of widespread collusion in retail gasoline markets.

Even when prices rise like rockets and fall like feathers.

⁵ National Association of Convenience Stores. "NACS Annual Fuels Report 2011", available at http://www.nacsonline.com/NACS/Resources/campaigns/GasPrices_2011/Pages/default.aspx. (Last accessed December 7, 2011.)