A Study of the Efficacy of Altman's Z To Predict Bankruptcy of Specialty Retail Firms Doing Business in Contemporary Times

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Abstract: Altman's *Z,* a multiple discriminant analysis bankruptcy model using commonly accepted cutoff criteria, may provide a useful decision rule to predict financial distress in firms operating in a wide variety of industries. In this study, we outline the construction and interpretation of the *Z*-Score and apply it to several pairs of firms (*N*=17) from a variety of specialty retail industries spanning two consecutive years. Past research indicates that Altman's *Z* predicted future financial distress in 90 percent of the firms studied. In this study, all but two of the bankruptcies (94 percent) would have been accurately predicted. Despite some criticism of the model's efficacy, two firms were misclassified yet later revealed potential financial distress.

Keywords: Altman's Z, financial distress, bankruptcy, performance, strategy

Introduction

Before the financial disaster of 2007 and the current economic crisis, the period from 1999 to 2002 hosted an "unprecedented number of [U.S.] corporate bankruptcies" (Moyer, 2005, p. 1). Over 400 firms with assets in excess of $100 million and as much as $400 billion in debt and claims filed for bankruptcy during that time.

As total bankruptcies have increased steadily over the past thirty years, business filings have shown a slight downward trend (Figures 1 and 2). Although public firms

filing for bankruptcy are typically less than one percent of all business filings, the volume of assets and debts involved are considerable. For example, in 2001, 257 companies with $256 billion in assets filed for bankruptcy; a year later, 191 public firms with total assets exceeding $375 billion filed. Thirty-four of the 2002 bankruptcy filings were by firms with assets in excess of $1 billion each (Administrative, 2009).

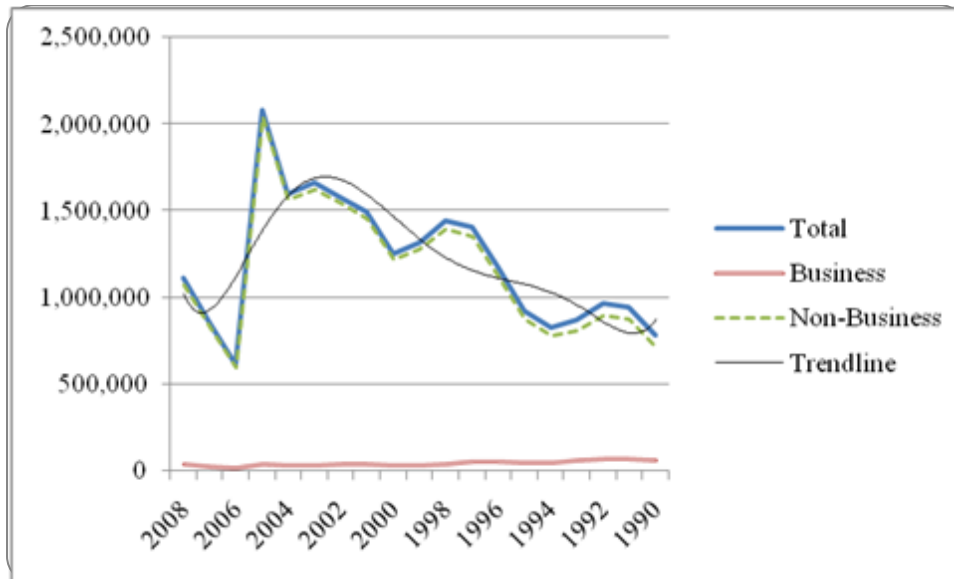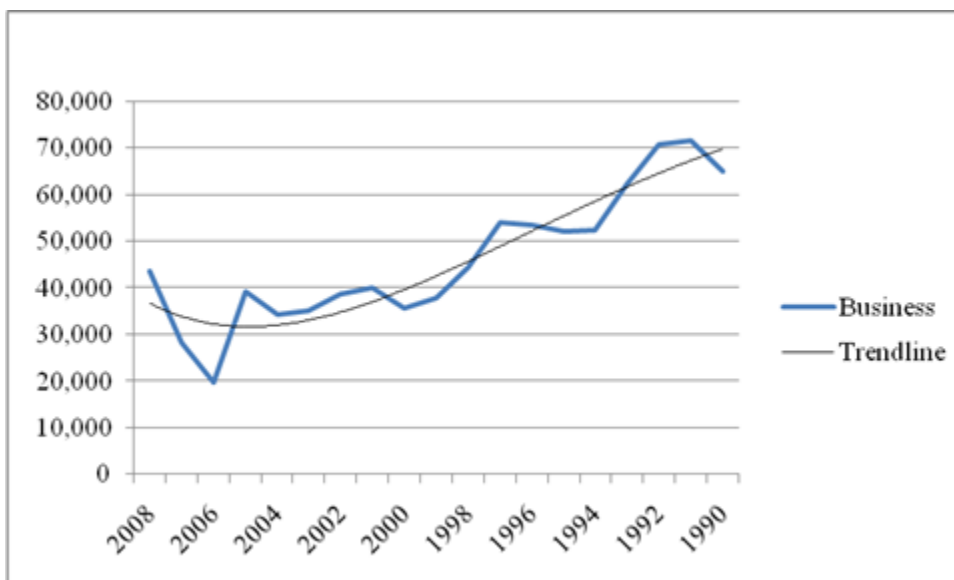*Figure 1*: Bankruptcy Filings, Overall

Figure 2. Bankruptcy Filings, Business-only

Source: Administrative Office of U.S. Courts. (2009). Bankruptcy statistics. Information retrieved July, 2009, from http://www.uscourts.gov/bnkrpctystats/bankruptcystats.htm

Given the relatively high frequency of bankruptcies filed by publicly-traded businesses, and the threat posed to suppliers and other stakeholders that rely on firms' solvency for their own success, a reliable bankruptcy model with consistent predictive power is essential in today's business environment.

Bankruptcies seem to unfold rapidly and news about them seems unexpected, although the signs may have been in evidence for years before the filing takes place. Naturally, many organizational stakeholders are interested in finding a reliable method to predict bankruptcy and financial distress. To date, the methods designed to predict bankruptcy events have had mixed reviews. One common bankruptcy prediction method is Altman's *Z*-Score formula. The objective of this study is to apply Altman's *Z*-Score in a contemporary analysis during a period of rapidly-changing business conditions. The authors study the predictive ability of the Z-Score using data from 2007 and 2008 and apply it to a group of firms. In addition to using current data, this paper extends current research by utilizing Altman's *Z*-Score with a new subset of firms: the retail industry

Literature Review

What is Altman's Z Score?

Altman's Z is one of the best known, statistically derived predictive models used to forecast a firm's impending bankruptcy (Moyer, 2005). Edward Altman, a financial economist and professor at New York's Stern School of Business, developed Altman's Z (the Z-Score) in 1968.The Z-Score

gained acceptance by auditors, management accountants, and database systems beginning in the mid-1980s. Although, Altman originally developed the Z-Score based on a small sample of manufacturing firms, some research seems to show that it is useful in other areas, such as healthcare, with some modifications (Al-Sulaiti & Almwajeh, 2007).

Altman's *Z*-Score formula is a multivariate formula used to measure the financial health of a company and to diagnose the probability that a company will go bankrupt within a two-year period. Studies of Altman's *Z* have yielded mixed results, and recent literature questions whether or not the formula, tested in the mid-twentieth century on manufacturing firms, is useful in today's marketplace.

The *Z*-Score uses various accounting ratios and market-derived price data to predict financial distress and future bankruptcy. The original formula was developed on a sample of 66 manufacturing firms, half of which filed Chapter 7 bankruptcy. Firms with assets of less than $1 million were eliminated from the sample. The Altman's *Z* formula works well provided the scores fall within the "in the tails," meaning that low and high scores may more accurately predict financial distress than scores that fall in the gray area. More moderate scores may be easily misclassified (Moriarty, 1979). In the early 2000s, Altman amended the formula to allow its application to certain situations not originally included in the original sample set (Altman, 2006).

Constructing Altman's Z-Score

The Altman *Z*-Score, based on discriminant analysis, includes basic

financial ratios as inputs (Calandro, 2007). To determine the formula, Altman utilized five common business ratios and systematically weighted them in his calculations. Some research has shown that the model is 72 to 80 percent accurate in predicting bankruptcy one to two years in advance. The accuracy rate depends largely on the industry and other factors relevant to the industry.

Although Altman's formula has been described in many of the works cited here, we will provide a description of its construction and an overview of two of the three versions of the formula that have been studied.

The *Z*-Score was originally constructed as:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + .6X_4 = 1.0X_5,$$

where

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

Altman employed X_1 because the ratio measures liquid assets in relation to the firm's size. The most widely used current and acid test ratios do not predict as effectively as this measure. X_2 measures a firm's earning power; failure rates are closely related to this ratio. The X_3 ratio measures operating efficiency separated from leverage effects. This part of the equation recognizes operating earnings are a key to long-run viability. Altman added the market to the equation by including X_4; security price changes may foreshadow

upcoming problems. Last, X_5 is a standard turnover measure; however, this varies greatly from industry-to-industry and is omitted when non-manufacturing firms are studied.

In response to requests for a measure to predict the likelihood of bankruptcy for non-manufacturing firms, Altman developed the *Z''* Model, (Altman & Hotchkiss 2006). This alternative model was designed for non-manufacturing industrials. This is model that was employed in the investigation reported in this study. The formula, which differs from the original formula presented above, is:

$$Z'' = 6.56\,X_1 + 3.26\,X_2 + 6.72\,X_3 + 1.05\,X_4$$

where

  X_1 = (current assets – current liabilities) / total assets
  X_2 = retained earnings / total assets
  X_3 = earnings before interest and taxes / total assets
  X_4 = book value of equity / total liabilities

The variable of X_5, found in the original Z-score for manufacturing firms, is omitted in Z''. This variable represented sales/total assets, and Altman removed this variable when calculating the score for non-manufacturers because this turnover ratio is likely to be significantly higher for retail and service firms as compared to manufacturing firms. In other words, if the original model was employed to predict bankruptcy in non-manufacturing firms, the scores would underpredict bankruptcy for these firms because of their lower capital intensity.

Interpreting Altman's Z-Score

Altman's *Z* is commonly employed to assess financial distress. Altman's *Z* is a weighted composite of financial indicators relating to profitability, revenue, slack resources, and market return (Altman, 1968). When interpreting Altman's *Z*-Score, higher values indicate that firms "carry out more actions at a fast pace, while low scores indicate that firms carry out few total actions and respond slowly" (Ferrier, Mac Fhionnlaoich, Smith, & Grimm, 2002). In this section, we discuss the different cutoff criteria for interpreting the score.

Once a *Z*-Score has been determined, the ratio is then compared to Altman's predetermined cutoffs. Altman postulated that companies with a *Z*-Score <1.8 were likely to experience bankruptcy, companies with a *Z*-score 1.8 to 2.99 were in a zone of ignorance, or a grey zone in which distress may or may not be impending. Last, companies with a *Z*-score of >2.99 were likely to be financially sound. However, there is no single formula that has the power to predict the future; *Z*-Score users should look at the trend of the business over time as they interpret the score rather than just looking at the score itself, which is only a snapshot in time.

Three commonly used interpretations of the Altman's *Z*-score include the following: (1) For public manufacturing firms, a *Z*-score of 3.0 or greater shows solvency, while a score of 1.8 or lower indicates likely distress. (2) For private manufacturing firms, the gray area narrows with a positive score being 2.9 or greater and the likelihood of bankruptcy at 1.23 or lower. (3) For private, non-manufacturing firms, a score of 2.6 or greater indicates that impending bankruptcy is unlikely and a score of 1.1 or

lower suggests that bankruptcy is likely. For all three interpretations, the score's predictive probability is 95 percent within one year and 70 percent within two years of the data used to compute the score. In each of these three versions the coefficients differ to represent the nuances of the industry situations (see Caouette, Altman, Narayanan [1998] for coefficients for each version of the formula).

In the *Z"* formula, which is employed in this study, scores of 2.6 and greater indicate that the firm is in a safe zone. Scores ranging from 1.1 to 2.6 represent the grey zone. The distress zone includes scores below 1.1.

Early scholars criticized Altman's formula as having a poor record as predictor despite Altman's explanation for a bankruptcy. Altman claimed that predictions varied due to the instability of relationships among the variables within the equation over time. Statistical models based on financial data may appear to describe events, but they are not necessarily good at predicting outcomes (Moyer, 1977). For example, in a study with public accounting professionals, Altman's *Z* was found to misclassify over 50 percent of the firms used in the study as bankrupt and 29 percent as not bankrupt (Moriarty, 1979). As a result of these and other similar findings, the formula was studied for use in different industry contexts.

In a test of Altman's *Z* in a more current business climate, Grice and Ingram (2001) found inconsistent results. In response to their research questions: (1) the formula was not found to be as useful in predicting distress in more contemporary firms than when first developed (2) nor was it as effective in predicting bankruptcy for non-manufacturing as for manufacturing firms. The formula was found to be as

useful in predicting bankruptcy as it was to predict other distress conditions.

Performance Literature

Although Altman's *Z* is typically used to predict bankruptcy, it is "also an important multidimensional measure of strategic performance" (Chakravarthy, 1986) in that it is a "composite measure of profitability, cash flow, slack, and stock market factors (Altman, 1968). High *Z* scores indicate strong financial health while low scores indicate financial distress (Ferrier et al., 2002).

Altman's *Z* has also been used to explore the potential for bankruptcy in hospitals. The study using hospitals revealed that both discriminant analysis and logistic regression models are able to predict service organizations' success or failure, with the latter being more predictive in a sample of 65 hospitals (Al-Sulaiti, & Almwajeh, 2007). Liquidity and profitability ratios had the highest contribution to the results of the *Z*-score, followed by productivity and efficiency.

In 2007, Kim studied the robustness of the Altman's Z-Score model under the assumption that it was no longer significant due to market factors. Kim found that the Z-Score seems to be a predictor of financial distress in firms one year prior to bankruptcy, but that the calculations needed to be used with caution because of the significance of some of the variables. Kim cautions that Z-Score predictions for periods longer than one year have lost some of their significance. In a study of South Korean firms, a low Altman's Z-score was found to be a significant predictor of financial distress for those firms using the soft budget constraint (SBC), such as in bank lending (i.e., a financially distressed

firm can continue to borrow from its bank) (Alexeev & Kim, 2008)

Carton and Hofer (2006) investigated a variety of common performance metrics. The optimal metric for providing "the greatest relative information about the market-adjusted return to shareholders" was found to be Altman's Z-Score. Altman's formula appeared to rate higher than other performance metrics such as the widely used return ratios (i.e., ROE & ROA), economic profit, growth rate of sales, cash flow, and expenses. Carton and Hoffer's primary message is that Altman's Z-score is more than a financial distress predictor; it is also efficacious as a performance management tool.

Method

In this study, we sought to apply Altman's *Z*-Score to a more contemporary analysis in a rapidly changing business environment. This section contains a description of the company selection criteria. First, only public retail firms with a declared bankruptcy during 2007 or 2008 were considered. The eligible firms were further constrained to only include those companies with: (1) no bankruptcy filings for at least 10 years prior to the period under study; (2) assets greater than $1,000,000, and (3) complete financial information for the period under consideration.

Next, comparable companies were selected for each retail firm that remained after applying the selection filters. Comparable firms were identified from the key competitor information listed on Yahoo! Finance and/or directly from company documents. Each qualifying comparable company was required to be a

public company with no bankruptcy filings during the preceding ten-year period, have complete financial information, and show assets greater than $1,000,000.

Four pairs of firms for 2007 and for 2008 satisfied the aforementioned criteria and are the basis for our study. The Altman Z" model was designed for nonmanufacturing firms and it is the appropriate model for retail firms. Financial information was retrieved from Reuters. To assess the predictive ability of Altman's Z" model in the retail industry, the Z" is calculated and compared for each pair of identified companies. A detailed discussion of each comparison follows in the *Findings* section.

2007 Investigation

The 2007 Altman Z" analyses results are summarized in Table 1. The table provides detailed information on the bankrupt firms' filing dates, fiscal year end (FYE) dates, together with the calculated *Z"* Scores and distress determinations. Additional information regarding input ratios was provided in the previous discussion regarding constructing the Z-Score.

The first pair of firms conducted business as retail fabric companies. Hancock Fabrics, Inc. declared bankruptcy in March 2007, yet the calculated Z" Score of 5.27 placed the firm squarely in the safe zone. This result is primarily driven by an unusually high value for the X_1 variable. The variable, X_1, is the relationship between net working capital and total assets, and it is heavily weighted in the Z" calculation. Altman found the measure of the percent of assets supporting operations was highly significant in the prediction of financial distress. Both Hancock Fabrics, Inc. and the

peer firm, Jo-Ann Stores, Inc. show relatively high values for X_1. In fact, the Jo-Ann Stores, Inc. showed a lower X_1 value than did Hancock Fabrics and it did not declare bankruptcy. Additional study of the effectiveness of Altman's Z" score may be warranted for this particular subset of the retail industry.

The next pair of firms examined during 2007 fell into the category of home entertainment specialty retailers. The Altman *Z"* Score accurately predicted financial distress for the bankrupt company. The financial data of Movie Gallery, Inc. indicated a *Z"* Score of -1.04. Clearly this score is in the distress zone. The firm selected for comparison, Blockbuster, Inc., had a *Z"* Score of -4.17 based on December, 2006 financial data. The Blockbuster score is indicative of financial distress. However, if one looks at X_2 for Blockbuster, one would see that it is high (relatively) and is driven by the large negative retained earnings which resulted from the losses during 2004 and 2005. Blockbuster's results are primarily driven by the accumulated deficit of $4,781,900,000. 2004 was a particularly difficult year for Blockbuster where it lost approximately $1.2 billion. Although Blockbuster has not formally declared bankruptcy at the time of this paper, the Altman scoring method may still be predictive of future financial distress for this company. Blockbuster was issued a "going concern" warning in April, 2009 due to ongoing negotiations to restructure and substantially write down a $40 million term loan (Blockbuster, 2009). In this case, the Altman *Z"* Score provided more than 2 years warning of financial distress.

Due to the uncertainty of Blockbuster's financial position, a second peer firm, Netflix, Inc., was selected as a comparator. The Netflix financial data

indicated a *Z"* Score of 5.27 which places the company firmly in the safe zone. Netflix has not filed bankruptcy.

The third pair of companies investigated are both consumer electronics retailers. Tweeter Home Entertainment Group Inc. declared bankruptcy in June, 2007. The Altman *Z"* Score, -2.01 accurately predicted financial distress for this firm based on financial data posted nine months prior to the filing. The comparable firm, Best Buy Co., Inc.'s calculated *Z"* Score of 4.54 clearly places it in the safe zone.

Still another bankrupt consumer electronics retailer was evaluated for the 2007 period. The *Z"* Score correctly categorized Harvey Electronics Inc. in a position of financial distress with a score of -2.85.

The results of our 2007 data comparisons strongly support the use of Altman's Z" score as a predictive measure of financial distress. The method accurately classified eight of the nine firms under investigation. Given attention to both *Z"* Scores and other indicators, managers and investors of these firms would have accurately predicted their condition of financial distress or eustress.

Table 1
2007 Selected Retail Firms: Calculated Altman Z" Scores

Company Name	Status	FYE	Z Score Analysis Date	Z" Score	Zone
Pair Number One					
Hancock Fabrics, Inc.	Filed 3/07	1/31	1/06	5.27	Safe
Jo-Ann Stores, Inc.	Peer Firm	1/31	1/06	4.19	Safe
Pair Number Two					
Movie Gallery, Inc.	Filed 10/07	12/31	12/06	-1.04	Distress
Blockbuster, Inc.	Peer Firm	12/31	12/06	-4.17	Distress
Netflix, Inc.*	Peer Firm	12/31	12/06	5.27	Safe
Pair Number Three					
Tweeter Home					
Entertainment Group, Inc.	Filed 6/07	9/30	9/06	-2.01	Distress
Best Buy	Peer Firm	3/31	3/07	4.54	Safe
Pair Number Four					
Harvey Electronics, Inc.	Filed 12/07	10/31	10/06	-2.85	Distress
Best Buy Co., Inc.	Peer Firm	3/31	3/07	4.54	Safe

* Netflix, Inc. was selected as a peer firm due to the distress rating of Blockbuster

2008 Investigation

The 2008 analyses are summarized in Table 2. The table provides detailed information on the bankrupt firms' filing dates, fiscal year end (FYE) dates, together with the calculated *Z"* Scores and distress determinations. Additional information regarding input ratios was provided previously in this paper.

The first pair of companies operates within the retail consumer electronics industry. At the date of filing, the Circuit City Stores, Inc. bankruptcy was the largest retail Chapter 11 bankruptcy since Kmart filed for bankruptcy in 2002. The *Z"* Score of 2.38 places the firm in the grey zone. Given the magnitude of the Circuit City bankruptcy filing and the limited revelation of the *Z"* Score, the Altman Z" failed to clearly show that Circuit City was headed for bankruptcy. The comparator firm, Best Buy Co., Inc., displayed a calculated Z" score of 3.01. This score places Best Buy, Co., Inc. in the safe zone.

Sharper Image Corp. and RadioShack Corp. are specialty retailers in consumer electronics and gadgetry. The calculated *Z"* Score of -0.96 for Sharper Image predicted its subsequent bankruptcy. Similarly, the *Z"* Score of 5.75, which ranks RadioShack in the safe zone, is also predictive.

Whitehall Jewelers Holdings, Inc. declared bankruptcy midway through its fiscal year 2008. Therefore, *Z"* Scores were calculated based on available financial data at both six- (Z" = -2.12) and 18-months (Z" = -1.27) prior to the filing. The Altman's *Z"* Score was found to be predictive of financial distress on both dates and ranked the firm in the distress zone. The peer jewelry retailer, Zales, was found to rest in the safe category with a 6.68 rating.

The final set of firms examined in 2008 operated in the footwear industry. The calculated *Z"* Score of .82 for Shoe Pavilion, Inc. correctly places the firm in the distress zone. Shoe Pavilion filed bankruptcy in July of 2008. Conversely, in the comparator firm, Bakers Footwear Group, Inc., the financial ratios indicated a distress rating (Z" = -2.26). The score indicates that Bakers will likely experience financial difficulties in the future. Despite the lack of a bankruptcy filing, the *Z"* Score still has predictive ability for future financial distress, which is supported by more current news reported. In April, 2009, Reuters reported on the performance of Bakers during their fiscal year 2008 (Bakers, 2009). The company's independent auditor issued a "going concern" warning. The warning was based on a potential inability to comply with financial covenants which led the auditor to express "substantial doubt about whether the company can continue as a going concern." Again, while Bakers had not filed bankruptcy at that point in time, the Z" Score, based on pre-2008 data accurately predicted a distress condition. The Z" Score can also provide information across time periods, rather than a snapshot at the fiscal year end. Further examination of Bakers revealed a Z" score of .95 in January, 2007. Based on these results, the financial condition of the company is clearly deteriorating further into distress conditions. These results are supported by the going concern, reported above, that was issued approximately two years after the January, 2007 data used to calculate our initial Z" Score.

Due to the financial situation surrounding Bakers Footwear Group, Inc. an additional peer firm was selected for comparison purposes. An examination of the financial information for Brown Shoe Co., Inc. revealed a relatively high Z" Score

of 4.84, placing this firm in the safe category.

In summary, for the set of firms studied during 2008, the ability of the Altman Z" score to predict financial distress was successful in eight of the nine companies under study. The remaining firm produced ambiguous results, ranking in the grey classification to only later declare one of the largest Chapter 11 retail bankruptcies since 2002.

Conclusions

"Although many performance indicators cannot be expected to incur a strong cue that a strategy does not yield the expected results, Altman's Z is argued by some to be broad enough of an indicator for managers to notice" (Ferrier et al., 2002). In other words, Altman's Z may be employed to indicate financial distress.

In this study, we have endeavored to show the efficacy of the Altman's *Z"* Score in predicting financial distress in retail firms. In eight comparisons, four each in 2007 and 2008, of bankrupt versus non-bankrupt firms in retail specialties, the *Z"* Score accurately predicted bankruptcy filing 94% of the time and accurately predicted financial distress over 90% of the time.

Table 2
2008 Selected Retail Firms: Calculated Altman Z" Scores

Company Name Status		FYE	Z Score Analysis Date	Z" Score	Zone
Pair Number One					
Circuit City Stores, Inc.	Filed 11/08	2/28	2/08	2.38	Grey
Best Buy Co., Inc.	Peer Firm	3/31	3/08	3.01	Safe
Pair Number Two					
Sharper Image Corp.	Filed 2/08	1/31	1/07	-0.96	Distress
RadioShack Corp .	Peer Firm	12/31	12/06	5.75	Safe
Pair Number Three					
Whitehall Jewelers					
Holdings, Inc*	Filed 6/08	1/31	1/08	-2.12	Distress
			1/07	-1.27	Distress
Zale Corp.	Peer Firm	7/31	7/07	6.68	Safe
Pair Number Four					
Shoe Pavilion, Inc.	Filed 7/08	12/31	12/07	0.82	Distress
Bakers Footwear					
Group, Inc.	Peer Firm	1/31	1/08	-2.26	Distress
Brown Shoe Co., Inc.**	Peer Firm	1/31	1/08	4.84	Safe

*Z" scores are calculated for two FYE due to the date of the bankruptcy filing
** Brown Shoe Co., Inc. was selected as a peer firm due to the distress rating of Bakers Footwear Group, Inc.

Our goal has not been to suggest that Altman's *Z"* is an end-all solution to predicting financial distress. However, we do suggest that it resides in the manager's and investor's toolbox for diagnosing the possibility of future financial distress in firms. The Z" Score remains efficacious, and it is also useful in public, non-manufacturing firms provided that other important data are considered in parallel. As with any financial tool Altman's *Z* should contribute to a decision and not be relied on as the litmus test for investment decisions.

Although Altman's *Z* Score has been employed as a distress metric in areas such as merger and acquisition analysis, credit risk analysis, and turnaround management, it has only recently been employed in performance management (Calandro, 2007). However, the formula is not without its empirical support (Carton & Hofer, 2006).

Several variations of Altman's *Z* exist. Although, the formula has been demonstrated to be fairly predictive in a variety of contexts and cultural settings, it is not designed to be used in every situation. Variations of Altman's *Z* encompass publicly versus privately held firms and manufacturing versus privately held non-manufacturing firms. There is also the question in extant literature as to whether or not smaller firms require a different formula. Altman's *Z* has typically been used to analyze firms with assets from $1 million to $100 million.

As a result of our findings, we suggest that further exploration of Altman's *Z* score, and alternative formulas, is necessary to refine this potentially useful tool in order to develop a predictive collection of tools useful in predicting not only bankruptcy, but financial distress in a variety of firms in a variety of contexts.

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Appendix
Altman Z" Calculated Values

Company Name	X1	X2	X3	X4
2007 Analyses				
Hancock Fabrics, Inc.	0.4397	0.7223	-0.0731	0.4994
Jo-Ann Stores, Inc.	0.3900	0.2921	-0.0079	0.7296
Movie Gallery, Inc.	-0.0250	-0.3846	0.0835	-0.1701
Blockbuster, Inc.	0.0501	-1.5255	0.0235	0.3000
Netflix, Inc.	0.3860	-0.0667	0.1071	2.1285
Tweeter Home Ent. Grp.	0.1520	-0.9296	-0.0530	0.3582
Best Buy Co., Inc. (3/07)	0.2049	0.4058	0.1473	0.8415
Harvey Electronics, Inc.	0.0522	-0.6696	-0.1652	0.0952
2008 Analyses				
Circuit City Store, Inc.	0.2226	0.2619	-0.0944	0.6702
Best Buy Co., Inc. (08)	0.0449	0.3083	0.1694	0.5419
Sharper Image Corp.	0.0807	0.0311	-0.3731	0.8750
RadioShack Corp.	0.2973	0.8603	0.0758	0.4617
Whitehall Jewelers Hold., Inc. (07)	0.0013	-0.1223	-0.1253	-0.0184
Whitehall Jewelers Hold., Inc. (08)	0.2614	-0.5563	-0.3279	0.1747
Zale Corp.	0.4943	0.5379	0.0526	1.2688
Shoe Pavilion, Inc.	0.2587	-0.0671	-0.1692	0.4513
Bakers Footwear Grp., Inc.	-0.1036	-0.1938	-0.2278	0.5517
Brown Shoe Co., Inc.	0.3030	0.3609	0.0878	1.0320