

How Big Are the Tax Benefits of Debt?

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Abstract

I integrate under firm-specific benefit functions to estimate that the capitalized tax benefit of debt equals 9.7 percent of firm value (or as low as 4.3 percent, net of personal taxes). The typical firm could double tax benefits by issuing debt until the marginal tax benefit begins to decline. I infer how aggressively a firm uses debt by observing the shape of its tax benefit function. Paradoxically, large, liquid, profitable firms with low expected distress costs use debt conservatively. Product market factors, growth options, low asset collateral, and planning for future expenditures lead to conservative debt usage. Conservative debt policy is persistent.

REFERENCES

Altman, Edward, 1968, Financial ratios, discriminant analysis, and the prediction of corporate bankruptcy, *Journal of Finance* 23, 589–609.

[Web of Science®](#) | [Google Scholar](#)

Altman, Edward, 1989, Measuring corporate bond mortality and performance, *Journal of Finance* 44, 909–922.

[Web of Science®](#) | [Google Scholar](#)

Andrade, Gregor, and Steven N. Kaplan, 1998, How costly is financial (not economic) distress? Evidence from highly levered transactions that became distressed, *Journal of Finance* 53, 1443–1493.

[Web of Science®](#) | [Google Scholar](#)

Auerbach, Alan, 1983, Stockholder tax rates and firm attributes, *Journal of Public Economics* 21, 107–127.

[Web of Science®](#) | [Google Scholar](#)

Benninga, Simon, and Oded Sarig, 1997, *Corporate Finance: A Valuation Approach* (McGraw-Hill, New York).

[Google Scholar](#)

Berger, Phillip, Eli Ofek, and David Yermack, 1997, Managerial entrenchment and capital structure decisions, *Journal of Finance* 52, 1411–1438.

[Web of Science®](#) | [Google Scholar](#) |

Brealey, Richard, and Stewart Myers, 1996, *Principles of Corporate Finance*, 5th ed. (McGraw-Hill, New York).

[Web of Science®](#) | [Google Scholar](#) |

Calomiris, Charles, and Charles Himmelberg, 1997, Investment banking costs as a measure of the cost of access to external finance, *Working paper*, Columbia University.

[Google Scholar](#) |

Chalmers, John, 1998, Default risk cannot explain the muni puzzle: Evidence from municipal bonds that are secured by U.S. Treasury obligations, *Review of Financial Studies* 11, 281–308.

[Web of Science®](#) | [Google Scholar](#) |

Chevalier, Judith, 1995, Do LBO supermarkets charge more? An empirical analysis of the effects of LBOs on supermarket pricing, *Journal of Finance* 50, 1095–1112.

[Web of Science®](#) | [Google Scholar](#) |

Chung, Kee, and Stephen Pruitt, 1994, A simple approximation of Tobin's q, *Financial Management* 23, 70–74.

[Web of Science®](#) | [Google Scholar](#) |

Collins, Julie, and Doug Shackelford, 1992, Foreign tax credit limitations and preferred stock issuances, *Journal of Accounting Research* 30, 103–124.

[Web of Science®](#) | [Google Scholar](#) |

DeAngelo, Harry, and Ronald Masulis, 1980, Optimal capital structure under corporate and personal taxation, *Journal of Financial Economics* 8, 3–29.

[Web of Science®](#) | [Google Scholar](#) |

Elton, Edwin, and Martin Gruber, 1970, Marginal stockholder tax rates and the clientele effect, *Review of Economics and Statistics* 52, 68–74.

[Web of Science®](#) | [Google Scholar](#) |

Engel, Ellen, Merle Erickson, and Edward Maydew, 1998, Estimating the tax benefits of leverage: Evidence from MIPS recapitalizations, *Working paper*, University of Chicago.

[Google Scholar](#) |

Fama, Eugene, and Kenneth French, 1998, Taxes, financing costs, and firm value, *Journal of Finance* **53**, 819–843.

 | [Web of Science®](#) | [Google Scholar](#) |

Feldstein, Martin, and Lawrence Summers, 1979, Inflation and taxation of capital income in the corporate sector, *National Tax Journal* **41**, 219–233.

 | [Google Scholar](#) |

Fiscal Federalism, 1981–1995 (U.S. Advisory Commission on Intergovernmental Relations, Washington, DC).

 | [Google Scholar](#) |

Fisher, Edwin, Robert Heinkel, and Josef Zechner, 1989, Dynamic capital structure choice: Theory and tests, *Journal of Finance* **44**, 19–40.

 | [CAS](#) | [PubMed](#) | [Web of Science®](#) | [Google Scholar](#) |

Fortune, Peter, 1996, Do municipal bond yields forecast tax policy, *New England Economic Review*, September/October, 29–48.

 | [Web of Science®](#) | [Google Scholar](#) |

Froot, Kenneth, and James Hines, 1995, Interest allocation rules, financing patterns, and the operations of U.S. multinationals; in Martin Feldstein, James Hines, and R. Glenn Hubbard, eds.: *The Effects of Taxation on Multinational Corporations* (University of Chicago Press, Chicago).

 | [Google Scholar](#) |

Goldstein, Robert, Nengjiu Ju, and Hayne Leland, 1998, An EBIT-based model of dynamic capital structure, *Working paper*, Ohio State University.

 | [Google Scholar](#) |

Gordon, Roger H., and Jeffrey K. MacKie-Mason, 1990, Effects of the Tax Reform Act of 1986 on corporate financial policy and organizational form; in J. Slemrod, ed.: *Do Taxes Matter?* (MIT Press, Cambridge, MA).

 | [Google Scholar](#) |

Graham, John R., 1996a, Debt and the marginal tax rate, *Journal of Financial Economics* **41**, 41–73.

 | [Web of Science®](#) | [Google Scholar](#) |

Graham, John R., 1996b, Proxies for the corporate marginal tax rate, *Journal of Financial Economics* 42, 187–221.

[Web of Science®](#) | [Google Scholar](#) |

Graham, John R., 1999, Do personal taxes affect corporate financing decisions? *Journal of Public Economics* 73, 147–185.

[Web of Science®](#) | [Google Scholar](#) |

Graham, John R., and Campbell R. Harvey, 2001, The theory and practice of corporate finance: Evidence from the field, *Journal of Financial Economics* 60, forthcoming.

[Web of Science®](#) | [Google Scholar](#) |

Graham, John R., and Michael Lemmon, 1998, Measuring corporate tax rates and tax incentives: A new approach, *Journal of Applied Corporate Finance* 11, 54–65.

[Google Scholar](#) |

Graham, John R., Michael Lemmon, and James Schallheim, 1998, Debt, leases, taxes, and the endogeneity of corporate tax status, *Journal of Finance* 53, 131–161.

[Web of Science®](#) | [Google Scholar](#) |

Green, Richard, 1993, A simple model of the taxable and tax-exempt yield curves, *Review of Financial Studies* 6, 233–264.

[Web of Science®](#) | [Google Scholar](#) |

Green, Richard, and Burton Hollifield, 1999, The personal tax advantages of equity, *Working paper*, Carnegie Mellon University.

[Google Scholar](#) |

Grinblatt, Mark, and Sheridan Titman, 1998, *Financial Markets and Corporate Strategy* (Irwin McGraw-Hill, Boston, MA).

[Google Scholar](#) |

Jensen, Michael, 1986, Agency costs of free cash flow, corporate financing, and takeovers, *American Economic Review* 76, 323–329.

[Web of Science®](#) | [Google Scholar](#) |

Jung, Kooyul, Yong-Cheol Kim, and René Stulz, 1996, Timing, investment opportunities, managerial discretion, and the security issuance decision, *Journal of Financial Economics* **42**, 159–185.

[Web of Science®](#) | [Google Scholar](#)

Kane, Alex, Alan Marcus, and Robert McDonald, 1984, How big is the tax advantage to debt? *Journal of Finance* **39**, 841–853.

[Web of Science®](#) | [Google Scholar](#)

Kaplan, Steven N., and Richard Ruback, 1995, The valuation of cash flow forecasts: An empirical analysis, *Journal of Finance* **50**, 1059–1093.

[Web of Science®](#) | [Google Scholar](#)

Mackie-Mason, Jeffrey, 1990, Do taxes affect corporate financing decisions? *Journal of Finance* **45**, 1471–1493.

[Web of Science®](#) | [Google Scholar](#)

Miles, James, and John Ezzell, 1985, Reformulating tax shield valuation: A note, *Journal of Finance* **40**, 1485–1492.

[Web of Science®](#) | [Google Scholar](#)

Miller, Merton, 1977, Debt and taxes, *Journal of Finance* **32**, 261–275.

[Web of Science®](#) | [Google Scholar](#)

Modigliani, Franco, and Merton Miller, 1958, The cost of capital, corporation finance, and the theory of investment, *American Economic Review* **48**, 261–297.

[Web of Science®](#) | [Google Scholar](#)

Modigliani, Franco, and Merton Miller, 1963, Corporate income taxes and the cost of capital: A correction, *American Economic Review* **53**, 433–443.

[Web of Science®](#) | [Google Scholar](#)

Myers, Stewart, 1977, Determinants of corporate borrowing, *Journal of Financial Economics* **3**, 799–819.

[Google Scholar](#)

Myers, Stewart, 1993, Still searching for the optimal capital structure, *Journal of Applied Corporate Finance* **6**, 4–14.

[Google Scholar](#)

Myers, Stewart, and Nicholas Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, 187–221.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#) |

Myers, Stewart, John McConnell, Alice Peterson, Dennis Soter, and Joel Stern, 1998, Vanderbilt University roundtable on the capital structure puzzle, *Journal of Applied Corporate Finance* 11, 8–24.

[Google Scholar](#) |

Myers, Stewart, and Raghuram Rajan, 1998, The paradox of liquidity, *Quarterly Journal of Economics* 113, 733–771.

[Web of Science®](#) | [Google Scholar](#) |

Opler, Tim, Lee Pinkowitz, René Stulz, and Rohan Williamson, 1999, The determinants and implications of corporate cash holdings, *Journal of Financial Economics* 52, 3–46.

[Web of Science®](#) | [Google Scholar](#) |

Parrino, Robert, and Michael Weisbach, 1999, Measuring investment distortions arising from stockholder-bondholder conflicts, *Journal of Financial Economics* 52, 3–42.

[Web of Science®](#) | [Google Scholar](#) |

Phillips, Gordon, 1995, Increased debt and industry product markets: An empirical analysis, *Journal of Financial Economics* 37, 189–238.

[Web of Science®](#) | [Google Scholar](#) |

Poterba, James, 1989, Tax reform and the market for tax-exempt debt, *Regional Science and Urban Economics*, 537–562.

[Web of Science®](#) | [Google Scholar](#) |

Poterba, James, 1997, The rate of return to corporate capital and factor shares: New estimates using revised national income accounts and capital stock data, *NBER working paper* 6263.

[Google Scholar](#) |

Scholes, Myron, and Mark Wolfson, 1992, *Taxes and Business Strategy: A Planning Approach* (Prentice-Hall, Englewood Cliffs, NJ).

[Google Scholar](#) |

Scholz, John, 1992, A direct examination of the dividend clientele hypothesis, *Journal of Public Economics* 49, 261–285.

[Web of Science®](#) | [Google Scholar](#) |

Sharpe, Steven A., and Hien H. Nguyen, 1995, Capital market imperfection and the incentive to lease, *Journal of Financial Economics* 39, 271–294.

[Web of Science®](#) | [Google Scholar](#) |

Shevlin, Terry, 1987, Taxes and off-balance sheet financing: Research and development limited partnerships, *Accounting Review* 62, 480–509.

[Web of Science®](#) | [Google Scholar](#) |

Shevlin, Terry, 1990, Estimating corporate marginal tax rates with asymmetric tax treatment of gains and losses, *Journal of the American Taxation Association* 12, 51–67.

[Google Scholar](#) |

Shyam-Sunder, Lakshmi, and Stewart Myers, 1998, Testing static trade-off against peckingorder models of capital structure, *Journal of Financial Economics* 51, 219–244.

[Google Scholar](#) |

Skelton, Jeffrey, 1983, Banks, firms, and the relative pricing of tax-exempt and taxable bonds, *Journal of Financial Economics* 12, 343–355.

[Web of Science®](#) | [Google Scholar](#) |

Stulz René, 1990, Managerial discretion and optimal financing policies, *Journal of Financial Economics* 26, 3–27.

[Web of Science®](#) | [Google Scholar](#) |

Taggart, Robert, 1991, Consistent valuation and cost of capital expressions with corporate and personal taxes, *Financial Management* 20, 8–20.

[Web of Science®](#) | [Google Scholar](#) |

Talmor, Eli, Robert Haugen, and Amir Barnea, 1985, The value of the tax subsidy on risky debt, *Journal of Business* 58, 191–202.

[Web of Science®](#) | [Google Scholar](#) |

Titman, Sheridan, 1984, The effect of capital structure on a firm's liquidation decision, *Journal of Financial Economics* 13, 137-151.

 | [Web of Science®](#) | [Google Scholar](#) |

Titman, Sheridan, and Roberto Wessels, 1988, The determinants of capital structure choice, *Journal of Finance* 43, 1-19.

 | [Web of Science®](#) | [Google Scholar](#) |

U.S. Internal Revenue Service, 1995, *Statistics of Income: Corporation Income Tax Returns* (Washington, DC: Government Printing Office, IRS Publication 16)

 | [Google Scholar](#) |

Wall Street Journal, 1998, Rating for 3M debt is cut by Moody's, citing more leverage, February 6, p. A3.

 | [Google Scholar](#) |

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