

What Is in a Municipal Bond Rating?

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Abstract

Studies on the determinants of municipal bond ratings contain two conspicuous patterns: the use of financial accounting variables and the application of discriminant analysis to them. Over 70 different financial accounting variables have been specified, leading to different findings across the studies. In addition, discriminant analysis has been applied in these studies without correcting for violations of its underlying assumptions. Akaike's information criterion and Lachenbruch's U method are used to show how a probit model specified with economic base diversification, economic expansion, and fiscal management variables may be an improvement over the application of discriminant analysis to financial accounting variables in the determination of a triple A bond rating.

References

[1] Akaike, H. Information Theory and an Extension of the Maximum Likelihood Principle." In *Second International Symposium on Information Theory*, edited by B. N. Petrov and F. Csaki. Budapest : Akademiai Kiado, 1973, pp. 267–281.

[Google Scholar](#)

[2] Altman, E. I., R. B. Avery, R. A. Eisenbeis, and J. F. Sinkey. *Application of Classification Techniques in Business, Banking, and Finance*. Greenwich , CT : JAI Press, 1980.

[Google Scholar](#)

[3] Amemiya, T. Qualitative Response Models: A Survey. *Journal of Economic Literature* 19(December 1981): 1483–1536.

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

[4] Aronson, J. R., and J. R. Marsden. Duplicating Moody's Municipal Credit Ratings. *Public Finance Quarterly* 8(January 1980): 97–106.

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

[5] Bahl, R. W. Measuring the Creditworthiness of State and Local Governments: Municipal Bond Ratings. *Proceedings of the National Tax Association* 24(September 1971): 600–622.

[Google Scholar](#)

[6] Becker, W. E., and D. M. Waldman. The Probit Model." In *Econometric Modeling in Economic Education Research*, edited by W. Becker and W. Walstad. Boston : Kluwer & Nijhoff, 1987, pp. 135–140.

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

[7] Brewer, H. L. Measures of Diversification: Predictions of Regional Economic Instability. *Journal of Regional Science* 25(August 1985): 463–470.

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

[8] Carleton, W. T., and E. M. Lerner. Statistical Credit Scoring of Municipal Bonds. *Journal of Money, Credit and Banking* 1(November 1969): 750–764.

[Google Scholar](#)

[9] Cluff, G. S., and P. G. Farnham. Standard & Poor's vs. Moody's: Which City Characteristics Influence Municipal Bond Ratings? *Quarterly Review of Economics and Business* 24(Autumn 1984): 72–94.

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

[10] Cole, C. W., and J. A. Millar. The Impact of Municipal Bond Banking on Municipal Interest Costs. *Financial Management* 11(Spring 1982): 70–76.

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

[11] Copeland, R. M., and R. W. Ingram. The Association between Municipal Accounting Information and Bond Rating Changes. *Journal of Accounting Research* 10(Autumn 1982): 275–289.

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

[12] Dillon, W. R. The Performance of the Linear Discriminant Function in Nonoptimal Situations and the Estimation of Classification Error Rates: A Review of Recent Findings. *Journal of Marketing Research* 16(August 1979): 370–381.

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

[13] Ederington, L. H. Classification Models and Bond Ratings. *The Financial Review* 20(November 1985): 237–262.

[Google Scholar](#)

[14] Eisenbeis, R. A. Pitfalls in the Application of Discriminant Analysis in Business, Economics, and Finance. *Journal of Finance* 32(June 1977): 875-900.

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

[15] Eisenbeis, R. A., and R. B. Avery. *Discriminant Analysis and Classification Procedures*. Lexington, MA : Lexington Books, 1972.

[Google Scholar](#)

[16] Elton, E. J., and M. J. Gruber. *Modern Portfolio Theory and Investment Analysis*, 3d ed. New York : Wiley, 1987.

[Google Scholar](#)

[17] Evans, J. L., and S. H. Archer. Diversification and the Reduction of Dispersion: An Empirical Analysis. *Journal of Finance* 23(December 1968): 761-769.

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

[18] Farnham, P. G., and G. S. Cluff. Municipal Bond Ratings: New Results, New Directions. *Public Finance Quarterly* 10(October 1982): 427-455.

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

[19] Goodman, R. Municipal Bond Rating Testimony. *Financial Analysts Journal* 24(May/June 1968): 59-65.

[Google Scholar](#)

[20] Hastie, K. L. Determinants of Municipal Bond Yields. *Journal of Financial and Quantitative Analysis* 7(June 1972): 1729-1748.

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

[21] Hempel, G. H. Quantitative Borrower Characteristics Associated with Defaults on Municipal General Obligations. *Journal of Finance* 28(May 1973): 523-530.

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

[22] Horton, J. J. A Statistical Rating Index for Municipal Bonds. *Financial Analysts Journal* 25(March/April 1969): 72-75.

[Google Scholar](#)

[23] Horton, J. J. Statistical Classification of Municipal Bonds. *Journal of Bank Research* 1(Autumn 1970): 29-40.

[Google Scholar](#)

[24] Ingram, R. W., L. D. Brooks, and R. M. Copeland. The Information Content of Municipal Bond Rating Changes: A Note. *Journal of Finance* 38(June 1983): 997–1003.

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

[25] Joy, O. M., and J. O. Tollefson. On the Financial Applications of Discriminant Analysis. *Journal of Financial and Quantitative Analysis* 10(December 1975): 723–739.

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

[26] Joy, O. M., and J. O. Tollefson. Some Clarifying Comments on Discriminant Analysis. *Journal of Financial and Quantitative Analysis* 13(March 1978): 197–199.

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

[27] Kaplan, R. S., and G. Urwitz. Statistical Models of Bond Ratings: A Methodological Inquiry. *Journal of Business* 52(April 1979): 231–261.

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

[28] Kidwell, D. S., E. H. Sorensen, and J. M. Wachowicz, Jr. Estimating the Signal Benefits of Debt Insurance: The Case of Municipal Bonds. *Journal of Financial and Quantitative Analysis* 22(September 1987): 299–313.

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

[29] Kidwell, D. S., and C. Trzcinka. Municipal Bond Pricing and the New York City Fiscal Crisis. *Journal of Finance* 37(December 1982): 1239–1246.

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

[30] Lovell, M. C. Data Mining. *Review of Economics and Statistics* 65(February 1983): 1–12.

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

[31] Maddala, G. S. *Introduction to Econometrics*. New York : Macmillan, 1988.

[Google Scholar](#)

[32] Mathur, V. K. Occupational Composition and Its Determinants: An Intercity Size Class Analysis. *Journal of Regional Science* 15(April 1970): 81–91.

[PubMed](#) | [Google Scholar](#)

[33] Michel, A. J. Municipal Bond Ratings: A Discriminant Analysis Approach. *Journal of Financial and Quantitative Analysis* 12(November 1977): 587–598.

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

[34] Moody's Investor Services. *Moody's Municipal and Government Manual*. New York, 1982 and 1986.

[Google Scholar](#)

[35] Morton, T. G. A Comparative Analysis of Moody's and Standard & Poor's Municipal Bond Ratings. *Review of Business and Economic Research* 11(Winter 1975): 74-81.

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

[36] Parry, R. W. Moody's Analytical Overview of 25 Leading U.S. Cities—Revisited. *Public Finance Quarterly* 11(January 1983): 79-93.

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

[37] Pinches, G. E., and K. A. Mingo. A Multivariate Analysis of Industrial Bond Ratings. *Journal of Finance* 28(March 1973): 1-18.

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

[38] Pinches, G. E., and K. A. Mingo. The Role of Subordination and Industrial Bond Ratings. *Journal of Finance* 30(March 1975): 201-206.

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

[39] Raman, K. K. Financial Reporting and Municipal Bond Rating Changes. *Accounting Review* 56(October 1981): 910-926.

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

[40] Raman, K. K. Alternative Accounting Measures as Predictors of Municipal Financial Distress. *Journal of Accounting, Auditing & Finance* 6(Fall 1982): 44-50.

[Google Scholar](#)

[41] Rubinfeld, D. L. Credit Ratings and the Market for General Obligation Municipal Bonds. *National Tax Journal* 26(March 1973): 17-27.

[Google Scholar](#)

[42] Shannon, D. Some Evidence of Imperfections in the Market for Municipal Bonds. *The Financial Review* 9(May 1974): 64-78.

[Google Scholar](#)

[43] *Statistical Package for the Social Sciences: User's Guide*. New York : McGraw-Hill, 1975 and 1983.

[Google Scholar](#)

[44] Stock, D., and T. Robertson. Improved Techniques for Predicting Municipal Bond Ratings. *Journal of Bank Research* 12(Autumn 1981): 153-160.

[Google Scholar](#)

[45] Tabachnick, B. G., and L. S. Fidell. *Using Multivariate Statistics*. New York : Harper & Row, 1983.

[Google Scholar](#)

[46] Twentieth Century Fund Task Force. *The Rating Game*. New York : The Twentieth Century Fund, 1974.

[Google Scholar](#)

[47] U.S. Department of Commerce, Bureau of the Census. *Compendium of Government Finances*, 1982.

[Google Scholar](#)

[48] U.S. Department of Commerce, Bureau of the Census. *County Business Patterns (for 34 states)*, 1981.

[Google Scholar](#)

[49] U.S. Department of Commerce, Bureau of the Census. *Statistical Abstract of the United States*, 1970.

[Google Scholar](#)

[50] U.S. Department of Commerce, Bureau of Economic Analysis. *Survey of Current Business*, April 1983.

[Google Scholar](#)

[51] U.S. Department of Labor, Bureau of Labor Statistics. *Monthly Labor Review*, 1982.

[Google Scholar](#)

[52] Vipond, J. City Size and Unemployment. *Urban Studies* 8(February 1971): 39-46.

[Google Scholar](#)

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