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Testimony of Severin Borenstein

I am E.T. Grether Professor of Business and Public Policy in the Haas School of Business at the University of California, Berkeley and Director of the University of California Energy Institute, which is located in Berkeley. I hold a Ph.D. in economics from M.I.T. I have studied oil and gasoline markets for about 20 years and have published numerous research and policy papers on competition and pricing in gasoline markets. Details of my publications and professional activities can be found at <http://faculty.haas.berkeley.edu/borenste/>. Since I became Director of the U.C. Energy Institute in 1994 I have done no private consulting in the energy industry. The views I will present do not represent those of the University of California or any other organization.

Although I believe the U.S. faces many challenges on the energy front, I've been asked to focus my comments today on competition issues in the U.S. oil and gasoline industry. I'd like to make the following points.

1. The world has a single highly integrated market for crude oil. No U.S. oil company has a large enough share of that market to be able to profitably exercise market power and raise prices. The world oil price has risen rapidly and is very high today compared to the recent past primarily because demand growth has been very rapid and crude oil production capacity is constrained in the short run. A second cause of the high prices is that some producers are able to exercise market power, most notably Saudi Arabia, which is able to move oil prices significantly with its output decision.
2. The record profits that the oil companies have reported recently are primarily due to the extremely high price of oil. If a company was expecting to make a profit selling oil at \$25/barrel and it can now sell that oil for \$60/barrel, the extra \$35/barrel is nearly all profit. These companies did not cause the price of oil to go up. They are just the lucky beneficiaries of the tight world oil market.

Oil industry claims that their profits are comparable to other industries are not credible. Spokespeople for the oil industry often compare their profits as a share of sales to other industries, but cross-industry comparisons of "return on sales" are meaningless. The measure varies wildly depending on the capital intensity of the business and the value added by the company in the vertical production/distribution chain. No business person chooses where to invest based on return on sales. This is purely a public relations attempt

to downplay the extremely high profits they have made because they were producing oil when the price of oil jumped.

3. High oil prices are the *primary* reason that gasoline prices are high. The wholesale price of gasoline was \$1.69 on Friday (NYMEX futures price for delivery in April), of which \$1.43 was the price of crude oil (NYMEX futures price for delivery in April). That leaves \$0.23 that is going to the refining part of the value chain. Adjusted for inflation and the time of the year, this is in line with the last five years, but higher than most of the previous fifteen years. Still, it is not really plausible that more than a few cents per gallon of our current gasoline price is attributable to market power in the refining business. While that could still be millions of dollars per day in aggregate, it is a small piece of the extra hundreds of millions of dollars per day that U.S. gasoline consumers pay today compared to a few years ago.
4. For most of the last 30 years, oil refining has been a bad business. Capacity that was built in the 1960s in expectation of rapid demand growth was underutilized for decades following the 1970s energy shocks and high real oil prices that followed. With a large number of refining companies and low utilization rates at refineries, the market was very competitive and refining margins were quite low. This changed during the 1990s as demand grew and no new refineries were built in the U.S. Margins have risen over the last few years as capacity utilization has risen.
5. In a tight refinery market as we are beginning to face in the U.S., producers are likely to receive higher margins without exercising market power simply because strong demand relative to supply pushes up prices in any market. Unfortunately, the same circumstances that create profits due to real scarcity of refining capacity also create the opportunity for some firms to push up prices further by creating artificial scarcity. When other producers are not in a position to expand their output, a refiner knows that restricting its own production is more likely to drive up prices.
6. I believe that market power in the refining industry is becoming a serious concern. In California, due to its special gasoline blend and shortage of refining capacity, this has already happened. In the early 1990s, when there was much more slack capacity, less concentration of ownership, and less regional differentiation of gasoline blends, I did not believe market power was a significant concern in refining.
7. Unfortunately, distinguishing between market power and real scarcity in the refining business is extremely difficult. Prices *should* rise if there is a real scarcity of supply. So, high

refining margins are certainly not proof of market power. In the short run, detection of market power requires determining that some companies are not producing all that they can even though the market price is above their incremental cost. Refineries are extremely complex facilities with many inputs and outputs, and many daily engineering and economic calculations. Second guessing these business choices is very difficult. For these and other reasons, the empirical research on the relationship between past mergers and increased market power in refining is unconvincing.

In contrast, in 2001 I testified before the Senate Committee on Governmental Affairs that electricity producers in California were exercising market power. I was able to reach this conclusion, because the process of converting natural gas to electricity is far simpler and it is much easier to identify when a generator is choosing not to run in order to raise market prices.

8. In the longer run, market power manifests in refiners failing to invest in capacity expansion that would be profitable considered in isolation. This is done in order to maintain restricted output and high prices. Again, however, it is very difficult to distinguish this from competitive behavior. Refiners face not just high capital costs, but also local and environmental opposition to refinery expansions and new construction. They also must be convinced that the refining market will remain profitable for decades before they can justify such an investment. It is virtually impossible for an outsider to infer from accounting data that there was a decision to restrict refining capacity in order to raise margins, rather than a hesitancy to build due to political and valid economic concerns.
9. So, if the incentive of refiners to exercise market power in present, but there are severe limitations on our ability to detect such exercise, what can public policy makers do? I would argue that we should take a very skeptical view of future mergers. There should be a significantly increased burden on refiners to demonstrate large efficiencies before a merger could be approved, because the risk of increased market power is now quite large. At the same time, there should be more detailed analysis of the *incentives* of refiners to exercise market power before and after a proposed merger. I believe that market power in the refining industry is not a significant cause of high gasoline prices today, but competition in the industry is not as robust as it was a decade ago. As a result, there should be greater scrutiny of changes in the composition of the industry that could further reduce competition.