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DCF Valuation of Nonprofit Universities

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Abstract

We conduct the Discounted Cash Flow (DCF) valuation of two nonprofit organizations: Syracuse University and Indiana University. We transform nonprofits to for-profits by converting nonprofit social benefit to net earnings and by adopting for-profit cost of equity and tax rate. These adjustments attempt to capture considerable hidden value to equityholders. We find that in the best scenario, the net worth (market value of equity) could be about 2 times the book equity for both universities in June 2017.

Keywords: DCF valuation, nonprofit universities, value creation, social benefit

1. Introduction

Nonprofit universities in the U.S. distribute most of their earnings as scholarship and financial aid to students, pay zero tax, and incur zero cost for financing with donated equity capital. This poses two challenges to financial analyses of such institutions. First, it is difficult to estimate their net worth (market value of equity) due to their low levels of net earnings and free cash flows as well as zero cost of equity. Second, it is difficult to directly compare nonprofits with for-profits in terms of financial performance and net worth.

Recent literature has explored several corporate finance aspects of nonprofit institutions. Adelino, Lewellen, and Sundaram (2015) examine the investment-cash flow sensitivity for nonprofit hospitals and find it similar to that for shareholder-owned corporations. Jegers (2011a) shows the existence of financing constraints when nonprofits have no substantial fundraising opportunities to increase revenues and their managers are unwilling to exert high fundraising efforts. Jegers (2011b) detects that tighter equity constraints are associated with more debts to total assets for Belgian nonprofits. Jegers and Verschueren (2006) argue that equity is cheaper than debt for nonprofits, and report that almost half of Californian nonprofits use no debts at all. Based on their profitability study of Norwegian banks, Bøhren and Josefsen (2013) report that stockholder-owned banks do not outperform nonprofit ones. Kalodimos (2017) documents that stronger internal governance of nonprofit hospitals results in better performance as measured by the heart attack survival probability. With their investigation of the hospital takeover market, Gertler and Kuan (2009) find that a nonprofit hospital tends to be sold at a lower price to a “like-minded” nonprofit buyer than to a for-profit buyer, by the measure of Tobin’s q.

We conduct the Discounted Cash Flow (DCF) valuation of nonprofit universities in this paper. The DCF valuation of for-profit companies has been fully illustrated by Pinto, Henry, Robinson, and Stowe (2015), Koller, Goedhart, and Wessels (2015), and Damodaran (2012 and 2018). Given the nonprofit problems of low earnings and zero equity cost, we adjust nonprofit net earnings, free cash flows to equityholders (FCFE), cost of equity, and tax rate to fit into the for-profit model. This way, the nonprofit net worth can be estimated when acquired by for-profits. Since the DCF approach is mainly for analyzing a concentrated investment (rather than a diversified investment), it is neither possible nor necessary to test a large sample of institutions. Thereby, we choose two representative universities (private and public each) to parse their DCF valuation in detail. Syracuse University (SU) at Syracuse, New York is a nonprofit private organization that does not receive any government appropriations. Indiana University (IU) at Bloomington, Indiana, with a few other branches located in the state, is a nonprofit public organization that receives state appropriations. For both, the current time refers to June 2017, and the 10-year historical period ranges from June 2007 to June 2017. The potential investors or acquirers are assumed to be for-profit publicly traded companies in the