Sources of Project Financing in Health Care Systems

Dean G. Smith, John R.C. Wheeler, Howard L. Rivenson, and Kristin L. Reiter

Through discussions with chief financial officers of leading health care systems, insights are offered on preferences for project financing and development efforts. Data from these same systems provide at least anecdotal evidence in support of pecking-order theory. Key words: capital, donations, finance, investment, strategy

THE BIG PICTURE of overall capital structure is an important concern for not-for-profit (NFP) health care systems (see the article by Wheeler et al. in this issue entitled “Capital Structure Strategy in Health Care Systems”). Also important at the point of decision making, is the source of financing for a specific investment. While capital structure can be a strategic issue in its own right, it is also the cumulative effect of a series of decisions on an investment-by-investment basis. In this article, we illuminate the process of capital acquisition on a project-specific basis. After a brief review of the finance theory that motivates our questions, we report on criteria employed in financing decisions and general preferences among financing sources. While efficient market finance theory predicts no preferences among financing sources, empirical work often finds support for a pecking order from retained earnings to debt to new equity. One source of new equity in the NFP context

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This study was supported by a grant from the Center for Health Management Research, University of Washington, Seattle, Washington. The authors appreciate the support of Howard Zuckerman, Director, and the responsiveness of the participating chief financial officers of member systems.
is philanthropic donations. In this regard, we report on the development efforts in leading health care systems, and the alignment of development efforts in those systems.

Pecking-Order Theory

The modern theory of corporate finance holds that under conditions of perfect information, no taxes, and no risk of bankruptcy, firms will seek a mix of financing that minimizes the cost of capital. Firms will not have a preference for financing for specific investments, nor will they have preferences among sources of financing at the time of an investment. However, modern theory may fail to hold true in practice. For example, there is not perfect information, there are taxes and other financing system factors affecting net returns, and there is a risk of bankruptcy. Debt holders and investors see investments and financing decisions not just in their own right, but perhaps also as indicators of the intent of the firm.

NFP health care systems are much like investor-owned firms in many ways, but there are notable differences in the area of financing and investments. Tax-exempt hospitals have similar access to retained earnings and debt markets, but very different access to owner equity. Equity investors expect a return on their investment that is difficult to determine and illegal to distribute for tax-exempt hospitals. Investor-owned corporations can issue equity (shares) directly, pay dividends, repurchase shares, and permit exchange of shares in the financial marketplace. Tax-exempt hospitals can solicit equity through donations (though this is a more cumbersome process), but they cannot provide a direct return to an individual investor. Rather, tax-exempt hospitals provide returns to communities through provision of charitable services, reduced-priced services, or other means.\(^1\)\(^2\)

Due to constraints on distribution of earnings and assets, NFP organizations have differing relations with capital markets than do investor-owned corporations. There is always asymmetry of information between managers of firms and debt holders. Signals sent by firms through their financing and investing decisions are often mixed. This asymmetry of information and mixing of signals become much more significant when there are no direct equity holders to monitor managers and no guidance toward wealth maximization.

For firms in general, asymmetric information and signaling problems motivate a theory of a pecking-order process in financing decisions.\(^3\)\(^4\) Applied to the tax-exempt firm, pecking-order theory predicts that firms will have an ordered preference for use of internal cash (savings), cash generated from projects (required cash flow from projects), short-term debt (taxable), long-term debt (tax-exempt), and equity. Since managers cannot perfectly convey intentions, they may minimize costs by using resources in an inverse order of the requirement for outside information.\(^5\)

The application of this theory is very simple: Firms borrow money when they need to borrow money; otherwise, they fund investments internally. An early empirical investigation found considerable evidence that pecking-order behavior fits the data from a cross-section of well-established companies.\(^6\) Further studies have confirmed this result with more sophisticated models incorporating dividend decisions.\(^7\) The evidence is somewhat less convincing for a cross-section of newly created ventures.
where earnings and retained earnings are at lower levels. The most recent study suggests that pecking order may apply more to incremental decision making than to aggregate decision making. A time-series analysis found evidence of a pecking order with a cash flow model that explained 86 percent of the variation in gross debt issues (versus only 25% under alternative models).

Three studies of hospitals have also addressed pecking-order theory. One study suggested a link between Medicaid market share and lower profitability, and a corresponding use of more debt. This finding seems unusual in that one would expect firms with fewer internal funds to borrow more. An alternative empirical formulation of this issue, including growth, found results that were consistent with pecking-order theory: a negative relationship between debt and profits and a positive relationship between debt and growth. It also showed that noted capital structure changes slowly over time.

A survey of hospital chief financial officers (CFOs) examined issues surrounding a static capital selection process (also termed tradeoff theory) versus a pecking-order process (also termed asymmetric information theory). It found that about half of the responding CFOs had a target debt ratio that they attempted to meet, which is consistent with a static capital selection process. About one third of hospital CFOs reported that capital structure was formed by the availability of funds, which is consistent with a pecking-order process. A conclusion was that "more hospital CFOs support the tradeoff theory than the asymmetric information theory, but the issue of which theory is correct is far from resolved."12(p.246)

Preferences for Financing

Health care system CFOs in our study expressed no consistent pecking order on sources of funds for capital projects. Some systems expressed a preference for using cash flow from operations as the first source of financing, although this is not really a financing choice directly. Rather, it is a choice to attempt to avoid certain investments. Failing to consider raising capital (debt or equity) for new projects if there is not sufficient first-year cash flow to support them is really a decision to reject the projects.

CFOs who prefer to require that a project be self-financing seek to avoid debt for two reasons: (1) debt reduces management flexibility because of fixed cash flow requirements and (2) business risk increases as leverage increases. The first of these reasons indicates the disciplining role of debt, a role that managers tend to dislike. With all of the uncertainty about the industry expressed by our respondent CFOs, caution about use of debt is warranted. The second reason forms the basis for much of the theory concerning asymmetry of information and signaling, which are at the core of pecking-order theory. With more business risk, equity financing becomes more attractive.

Counter to this theme, several CFOs indicated a preference for use of tax-exempt debt whenever possible. Tax-exempt debt is often the lowest-cost source of funds. Some CFOs indicated use of tax-exempt debt for all

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qualified investments. These same CFOs attempt to limit use of equity only for projects that are not tax-exempt, thereby preserving this scarce financing for times of greater need. Often CFOs expressed the standard approach to general theory of investment and financing supported by finance theory:

Generally, there is no relation between a project and its financing source. The only exception is that we use more leverage in long-term care facilities than acute care facilities.

While it is perfectly plausible that CFOs do not follow pecking-order theory predictions because they adhere to the theoretically correct prescription to separate investment and financing decisions, the motivation for use of debt may also be derived from the preference for accumulating cash reserves (discussed in the article in this issue by Rivenson et al. entitled “Cash Management in Health Care Systems”). Further, many other factors have been suggested as determinants of financing decision making. Dividend policy, how managers decide to distribute earnings, has been used with debated success as a reflection of financing preferences. Managerial entrenchment may be associated with pecking-order behavior if long-time managers wish to avoid external oversight.

Within the category of “debt,” there are a number of varieties such as capital leases, secured debt, unsecured debt, subordinated debt, preferred stock, and others. Empirical research supports financing decisions among debt forms based on contracting cost and tax effects. There may also be a pecking order among sources of debt, but our brief interviews did not permit us to pursue this line of thought.

**Development Efforts**

In almost every case, CFOs view donations as the last source of financing. Most CFOs view donations as declining in importance to their organizations. Systems often provide infrastructure to support development, but funds are typically raised locally and kept locally. Local operating units therefore have the incentive, if sometimes not the community wealth, to increase development. Most CFOs are not enthusiastic about donations as a source of financing. They consider these funds to be unreliable over time, inflexible as to use, uneven across the system, and small in amount. However, a few CFOs consider increasing fund development to be a priority and have started to put some organization and resources in place:

Foundations are at the hospital level, but we do central support of mailings and some materials.

Philanthropy is a substantial source of funds. At the operating level, if they raise funds through philanthropy, they are rewarded with additional allocated capital.

**Some Anecdotal Data**

For descriptive and analytical purposes, we collected financial statements for health care systems from Van Kampen Advisors, Inc. Interpretation of these data and analyses should be viewed with caution, as anecdotes that provide some numerical representation of the concepts presented in the discussions with CFOs.

One analysis performed with data from the 12 systems is a test of the pecking-order theory. As described above, prior empirical work generally finds support for a
pecking-order process, though the one prior survey indicated that managers did not believe that they follow a pecking-order process. In our survey, there was mixed support for pecking-order theory. Some CFOs preferred internal financing of investment while others preferred use of debt. We subjected the data from these systems to a simplistic empirical test.

Empirical studies of pecking-order theory seek to explain variation in the use of debt through the application of a multiple regression model. Use of debt is typically represented by the ratio of long-term debt to capitalization (long-term debt plus equity). Variables included in the model to explain variation in the use of debt include: the ratio of long-term debt to capitalization lagged one period; earnings before interest, depreciation, and taxes (EBIDT); the coefficient of variation (standard deviation divided by the mean) in EBIDT; the ratio of fixed assets to total assets; and growth in total assets.

Regression results are presented in Table 1. Results are very much as predicted by pecking-order theory. In particular, the coefficient on the variable EBIDT is estimated to be −0.813, a negative relationship that is statistically significant. In fact, this estimate is close to −1.0, a relationship where earnings would be uniformly substituted for debt. The coefficient on the measure of risk, the coefficient of variation in EBIDT, is also estimated to be negative, but it is very small in magnitude and insignificantly different from zero. The coefficient on the lagged use of debt is insignificantly different from one and the coefficient on growth in assets is positive and statistically significantly different from zero.

The relationship between the coefficients on earnings and growth in assets is of particular interest in these systems. The average rate of growth in assets over 1996 through 1998 was 27 percent. Earnings over this time averaged less than 10 percent per year. Therefore, even though it appears that perhaps 80 percent of earnings were put back into growth of assets, more debt was required to support the growth in assets.

Again, this simplistic regression with only a dozen observations is anecdotal evidence. Still, it serves to suggest that pecking-order behavior is, on average, exhibited by the systems under examination. Further, it is not inconsistent with the comments of CFOs that

Table 1. Ordinary least squares regression—Dependent variable: Long-term debt to capitalization in 1998

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Coefficients</th>
<th>t  Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.007</td>
<td>0.131</td>
</tr>
<tr>
<td>Long-term debt to capitalization (1997)</td>
<td>1.077</td>
<td>13.076</td>
</tr>
<tr>
<td>Earnings before interest, depreciation, and taxes (EBIDT; 1998)</td>
<td>−0.813</td>
<td>−6.808</td>
</tr>
<tr>
<td>Coefficient of variation in EBIDT (1996–1998)</td>
<td>−0.008</td>
<td>−0.240</td>
</tr>
<tr>
<td>Ratio of fixed assets to total assets (1998)</td>
<td>−0.016</td>
<td>−0.195</td>
</tr>
<tr>
<td>Growth in total assets (1996–1998)</td>
<td>0.168</td>
<td>2.524</td>
</tr>
</tbody>
</table>

n = 12; R² = 0.983.

Source: Data from Van Kampen Advisors, Inc., 1999.
expressed a preference for use of debt. These systems are engaged in substantial rates of growth in their asset bases. To support these rates of growth, both earnings and debt are required. These findings suggest that systems, on average, use most of their earnings to support asset growth and borrow the remaining needed amounts.

REFERENCES
