Cash Flow Analysis and Other Factors

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WHAT'S COVERED

In this tutorial, you will learn about cash flow components like replacement projects, sunk costs, taxes, and depreciation and how they figure in to capital budgeting. Specifically, this tutorial will cover:

1. Cash Flow Factors

The first step in the capital budgeting process is the evaluation of cash flows. Recall there are three types of cash flows that are considered during capital budgeting.

- *Operational cash flows:* Originate from the core internal business of an organization.
- *Financing cash flows:* Originate from the issuance of debt or equity.
- *Investment cash flow:* Originate from assets and other capital expenditures outside of the normal course of business.

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2. Cash Flow Considerations

There are other considerations to take into account during the cash flow analysis.

2a. Replacement Projects

The first special consideration that needs to be given to cash flow is that of**replacement projects**. A replacement project is an undertaking in which the company eliminates a project that is at the end of its life and substitutes another investment. This replacement project could serve the purpose of replacing an existing investment with a new identical one or replacing an existing one that is producing unfavorable results with one that management believes will perform better.

When considering a replacement project, two things need to be considered.

- Cash flows from the original project: Analysis needs to be done to decide the optimal time to exchange the projects.
- Salvage value: This could be from the sale of existing equipment and this cash flow needs to be considered for the new project.

TERM TO KNOW

Replacement Project

An undertaking in which the company eliminates a project at the end of its life and substitutes another investment.

2b. Sunk Costs

The second cash flow consideration concerns sunk costs. **Sunk costs** are costs from the past that have already been booked and cannot be recovered. These are different from future costs, which can be avoided if action is taken.

↱ EXAMPLE Research and development costs are sunk costs that a business may incur. If R&D spends a year researching the viability of a product line, the cost of research should not be considered when pricing the new product; that cost is already sunk.

TERM TO KNOW

Sunk Costs

Costs that have already been incurred and cannot be recovered to any significant degree.

2c. Taxes

A third cash flow consideration is taxes. There are different ways to look at the tax impact as it pertains to cash flows.

There is the statutory tax rate that is mandated by law, and in the United States, the corporate tax rate is 21% (recently lowered from 35%). However, 44 of the 50 United States also levy a state corporate income tax. This brings the effective average task rate to a little over 25%.

Also, since for many of the states there are income tax brackets for corporations, they need to consider the marginal tax rate, which is the tax rate that will be paid on the next dollar of income.

2d. Depreciation

The fourth and final cash flow factor that needs to be considered is depreciation.**Depreciation** is the implementation of the accounting matching principle where the cost of assets is matched to the period in which the revenue is earned by them.

↱ EXAMPLE A machine that lasts five years would not have its total expense recognized in the year of purchase, but rather would be divided over the course of its five-year life.

Financial statements recognize depreciation as an expense, but it is not a cash flow in that period. Cash flow analysis during capital budgeting needs to recognize the difference between the accounting impact and the cash flow impact of equipment acquisition.

TERM TO KNOW

Depreciation

The process by which an asset is used up, and its cost is allocated over a period of time.

SUMMARY

In this lesson, you learned that **cash flow factors** include operational, financing, and investment cash flows. You also learned about aspects of **cash flow analysis that businesses need to consider**.

Replacement projects concern the acquisition of new assets that will replace assets already in service. The termination of cash flows from the first project need to be considered as well as any potential salvage value of the older equipment. **Sunk costs** need to be recognized but not included in the project decision. Sunk costs are unrecoverable. **Tax rates** need to be considered at both the federal and the state level. While the statutory regular corporate tax rate is 25%, the marginal tax rate may be different, depending on the tax brackets for corporations in the states in which they are chartered. Finally, **depreciation** needs to be considered. It is the impact on allocating the cost of a capital acquisition over the life of an asset rather than recognizing it in the year of purchase. It shows as an expense on financial statements, but it is a non-cash item.

Best of luck in your learning!

TERMS TO KNOW

Depreciation
The process by which an asset is used up, and its cost is allocated over a period of time.

Replacement Project
An undertaking in which the company eliminates a project at the end of its life and substitutes another investment.

Sunk Costs
Costs that have already been incurred and cannot be recovered to any significant degree.