Corporate Financial Distress and Bankruptcy

A Complete Guide to Predicting & Avoiding Distress and Profiting from Bankruptcy

Second Edition

EDWARD I. ALTMAN

John Wiley & Sons, Inc.

New York • Chichester • Brisbane • Toronto •

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and to
Stacey Stein, his lovely
and courageous cousin

Preface

In today's vulnerable and volatile business climate, corporate bankruptcy and Chapter 11 reorganization are common occurrences among U.S. corporations of all sizes and in all sectors. No longer are our larger entities immune to corporate distress, failure, and defaults on their outstanding indebtedness. The uniqueness of corporate "death" in the United States has many fascinating by-products. The market for distressed firms' debt and equity securities has captured the interest and imagination of the investment community like never before. And this trend in corporate distress analysis has not escaped the scrutiny and interest of academic scholars in corporate finance, financial markets, economics, and law.

When we published the first edition of *Corporate Financial Distress* in 1983, the new Bankruptcy Code of 1978 was in its formative years and the nation's bankruptcies, while historically high, were nothing like the numbers that we were soon to experience in the United States in the late 1980s and early 1990s. Larger firm business bankruptcies filing under the guidelines of Chapter 11 of the new Code averaged about 14,000 per year for the first four years of the 1980's decade and the number grew to an average annual amount of slightly over 20,000 for the years 1988–1991 inclusive. And although the recession of 1981–1983 helped to cause the bankruptcy filing of seven firms with liabilities greater than $1 billion, the last five years or so (1988–1992) saw the astounding total of 35 different billion dollar firm failures. These and other background statistics are discussed in Chapter 1 of this book.

In addition to the significant increase in bankrupt firms, the most recent Chapter 11 experience has coincided with the emergence of several important opportunities and trends. To put it bluntly, bankruptcy is big business! Legal and accounting professionals are extremely busy and profitable with the large number of complex bankruptcy-reorganizations, not to mention other advisors, restructuring and turnaround specialists and securities firms. A number of these specialists are indicated in the Appendices to Chapter 1 and throughout the book. There are some indications, however, that the number of mega-bankruptcies is abating in late 1992.

The increased number of bankruptcies and the costly process of reorganization has had another type of consequence; namely, the call for major revisions to the Bankruptcy Code or, at the extreme, the outright elimination of Chapter 11. Critics of the current system argue that the high costs of the process and the abuses by some, primarily the existing managers of debtors, make the system inefficient and expendable. This author does not agree with the radical idea of scuttling the entire process but I do recommend changes, primarily to do with reducing the time that firms spend in reorganization—now close to two years on average. Arguments for and against the system and for modification are presented in Chapter 3.

Emerging trends, discussed primarily in Chapters 2–4, involve debtor-in-possession lending, whereby the bankrupt-debtor is increasingly able to tap the private loan market for needed capital in order to carry on operations during the reorganization phase. These loans are often collateralized and with the lender's super-priority status, the risk-return tradeoff appears to be quite favorable—resulting in increasing competition amongst banks and other lending institutions. Other trends include the prepackaged bankruptcy whereby the debtor receives the requisite creditor support for a reorganization plan prior to filing but that support would not have been sufficient outside of the protective confines of the bankruptcy court. Finally, an outbreak of fraudulent conveyance threats and suits has occurred as an outgrowth from some of the ill-conceived, highly-leveraged restructurings of the late 1980s. These suits appear to be valid if it can be shown that the restructuring, eg. an LBO, caused the firm to become insolvent. The important role and risk-return trade off of junk bonds is documented and debated in Chapter 5, leading me to the conclusion that this controversial financing source has been and will continue to be a legitimate and attractive vehicle for raising capital and investing in risky assets.

Many of these trends have occurred in the back-drop of the highly leveraged restructuring—itself discussed in Chapter 6. We make a case for the use of "temporary debt" for levering-up companies and adding value. If the debt remains outstanding for more than a few years, however, and efforts to reduce the level are unsuccessful, the outlook for the restructured firm is often very bleak.

When firms do fail and default on their outstanding indebtedness, the result is not only a crisis situation and a struggle to reorganize—justifiable if the going concern value of the assets exceeds its liquidation value—but also an opportunity for astute investors to assess the market value of the debt and equity in the context of distressed firm investing. There has been a tremendous surge of interest in the outstanding public debt of distressed firms, even for private bank and trade debt, as the number of defaults has increased. Both the traditional "passive" distressed security investor and a new breed of aggressive "active" investors are discussed in Chapter 7, as well as the overall risk and return performance of defaulted debt in recent years. This author has developed an index to measure defaulted debt price movements which can be used as a benchmark for evaluating market and individual investor performance.

The second part of the book concentrates on an area that was the primary focus of the original edition, published in 1983. I refer to the use of statistical classification techniques to assess the distress potential of firms and to explore the applications of these models in a number of important practical areas. The original *Z*-score model, first developed by the author in 1968, is presented again (Chapter 8) and tracked over its 25 years of existence. The second generation, and far more robust, *ZETA*® *Model* is also presented as well as a number of the failure classification models (in Chapter 9). These venerable models have retained their accuracy and importance and still play an integral role in this book.

As for applications, Chapter 10 combines a number of my models developed over the years into what we think is a reasonable framework for the valuation of bank loans and the establishment of criteria for loan or investment loss reserves and even pricing guidelines for the commercial loan provider. Specifically, I link the mortality loss experience on defaulted publicly traded bonds, discussed in Chapter 5, with established bond-rating experience. The next step is to link the credit scoring models, discussed in Chapters 8 and 9, also with bond ratings. Expected mortality losses from defaults can adjust the promised cash flow on the loan and, when discounted by an appropriate rate, the resulting present value can be used as a valid surrogate for the market value of loans. This derivation is critical in today's environment as the latest accounting standards move toward the requirement that banks mark their assets to market or "fair" values. This approach, as well as a general discussion of the credit lending process, can be found in Chapter 10.

Over the years, I have found that one application of failure prediction models that fascinates a number of analysts is the use of such models to help in a financial turnaround and return to health of an operating company. The GTI Corporation case, a true case history of this interactive usage of a financial model, is presented again in Chapter 11.

Chapter 12 presents a comprehensive bibliography of failure prediction models developed outside the United States for application in a large number of industrialized and even third-world economies. Indeed, we have seen the transport of the statistical methodology, first utilized in the development of the 1968 *Z*-score model, to as many as 19 different countries, with considerable success.

The last two chapters of the book present actual bankruptcy reorganization case information where the objective is to provide the relevant data in order to do a thorough valuation analysis of the debtor and to suggest an appropriate restructuring. The two cases involve manufacturing firms—one a button and apparel maker, Duplan Corporation (Chapter 13) that filed under the old Chapter X guideline and the other, the Wheeling Pittsburgh Steel Corporation (Chapter 14), a more recent Chapter 11 reorganization. Despite the numerous changes in the new Bankruptcy Code, the reorganization-valuation process has remained essentially the same. Basically, one looks at a number of valuation approaches using either current, or more likely future, cash flows or earnings to assess the going concern amount on a present value basis. The restructured debt and equity of the "new" firm is then divided up based on the relationship between the going concern value estimate and the amount of the valid claims against the debtor's assets. This is done either on the absolute priority of claims basis or, more frequently of late, on a modified or relative priority basis. These priority approaches are discussed earlier in the book in Chapters 2 and 3.

One of the fascinating aspects of the increased importance of bankruptcy and reorganization in our economy is the considerable number of scholarly investigations into the theoretical, empirical and normative issues surrounding distressed firms. Once a backwater topic in law and finance, bankruptcy related works are now amongst the most popular topics for articles, books, doctoral dissertations and other types of formal analyses. And, a number of university sponsored conferences and proceedings have been held and published. Indeed, the 1992 Financial Management Association meetings devoted a session to the integration of bankruptcy and distressed firm topics into the finance curriculum. This book reviews a good deal of the expanding distressed firm literature.

The book has been written with a number of audiences in mind. First and foremost, its content and tone is geared to the sophisticated practitioner who desires to understand a broad spectrum of issues and applications related to distressed firms. These include banking and credit issues, investments, legal-financial topics and management guidelines. In addition, pedagogical uses include a text for specialized advanced courses in finance and law as well as for training programs for banking and securities firms. Finally, my academic colleagues and others may find the work useful as a comprehensive treatment of many topics on the distressed firm theme—as a type of reference source.

There have been many, many persons who have contributed to the research studies that form the basis of much of the material found in the book. I am pleased and proud to have worked with such individuals as Alan Eberhart, Robert Haldeman, Duen-li (Tony) Kao, Vellore Kishore, James LaFleur, Scott Nammacher, P. Narayanan, Roy Smith, and Kenneth Zekavat on a number of studies that have contributed to this volume. From a motivational and financial support basis, I would like to thank and signal out Donald Gervitz (Foothill Group), Martin Fridson (Merrill Lynch), Jerome Fons (Moody's), Gail Hessol (Standard & Poor's), and Robert Roussey (Arthur Andersen) for their confidence in my work over the years. Perhaps the person most responsible for my initial and continued interest in bankruptcy and distressed firm

related issues is Professor J. Fred Weston—my mentor and friend from UCLA. His inspirational support and guidance has helped to sustain a healthy and continued interest in the scholarly pursuit of information in this rich field.

Finally, I would like to thank the NYU Salomon Center at the Stern School of Business for providing me with outstanding research assistance, editorial and secretarial support that has enabled me to put together this manuscript. And, to the editorial and production staff of John Wiley & Sons for their interest and support in this book's publication.

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