WILEY PROFESSIONAL BANKING AND FINANCE SERIES
EDWARD I. ALTMAN, Editor

THE STOCK MARKET, 4TH EDITION
Richard J. Teweles and Edward S. Bradley

TAX SHELTERED FINANCING THROUGH THE R & D LIMITED PARTNERSHIP
James K. La Fleur

CORPORATE FINANCIAL DISTRESS: A COMPLETE GUIDE TO PREDICTING, AVOIDING, AND DEALING WITH BANKRUPTCY
Edward I. Altman

CREDIT ANALYSIS: A COMPLETE GUIDE
Roger H. Hale

Credit Analysis

A Complete Guide

ROGER H. HALE

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2. Why is business becoming a more frequent target for public criticism in industrialized countries? What response should business make to these criticisms?
3. Under what circumstances should governments do any business as manufacturers of goods or providers of services? Should a nationalized industry have the same objectives as private business firms?
4. "Other firms make products, but we make profits." Who said this? Is it a useful objective?
5. What evidence can you find that growth of size is important to a firm's survival? Or that innovation in products is important?
6. What characteristics would you expect to find in sectors of industry which have a higher than average profitability? Give examples.
7. What business sector would you enter today, given $50,000 capital? What objectives would you set? How would your answer differ if you had $5 million?
8. In 1977, Kennecott Corporation was forced to sell 50% of its assets (which produced 95% of its income) for cash and notes of more than $1 billion. In your opinion, what should it have done with the money?

8 Corporate Collapse

In an examination of industry and management, it becomes very important to recognize the causes and symptoms of corporate collapse. There are at least two different approaches to this subject, and in the following pages, we shall try to discuss both methods and see what lessons can be applied in credit analysis. I am convinced that too little time in a typical training program is spent in examining the causes of failure and indeed the signs, and yet the evidence is quite available and fairly convincing.

The two approaches can be summarized as the financial ratio model, which was first developed by Edward Altman of New York University and expanded in his book *Corporate Financial Distress,*[1] and the multiple management error model, which is described by John Argenti in his book *Corporate Collapse.*[2] Both approaches seem very relevant, although one is quantitative and the other is qualitative. Analysts familiar with both methods will be well equipped to gauge the extent to which a company may be headed toward bankruptcy and also to recognize causes of collapse, rather than merely the symptoms.

To return to our analogy with physical health, bodily symptoms, such as a high temperature, reflect but do not cause ill health. The doctor has to identify the symptoms in order to diagnose the causes of the illness. In the same way, analysts should distinguish symptoms, such as negative cashflows, from causes, such as a failure to respond to market changes.

THE ALTMAN APPROACH

Altman uses published financial data on publicly owned U.S. companies which have gone into bankruptcy in recent years and compares this data with a matched sample of nonbankrupt firms. His early model employed five ratios which were tested by multiple discriminant analysis and were used to compute a *Z* score, which was then tested as an effective predictor of bank-

[1]Edward Altman, *Corporate Financial Distress: A Complete Guide on How to Understand, Predict, and Deal with Bankruptcy* (New York: John Wiley & Sons, 1983).

[2]John Argenti, *Corporate Collapse* (Maidenhead, England: McGraw-Hill, 1976).

ruptcy.[3] His more recent approach, known as Zeta®, expands the number of ratios to seven and has improved accuracy in prediction tests.[4]

In the original form, the Z score was a linear model in which the ratios were weighted to maximize the predictive power of the model and at the same time to adhere to the necessary statistical assumptions. The model was developed in 1968 from 33 U.S. manufacturing companies that failed in the period 1946–1965 and a matched sample, matched as to industry size and date, which did not fail. All had assets in the range $1–25 million. Twenty-two possible ratios were grouped into five categories—liquidity, profitability, leverage, solvency, and performance. The five variables selected were those which combined together produced the most accurate prediction of bankruptcy. The final formula was as follows:

$$z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.010X_5$$

where X_1 = working capital/total assets
X_2 = retained earnings/total assets
X_3 = earnings before interest and taxes/total assets
X_4 = market value of equity/book value of total debt
X_5 = sales/total assets

Each firm was then assigned a Z score. It was found that a score of less than 1.8 indicated a company most likely to fail, whereas a score higher than this was, relatively speaking, a less risky company.

The accuracy of this model has been tested several times, and it generally shows reliable results up to two years prior to failure. The actual results were as follows: Up to one year prior to failure, 95% of firms were correctly classified as "bankrupt" or "nonbankrupt". However, with data of two years prior to bankruptcy, Altman found in 1968 that the correct classification fell to 74%. Earlier data did not provide reliable classification. Subsequent tests using the same model on firms which failed after 1968 show an accuracy level of 82–85%.[5]

In 1977 a second model was developed that made allowance for several new factors. There included the change in size and financial profile of business failures, adjustments to the model for retail companies, and adjustments to cope with changes in financial accounting data resulting from changes in GAAP.[6] The two samples in this study were 53 bankrupt firms and 58 non-

[3]E. Altman, "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy," *Journal of Finance* (September 1968).

[4]E. Altman, R. G. Haldeman, and P. Narayanan, "Zeta Analysis: A New Model to Identify Bankruptcy Risk of Corporations," *Journal of Banking and Finance*, 1 (1977).

[5]For a complete discussion of these results as well as the data for private firms, see E. Altman, *Corporate Financial Distress*, New York: Wiley, 1983.

[6]Data was adjusted to include the capitalizing of all noncancelable operating and finance leases, and captive finance companies were consolidated with the parent company, even if treated as equity investments in published statements.

bankrupt firms. Of the sample firms, 94% failed during 1969–1975, and the average asset size of the failed group was $100 million, indicative of the increasing size of failures. The bankrupt firms represent publicly held U.S. industrial failures which had at least $20 million in assets, with no known fraud and where sufficient data was available. Of the 53 bankrupt firms, 24 were retailers, and 29 were manufacturers.

The seven-variable model was extensively tested. Its components are:

V_1, *return on assets,* measured by earnings before interest and taxes/total assets. This variable is the same as X_3 in the 1968 model and was also significant in Beaver's 1968 study.[7] It measures profitability of the underlying business in relation to the use of assets. Since it shows earnings before interest and taxes, it reflects operating results undistorted by financing policies or tax changes. In other words, it is Darwinian profitability: it is the result of management decisions made in manufacturing and selling products.

V_2, *stability of earnings,* is measured by a normalized measure of the standard error of estimate around a 10-year trend in V_1. Business risk is often expressed in terms of earnings fluctuations, and this measure was found to be very effective. It confirms our earlier comments that high leverage can be justified by stable cashflows; but in their absence, high leverage can be fatal.

V_3, *debt service,* is measured by the interest coverage ratio—that is, earnings before interest and taxes/total interest payments.

V_4, *cumulative profitability,* is determined by retained earnings/total assets. It measures cumulatively retained profits and is obviously very sensitive to two or three back-to-back loss years. It is the same as X_2 in the 1968 model. This is "unquestionably the most important variable."[8]

V_5, *liquidity,* is measured by the current ratio. Altman's results found that this ratio had greater significance than other possible measures of liquidity, such as working capital/total assets, which had been used in the 1968 study (X_1).

V_6, *capitalization,* is measured by equity/total capital. In both the numerator and denominator, equity is represented by the five-year average of the total market value rather than its book value. The denominator also includes preferred stock, long-term debt, and capitalized leases.

V_7, *size,* measured by the firm's total assets.

The most important variables in order of their contribution to total discrimination are cumulative profitability (V_4) stability of earnings (V_2) and capitalization (V_6).

[7]W. H. Beaver, "Financial Ratios as Predictors of Failure," Empirical Research in Accounting, Selected Studies, 1968. *Journal of Accounting Research.* Supplement to Volume 4, pp. 71–127.

[8]Altman, Haldeman, and Narayanan, "Zeta Analysis," p. 35.

Table 8.1 Percentage of Firms Correctly Classified as "Bankrupt" or "Nonbankrupt" by 1977 Altman Line Model

Years Prior to Bankruptcy	Bankrupt	Nonbankrupt	Overall
1	96.2	89.7	92.8
2	84.9	93.1	89.0
3	74.5	91.4	83.5
4	68.1	89.5	79.8
5	69.8	82.1	76.8

Source. E. I. Altman, R. G. Haldeman, and P. Narayanan, "Zeta Analysis," *Journal of Banking & Finance,* **1** (1977); reprinted with permission.

Results showing overall classification accuracy— that is, the percentage of firms which the model correctly classified as "bankrupt" or "nonbankrupt" are shown in Table 8.1. Altman tested the 1968 model on the new sample of failed firms and found that it was not as good as the 1977 model, which as can be seen obtained over 70% overall accuracy up to five years prior to bankruptcy.

Altman's research has been marketed in recent years by a financial consulting firm which applies ratio analysis to publicly owned U.S. companies. In an article published in *Business Week* in March 1980, 24 companies with scores that looked particularly worrisome were listed. Of that 24, five had filed for reorganization within two years,[9] and two others were bought out and went private. In a follow-up article,[10] 50 companies were listed, including Braniff Airlines, which filed for bankruptcy the week the article was published.

Remember, that Z scores were developed using U.S. publicly owned corporations as the source of data. Therefore, the model will not necessarily apply to other companies in other countries. However, two important lessons can be drawn. First, watch those ratios which the model uses, especially where these are confirmed as significant by other research or by lenders' experiences, and second, watch the trend in these ratios over two or three years. If return on assets, cumulative profitability, and earnings stability all show a declining trend, then you have pretty solid ground for expecting that very serious financial problems are just around the corner.

APPLYING THE ALTMAN APPROACH

A fascinating example of successfully turning around the fortunes of a business by applying the 1968 Altman "bankruptcy predictor" model occurred

[9]Itel, Seatrain Lines, White Motor, Penn-Dixie Industries, and Sambo's Restaurants.

[10]"Companies That Face Financial Strain," *Business Week,* May 17, 1982.

with GTI Corporation, a manufacturer of parts for the automotive and computer industries.[11] When James La Fleur took charge in 1975, GTI had a $4.4 million net worth (over $2 million lower than the previous year's figure) and had experienced a $5.6 million decline in working capital. The company was losing money and had a heavy burden of debt. Its Z score was below 0.5. La Fleur knew of Altman's model and consciously took management decisions to improve the Z score by working directly on the five component ratios.

Having observed as the member of the board of directors during 1973–1975 that GTI was growing rapidly by excessive use of debt and with too optimistic expectations of raising future equity, La Fleur determined to find the underlying problems. He soon discovered that inventory and work in process were out of control. Returned goods had often been set aside and not properly accounted for. These and other assets showed an excess of actual assets over what was required.

It was then decided to find a strategy that would decrease total assets without seriously reducing the numerators in the X ratios—namely, working capital, retained earnings, earnings before interest and taxes, market value of equity, and sales. The chosen strategy was to sell off excess inventory as quickly as possible. Staff cuts were also made, and capital expense programs were frozen. Employees at two plants were handed questionnaires asking why they thought their plant was unprofitable. They responded very specifically about how to improve the use of their machinery, and their suggestions were followed. A function/location matrix was devised to analyze each executive's job, how much it cost the company, and where the work was performed. This was extended to include products profitability. As a result, a major product line was identified as being only marginally profitable and absorbing a lot of capital as well. It was sold for cash and the cash was used to reduce debt. The Z score leapt from under 0.5 to 2.95. Next the company's management extended product analysis from simple profit projections to return on assets over several years, and also looked at projected working capital and capital expenditure by product line. This helped establish what costs could be expected if the company expanded within its current markets.

Then in 1978 another division was closed, with the cash from excess assets going again to pay off debt. Interestingly, this closure pushed GTI to a 29¢ per share loss for the year, but its Z score actually rose as more debt was paid off.

By 1979, from a balance sheet viewpoint, GTI's strategy had decreased the debt/equity ratio over five years from 128% to 30%, and increased owner's equity from $3.5 million to $4.7 million. Working capital improved from $1.4 million to $2.8 million, and the current ratio from 1.38 to 2.10.

[11]E. I. Altman and J. K. La Fleur, "Managing a Return to Financial Health," *Journal of Business Strategy* (Summer, 1981).

This case dramatically illustrates that management can use the Altman model to help make decisions that can turn around a company. The essence of GTI's strategy was to utilize a proven predictive model in an interesting way rather than in the passive way in which most forecasting models are used. In the next section, we look at the Argenti approach, which can also be applied to the analysis of failure.

THE ARGENTI APPROACH

Puzzled by the lack of any serious studies on the causes of collapse, and disappointed by the sensation-seeking "Great Business Disasters" type of book which was usually semifictional and certainly not scientific, John Argenti set out in the mid-1970s to do what no one at that time had ever seriously attempted. He undertook the task of seeing if there was a pattern to business failure and if it was possible to determine a series of causes of collapse which were repeated frequently enough to form the basis of a hypothesis. His approach, therefore, is different from Altman's in that he is seeking out business decisions that cause disaster, not merely looking at the predictive power of ratios.

In the course of gathering evidence, Argenti interviewed several leading experts. Many of these were professional receivers, but there were also investment analysts, managers, and journalists. In his book *Corporate Collapse*, Argenti presents Altman's earlier model and discusses it. He also recounts in detail two very large crashes—namely Rolls Royce and Penn Central—and tests his hypothesis on them. This is a very fascinating and readable book. His conclusion is that there are certain paths or patterns of failure. Thus, very young small companies follow one distinctive failure path; young but larger companies follow another equally distinctive failure path, which includes a period of dramatic collapse; and, mature companies follow a rather complex three-stage failure path.

In the following paragraph, Argenti states all the causes of collapse which appear with sufficient frequency to form the basis for his hypothesis:

> If the management of a company is poor, then two things will be neglected: the system of accountancy information will be deficient and the company will not respond to change. Some companies, even well managed ones, may be damaged because powerful constraints prevent the managers making the responses they wish to make. Poor management will also make at least one of three other mistakes: they will overtrade; or they will launch a big project that goes wrong; or they will allow a company's leverage to rise so that even normal business hazards become constant threats. These are the chief causes, neither fraud, nor bad luck deserve more than a passing mention. The following symptoms will appear: Certain financial ratios will deteriorate, but as soon as they do the managers will start creative accounting which reduces the predictive value of these ratios and so lends greater importance to nonfinancial symptoms. Finally the company enters a characteristic period in its last few months.[12]

The remainder of this section examines what Argenti distinguished as the more significant causes of business failure and then looks at the failure paths which he observed.

Management

It is somehow self-evident that poor management causes companies to fail. It is rather like saying that abuse of the body causes ill-health. What we need to know is what types of poor management we are talking about. Argenti found that six management structural defects were indicated by the experts he interviewed: One man rule, nonparticipation by the board of directors, an unbalanced top management, a lack of management depth, a weak finance function, and a combined chairman–chief executive. He claims that in 1971 Rolls Royce had five of these (it did not lack management depth) and Penn Central had three.

In my opinion, one man rule is the most important of these defects. It often manifests itself in very large companies in the form of one man combining the role of chairman and chief executive. Of course in smaller companies, this one man rule is necessarily acceptable, since some of these small companies are by the nature of things one man and his immediate employees. What Argenti means by one man rule is the kind of autocratic dominance which is exercised by unusual people who will

> allow no discussion, hear no advice, and surround themselves with colleagues who are likely to agree rather than disagree with them. And lest anyone say that many autocrats are successful and have businesses which did not fail, one must at once reply that there is no one single reliable cause of failure: It is the combination of several of the main causes which are now being discussed that is fatal.[13]

One point which follows very naturally from this is the importance of recognizing exactly when one man who has been an entrepreneur, let us say, and a successful one, should make the transition to a new management structure, with all that goes with it—delegation, division of duties, decentralizing of power, and so on. This must be a matter of judgment, but bankers very often have seen borrowers who were very successful so long as they could manage a small business directly and personally, but made serious errors when this important transition came about, either because they continued to be the sole decision maker or because they got the management structure wrong.

[12]Reprinted with permission from John Argenti, *Corporate Collapse* (Maidenhead, England: McGraw-Hill, 1976), p. 122.

[13]Argenti, *Corporate Collapse*.

The remaining five management defects will tend to reinforce the danger of one man rule. If the board does not participate in proper discussion of strategic matters, it will have contributed to failure. Of course, it will be performing its most important role if it makes a wise choice for chief executive. Then its next most important task is to watch that chief executive, considering always its duty toward the varying interests of employees, customers, the public at large, and stockholders. If the board allows itself to be dominated in its discussions by its chief executive, it is losing its grip. But how can boards know what is happening in a company when the chief executive controls the flow of information to them? And how can you detect a nonparticipating board?

An unbalanced top management team is one that is too full of engineers, or marketing people, or whatever. This suits the autocrat, who will dominate the areas which his senior management knows least well. Examples of an unbalanced top team include Rolls Royce (engineers), British Leyland in the 1970s (engineers or salesmen), and perhaps Braniff in the 1980s, although that company is a much better example of the problems of one-man rule, personified in H. L. Lawrence. Argenti's other weaknesses—namely, a weak finance function, a lack of management depth, and a combined chairman–chief executive are less significant causes, since they tend to reflect what has already been seen as one-man rule, and Argenti himself regards them as indicators of that central defect and determined by it.

Management Information

Argenti reviews what the experts told him about failed companies having very poor accounting information systems. His experts mentioned particularly the lack of budgetary control, cashflow forecasts, and poor costing systems which they had seen in failed companies. I would like to extend the lack of information principle to include not just accounting information but also management information in general. This includes knowing what is happening in the market, what is happening in the competitors' businesses, and what new developments in technology are coming that could affect the industry. Poor management information systems are a very significant cause of collapse. Just as a person will have trouble driving a car at night if the car has poor lights and the driver cannot see the road ahead, so management cannot run a company if it does not know what is happening.

A good case of poor management information, mentioned earlier, was the W. T. Grant Company, a major U.S. retailer that failed in 1975. In the retailing business, detailed knowledge of inventory is vital so that proper decisions can be made as to purchasing and internal distribution. In times of high interest rates, excessive inventory levels cost the company a great deal of money. Yet management of W. T. Grant did not know what was in the inventories of its hundreds of individual stores: It only knew a total dollar figure for inventory at each location. Similarly in the case of a Venezuelan manufacturer of steel fastenings that collapsed in the late 1970s, the lack of

inventory controls proved to be a major cause of insolvency. Because the company was unable to know what was in its warehouses, nearly every new order required new production.

Poor management information systems will also make worse the next management error, failure to respond to change. If these systems are not bringing up data about patterns of market demand or about cost changes or whatever, then how can management respond?

Change

Argenti names failure to respond to change as a major cause of collapse. Earlier, I drew a parallel with natural history and suggested Charles Darwin's principle of natural selection as a useful model for the business world. Argenti's evidence supports this approach. Changes are continuous. What matters for companies is adapting to change in order to survive. Changes can be thought of as arising in five areas: competition, politics, economics, society, and technology. Some of these changes are violent and unexpected, such as the quadrupling of oil prices in 1973–1974 and the second sharp increase in the early 1980s. These changes are the most dangerous, but at least they are rare. More common are the gradual changes, such as the trend toward smaller families in industrialized countries. While the changes are outside the control of management, of course, what is definitely within management's control is how the company should respond.

Change arising in terms of competitors' actions has already been mentioned in discussing industry dynamics according to the Porter model (see Chapter 7). Remember that the presence of foreign low-cost producers, the merger of two competitors, or the entry of a new company with great financial resources into an industry will surely precipitate change. The Japanese auto industry and the Japanese motorbike industry did not spring fully formed like Athena from the head of Zeus. It took several years to achieve its tremendous export markets, and in the process, many competitors had time to react to this change. Of course, some companies went out of business even though they tried to react. Some changes are so strong that they appear to permit no opportunity for a counterstrategy.

Political changes are also important. I have already emphasized the importance of assessing the impact of government on a company. Now it is time to say that changes in political attitudes should cause companies to react. If they do not perceive such changes, disaster will follow; if they do perceive the changes but do not react to them, that too can be fatal. Think of what might happen to agribusiness in the European Economic Community (EEC) if the Common Agricultural Policy were to change so that farmers were no longer so protected against imports and against the effects of overproduction at home. One can think of what has happened to non-EEC producers of agricultural products who have found that they can no longer sell to such markets. New Zealand's lamb farmers, for example, have had to turn to new markets, such as the Middle East, in order to survive.

Changes in the economic environment frequently originate from political changes. Often, however, they are not directly politically caused. Economic changes include the devaluation of a major currency, the shift to a higher level of interest rates, the abandonment of fixed rates of exchange, and most importantly, the impact of inflation. No company can be unaware of the effects of inflation, but sometimes changes in the level of inflation may not be sufficiently recognized as a cause of financial problems. For example, a company might have adequate capital and access to reasonable bank credit lines to carry a certain level of inventory and receivables with inflation at, say, 6–7%. But if inflation shifts to 12–14%, the monetary values of inventory and receivables will be sharply increased, the need for debt will also be sharply increased, interest rates will escalate, and the company's financial resources will be overstretched, perhaps to the breaking point.

Economic changes in the level of a foreign exchange rate can also have fatal results—witness the collapse of Laker Airways in early 1982. Laker had more than $300 million of dollar-denominated debt, most of which was raised when the dollar was weak against the pound sterling. Since the airline had most of its revenues in sterling, it was already taking a foreign exchange risk with debt in one currency and cashflow in another. In the 12-month period immediately prior to its bankruptcy, the pound sterling depreciated by 27% against the U.S. dollar, with a resulting massive increase in the sterling equivalent value of Laker's debt. Here was an economic change to which the company was unable to react. Although it could have adopted the policy of hedging its foreign exchange risks by the use of forward contracts, for some reason, Laker did not take that action, which at best would only have partly lessened the flow. Such a massive increase in debt was therefore a major contributory factor to the collapse.

There remains only to mention social change and changes in technology. Since social changes are more subtle and evolve more slowly, it is hard to find examples of companies that have not reacted to such changes. Attitudes toward pollution and consumer protection, the increasing trend for women to work, rising levels of further education—all of these are gradual social changes. Employee motivation, expectations, and participation are also part of social change. Whereas once workers would obey the bosses without argument, today labor unions are more common and more widely accepted. Management which ignores such changes will be taking big risks.

Finally, changes in technology are said to be the most influential today, but according to Argenti this is a weak generalization. Very often the changes can be anticipated, and sometimes responding too soon to the change can be fatal. Sometimes the responses are just inadequate: Consider the several attempts made by AM International (formerly Addressograph-Multigraph), which failed in 1982, to adapt to the changing technology of office products, such as photocopiers. Over 10 years or so, the company tried many different products in reponse to changes in technology, but all failed for different reasons.

Overtrading, Launching a Big Project, and Leverage

Next we review the three other major causes of collapse which Argenti listed. Overtrading was the cause most frequently mentioned by his experts. It means simply trying to expand beyond the limits which a company's resources can support. Most commonly this expansion is at the expense of profitability. In other words, management is increasing sales through a conscious (or perhaps unconscious) cutting of profit margins. Growth at any price! No company can expand without debt, as we have seen, if its cash from operations is inadequate. Negative cash from operations is usually a symptom of overtrading if it is combined with rapid increases in sales and low profitability. Rapid growth for a certain period has often been associated with later collapse, especially in younger companies which go through this dramatic expansion phase. (This will be reviewed in the section on failure paths, as a Type 2 failure.)

An alternative to overtrading as a management error is launching "The Big Project." A company that is poorly managed and has disappointing results sometimes falls into the error of gambling on a big project that it hopes will restore the company's good fortune. Usually this project is financed by debt, since the company's cashflows are in a poor state already—hence the need for a big project. Usually, too, the costs are underestimated and the revenues are overestimated. A big project can include a merger, a diversification program, an expansion program, or the launching of a major new product. If the size of the project is very large in relation to a company's net worth, the risks are manifestly increased. Success will be wonderful of course, but even a small margin of error will have a huge impact on the company.

A good example of a company that launched a unsuccessful big project is Rolls Royce, which in 1967 set out to develop a new aero engine, the RB211. Initially, the development cost of the program was estimated at 60% of the company's net worth; four years later the actual cost turned out to be more than 100% of the net worth. There are plenty of other examples in the case histories, including Massey Ferguson (a major plant intended for exports from Germany that became a white elephant), Chrysler (the costs of converting to smaller more fuel-efficient cars proved huge in relation to Chrysler's capital base), Pertamina (the Indonesian oil company that massively overexpanded in the mid-1970s), and Mitchell Construction (a British engineering company which built a power station at Kariba in Africa that cost so much more than the contract that it sank the whole company).

While companies seldom commit both errors of overtrading and launching a big project, the presence of high leverage seems to be universal in failed companies. High leverage results from management decisions to press ahead with overtrading or a big project despite the fact that internally generated cash is insufficient to finance it. High leverage, as we have seen, is justifiable only if future cashflows are highly predictable. Corporate collapse comes about in a highly leveraged company usually because either interest or capital

payments cannot be made, but sometimes because the company has simply run out of cash and no one will lend it any more money. This simply does not happen in companies with low leverage. Shareholder-financed companies with little or no debt are different: Dividends are not obligatory; shareholders cannot cause a company to collapse by demanding repayment; and from management's point of view, shareholders have far less influence in a low-leveraged company than bankers have in a high-leveraged company. If management's desire is for independence of action, then leverage is to be avoided. If a company has no debt, then no one can tell it what to do. High leverage therefore is a management error in that it limits what the company can do. High leverage is a hostage to fortune—when growth pays off, it is wonderful for the owners and for management, but when other strategic errors combine with it, then it is the fatal blow.

Creative Accounting

In Chapter 2, we looked at financial statements and their reliability. We saw that the nature of accounting principles is such that income and expenses involve assumptions and judgments, whereas cashflow is reliable, absolute, and not subject to manipulation. "Creative accounting" is any method of accounting that overstates revenues or understates expenses—that is, overstates or understates according to your business judgment of what is appropriate to a particular company or industry. Creative accounting is definitely a symptom of companies that are in a failure path. Usually it is employed as a smokescreen to disguise the real results in order to maintain the company's credit worthiness or to confuse the investors. But also management does not like to recognize failure; therefore, it sometimes deceives itself by employing those accounting principles that are most favorable to management.

Accounting principles in most countries permit substantial latitude in their application. Watch out then for the following "creative" signs, some of which are ingenious and some patently fraudulent.[14]

> Recording as sales any inventory consigned to dealers but returnable by them.
>
> Capitalizing expenditure which has doubtful long-term value.
>
> Depreciating assets and later revaluing these assets upward, then taking the excess depreciation into trading profit.
>
> Revaluing inventory upward.
>
> Recognizing revenues on a front-end basis on the whole of rather than part of a contract where this is unjustified (for example, because the contracts are cancelable subsequently).

[14]Argenti presents a list of 18 techniques. This is my own list, not Argenti's, although a few are the same.

> Consolidating an associate's income where this should be treated as equity accounting.
>
> Treating revaluations of fixed assets as income where the company is a manufacturing company.
>
> Extending the lives of fixed assets for depreciation purposes.
>
> Using unreasonable assumptions for residual values for leased assets.
>
> Not showing advance payments from customers as actual liabilities.
>
> Recognizing unrealized gains on future contracts but not unrealized losses.
>
> Making excessive allocation of overhead costs to products in finished goods inventory so as to shift overhead from the current period into future periods.

And there are many others that only await a creative mind.

Failure Paths

Argenti identifies three failure paths for three kinds of companies: the young, the fairly young but spectacular, and the established but waterlogged. This part of Argenti's book is very plausibly based on general observations of several failed companies (see Exhibit 8.1). Type 1, the young company, never gets off the ground. Some 50–60% of company failures are said to be of this type. "In some cases," Argenti writes,

> one may be entitled to predict failure right from the start, for such companies are presented with the following dubious gifts on their birthday: an unbalanced top team of one man with a weak finance function and no depth of management: rudimentary budgetary control, costing systems, and cashflow flaws; high leverage; and a project well beyond their means.[15]

That project is, of course, the business of getting started in business. Such companies live from two to eight years.

More spectacular is the Type 2 failure, but this is a rare type. Such companies are typically run by publicity-hungry enterpreneurs—undoubted leaders with a tendency toward flamboyant life-styles. A highly respected venture capitalist, Frederick R. Adler, is suspicious of a flamboyant style. Asked by the *New York Times* in January 1981 why he rejected a promising California electronics firm, he replied:

> The first thing I noticed was a giant Mercedes with initialed plates. The president said it was his, leased by the company. Then we went up to his office which was almost as big as the production area with a desk about eight feet long. After about an hour I said "Fellows I'm impressed with your desk and your

[15]Argenti, *Corporate Collapse*.

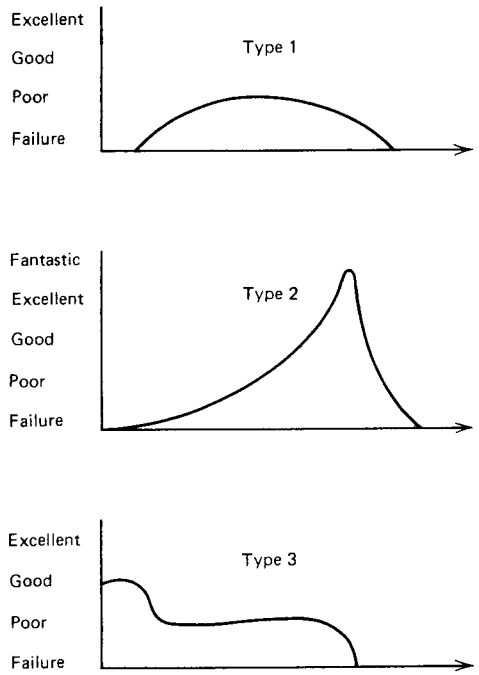

Exhibit 8.1 Three Types of Failure Paths. Reprinted by permission of John Argenti, *Corporate Collapse* (1976); Berkshire, England: McGraw-Hill, copyright © 1976 John Argenti.

car, but that's not the criteria by which I invest!" They went bankrupt 18 months later.[16]

Finally, Argenti describes the Type 3 failure path. This is the route typically taken by the large older established company, including what are often called "ailing giants." Examples of this type are AEG-Telefunken in Germany in the 1980s, British Printing Corporation in 1978–1981, or, of course, Penn Central in 1970. You might think of these companies as dinosaurs approaching extinction, but not all of them are large. Mostly they have failed to change, or have been dominated by one man who, perhaps very successfully, had guided the fortunes of the company for years but who has now departed from the scene leaving his followers still practicing his policies without thinking of their need for revision. As can be seen from Exhibit 8.1, the collapse is a two-stage affair. The first steep decline is often caused by an outside event that was not properly anticipated, while the second steep decline happens because either another shock hits the company or it attempts

[16]*New York Times*, January 6, 1981.

to gamble its way off a plateau of dismal performance. This plateau, Argenti suggests, can last for years, and changing the metaphor such a period is in his view a time when the company is "waterlogged"—that is, "leverage has become too high and at the same time the company has lost its competitive edge."[17] He is convinced that it is rare that such companies are able to get off the plateau because of their other defects (poor management information, for instance). In addition, an acute difficulty arises in that management seldom accepts the need either to contract the size of the company or to sell out to another company, and these represent the only really viable recovery plans. Nevertheless, such companies can and do survive if timely rescue work takes place.

SUMMARY

Understanding an industry is a matter of learning its dynamics, assessing where profits are made—for that is where risks are taken—and identifying changes. Good management is essential, and good management depends on Drucker's key result areas, discussed earlier. As analysts, you must develop your own measures for success in these areas, especially where financial numbers will be of no value. Some industries are inherently weak; others are strong because of barriers to entry. You must determine the nature of the industry in terms of buyer and supplier power, as well as the subject company's position within that industry. There are two separate but not incompatible approaches to predicting corporate collapse: using financial ratios and detecting multiple management errors. Both approaches are important to credit analysis. Causes of weakness are more relevant to risk analysis. You must use your own judgment, however, in decisions when isolated instances of Argenti's causes are significant, since it is normally a combination of weaknesses that proves fatal.

[17]Argenti, *Corporate Collapse*.