

Imputed Debt: A Regulatory and Cost-of-Capital Perspective

*Ron Knecht, MS, JD & PE – Staff Economist, Nevada Public Utilities Commission[†]
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Credit rating agencies (reasonably, in my view) treat certain utility contract payment obligations as debt equivalents (“imputed debt”) in rating utilities’ credit. What implications does this treatment have for utility regulation, especially in determining utility costs of capital (COCs) for ratemaking? This issue has been focused by various utility proposals and some state regulatory agencies’ responses to those proposals and to credit-rating actions.

Does Imputed Debt Have Any Role in Rates and Regulation?

Having recognized at the outset that it is reasonable for credit rating agencies to treat certain utility contractual payment obligations as debt equivalents for credit rating purposes, does it follow that this practice should make any difference to ratemaking and other regulation? The fact that imputed debt is a reasonable construct in credit rating does not, itself, directly imply any problem for regulation, nor any parallel adjustment to ratemaking and other regulation, because the reasons that justify debt imputation in credit rating have no direct role in ratemaking and other regulation. Credit rating agencies impute debt equivalents because they are assessing a firm’s likelihood of failing to timely meet its debt-service obligations – but that concern does not enter into ratemaking or any other regulatory determination and so has not direct regulatory role.

However, the credit rating agencies’ determinations may have effects on the financing actions of a utility and thus on its capital structure. Hence, depending on those effects and on the regulatory treatment given to a utility’s capital structure in determining its COC, rates, and other practices, credit rating agencies’ imputed-debt practices may have indirect implications for utility rates and regulation. The effects that imputed debt may have on utility financing actions are best explained in terms of the relationships between a firm’s required prospective returns on its invested equity, returns on its overall investment and on its capital structure. These are all key considerations that also undergird utility ratemaking, which must also properly reflect their inter-relationship. Hence, below I first explain these inter-relationships, mainly in terms of ratemaking and other regulatory treatment, and then I turn to the actions a utility would reasonably take in response to debt imputation by credit raters.

What Effects Should Debt Imputation Have on Utility Financing?

To understand the imputed-debt COC issue, we must begin with the relationship between allowed returns on common equity and on total investment (“rate base”), and the capital structure used for ratemaking purposes. One view in the finance literature is that

[†] The views expressed here are the author’s, not those of the PUCN or anyone else, and they are tentative (draft), advanced for comment at RonKnecht@aol.com, 775-684-6134 (office) or 775-882-2935 (home).

the characteristic cost of capital for a firm is some version of its weighted average cost of capital (WACC) and that the WACC depends only on the business risks the firm faces – that is, uncertainties concerning its generation of net revenues (or concerning gross revenues and expenses) – and is thus independent of the firm’s financial structure, or debt leverage. Because the WACC is determined as a mathematical dot product involving both capital structure and allowed return on equity (ROE), the constancy of the WACC from this perspective dictates an exactly compensating inverse relationship between the allowed ROE and debt leverage.

Another perspective holds that corporate income taxes paid by utilities, personal income taxes paid by their equity owners and financial “distress” effects of increasing utility debt leverage will together yield WACC values that are not independent of debt leverage. Three versions of this school hold that there are gains in the form of reduced COCs (and thus, reduced revenue requirements from ratepayers) to be had from ever-increasing leverage, while a fourth version shows that there is an optimal capital structure (level of debt leverage) that minimizes the COC and thus also minimizes rates over time. Hence, leverage either: 1) makes no difference because the WACC is constant; 2) should be increased indefinitely to lower overall WACC and revenue requirements; or 3) makes a difference and should be confined to an optimal range. The issue I address is the difference, if any, the imputed debt practices of credit rating agencies make in terms of each of these three approaches.

Before answering that question directly, it is important to understand that actual regulatory treatment may not recognize and reflect these financial perspectives. Few regulatory commissions, in my experience, have explicitly recognized the relationship between capital structure and allowed ROE and been clear on which of the three views they adopted and how they implemented their adopted view to choose a matched ROE and capital structure. (The Public Utilities Commission of Nevada has been quite thoughtful and generally clear on COC issues in my experience.) Typically, rate case decisions review the evidence at varying lengths and then adopt capital structure and ROE numbers that the decisions proclaim in a conclusory manner meet the legal requirements of balancing the interests of utility ratepayers and investors, promoting the public interest and reflecting the evidence in the record. So, my approach to the question at hand is to review the implications of credit-rating treatments on regulation and rates under each approach. The application to the practices of a particular regulator can then be reckoned to the extent one can determine which view its decisions reflect.

Case 1: Assuming WACC Is Constant Regardless of Leverage

If the WACC is constant, then a utility’s actual capital structure (leverage) makes no difference in principle to its rates. In this context, financing is nothing more than an exercise of allocating the business risk inherent in the enterprise among the providers of the various types of funding (classes of debt and equity). The regulatory determination of COC, under this view, consists in determining the level of business risk, as reflected in the WACC, to set rates to exactly compensate the whole set of utility investors as a group for that risk. As noted above, however, under this perspective the required ROE of

investors is directly related to the firm's actual capital structure in correctly computing the WACC. If we confine ourselves to the actual capital structure at some time for a given firm, we probably find insufficient data to estimate the required ROE.

However, the capital-attraction (investors' opportunity cost) principle underlying setting of rates allows (and virtually requires) one to consider returns earned by other comparable firms – that is, by other utilities, which are characterized by a range of equity returns and capital structures. The important point in making such an assessment is to observe the rule that the ROE varies with the capital structure and to assure that the chosen ROE is either applied only to that capital structure with which it is associated or is modified for application to some other capital structure. One way to close the loop is to use (at least instrumentally) as a “hypothetical” capital structure the average capital structure for the set of “comparable” firms from which the ROE is derived.[‡]

However the problem is finessed, the conclusion is that using the model that the WACC is constant for ratemaking purposes means that the utility is indifferent to the credit-rating imputation of debt. If the utility has a target capital structure and if that target is influenced by its costs of debt, it may modify its planned financing issues by delaying/decreasing its next debt issue and/or accelerating/increasing its next equity issue in a manner that exactly compensates for the debt imputation by its credit raters. Or it may conclude that its financial plans and efficient capital markets had both already taken into account its contractual obligations and that the imputation of debt merely documents that fact, and thus requires no alteration in its financing plans. If, within reasonable bounds, the utility's target capital structure and financing plans are not sensitive to the costs of new debt or to other factors flowing from the debt imputation, then the imputation of debt may also have no effect on its future financing actions.

In any event, though, because its ratemaking capital structure, ROE and COC are determined not by its idiosyncratic actions and situation, but instead by the opportunity cost to investors, as reflected in the capital structures and returns to other comparable firms, it will be fully insulated – held harmless – from all effects on its rates and revenues from imputed debt. The reason is that its regulator has determined that the WACC is constant and does not vary with the “actual” capital structure, regardless of imputed debt. Because imputed debt makes no difference to ratemaking (revenue requirements), nor does any action the utility may take in response to debt imputation, regulators should not do anything as a direct or indirect consequence of rating agencies' actions.

Case 2: Assuming WACC Declines Continuously with Leverage

Anyone who concludes that WACC declines continuously with leverage faces the problem that a logical implication of that view is that utilities would over time come to

[‡] Often, the “tyranny of words” fallacy encumbers consideration of “hypothetical” versus “actual” capital structures. In fact, many if not most of the data used in rate setting are hypothetical or somehow modified from the actual accounting books and records of the regulated firm – as is only proper. I use the term “hypothetical” only as descriptive, not pejorative, and I recognize that “actual” capital structures are often just as “hypothetical”.

realize the gains to be had from indefinitely increasing leverage. It is not within the scope of this paper to resolve that conundrum or get side-tracked by it; instead, I merely note that anyone advocating it does need an explanation as to why utilities do not move toward full debt financing – and I know of no such explanation.

If the utility takes this view, and I know of none that do and doubt there are such, then imputed debt appears to present more an opportunity than a problem. Imputed debt in that case requires nothing but the signing of more purchase contracts, even recognizing that the counter-party's financing cost is rolled into the contract. It well may be that the counter-party's financing cost is higher than the utility cost of debt, which would cause a utility to favor self-provision over purchase, unless it is subject to regulatory or other legal requirements to do such contracting. Then, however, the decision to incur a higher cost and pass it on to the ratepayers has already been taken out of its hands.

If the regulator takes this view and the utility does not, then it follows that the regulator may rely on the utility's actual capital structure, which it will require the utility to leverage as much and as fast as it can. If the utility's progress in doing so is insufficient for the regulator's tastes, he may use a hypothetical capital structure that is more leveraged (including, possibly, the average for the comparable firms from whose returns the required ROE is estimated). However, the regulator may not legitimately impute the debt equivalence into the capital structure because the regulator is supposed to be seeking to determine the utility's market-required COC, not making determinations that concern rating agencies about the security of the utility's debt service.

In any event, in this circumstance and even assuming no difference between the capital structure used by the regulator and the utility's target capital structure, the utility may request a compensating adjustment to its ROE or some equivalent measure. The reason is that, as in case 1 above, the imputed debt may cause the utility to alter the timing and amounts of future securities issues away from its target capital structure. If so, in this case that fact will have an impact on its rates because the WACC and resulting rates are not assumed by the regulator to be independent of leverage. The regulator may believe that the cost of equity increases with leverage, but that the rate of WACC increase on required ROE is less than the rate of decrease due to increased leverage, although I am unaware of any empirical basis for such a view. In any event, it would conflict with the utility's contention that the increase in required ROE more than offsets benefits from leverage. So, the utility at least would believe the compensatory measure a regulator might grant, if any, would not be sufficient to make it whole.

One other combination is possible. If the regulator takes this case 2 view that WACC declines with leverage and the utility takes the case 1 view that WACC is constant regardless of its leverage, the two parties are already at loggerheads due to inherently conflicting views. The utility may request a measure to compensate for imputed debt, but really because it believes its allowed returns are below its COC.

In sum, obviously this view is fraught with problems if adopted by the regulator and not by the utility – and it seems quite unlikely ever to be adopted by the utility and

has not been stated in strong form by any regulator of which I am aware. However, it is worth noting because the proposals of many consumer advocates and other interest groups, as well as some regulatory decisions, seem to imply that increased leverage will always lower a utility's overall COC and rates. Perhaps the problem could be solved if those groups or regulators were required to explain the theory and empirical evidence on which they rely for the conclusion that indefinitely increasing leverage reduces the WACC. In the alternative, if their view is that it can lower it from present levels but not indefinitely (a view consistent with the third case), the problem might be solved if they were required to state what is the optimum range for leverage, as well as how they determined it. In any event, we turn finally to that third case.

Case 3: Assuming There's an Optimal Debt Level for Lowest WACC

If the regulator sets rates based on an optimal leverage range, he will be inclined to view imputed debt as moving the utility away from that sweet spot toward insufficient leverage and resulting higher overall COCs and rates. This result follows from assuming that imputed debt modifies the timing and amount of utility financing issues, as described above. If the regulator sets ROE geared to the optimal capital structure, he will view the allowed ROE as more than high enough to compensate equity owners' risks associated with the lower leverage. Hence, the regulator will tend to disfavor any compensatory ROE increase or equivalent measure to compensate for rating agencies' imputed debt.

In response, a utility is unlikely to argue that increasing leverage continuously lowers COCs, because that is contrary to its need to earn equity returns. It could agree with the regulator's view and accept the ROE cut. Or it could argue based on a theory that WACC is constant regardless of leverage that no change is required in its ROE. At present, I know of no argument to support enhanced ROEs or equivalent measures due to imputed debt.

Consequences of the Foregoing Analyses

Considering together the foregoing analyses, as long as regulators do not impute debt for ratemaking or their other purposes, it is difficult to see a basis under any regulatory COC theory for increased ROEs or equivalent measures due solely to debt imputations by credit rating agencies. None of the three regulatory theories supports such measures. The first leads to no change. The second view is fraught with problems even before getting to this issue and so has not been advocated or adopted in any strong form – although it is implicit in some positions. The third approach would support a decreased, not enhanced ROE.

All the foregoing differences between utility and regulator views on the ratemaking requirements due to imputed debt tend to suggest utilities will be cautious in signing contracts that may lead to debt imputation by credit rating agencies. Due to that caution, interest groups that support such contracts for other reasons may tend to support enhanced utility returns, despite the lack of a basis in any regulatory COC theory to support such enhancements.

Summary:

- 0) Credit rating agencies' use of imputed debt is reasonable for their purposes.
- 1) There is no reason for regulators to impute debt and good reason not to do so. Regulators' purposes are different from credit raters' purposes, and imputed debt has no direct role for ratemaking and other regulation.
- 2) However, the responses of utilities to imputed debt may or may not cause adjustments for imputed debt and they may lead to disagreements about whether, all other things being equal, the allowed returns are compensatory. A key reason is that imputed debt may cause utilities to alter their financing issues from their target levels and timing.
- 3) If the regulator sets rates on the basis of a constant WACC, regardless of the utility's actual capital structure, then no regulatory compensation is required for imputed debt – regardless of the utility's response to imputed debt.
- 4) If the regulator sets rates based on a model of WACC declining continuously with increasing leverage – a view that seems to be reflected in some non-utility party showings and perhaps some regulatory decisions – the utility is almost certain to believe that its allowed returns are not compensatory and imputed debt only exacerbates that situation.
- 5) If the regulator sets rates based on an optimal capital structure, then the regulator is likely to view imputed debt as moving the utility to insufficiently leveraged capital structures, if it has any effect at all; this would indicate reductions, not increases in allowed ROEs (or equivalent measures).
- 6) As long as regulators do not impute debt for ratemaking or their other purposes, it is difficult to see a basis under any regulatory COC theory for increased ROEs or equivalent measures due solely to debt imputations by credit rating agencies.
- 7) All the differences between utility and regulator views on the ratemaking requirements due to imputed debt tend to suggest utilities will be cautious in signing contracts that may lead to debt imputation by credit rating agencies. Due to that caution, interest groups that support such contracts for other reasons may tend to support enhanced utility returns, despite the lack of a basis in any regulatory COC theory to support such enhancements.