Study Plan

Chapter 9

Learning Objectives

After studying this chapter you should be able to:

- Differentiate between cash flow and accounting profit with regard to incremental cash flow, financing costs, taxes, and noncash expenses;
- Discuss depreciation, fixed asset expenditures, working capital expenditures, and terminal value;
- Understand the importance of focusing onrelevant cash flows and the effects on these relevant costs of sunk costs, opportunity costs, and cannibalization;
- Demonstrate the procedures for determining the relevant cash flows for a capital budgeting problem;
- Understand how to analyze capital rationing decisions, competing replacement projects with unequal lives, and excess capacity utilization projects; and
- Describe how the human element can affect the capital budgeting process and its outcomes.

Summary and Conclusions

- To estimate an investment's relevant cash flows, the analyst focuses on incremental cash flows, ignores financing costs, considers taxes, and adjusts for any noncash expenses such as depreciation.
- The costs of financing an investment, such as interest paid to lenders and dividends paid to shareholders, should not be counted as part of a project's cash outflows. The discount rate captures the financing costs, so deducting interest expense and dividends from a project's cash flows would be double counting.
- Certain types of cash flow are common to many different kinds of investments. These include fixed asset cash flow, working capital cash flow, operating cash flow, and terminal cash flow.
- To find working capital cash flow, calculate the change in net working capital from one period to the next. Increases in net working capital represent cash outflows, whereas decreases in net working capital represent cash inflows.
- To find operating cash flow, calculate after-tax net income and add back any noncash expenses.
- To find terminal value, or terminal cash flow, employ one of several methods, including the perpetual growth model and the use of book value.
- Only the incremental cash flows (marginal benefits and marginal costs) associated with a project should be included in *NPV* analysis. The analyst should avoid including sunk costs in estimates of incremental cash flows.
- Opportunity costs and any cannibalization should be reflected in an investment's cash flow projections.

- The profitability index (*PI*) is useful in making investment decisions that maximize *NPV* when capital rationing exists.
- When evaluating alternative equipment purchases with unequal lives, determine the equivalent annual cost (*EAC*) of each type of equipment and choose the one that is least expensive.
- When confronted with proposals to use excess capacity, think carefully about the true cost of that capacity. It is rarely zero.
- When analyzing capital budgeting projects, it is important to consider human factors and make sure that the project, in addition to having a positive *NPV*, makes sense.