

**THE COST OF CAPITAL –
A PRACTITIONER'S GUIDE**

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Author's Note: This manual has been prepared as an educational reference on cost of capital concepts. Its purpose is to describe a broad array of cost of capital models and techniques. No cost of equity model or other concept is recommended or emphasized, nor is any procedure for employing any model recommended. Furthermore, no opinions or preferences are expressed by either the author or the Society of Utility And Regulatory Financial Analysts.

Among the considerations which help determine whether the utility vs parent capital structure is appropriate are:

1. whether subsidiary utility obtains all of its capital from its parent, or issues its own debt and preferred stock.
2. Whether parent guarantees any of the securities issued by the subsidiary.
3. Whether subsidiary's capital structure is independent of its parent (i.e., existence of double leverage, absence of proper relationship between risk and leverage of utility and non-utility subsidiaries).
4. Whether parent (or consolidated enterprise) is diversified into non-utility operations.

Double Leverage

One of the most controversial elements of utility regulation revolves around the existence and recognition of double leverage. Double leverage is said to exist when a firm is owned by another firm and both the parent and subsidiary issue debt. Thus leverage exists at two levels, with the effect that the parent's common equity investment is financed with a combination of its own debt and common equity.

Advocates of double leverage argue that existence of holding company frameworks permits the parent company to earn higher levels of returns on its subsidiary investments than that authorized by

regulatory commissions. It is thus maintained that the parent's cost of capital be utilized in calculating a subsidiary utility's cost of common stock or common equity. (Backman and Kirsten, 1972; Copeland, 1977; Seeds, 1978).

Opponents of double leverage maintain, on the other hand, that such adjustments assume that dollars can be precisely traced and that all of the common stock (or common equity) on the books of the subsidiary was raised by the parent holding company. If these assumptions cannot be demonstrated, they maintain no double leverage adjustment is appropriate (Brennan and Humphreys, 1973; Lerner, 1973; Fitzpatrick, 1977).

The traditional "double leverage" adjustment involves determining the total cost of capital for the parent company (on a non-consolidated basis) and utilizing this as the cost of common equity for the subsidiary relative to the subsidiary capital structure.

An alternative double leverage adjustment is use of a consolidated capital structure and cost of capital for a subsidiary utility. This approach is more feasible in non-diversified holding companies where no risk differentials exist among subsidiaries.

A "modified" double leverage technique also has been proposed whereby the parent's cost of capital is used as the cost of the

subsidiary's common stock account, but not retained earnings which is assigned the cost of equity capital (Rozeff, 1983). This modified technique has received better acceptance in circumstances where subsidiaries have equal risk than in circumstances where subsidiaries have different risk (Sweeney, 1985).

Hypothetical Capital Structure

There are circumstances where a hypothetical capital structure is used for a utility, rather than the utility's own capital structure. The most common reasons for utilizing a hypothetical capital structure are:

1. The utility's capital structure is deemed to be substantially different from the typical or "proper" utility capital structure.
2. The utility is funded as part of a diversified organization whose overall capital structure reflects its diversified nature rather than its utility operations only.

In both cases, a "reasonableness test" is generally applied in order to determine if the actual capital structure is unreasonable or produces an excessive cost of capital.