DETERMINING THE COST OF CAPITAL

NARUC Energy Regulatory Partnership Program
The Public Services Regulatory Commission of Armenia
and The Iowa Utilities Board

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CAPITAL STRUCTURE

- The sources of capital and the amount used to finance the investment in the utility.
- Three basic sources of capital:
  - Long-term debt
  - Preferred equity
  - Common equity
- Helps determine the ability of a utility to attract capital on reasonable terms:
  - Optimal balance between the different sources to minimize the cost of capital to ratepayers.
  - Balance of financial and business risks.

SOURCES OF CAPITAL

LONG-TERM DEBT

- Contractual interest payments
- Different types of debt
- Cheapest source of funds (normally)
- Tax advantages – write off interest expense
- Needs to be used carefully

SOURCES OF CAPITAL
PREFERRED STOCK

- Fixed dividend payments
- Flexibility in dividend payments
- No tax advantages
- Riskier than long-term debt
- Small portion of the capital structure

SOURCES OF CAPITAL

COMMON EQUITY

- Rate not fixed
- Most expensive source of funds
- Riskiest investment to investors
- No tax advantages

DEBT COST RATE

- Use "Traditional" method:
  - Is the Board approved method
  - Recovers the embedded cost
  - Reflects what is included in the utility’s books and records
- Recovers interest cost obligation - The principle amount outstanding times the coupon rate.
- Recovers the net amortization of discount, premium, and expense.
- Total cost is divided by the thirteen-month average balance of long-term debt minus the net unamortized balance of discount, premium, and expense.

SIMPLE EXAMPLE OF CALCULATION

- Principle Amount = $100,000 (20-year Life)
- Interest Rate = 5%
- Issue Expense = $100
- Discount = $5,000
- Net Proceeds = $94,900 (i.e., $100,000 - $100 - $5,000)
- Total Cost = $100,000(0.05) (Interest Expense) + $100/20 (Issue Expense) + $5000/20 (Discount)

  (i.e., $5,000 + $5 + $250 = $5,255)
- Cost of Debt is determined by taking Total Cost of **$5,255** divided by Net Proceeds of **$94,900,** which equals **5.5%**

PREFERRED EQUITY COST RATE

Calculated essentially the same way as long-term debt.

DETERMINING COST OF EQUITY

- A controversial issue
- A big dollar issue
- Several methods used
  - Discounted Cash Flow Model
  - Capital Asset Pricing Model
  - Risk Premium Model

WACC EXAMPLE

	Amount	Percent	Cost Rate	Weight
Debt	$ 500	50%	6%	3.0%
Preferred Equity	$100	10%	8%	0.8%
Common Equity	$400	40%	12%	4.8%
Total	$1,000			8.6%

WACC: 6.0%*50% + 8%*10% + 12%*40% = 8.6%

REASONS FOR DETERMINING THE OVERALL COST OF CAPITAL

- For Rate Case Proceedings
  - to determine return on rate base for setting just and reasonable rates

- MidAmerican Energy's Alternative Pricing Proposal (beginning in Docket No. APP-96-1)
  - operates using a banded rate of return
  - shares excess earnings above the return on equity threshold

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OTHER ISSUES

- Hypothetical Capital Structure
- 13-month Average vs. Yearend Capital Structure
- Pro Forma Adjustments
- Short-Term Debt

HYPOTHETICAL CAPITAL STRUCTURE

- It is used to determine a fair rate of return.
- Utility is not required to achieve that capital structure.
- The Board implemented a hypothetical capital structure for two cases beginning in Docket No. RPU-80-40 for Northwestern Bell.
- It was considered for Peoples (n/k/a Black Hills Energy) in past cases.

13-MONTH AVERAGE VS. YEAREND CAPITAL STRUCTURE

- Is Board precedent to use 13-month average capital structure:
  - Does not violate matching principle
  - Not impacted by one time events
  - Prevents manipulation
- Yearend capital structure is typically supported by utility:
  - Reflects the capital structure for a single day
  - Is argued that it reflects actual capital structure going forward

PRO-FORMA ADJUSTMENTS

- Reflect known and measurable changes within the test year (rollovers).
- Reflect changes after the test year consistent with Iowa Code 476.33, subsection 4
  - where it states the Board "consider verifiable data that exists within nine months after the conclusion of the test year, reflecting known and measurable changes in costs not associated with a different level of revenue, and known and measurable revenues not associated with a different level of costs."

SHORT-TERM DEBT

- Normally not included in capital structure
- Does not support permanent investment
- Only reliable long-term costs should be considered
- In Iowa, allowed in unique circumstances (US West, Docket No. RPU-82-49)

QUESTIONS?

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