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## **STOCK RETURNS AND LEVERAGE: ANALYSIS OF THE DOW JONES INDUSTRIAL AVERAGE, 2000-2015**

### **Abstract:**

#### Purpose

The theoretical framework of the weighted average cost of capital (WACC) posits that lower WACC, often achieved by use of debt, should facilitate good returns to shareholders, and higher shareholder value, that is if management is adept at investing in projects yielding returns above the WACC. In other words, finding good projects should be made easier by a lower hurdle rate on investment, thus translating into returns comparable to or above the WACC. Does the relationship between WACC, actual returns, and financial leverage hold as predicted, wherein higher leverage should result in higher actual returns and higher valuations, in line with expectations?

#### Methodology

This brief study looks at performance (total equity market returns to shareholders, on an annual basis) of Dow Jones Industrial Average companies over a recent sixteen year period (2000-2015), versus financial leverage, on the hypothesis that higher leverage (within limits) should enhance shareholder returns. Regression analysis is performed on these shareholder returns versus net debt to market capitalisation of these companies using Bloomberg data.

#### Findings

This investigation finds evidence that shareholder returns were not positively related to financial leverage on average over the time period. In fact, a negative relationship is observed, in that higher debt was accompanied by lower returns. The analysis shows significance, and does not support arguments for benefits of financial leverage to returns. Meaningful variations are noted year on year, with greater adherence to expectations over a longer time frame.

On the other hand, a negative relationship between WACC and leverage is supported by our analysis, as predicted by the theory, although the results of this small sample lack significance. The benefit of more low cost debt funding translates in our observation into lower WACC, if not better actual realised returns.

#### Implications

This result implies that the market over this period is not rewarding firms that use more leverage, or that greater use of debt is not translating into benefits associated with lower WACC. These observations lead us to look for explanations, including management capabilities, target capital structure and time horizon. We make suggestions for further research, encompassing different and wider samples. These explanations have wider ramifications for interpretation and implementation of cost of capital theories.

### **Keywords:**

Keywords: cost of capital, WACC, leverage, stock returns, valuation, DJIA

**JEL Classification:** G10, G32, G39