Overview Of Issues Facing Louisiana's Petroleum Refining Industry

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Summary

Background

The problems facing Louisiana refineries directly parallel what is occurring in the U.S. refining industry as a whole. Louisiana is maintaining its relative share of total U.S. refining capacity. Over the past three years, Louisiana's share of U.S. operable refinery capacity has remained stable at 14% of U.S. capacity. As of January 1985, Louisiana operable crude distillation capacity at 21 refineries was 2,174,000 barrels per calendar day out of a total U.S. capacity of 15,722,000 barrels per calendar day at 229 refineries. Only Texas and California exceed Louisiana's refinery capacity.

The refining industry in Louisiana is as diverse as the difficulties facing it. The problems facing it are by no means insurmountable. The rash of shutdowns in Louisiana (See Table 1) and throughout the U.S. does not spell the doom of the industry in the state. The refining industry has undergone drastic changes since the 1973-74 Arab embargo. These changes have resulted in a highly competitive industry that has forced out the inefficient and non-competitive refiners. To better understand these changes, it is helpful to examine four key issues: (1) Overcapacity, (2) Competitiveness of Majors versus independents, (3) Imports, and (4) Refinery Profits as a Matter of Perspective. These issues are summarized below.

(1) Overcapacity

There is currently significantly more refining capacity in the U.S. than there is demand for refined products. This has been the major cause of the rash of shutdowns across the U.S. It is the independents that have been hardest hit by closures in Louisiana. Although refinery closures have slowed over the past year, there will probably be more until supply comes more into balance with demand.

(2) Competitiveness of Major vs. Independent

Generally, independents are at a severe disadvantage when forced to compete with the majors in an over supplied market condition. The main weaknesses for the independents are (a) deregulation of the oil industry which ended the crude oil entitlements program that enabled independents to obtain crude oil at costs competitive with the majors, (b) the lack of downstream processing facilities, (c) the EPA - mandated phase out of lead antiknock compounds, (d) the loss of market niches once ignored by the majors, and (e) the lack of captive crude supplies.

(3) Imports

Importation of foreign crude and refined products is essential because the U.S. is not self-sufficient in petroleum production. Imports of foreign crude and refined products presently supply about one third of the nation's petroleum needs. One third of the crude supply to Louisiana refineries is imported. Foreign product imports are beginning to put some pressure on U.S. refineries in the form of downward pressure on prices. Over the next few years, product imports are unlikely to pose a serious threat to U.S. or Louisiana refineries. In the long run, however, the expansion of export refineries in the overseas producing countries creates a cause for alarm. This issue will have to be followed closely.

(4) Refinery Profits as a Matter of Perspective

For major oil companies that are integrated from exploration and production to refining and downstream petrochemicals to retail sales, refining is an essential structural element to facilitate maximum business flexibility and maximum total return on the companies' crude holdings. For this reason, the majors will probably always continue their refining activities whether or not the refining aspect of their activities is very profitable. Most of the independent refiners, however, do not have the resource of profits from upstream and downstream activities to carry the refining activities through the bad times. To the independent refiner, low profits or no profits in refining is likely to force the independent out of business.

Outlook

As domestic production declines, the ability to receive foreign crude, refine it, and ship the products to end use markets will become increasingly important to the survival of a domestic refining industry. Louisiana's ocean going port facilities, Mississippi river

transportation, and pipeline network, combined with the state's refining industry's ability to process a wide range of crude types and qualities, place Louisiana's major refiners in an excellent position to continue leading the country as a major refining state.

Louisiana's refining industry as a whole is well on its way in making the necessary changes to ensure a competitive future. The few remaining small independent refiners in the state, however, will continue having difficulty surviving in a demand-limited market such as the current "oil glut."

Discussion

Overcapacity

Louisiana's refining industry has seen drastic reductions in capacity in recent years. These reductions were a necessary part of a refining industry restructuring that is evolving a more stable and healthy industry for the future. The restructuring has enabled U.S. refiners to transcend from the era of a Federally regulated industry that underwent uncontrolled expansion in the Arab embargo inspired oil boom to the present era of an overbuilt, deregulated industry operating in an oil glut in the wake of a worldwide economic recession.

Excess capacity still plagues the industry. Refined product demand is finally increasing again, but at such a slow rate that demand will not come into balance with supply for at least several more years, industry observers note, unless there are more shutdowns. [1,2] The utilization or operating rates of refineries still running have increased as a result of the nationwide shutdowns of the last three to four years. Existing operating rates, however, are not high enough to give a refiner any opportunity to mark up his product as long as all of his competitors have plenty of excess capacity. One recent analysis reports that a reasonable degree of profitability will return to the U.S. refining industry in 1987 when utilization rates are expected to again exceed 80%.[1] Over the nine month period ending in February 1985, Louisiana Gulf Coast refinery utilization rates averaged 78.3% versus 76.4% for the U.S. industry as a whole. Analysis of industry data over the past four years indicates that, with the exception of the few refineries in North Louisiana, Louisianan's refineries consistently operate at higher rates than the U.S. average.

Competitiveness of Majors vs. Independents

Several paradoxes exist within Louisianan's diverse refining industry. The major oil companies in the state have recently spent hundreds of millions of dollars on modernizations and expansions to increase their flexibility to handle heavy and / or sour crudes and to increase energy efficiency. These major refiners in Louisiana have been pacesetters for the industry as a whole; some have even cut back or shutdown capacity in other states while expanding in Louisiana. Louisianan's independent refiners, on the other hand, have been rapidly disappearing.

In Louisiana, 13 of the 14 refineries shutdown since January 1981, representing 94% of shutdown capacity, have been independents. Noteable is the fact that this has all occurred during a period in which the diversification programs of the major oil companies across the country to handle heavy and sour crudes has resulted in driving down the prices of light and sweet crudes, which are all most independents are able to process. This advantage for the independents is overshadowed by the combination of (a) the loss of the crude oil entitlements program as a result of deregulation, (b) the lack of downstream processing facilities to produce the light products in demand (e.g., high octane gasoline), (c) the EPA-mandated reduction, and ultimate ban, in the use of lead antiknocks, and (d) the loss of market niches ignored by the majors when the industry was less competitive before the present "oil glut".

The efforts of the majors to become more competitive by increasing heavy and sour crude processing capacity were planned on economics existing prior to the present glut when the world oil market was supply-limited. At that time the price differential between light and heavy crudes justified the massive capital expenditures envisioned. Ironically, those facilities have been coming on stream during the present demand-limited market, thus driving down the price difference between light and heavy crudes.

Imports

There is also the imports controversy. With the increasing volume of both crude and product imports into the U.S., many in the industry are calling for the imposition of import fees or quotas on the basis that these imports threaten the survival of the domestic refining industry. This is a complicated issue of international supply and demand as well as trade policy in a world market. Imports are needed because the U.S. cannot supply its own petroleum needs. Currently about one third of all petroleum consumed in the U.S. is obtained from imported crude oil or imported refined products. Also, approximately one third of the crude input to Louisiana refineries is foreign crude.

Basically, domestic capacity will always be required to refine U.S. produced oil. Refining capacity beyond that level will depend on the industry's ability to compete with imported refined products as more export capacity for light products comes onstream in producing areas of the world. For the near term, imports are primarily just putting additional pressure on domestic refiners' struggle to make a profit in an over supplied market. There is not sufficient foreign export capacity in light products such as high octane gasoline to seriously threaten U.S. refiners for the next few years. After that, the situation may have changed significantly enough to require the judicious application of a combination of both crude and product import quotas or fees.

Refinery Profits as a Matter of Perspective

Whether or not a refinery "turns a profit" or "loses money" usually means one thing to a major oil company and something else to an independent refiner. Prudent business practice dictates that All aspects of a business provide a reasonable return on investments. To a major oil company that has integrated activities from exploration and production to

refining and downstream petrochemicals to retail sales, refining is an essential structural element of the business. Upgrading lower value crude oil to higher value refined products and petrochemicals in demand generally provides greater economic opportunity than merely producing and selling crude. When it is difficult to make a desirable profit on refining in an over supplied market, as exists today, the major oil company has the rest of its integrated activities to carry refining throughout the hard times, and it is still possible for the company to make a significant overall profit.

Independent refiners in Louisiana, however, usually have little or no captive crude production and very limited retail marketing investments. Since they are dependent on outside sources of crude, independents cannot sustain a no profit or loss situation in refining when it is their main, or sometimes only, petroleum related business activity. To most independent refiners, a sustained no profit situation in refining will likely result in the company going out of business.

The refined product margin, or difference between refined product revenues and refined product costs, can be used as an index to compare overall economic performance of refining from year to year. From 1982 to 1986, the refined product margin for the majors has ranged from $0.85 to $0.67 per barrel as shown below.[5] (***Updated April 1988***)

Year	Major Oil Companies' Refined Product Margins ($/barrel)
1982	0.85
1983	0.71
1984	0.01
1985	1.09
1986	0.67

The figures may vary significantly from company to company, depending on each company's actual operating, raw materials, and marketing costs and internal accounting practices. Likewise, margins for independents may vary above or below the average shown for majors. Historically, petroleum refining has generated a profit of 4 to 6% of gross selling price.[6]

Cited References

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6 Meyers, Robert A., ed., ***Handbook of Energy Technology and Economics,*** John Wiley & Sons, New York; 1983, p. 248-249.