



Regional Gasoline Markets

Eight Questions on Pipelines and
Gasoline Supply, Demand and Competition



Non conventional gasoline

- The report says, “In areas with environmental requirements for non-conventional gasoline, consumers may pay higher average gasoline prices and confront more price variability than consumers in areas without such laws and regulations. “ (p. 69)
- It is easy to see why requirements for non-conventional gasoline would cause gasoline to cost more – if it were cheaper to produce the environmentally-beneficial fuel, presumably refiners would already be doing it and requirements wouldn’t be needed or even helpful.
- Question 1: According to the report why would requirements for non-conventional gasoline cause greater price variability for affected consumers?



Refinery fires

- The study describes two refinery fires that affected the Chicago market and the surrounding area in the upper Midwest. An April 30, 2001 fire at the Tosco refinery in Wood River, Illinois, reduced output from the refinery and caused the wholesale and retail price of gasoline in the Upper Midwest to increase at rates faster than other regions in the spring of 2001. Prices in Chicago increased up to \$0.30 per gallon relative to prices in the Gulf Coast. Prices returned to normal in mid-June, after the refinery had been repaired.
- In August 2001, a fire at the Citgo Lemont refinery near Chicago reduced output from the refinery for more than six months.⁵ This time, wholesale prices in Chicago increased as much as \$0.40 per gallon relative to the Gulf Coast, but returned to normal by mid-October.
- Question 2: Why did prices recover only after the refinery had been repaired in the Tosco case, but prices recovered well before the refinery repairs in the Citgo Lemont case?



Refinery explosions

- “On July 21, 2003, an explosion at ConocoPhillips’s Ponca City, Oklahoma refinery caused massive damage but had little effect on gasoline prices. During two and one-half months of repair, the refinery operated at about 60 percent of its capacity, processing 120,000 barrels per day instead of its usual 194,000 barrels per day. Prices for gasoline, however, did not spike in Oklahoma.” (p. 71)
- Question 3: Why not?



Switching from MTBE

- Beginning on January 1, 2004, New York and Connecticut prohibited the use of MTBE as an oxygenate. The decision meant that gasoline distributors needed ethanol instead of MTBE *and* a different “blendstock” (called “RBOB”) in which to mix the ethanol. New York and Connecticut distributors needed RBOB from refineries, but nearby refineries could not supply all of the RBOB needed.
- A number of petroleum traders and the Energy Information Administration predicted that the region would experience gasoline price volatility and price spikes in the spring of 2004, when refiners would have to supply RBOB for the first time.
- Question 4: Did the area experience price volatility? Why or why not?



Regional price differences

- The report (see p. 88-91) indicates that regional differences in prices have become more exaggerated since 1995, with, for example, higher prices in the West and Rocky Mountain regions compared to the Gulf and East.
- Question 5: Which of the following explanations does the report say could be responsible for increased regional price differences:
 - Refineries running at higher utilization rates, meaning less spare capacity to address supply disruptions.
 - Increased use of localized “boutique fuels” that make supply logistics more difficult and prevent easy access to alternative supplies during supply disruptions.
 - Increasing imbalances in regional refining capacity compared to regional gasoline demand.



Boutique fuel price volatility

- “To analyze whether boutique fuel gasoline prices are more variable than conventional gasoline prices on the Gulf Coast, the staff used gross product margins,” examining the difference between retail gasoline prices and crude oil prices, not the retail gasoline prices directly. They did this so they could examine the effects of gasoline quality regulations without all of the noise introduced by changing crude oil prices. Also, studying the price relationship in the Gulf reduces individual pipeline effects (because there are many) and the supply/demand ratio in the area assures a more competitive local market.
- The report concludes that, within the Gulf Coast, the price variability of boutique fuels is very similar to the price variability of conventional gasoline. In California, on the other hand, boutique gasoline prices are significantly more variable than conventional gasoline prices on the Gulf Coast.
- Question 6: Why is California’s boutique fuel requirement causing volatility that the Gulf coast markets don’t see?



Regional price volatility

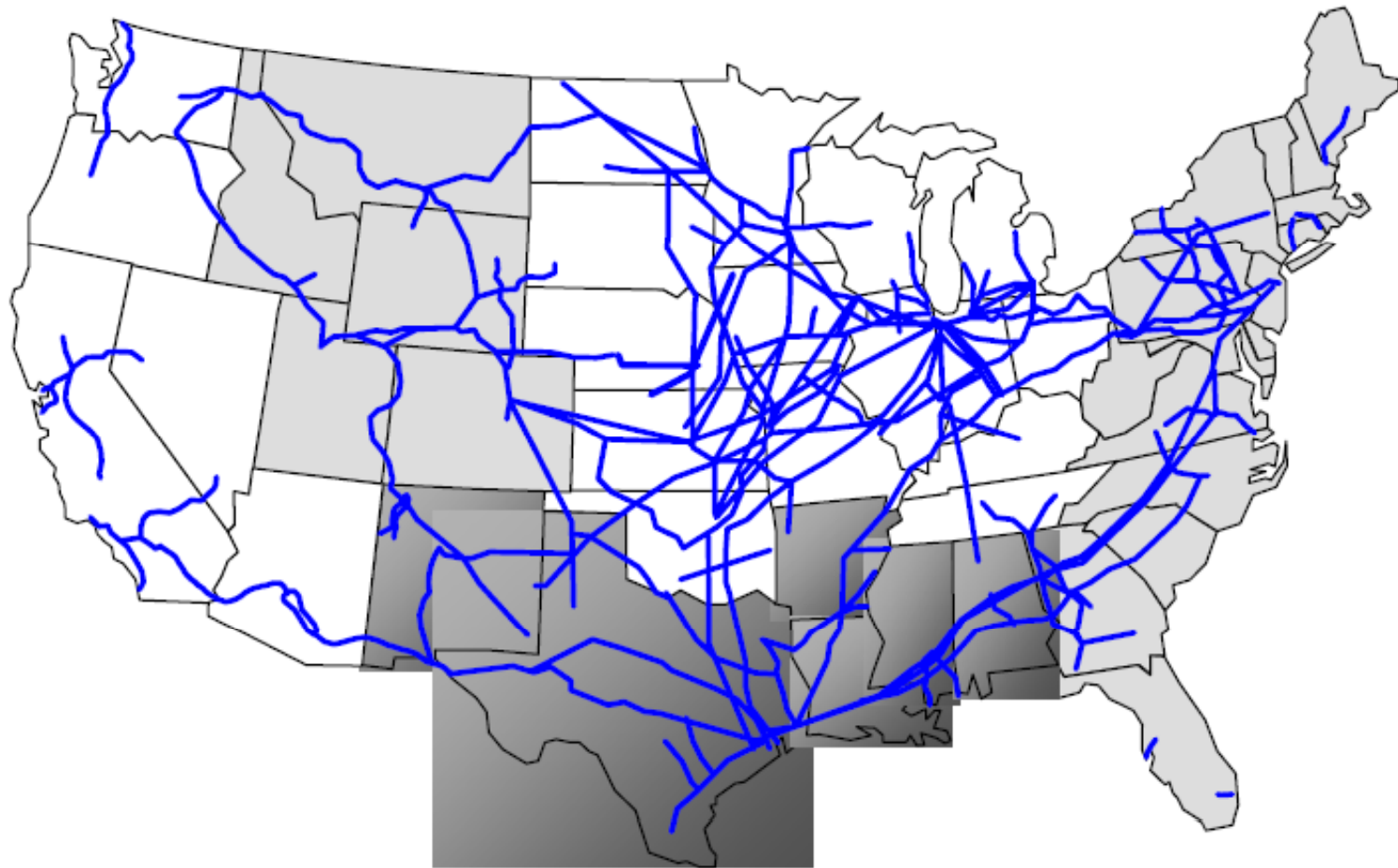
- Gasoline prices in the East Coast (PADD I), the Midwest (PADD II), and the Rocky Mountain states (PADD IV) are significantly more variable than Gulf Coast gasoline prices.
- Question 7: Why?



More on price volatility

- For reformulated gasoline (RFG), the variability of gasoline prices is significantly larger near the end of the Plantation pipeline in Maryland than it is near the origins of both the Colonial and Plantation pipelines in the Gulf. (p. 96)
- The same is not true for standard formulations of gasoline – the variability of prices for standard formulations of gasoline is not so different in Maryland from what occurs at the Gulf end of the pipelines.
- Question 8: Why the difference in price volatility for reformulated gasoline and standard gasoline?

Figure 4-10: Major Refined Product Pipelines



Source: Allegro Energy Group

Reference

FTC, [Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition](#), (2005), Chapter 4, "Supply, Demand and Competition at the Regional Level," (pp. 69-97).