

Case 8

Imperial Power — Spain

Late in 1978 Imperial Power Company (IPC) management was considering expansion of the firm's involvement in international business. IPC was a Chicago manufacturer of a variety of electric motors for use in automobiles, household goods, and industrial equipment. All of the company's sales were to other manufacturers, primarily in the automobile industry. IPC's worldwide market was supplied from subsidiaries in France, Germany, Brazil and the Philippines as well as the United States. The company's success in Europe was based primarily on its technical expertise and prompt delivery of equipment meeting a variety of industrial needs. This success led top management to believe an expansion of IPC's European capacity was needed.

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The French and German subsidiaries of IPC distributed and assembled electric motors. They also performed a limited amount of manufacturing when special adaptations were required. With the maturing of European markets, particularly that for automobiles, an expansion of capacity to produce standard five-horsepower motors was required. The French subsidiary's management had urged IPC (U.S.) to expand facilities in France. However, Spain had much lower labor costs and certain government incentives that were not available in France, so IPC's president had asked the treasurer's staff to prepare a financial evaluation of a possible investment in Barcelona, Spain.

The proposed Spanish subsidiary of IPC would be a wholly owned venture producing electric motors for the Spanish domestic market as well as for export to other European countries. The initial parent-supplied equity investment would be \$1.5 million, equivalent to Pts. 105 million at the current exchange rate of Pts. 70 to the U.S. dollar. An additional \$600,000 would be raised by borrowing from Banque de la Société Financière Européenne, Paris-based consortium bank. Interest of 10 percent would be payable annually, and the entire principal would be due in ten years. However IPC-Spain did not anticipate any difficulty in renewing the loan indefinitely. The combined capital of \$2.1 million would be sufficient to purchase equipment of \$1 million and finance working capital requirements. No new working capital would be needed in the foreseeable future, and ten-year straight-line depreciation would be applied to the original cost of the equipment.

The project was regarded as an ongoing operation and therefore should, in principle, be evaluated for an indefinite time horizon. However, because of the difficulty of forecasting demand beyond a few years, the procedure used by IPC was to make cash flow forecasts only four years into the future and to treat the value of the subsidiary at the end of the fourth year as the present value of a constant annual cash inflow equal to that forecast for the fourth year.

(If, for example, the cash inflow forecast for year 4 were \$150,000, then that amount was assumed to be the inflow for years 5, 6, and so forth. The net present value of this annual inflow can be found from the formula for the present value of a constant annuity:

$$NPV = \frac{\text{annual cash inflow}}{\text{discount rate}}$$

Assuming a 10 percent discount rate, the net present value at the end of the 4th year in this instance would be $\$150,000/0.10 = \$1,500,000$.)

The firm's overall marginal after-tax weighted-average cost of capital was about 12 percent. However, because of the higher risks associated with

a Spanish venture IPC decided that a 16 percent discount rate would be applied to the project.

The initial sales price of an electric motor was to be Pts. 1,300 in Spain. Because of Spain's high tariffs on competing imports, this price would enable the Spanish operation to sell 50,000 units domestically and 150,000 in the export market. Spanish inflation would probably force the company to raise its sales price by 15 percent per annum, which would not affect domestic demand but might reduce forecast export sales unless the inflation were offset by a depreciation of the peseta. Discussions with the manager of the French subsidiary suggested that the price elasticity of demand in Europe was about 1.5; that is, for each 1 percent increase in the relative price of IPC's electric motors over the immediately prior year, demand would fall by 1.5 percent. Inflation in all Europe (except Spain) and in the United States was expected to run at a 5 percent annual rate.

For convenience, start-of-year prices and exchange rates would be used to calculate demand, sales prices, and operating costs for each year. However, interest (to the consortium bank) and royalty fees (to the parent) would be paid on December 31st at the year-end exchange rate.

In the absence of any price change or exchange rate change, sales for the first four years were forecasted as follows:

Year	Price (pesetas)	Price (French francs) (16.67 ptas/FF)	Domestic sales (units)	Export sales (units)
1979	1,300	77.98	50,000	150,000
1980	1,300	77.98	60,000	165,000
1981	1,300	77.98	65,000	181,500
1982	1,300	77.98	70,000	199,650

The capacity of the Spanish plant would be 350,000 units per year.

Variable cost per unit was estimated to be Pts. 840. Of this, 20 percent was for materials imported from the United States, 40 percent for domestic materials and the remainder for labor. Domestic costs could be expected to rise at the forecast inflation rate of 15 percent per annum. Annual fixed costs consisted of manufacturing overhead of Pts. 75 million, depreciation of the equipment over ten years with no salvage value, and royalty fees to the parent of \$30,000 per year.

Spanish taxes consist of a 30 percent corporate income tax and a 10 percent withholding tax on dividends. No carry forward of losses is allowed. The U.S. income tax rate is 50 percent, with a credit allowed for foreign income and withholding taxes paid. Although the company expected that some of the subsidiary's earnings might be reinvested, for the purpose of

evaluation, all profits were to be treated as if repatriated at the end of the year.

The project evaluation team at IPC was asked to evaluate the project on the basis of the above information, together with the following exchange rate forecasts received from the company's bank:

Currency Forecasts, 1978-1982 (Units of Foreign Currency Per U.S. Dollar)

December 31	Spanish pesetas/\$	French francs/\$
1978	70.0	4.20
1979	70.0	4.00
1980	85.0	3.50
1981	95.0	3.50
1982	110.0	3.50