What are the determinants of nonprofits' use of debt instruments?

Qingqing Sun
Doctoral Student
School of Public Policy, University of Maryland-College Park

Around half of nonprofits carry some debt in the US in order to meet the needs of financing capital projects (e.g., lands, buildings, equipment) that house the organizations or working capital necessary for their provision of goods and services (Lam et al., 2020; Smith, 2010; Yetman, 2006). In existing literature, many studies apply corporate capital structure theories (i.e., pecking order and static trade-off theories) to the nonprofit context in order to examine the determinants of nonprofits’ use of total debt. However, scholars cannot obtain consistent results that support either pecking order (i.e., always preferring to use internal funds rather than debt to meet financial needs and reduce the risk of default) or static trade-off theory (i.e., comparing the financial benefits and costs of debt before deciding), and empirical results tend to vary by the type of financial instrument they choose to measure. For instance, some scholars find the profitability of a nonprofit is negatively associated with the financial leverage, which is a result that supports the pecking order theory since nonprofits prefer to use internal funds than external debt to finance capital projects (Calabrese, 2012; Smith, 2010, 2012; Szymańska et al., 2015). However, the significant relationship disappears when scholars examine the relationship between profitability and the use of tax-exempt bonds solely (Calabrese & Ely, 2016). Therefore, in this essay, I want to explore the determinants of nonprofit borrowing by the type of debt instrument (i.e., bank loans, tax-exempt bonds and loans from insiders) to understand if pecking order and static trade-off theory can only explain the use of some debt instruments but not others. And what are the scopes and applicability of both pecking order and static trade-off theories in the nonprofit context?

Borrowing from the existing literature (Bowman, 2002; Calabrese, 2011; Calabrese & Ely, 2016; Denison, 2009; Yan et al., 2009), I explore the determinants of the use of debt instruments by testing the associations between variables that capture nonprofits' financial conditions, organizational characteristics, or serve as proxies for risk of default (e.g., profitability, revenue diversification, reliance on donations, program service revenue and government funding, fixed asset) and the use of debt instruments respectively to examine if pecking order theory or statistic trade-off theory can only be used to explain the use of some debt instruments but not others. I expect the signs of the effects of explanatory variables on the use of debt vary by the type of debt instrument. This is since the magnitudes of default risk and costs of financial distress(e.g., the disruption of services and daily operation, the potential loss of assets, and losing access to credit in the future) associated with each debt instrument are different, and then impact nonprofits’ decision to use debt instruments differently. For instance, I hypothesize that profitability is negatively associated with the use of tax-exempt bonds and loans from insiders but positively associated with the use of bank loans. I argue that since the principal amounts of bonds are much larger than the principal amounts of bank loans, the risk of default and costs of financial distress associated with tax-exempt bonds are larger than bank loans. Thus, nonprofits are more risk-
averse towards the use of tax-exempt bonds than the use of bank loans and reduce the use of bonds if their retained earnings (i.e., profits) increase. In summary, nonprofits’ decisions to use tax-exempt bonds can be explained better by the pecking order theory. By contrast, nonprofits increase the use of bank loans if they accumulate more internal funds. The reason is that the risk of default associated with bank loans can be easily offset by the benefit of using loans (e.g., saving retained earnings for future growth, and serve as rainy-day funds and working capital) (Calabrese, 2011). Therefore, the static trade-off theory can explain nonprofits’ decisions to use bank loans better. Finally, profitability should be negatively associated with the use of loans from insiders. This is since, as retained earnings increase, nonprofits can either use internal funds or bank loans to finance capital projects and do not need to borrow from insiders anymore.

Regarding data and methodology, I use a 990 form database consisting of 1 million 501c3 nonprofits in the US between 2010 and 2016 to answer my research questions. Because only half of nonprofits use any types of debt in my sample, I also use two-step Heckman selection models in my analysis to address selection bias and examine the determinants of the percentage of total assets from each debt instruments.

This essay makes theoretical contributions to the literature through delineating the applicability and limitations of the pecking order and static trade-off theory. Through this study, I hope can reveal reasons that lead to the conflicting empirical results in previous studies and advance scholars' understanding regarding the use of pecking order and static trade-off theories in the nonprofit context.
Reference


