19-702 Case Study: The All American Pipeline—Will It Pay Off?

The Fundamental Issue Facing Goodyear

Goodyear Tire and Rubber Company managers faced a critical decision driven by the perceived need to diversify their business in the mid-80s. The large majority of their operation at that time was in the manufacture and distribution of automotive tires—these were seen as offering both slow growth and cyclical performance.¹ Relative to representative stock market indices (e.g., the Standard and Poor) at that time, Goodyear’s stock value was not keeping up; one possible response to this weak performance was the acquisition of new businesses. Earlier in 1983, Goodyear made the decision to acquire the Celeron Corporation, which involved ownership and operation of a major pipeline network for the distribution of natural gas. Along with this acquisition came the option and plans to build the All American Pipeline, which involved the construction of a major oil pipeline from the Southern California coast to the Texas Gulf coast.

Fraught with Uncertainty

As important as it may have seemed to the Goodyear managers to diversify their business base at the time, this project was far from a slam dunk decision. There were a number of uncertainties that could jeopardize the success of this project. Aside from the enormous initial costs of between ~$1 to 2B to build the pipeline itself, there were various alternatives, in the form of large and small, new and old, tankers, to transport the oil. While environmental concerns tended to favor a land-based pipeline for distribution, such sea-based delivery methods appeared to serve as competitively priced substitutes and could constitute a threat to the overall demand to such a pipeline. Furthermore, then-existing tax benefits, which appeared as attractive initial incentives, were not assured as tax reform efforts were being considered.

Opportunity Cost of this Investment

Perhaps the major consideration that should be analyzed early on is the opportunity cost for such a large investment. As noted before, the construction of a 1750-mile pipeline involves enormous up front costs, albeit, with potential long-term benefits. Such estimated benefits, however, as determined by Goodyear consultant calculations, were not likely to be realized until at least a few years down the road.² As a result, conversion of the cash stream to a common frame of reference, such as present values (PV), is a necessary step in the evaluation of the fiscal soundness of this project. Do the long-term returns, at least on the surface, justify the large initial upfront expenditures? While the consultant’s estimates (shown in Exhibit 8 in the HBS N9-292-040) convert cash flow to 1983 dollars and accounts for inflation, it does not discount for the time it takes for such a project to generate a positive cash flow. Hence, this needs to be added to adequately assess the financial opportunity of this project.

Using a basic spreadsheet type of analysis, if the discount rate is assumed to be modest (r = 0.06), after 10 years the net present value or NPV in 1983 dollars will be negative (-$33M). As the discount rate increases (say r = 0.09), after 10 years the NPV will be significantly worse at -$251M. Table 1 shows a range of NPV for different

---

²Ibid.
discount rates. Effectively, it will take a discount rate of just below 0.06 to reach parity in 10 years of operation. If the discount rate is higher, say 0.09, then 15 years will be needed to just break even. This analysis assumes that tax credits and depreciation allowances apply.

Table 1—Net Present Values for Different Discount Rates over Different Lengths of Performance—with Tax Benefits
(in Millions of 1983 Dollars)

<table>
<thead>
<tr>
<th>Discount Rate</th>
<th>NPV 10-year</th>
<th>NPV 15-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.03</td>
<td>242</td>
<td>840</td>
</tr>
<tr>
<td>0.06</td>
<td>-33</td>
<td>365</td>
</tr>
<tr>
<td>0.09</td>
<td>-251</td>
<td>20</td>
</tr>
<tr>
<td>0.12</td>
<td>-424</td>
<td>-237</td>
</tr>
</tbody>
</table>

Indeed, it is worthwhile to note that the anticipated tax credits and the allowances for depreciation tend to drive the results—they are realized relatively early and they represent large components in the overall cash stream. Essentially, if such tax credits and depreciation allowances are markedly reduced (e.g., through tax reform initiatives) the results of this analysis changes substantially. For example, if tax credits and depreciation values are halved, it would not be possible to break even in 10 years; that is, the NPV would represent a loss of ~$270M (in 1983 dollars) even with no discounting (r = 0).

Finding the Breakpoint: At What Level Does It Make Sense?

The financial benefit associated with this project hinges on two major factors reaching fruition—1) approval of tax credits and aggressive depreciation schedule and 2) customer preference to transport oil by land, through either though lower cost or reduced environmental risk or both. For the first, there is great sensitivity to even minor changes given the relative size of the cash flow, so if these are not preserved, the overall viability of this project begins to fall apart. Hence, to the extent possible, such government incentives would need to be affirmed. For the second, the existence and flexibility of competition (e.g., oil tankers) run the risk of reducing the estimated throughput; this would have a proportional impact on revenue. The NPV analysis conducted by the consultant group hired by Goodyear assumes that after a few years, maximum capacity of the pipeline is achieved. Revenue is proportional to capacity, and since it is not clear that this will be obtained; further analysis would be necessary to fully evaluate the impact of these substitutes, particularly since low priced options clearly exist along with relatively low barriers for entry.

On the other hand, a major attractive feature of this project is the relatively low operation and maintenance costs. Once the initial investment is made, the future costs are comparatively lower. So, given that the two uncertainties are resolved, the decision to pursue this option depends largely on the length of Goodyear’s time horizon; this project would appear to be less attractive with a short time horizon and more attractive with a longer time horizon, e.g., more than 15 years. If 15 years is the time horizon, a discount rate of ~9% would be needed to break even.