

Study Plan

Chapter 8

Learning Objectives

After studying this chapter you should be able to:

- Understand capital budgeting procedures and the characteristics that management desires in a capital budgeting technique;
- Evaluate the use of the accounting rate of return, the payback period, and the discounted payback to evaluate proposed capital expenditures;
- Discuss the logic, calculation, and pros and cons of using net present value (*NPV*) to evaluate proposed capital expenditures;
- Describe the logic, calculation, advantages, and problems associated with the use of internal rate of return (*IRR*) to evaluate proposed capital expenditures;
- Differentiate between the *NPV* and *IRR* techniques by focusing on the scale and timing problems associated with mutually exclusive capital budgeting projects; and
- Discuss the profitability index and recent findings with regard to the actual use of *NPV* and *IRR* in business practice.

Summary and Conclusions

- The capital budgeting process involves generating, reviewing, analyzing, selecting, and implementing long-term investment proposals that are consistent with the firm's strategic goals.
- Other things being equal, managers would prefer an easily applied capital budgeting technique that considers cash flow, recognizes the time value of money, fully accounts for expected risk and return, and when applied, leads to higher stock prices.
- Though simplicity is a virtue, the simplest approaches to capital budgeting do not always lead firms to make the best investment decisions.
- Capital budgeting techniques include the accounting rate of return, the payback period, and the discounted payback period, which are less-sophisticated techniques because they do not explicitly deal with the time value of money and are not tied to the firm's wealth-maximization goal. More-sophisticated techniques include net present value (*NPV*), internal rate of return (*IRR*), and profitability index (*PI*). These methods often give the same accept-reject decisions but do not necessarily rank projects the same.
- Table 8.1 summarizes the definitions, advantages and disadvantages of each of the capital budgeting techniques presented in this chapter.
- Using the *IRR* approach can lead to poor investment decisions when projects have cash flow streams alternating between net inflows and outflows. The *IRR* technique may provide suboptimal

project rankings when different investments have very different scales or when the timing of cash flows varies dramatically from one project to another.

- Although the *NPV* and *IRR* techniques give the same accept or reject decisions, these techniques do not necessarily agree in ranking mutually exclusive projects. Because of its lack of mathematical, scale, and timing problems, the most straightforward and, theoretically, the best decision technique is net present value (*NPV*).
- The profitability index is a close cousin of the *NPV* approach, but it suffers from the same scale problem as the *IRR* approach.