
Market Timing and Capital Structure

Malcolm Baker and Jeffrey Wurgler

Journal of Finance

vol. 57, no. 1 (February 2002):1–32

The authors use regression analysis to evaluate the determinants of capital structure. Past equity valuations show an important and persistent inverse relationship with leverage. The authors conclude that capital structure is the result of past efforts by managers to time the equity market.

The authors' statistical hypothesis is that past values of market equity, as measured by market-to-book ratios (M/Bs), have an important and persistent impact on capital structure. The authors' economic interpretation is that managers attempt to successfully time the equity market by issuing equity when market valuations are thought to be high and repurchasing stock when market valuations are believed to be low. Data for the study include nonfinancial companies in the Compustat database (1968–1999) and a subset of companies with known dates for initial public offerings (IPOs).

Regression analyses test the short-run effects of market valuations, expressed in terms of M/Bs, on annual changes in leverage. Control variables are asset tangibility, cash flow earnings, and company size. The significant negative relationship between M/B and leverage indicates that companies issue equity when equity values are high. Regressions that decompose the change in leverage into equity issues, retained earnings growth, and asset growth show that net equity issues are the main source of this effect.

The authors next construct an “external finance weighted average” M/B that is large for companies that raise external financing when market values are high. This measure captures the influence of past, within-company variations in M/B. Univariate regressions show that several factors influence capital structure at the time of the IPO but

Malcolm Baker is at the Harvard University Graduate School of Business. Jeffrey Wurgler is at the New York University Stern School of Business. The summary was prepared by Charles F. Peake, CFA, Emeritus, University of Maryland at Baltimore County.

that as companies age, past financing opportunities, as indicated by M/B and past profitability, become more important. Multiple regressions show that historical market valuations are more important in explaining leverage than current cross-company variations. The impact of historical market valuations is separate from any of the control variables in determining leverage across companies.

Next, the authors consider the persistence of M/B effects on leverage by regressing cumulative changes in leverage from the IPO date to subsequent dates against the aforementioned variables. Results show that the same variables that influence leverage levels also influence cumulative changes. Market valuations have an important impact on leverage that persists and accumulates over time. Finally, a system of three equations that relate leverage to past market valuations and the control variables tests the impact of market valuations at IPO time on leverage in subsequent periods. The results show that past market valuations continue to be significant even after 10 years. At a 95 percent confidence level, at least two-thirds of the effects of past market valuations persist after 10 years.

The econometric results show that past market valuations (M/Bs) have a large and persistent impact on leverage. The authors discuss whether this result is consistent with theories of capital structure. The trade-off theory posits an optimum capital structure toward which companies will rebalance over time, but the statistical evidence shows no such tendency to rebalance. Pecking-order theory suggests that leverage should be related to future M/B, but the data show a strong relationship with past values. The managerial entrenchment theory has some support in the data. Market-timing theories based on adverse-selection costs or mispricing of securities and survey data show that managers attempt to time the market.

The authors conclude that managers time the equity market because investors' overconfidence provides managers with opportunities to finance at low costs. They conclude that current capital structure is the cumulative result of past efforts to time the market.

Keywords: Corporate Finance