

Cost Measurements (Ch 5)

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Depreciation

Review from Intro to Costs

Assets cost a lot and while purchased in one year provide benefits over many years. We would like to allocate cost of purchasing that asset over the years we use it (Matching principle).

- ▶ When you buy the asset (Balance Sheet) it is in the rate base and earns interest
- ▶ Every year some of the purchase price turns into depreciation (Income statement) and passed on the consumers.
- ▶ Ideally, sale of an asset should result in no income changes but it almost always happens.

Asset Retirement Obligations

Examples of Dissallowance and the Reasons Why

Dissallowance is the technical term for not including an expense or an asset in the rate base.

Key terms:

- ▶ Used and Useful
- ▶ Prudent

Examples:

- ▶ Trojan Nuclear Power Plant (PGE) http://www.puc.state.or.us/admin_hearings/key_puc_cases/95_322.pdf
- ▶ Multiple Wind Projects (PacifiCorp) <https://apps.puc.state.or.us/orders/2008ords/08-548.pdf>

Trojan

PacifiCorp Wind Projects

Regulated Rate of Return

What we will look at

- ▶ The effects of capital structure on the rate of return
- ▶ The rarity of using actual structure and a framework for choosing one in a regulatory framework.
- ▶ Technical problems:
 - ▶ Subsidiaries
 - ▶ Used assets
- ▶ Three ways to estimate ROE and a critique.

Earnings volatility and Debt

Why Assume a Structure Rather than Measure

Criteria for an Assumed Structure

<http://www.sciencedirect.com/science/article/pii/S1040619011001722>

Technical Issues

- ▶ Subsidiaries
- ▶ Used Assets

Subsidiary

Used Assets

Return on Equity (ROE)

Usual Methods and an Unavoidable Assumption

Methods: + Discounted Cash Flow (DCF) + Capital Asset Pricing Model (CAPM) + Risk Premium Model (RPM)

Sitting under all of them is one of the efficient market assumptions.

Three Basic Kinds of Efficient Market Assumptions

Usefulness of information to predict future prices

- ▶ Weak: All past price data will not help.
- ▶ Semi-Strong: Public data does not help
- ▶ Strong: No data public or private can help

Grampa Ish and Betting on Horses

- ▶ You don't know who will win.
- ▶ Calculate your own odds of each horse.
- ▶ Bet the horse that is paying off more than you think it should.
- ▶ You win more often if you have your grandson talk to the jockys.

Behavioral Finance

- ▶ Behavioral Economics has a brother.
- ▶ There are plenty of anomalies
 - ▶ Monday Effect, French (1980)
 - ▶ January Effect, Roll(1983)
 - ▶ Firm Size, Banz(1981)
 - ▶ Mean Reversion, DeBondt and Thaler (1985)
 - ▶ Momentum, Jegadeesh (1990)
- ▶ Anomalies get smaller after a paper about it is published.
- ▶ Many critiques have to do with statistical details.

Comparable Data

The intent is to have observations of a firm just like the one being regulated but without the effect of regulation.

- ▶ The intent is a quasi-experimental control.
- ▶ Comparability is easier to work with for populations but harder for an individual.
 - ▶ There is no perfect match
 - ▶ The Parable of the Cookie and Parent's Problem.

DCM

CAPM

RPM