Sensitivities for the Sriracha Refinery Expansion

A Case Study in International Energy Project Risk Assessment
Stephen V. Arbogast, Executive Professor
C.T. Bauer College of Business, University of Houston

Abstract

Price and volume projections are two of the most significant variables for major refinery projects. Planners typically study the structure of refining markets when making these projections. When doing so, they look to see whether new local refining capacity will be competing with imports, or will have to fight its way into export markets. The answer historically has been very significant as regards refining investment returns. This case gives students an opportunity to study the differences among import and export parity markets, and the consequences of these differences for major new refining projects. Students will be asked to project whether the Sriracha Refinery Expansion project will enjoy import-parity pricing, and if not, whether the project remains economically justified.

Several factors complicate Esso Thailand's decision in this case. For one thing, Thailand has been growing rapidly. This has caused demand for petroleum products to surge at more than 10% p.a. Will this high growth continue? If so, some reliance on imports is likely to persist. A second factor is Thailand's unexpected decision to award licenses for two grassroots refineries plus Esso's major expansion. Will all of this announced capacity get built? Will it come on stream as scheduled or be delayed? All of these factors will have a bearing on whether the Thai market retains its long-standing import-parity structure.

The case provides a generic set of sensitivities, served up as a Tornado diagram (Attachment 5). Students must determine whether these sensitivities adequately reflect the project's risk profile. If not, a different set of sensitivities should be submitted as part of the Appropriation Request (AR). Students may even decide to alter the base case economics if they believe one of the sensitivities is actually the "most likely" case. Finally, students will need to consider ESTL's strategic reasons for seeking a refinery expansion, and decide how these rationales factor into the affiliate's AR.

This case is based upon ESTL's request for a refinery expansion, submitted to Exxon Corporation in 1990. The project economics and names of ESTL's executives have been fictionalized.