

ADDITIONAL PROBLEMS FOR CHAPTER 10

- 10-26** Northwest Utility Corporation has a cost of capital of 11.5 percent, and it has a project with the following net cash flows:

YEAR	NET CASH FLOW
0	−\$200
1	235
2	−65
3	300

What is the project's NPV?

- 10-27**
NPVs and IRRs for mutually
exclusive projects

B. Davis Industries must choose between a gas-powered and an electric-powered forklift truck for moving materials in its factory. Since both forklifts perform the same function, the firm will choose only one. (They are mutually exclusive investments.) The electric-powered truck will cost more, but it will be less expensive to operate; it will cost \$22,000, whereas the gas-powered truck will cost \$17,500. The cost of capital that applies to both investments is 12 percent. The life for each type of truck is estimated to be 6 years, during which time the net cash flows for the electric-powered truck will be \$6,290 per year and those for the gas-powered truck will be \$5,000 per year. Annual net cash flows include depreciation expenses. Calculate the NPV and IRR for each type of truck, and decide which to recommend.

- 10-28**
Multiple rates of return

Eastern Electric is considering a project that has an up-front cost (at $t = 0$) of \$150 million. The project is expected to generate positive cash flows of \$800 million and \$175 million at the end of Years 1 and 2, respectively. After the project is completed, the company expects to pay a cost of \$900 million at $t = 3$ to clean up the land that is used for the project.

- a. Plot the project's NPV profile. (Hint: Calculate the project's NPV at $k = 0\%$, 3% , 5% , 6% , 10% , 100% , 400% , 430% , and 450% .)
- b. Using the NPV profile drawn in part a, estimate the project's two IRRs.
- c. Should the project be accepted at $k = 5\%$? If $k = 10\%$? Explain your reasoning.