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The development of CRITA-Score

A hybrid credit rating model for predicting financial distress

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ABSTRACT

Title:	The development of CRITA-Score – A hybrid credit rating model for predicting financial distress
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Key words:	bankruptcy, credit rating, default, financial distress, Multiple Discriminant Analysis (MDA), Z-Score model
Purpose:	The purpose of this study is to develop a credit rating model that predicts financial default two years prior to the actual bankruptcy. In addition, the secondary objective is to determine companies' current financial health.
Methodology:	Quantitative statistical method (MDA) supported by qualitative interviews.
Theoretical perspective:	The theory used in this thesis comes from published literature written by recognized authors.
Empirical foundation:	Interviews with commercial banks / creditors.
Conclusions:	CRITA-Score is an approach which is not yet ready to be implemented as a stand alone credit evaluation system by creditors. It is not accurate enough at determining a company's financial health two years prior default. Still, CRITA captures many aspects of a company's financial health by including a combination of ratios that is complete and by including a long time perspective. If it is further developed, CRITA has future potential to serve as a useful tool for creditors.

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1. INTRODUCTION

In this opening chapter the background of the subject will be presented. The problem discussion will provide the reader with an argumentation that constitutes the dilemmas of the topic. The purpose of the study and the delimitations will also be presented. Finally the outline is presented to give the reader a general perception of the study.

1.1 Background

In today's financial environment the importance of having a high and accurate credit score[1] is highly relevant for business survival. Many credit agencies and banks specialize in analyzing the credit worthiness of companies worldwide by examining their financial positions, business plans and strategies (Kim & Nofsinger, 2004).

The term credit rating originally comes from an article, "Manual of railroad securities", written by John Moody in 1909, which included securities and ratings of 200 railroads. The importance of credit rating increased after the 1929 stock market crash and the great recession that followed. US government improved regulations regarding the role of credit rating by demand that commercial banks should hold high quality debt. The objective was to bring back the confidence into the bank system. (Kim & Nofsinger, 2004)

The credit agency Moody's has, together with Standard & Poor's (S&P), still an essential role in grading companies' creditworthiness (Borrus et al, 2002). The credit agencies are considered to have reached a huge influence among creditors and investors in today's business climate worldwide (Altman, Mölle 2005). Many investors and creditors are in higher extent relying on the credit agencies concerning their decisions.

However, Altman and Rijken (2004) claim that credit rating agencies are not adjusting their ratings very frequently. The explanation is partly the "through-the-cycle" technique that is used by credit rating institutes. For instance, Moody's states that this method is useful since it measures default risk over long time horizons and is adjusted only when the institutes are certain that a specific company's risk profile is likely to have changed permanently (ibid). Besides, the credit institutes want to prevent an increased bond and stock market volatility, which results in a reduced interest of changing the credit ratings in short term perspective (Borrus et al, 2004).

[1] Credit Score; Letter-based ranking by credit agencies regarding companies' financial condition and the risk of default.

Incorrect credit score estimations have incurred creditors great losses that originated from the cost of credit risk. Hence, the creditors are to a great extent dependent of an accurate and current credit score in the process of borrowers' loan approvals. The risk, taken by the creditor, that arises from a specific counterparty's failure to fulfil its financial obligations is called credit risk.

1.2 Prior research

To prevent losses for practitioners within the financial sector, discovering early stages of companies' financial default have been in concern for a long time. Academics, financial institutes and banks have developed many approaches to make predictions about companies' deteriorating conditions (Grice & Ingram, 2001). There exists an enormous amount of articles and books regarding the topic written by different researchers. Altman (1968), Merton (1974), Taffler (1983) and Ohlson (1995) are well-known researchers, whose articles and books have contributed to valuable information concerning credit rating estimations. The models developed by Altman, Merton and Taffler have different approaches to measure the default risk, although the purposes of the models are to adequately quantify absolute levels of default risk. Accordingly, researchers have later on made comparisons between the different models and discovered dissimilar results concerning the models accuracy of companies' financial conditions. Hence, advantages as well as disadvantages with the different methods have been pointed out.

1.3 Problem discussion

Merton´s option pricing model, which is a market-based model, has its origin from the approach developed by Black and Scholes in 1973 (Hilleqeist et al, 2004). According to empirical results, collected from Hilleqeist et al (2004), Merton's model provides more accurate results when estimating the probability of bankruptcy than Altman's Z-Score. The advantages of utilizing Merton´s model are based on the fact that the probability of default is a statement of future events. The stock market provides alternative information from other sources in addition to the financial reports. When predicting future events, such as companies' probability of default, Hilleqeist et al (2004) claim that a combination of different sources of information is superior.

However, Smith & Graves (2005) do not agree with the statement that a market-based approach would be superior an accounting based approach. Taffler's model have been pointed out to be the superior model regarding predicting financial default by Smith & Graves (2005), yet the model is based on inputs from pure accounting data. This can be explained by the fact that the market approach is based on superfluous information, which is not relevant when determining companies' financial status. The irrelevant information that effects the market

price are hard to distinguish from more relevant information in the process of assessing an accurate credit score (Hilleqeist et al, 2004).

Edward I. Altman (Mölle, 2005) claims that a hybrid model, which is a combination of market-based and accounting-based approaches would be superior in grading companies' financial health. The Z-Score, a hybrid credit rating model developed by Altman 1968, has got a high degree of penetration effect in financial markets (Grice & Ingram, 2001). According to Hilleqeist et al (2004), the Z-Score model is the most frequently used when assessing firms' credit risk.

1.4 Purpose

The main purpose of this study is to develop a credit rating model, from a creditor's perspective, that predicts financial default two years prior to default. In addition, the secondary objective is to determine companies' current financial health.

1.5 Restrictions

We have restricted our study to include companies within the industries of manufacturing, consumer goods and utilities, as well as the energy business. The limitations concerning the investigated industries depended on the industry patterns similarity. The importance of collecting data from one source was important for the outcome of the study. This can be explained by the fact that the shape of financial reports concerning defaulted companies differ in high extent from different sources.

Financial ratios based on companies' cash flow will have negative impact on the reliability of the study because of the fact that companies calculate the cash flow differently. Accordingly, the ratios are restricted to include figures from the Balance Sheet, the Income Statement and companies' stock price. Since countries often have different accounting objectives, the sample is restricted to include only American companies.

Finally we have chosen to only investigate Standard & Poor's (S&P) historical rating values. The reason for this is that we selected firms from a default study that were provided to us by Standard & Poor's. To perform a reliable analysis we had to compare our results using the S&P historical ratings. In addition Standard & Poor's are considered to have the highest influence among credit agencies.

We have further restricted our study to only make comparisons between CRITA-Score, Z-Score as well as the S&P rating.

1.6 Outline of the thesis

Chapter 2 - Methodology
In this chapter the choice of the methodology and the gathering procedure for the required information will be presented. Considerations concerning the study's validity and reliability will also be provided. In addition a basic description of the quantitative methodology will be discussed. However, an extensive and thorough explanation of the quantitative analysis is provided in Chapter 5.

Chapter 3 - Theoretical framework
An extensive framework regarding relevant theories associated to the subject in question is provided in this section. The chapter is introduced by an explanation of credit risk and the consequences of financial distress. This is followed by credit agencies relevance and meaning. In addition, different approaches and models to measure financial distress conditions will be presented. Finally, a description of the financial ratios utilized in the study is outlined.

Chapter 4 - Results from the qualitative study
A presentation of the results concerning the qualitative research will be provided in this section. Interviews have been conducted with four of the largest Swedish commercial banks regarding the topic of credit rating. The qualitative study includes interviews with representatives from FöreningsSparbanken, SEB and Handelsbanken as well as Nordea.

Chapter 5 - Quantitative methodology
In this chapter we will explain how the quantitative data were processed. In addition, a thorough and extensive description of the performance concerning the Multiple Discriminant Analysis (MDA) is provided. Afterwards, we will continue with the different steps undertaken during our modelling. At the end of the chapter we will present the methods we later used when comparing our CRITA-model (Credit Rating Including Time Aspect) with Altman's Z-Score model.

Chapter 6 - Results and analysis
This chapter is introduced by Step I, which is a presentation concerning the results of the MDA. In addition, a discussion will follow regarding the extracted financial ratios. Hence, CRITA's reliability will be reviewed and compared to Altman's Z-Score and S&P's rating in Step II. An analysis of the results regarding CRITA-Score's accuracy will also be outlined.

Chapter 7 - Conclusions
The conclusions of the developed CRITA-Score will be presented and discussed in this section. The part will provide the reader with pro as well as contra statements concerning CRITA-Score's ability to make progress in today's financial climate. Suggestions of further research concerning the topic of credit rating will complete the chapter.

2. METHOD

In this chapter the choice of the methodology will be presented as well as the gathering procedure for the required information. Considerations concerning the study's validity and reliability will also be provided. In addition a basic description of the quantitative methodology will be discussed. However, an extensive and thorough explanation of the quantitative analysis is provided in chapter 5.

2.1 Choice of method

Our methodology has partly been of an inductive character since we have developed the CRITA-model based on financial ratios in practice, with the objective to predict financial distress conditions among companies. In line with this, our study determines significant financial ratios that could be used to explain the extent of companies' credit worthiness. Although, it is worth noting that our research method has some deductive features since we consider the benefits of several approaches when we developed CRITA-Score. In addition, to verify the accuracy of the CRITA-model a comparison is finally made to Altman's original Z-Score. According to Holme & Solvang (2001) a combination of these methods is known as an abductive model.

In order to create the CRITA-model we selected an approach combining the qualitative method with the quantitative method. In an initial stage we observed current financial ratios that could be utilized as inputs in the quantitative analysis. Because of the fact that the time constraints forced us to exclude some financial ratios we decided to conduct a series of interviews to better capture significant variables. The objective of the qualitative method was to supply us with a deeper knowledge and understanding of the different problems concerning the credit risk topic. In addition, according to Holme & Solvang (2001) using a qualitative method involves a reflection of the reality in a more accurate way than a purely quantitative approach. The outputs from the qualitative research, translated into a number of ratios, were used as inputs in the statistical model testing. Hence, the qualitative method had a secondary purpose to the quantitative method.

The quantitative method was carried out because of the central meaning of statistically verifying the results and the fact that a quantitative approach provides objectivity to the study. Accordingly, a quantitative model is more formalized and structured which can be generalized and hence more applicable to companies not included in the sample.

2.2 Information gathering

We started out the thesis by conducting an extensive and thorough study of the different qualitative and quantitative methods used by researchers, banks and other financial institutes. The study also included a comparison of the rating companies and also a deeper understanding of both historical and the more current research.

We have collected our research information from the following databases:

- *ELIN (Electronic Library Information Navigator)*
  Relevant articles and journals (for instance Journal of Banking and Finance, Business Week and Journal of Finance)
- *LIBRIS (National Library Index)*
  Published literature
- *LOVISA (Lund's University Library Index)*
  Published literature
- *SEC (U.S. Securities and Exchange Commission)*
  Annual and quarterly reports from selected defaulted U.S. companies
- *REUTERS & ECOWIN*
  Information regarding the selected companies' share prices

as well as the homepages of :

- *BIS (Bank for International Settlements)*
  Information concerning the Basel II capital framework
- *Rating agencies (S&P's, Fitch and Moody's)*
  General information and historical ratings on selected defaulted companies
- *Selected companies*
  Annual and quarterly reports from (non-) defaulted companies

2.3 Criticism of the sources

Every source, i.e. books, articles, journals etc, is somehow tainted with the value framework of its author(s). To avoid being too influenced by the authors' subjective opinions and to get nuances on the matter, we included many sources dealing with the topic. In order to get the most correct view as possible, we have been emphasizing on articles that were published in well-renowned journals, such as Journal of Finance and Journal of Accounting.

The data used in the statistical analysis was gathered from the SEC homepage. Since the SEC only publishes highly scrutinized information, the data must be considered to be both valid and objective. However, since the companies use different accounting techniques, it was sometimes difficult to calculate the ratios

in the same manner. This often gave a room for discussion, which could compromise some of the objectivity in the material.

2.4 Empirical study

Interviews were conducted with different key persons in four of the major Swedish commercial banks. The banks were selected in preference of the credit agencies to give a broader perspective of credit rating since we used the S&P ratings. Besides, the credit agencies have different objectives when measuring, which lead to long-term credit rating biases in higher extent than the commercial banks. The interviews were conducted at:

- *FöreningsSparbanken*
- *Handelsbanken*
- *Nordea*
- *SEB*

2.4.1 Implementation of the interviews

At a first stage we absorbed ourselves in theories regarding credit rating, credit risk and financial default collected from literature as well as financial journals. While we got an increased knowledge of the subject, we started to contact potential respondents within the banking sector. Before the interviews were performed, the background, problem discussion and purpose of the thesis were sent to the respondents. In addition we attached ten specifically formulated questions anchored to the purpose of the study. The objective with the circulars was to provide the respondents with a foundation, which purpose was to decrease the risk of subjective interpretations.

According to Bryman (1997) an interview can be characterized as structured or unstructured. An unstructured interview gives the respondent the possibility to speak without any directions. A structured interview includes specific questions, which restrict the respondent to make free associations (ibid). We chose to conduct the interviews with a dialogue that did not require our questions to be answered in a particular sequence. According to Andersen (1998) the approach is characterized as a semi-structured. The semi-structure creates dynamics, which leads to new visual angles that were of great interest when carrying out the quantitative study. (Andersen, 1998)

The essential information provided in the interviews was documented by making notes. Because of the respondent's propensity to be reserved in a higher extent we did not use a tape recorder. At least one of the group members had, during the whole interviews, eye contact with the respondent, which also gave us the possibility to conduct resulting questions. To eliminate the risk of subjective interpretations, a summary was made and translated into English immediately after the interview.

2.5 Quantitative methodology

The quantitative method is divided into two parts, which are called Step I and Step II. Step I is the development process of CRITA-Score. This part focuses on the Multiple Discriminant Analysis (MDA), which was constructed to determine significant variables that separate companies in financial distress from companies with greater financial health. The inputs of the MDA is based on a total amount of 21 financial ratios collected from 53 companies' quarterly reports (a total amount of 9,000 ratio calculations) included in Step I. The sample of Step I consists of 34 still existing companies and 19 defaulted companies.

Step II involves a test of CRITA's reliability, which contains a comparison between CRITA-Score, Altman's Z-Score model together with the credit rating provided by S&P. An amount of 9 companies were incorporated in this section, 4 of which defaulted in 2004.

Financial figures from 16 quarterly reports have been utilized as inputs when testing the CRITA-model and the Z-Score model. Historical rating figures were collected from the S&P home page. The objective in Step II is to investigate the significant variables extracted from Step I in order to better establish negative signals, which indicate financial distress of a company within a period of two years before the actual default.

2.5.1 Selecting financial ratios

After conducting the interviews with the Swedish commercial banks we received some of the information required to decide which financial ratios to include in the MDA. The interviews emphasized on cash flow and ability of repayment. Thus, several ratios that measure aspects of companies' operational and profitability performance were included. In addition, a number of the leverage- and liquidity ratios were extracted from the interviews. We also included the ratios from Altman's original research in our model testing, based on their former relevance from 1968. Furthermore, financial ratios from accounting literature were also taken into consideration to make an inclusive selection of ratios.

2.5.2 Data gathering

Information of the 19 companies, which defaulted in 2004 as well the 34 existing companies' present credit rating, was originally collected from the S&P home page. Since S&P did not provide us with accessible financial data within the selected companies, the entire amount of approximately 500 quarterly reports was downloaded from the SEC (U.S. Securities and Exchange Commission) home page. However, the restrictions regarding the specific selection of the industries were considered and the fact that the companies should reflect the companies within the population, in a credit score perspective.

To be able to conduct Step II, the need for historical rating figures from the 4 defaulted companies was essential. By contacting S&P's local office in Stockholm, the historical rating figures of the defaulted companies were obtained.

2.6 Reliability and validity

Conducting an extensive quantitative study with the objective to build a credit rating model based on 9,000 financial ratios engender a specific risk of reduced reliability and validity. In order to reduce the risk of random situations affecting the outcome of the study we have made several efforts. However, some conditions are hard to eliminate despite critical attitude towards the dilemmas.

In purpose of making the calculations of the companies' financial ratios homogeneous and make the work efficient, a model in Excel was created. However, companies' quarterly reports, especially financial reports of defaulted companies, differ in some extent. Lack of information as well as less detailed reports has forced us to interpret the information according to common guidelines pointed out by the group members. Accordingly, the inputs of the quarterly reports that are exceptional will affect the reliability of the study, which will have negative impact of the outcome of the study.

Limited information of defaulted companies resulted in the fact that we included all companies that provided information in a four year period. Hence, the fact that the sample were not independently and randomly chosen will have negative impact of the study's validity. However, Step II will reveal to what extent CRITA-Score is applicable to predict financial distress regarding external companies.

Constructing a credit rating model involves classifying companies' financial health and predicting financial default. The MDA is a statistical approach, which purpose is to deduce variables that separate two groups from each other. In this study the objective of the MDA is to separate default companies from non-default companies. Accordingly, the CRITA-model will naturally classify companies as non-default or default companies. CRITA's accuracy of classifying companies' financial health will thereby not be as reliable.

3. THEORETICAL FRAMEWORK

An extensive framework regarding relevant theories associated to the subject in question is provided in this section. The chapter introduces theories regarding financial distress and its consequences. This is followed by an explanation of credit rating as well as credit agencies relevance and influence. In addition, two approaches and three models to measure financial distress conditions will be presented. Finally, a description of the financial ratios utilized in the study is outlined.

3.1 Financial Distress

The term "financial distress" involves the firms' obligations to lenders and other creditors cannot be fulfilled or can be fulfilled with difficulty (Arnold, 2002). The critical outline of financial distress is bankruptcy, where the assets of the company will be legally moved from the stockholders to the bondholders (Ross et al, 2002).

When a company increases the amount of debts it will provide tax benefits of the firm. In addition, the debts convey pressure of the firm because of the fact that interest and capital payments are obligations (Ross et al, 2002). Consequently there will be a greater risk of financial distress and ultimately liquidation that will lower the value of the firm. Debt holders and equity will among other things be affected from the above statement (Arnold, 2002).

An increased level of financial distress will result in a greater risk of incurring cost related to financial distress. The costs of financial distress offsets the company's tax relief received from a higher debt level (Ross et al, 2002). An increased level of financial distress will have a seriously detrimental effect on the relationships with creditors, suppliers, customers and employees. If the suppliers believe that there is a greater risk for companies' bankruptcy they might abolish the generosity of their terms or even worse quit supplying altogether (Arnold, 2002).

The company will also be indirectly affected through its customers, particular when a close relationship between the company and the customers is developed. The parties sometimes plan the production with an assumption of a lasting relationship among themselves. It is of central concern that suppliers are able to secure the promised delivery, when it is required from the customer. However, securing high-quality contracts are difficult to a higher extent when a firm is under financial distress conditions (Arnold, 2002).

The employees will suffer from increased job insecurity, which will affect the company by the fact that the most competent staff will move to positions in a safer company (Arnold, 2002).

Accordingly, bankers and other lenders will consider new requests of bank loan among financial distressed companies with scepticism, which probably will result in a safety-first-approach. The scepticism can be sustainable for many years after the actual period of financial distress.

3.1.1 Direct costs of financial distress

The term direct cost refers to the accountant's fees, court fees and management's time that arise from the bankruptcy process (Sundgren, 1995). In addition lawyers are during the different stages of the bankruptcy process involved. "A wag once remarked that bankruptcies are to lawyers that blood are to sharks" (Ross et al, 2002).

The direct costs of financial distress have been measured by academics and have been established to be a relatively small percentage of a company's value. Ross et al (2002) estimate the direct costs to be about 3% of a firm's market value.

3.1.2 Indirect costs of financial distress

The indirect costs of financial distress imply costs connected with an impaired ability to do business. Arnold (2002) states that the indirect costs of bankruptcy have greater influence than the more obvious direct bankruptcy costs. However, there exist difficulties measuring the indirect costs. Ross et al (2002) claim that the indirect costs together with the direct bankruptcy costs are greater than 20% of a company's value.

The indirect costs include:

- Customer's uncertainty about dealing with a firm because of lost sales, lost goodwill and lost profit.
- Suppliers' uncertainty about dealing with a firm because of lost inputs, added expensive trading terms.
- Reduced price of company's assets in order to liquidate.
- Temptation to sell business that is healthy to raise cash.
- Loss of staff.
- Delays and legal inconveniences interfere with the core business.
- Lower credit terms offered to customers.

3.1.3 Factors influencing the risk of bankruptcy costs

According to Arnold (2002) the sensitivity of financial distress conditions varies among companies. The prominent aspects that have impact of companies' cost of financial distress include the following:

- Shareholders' and lenders' perception of companies, which ***susceptibility to business cycles*** is apparent, is regarded with greater risk of liquidation. Accordingly, above stakeholders require a higher return comparing to firms that are less sensitive to ups and downs in the economy (Arnold, 2002). In addition, large shareholders are able to change the risk strategy and policies of a company, which not necessarily need to agree with the company's long-term objectives. (Sadok, 2004)

- The balance between ***variable and fixed costs*** is considered among the creditors as a critical factor to financial distress (Arnold, 2002). Creditors and equity demand a higher return of companies that are extremely operationally geared combined with a low solidity. Hence, the probability that the company is forced to sell its growth opportunities at a huge discount level increase (Sadok, 2004). Financial distressed companies with high growth rate tend to implement a strategy of less risk tendency to protect the value of the company's on going activities in higher extent than companies in great financial health. (Sadok, 2004)

- Financial distressed companies are often forced to liquidate the assets, where the ***liquidity ability*** is reflecting the price of an asset (Arnold, 2002). The assets are valued related to the cash flows of the company, which involve that an increased level of risk will have negative impact of the asset's value (Sodak, 2004). In the extent that companies' assets can be sold easily at a reasonably high value will affect the level of risk premium demanded by financial security holders (Arnold, 2002). Sadok (2004) claims that illiquid companies' specific assets are harder to sell because of the fact that the optimal buyers, which are competitors within the same industry, also suffer from financial difficulties (ibid).

- Financial distress is also influenced by the fact that several firms have better ***cash flow generative capacity*** of their business, which includes a higher regular cash flow. These companies can accept higher premium levels than a firm with high volatility as well as uncertainty of future cash flows. (Arnold, 2002)

3.2 Credit risk

Credit risk is defined as "The exposure to the possibility of financial loss resulting from the other party's failure to meet its financial obligations" (Schroeder et al. 2001). The cost of credit risk causes the lender a financial loss. According to Saunders (1997) an important aspect to increased credit risk is the uncertainty of future cash flows on the primary securities, held by financial intermediates.

Problems regarding cash flow at a corporate level will determine the degree of credit risk.

Saunders (1997) divides credit risk into two categories; the firm specific risk and the systematic credit risk. The firm specific risk refers to the risk arisen from the borrowing company's industry specific risk. The systematic risk is associated with risk regarding the uncertainty of macroeconomic changes, which affects the borrowers.

3.3 Credit agencies

The credit agencies' main purpose is to protect creditors and company bondholders (Borrus et al, 2002). Companies holding a high rating receive favourable loan conditions and larger inflow of outside capital. Firms with subordinated credit rating will have to offer bonds at a higher interest rates resulting in increased interest rate payments (Kim & Nofsinger, 2004). This is explained by the fact that the correlation between a low credit rating and the probability of a company's default is highly significant. According to Duffie & Singleton (2003) companies rated CCC have a probability of 15% to default in one year.

Altman and Rijken (2004) claim that investors argue that credit rating institutes are not adjusting their ratings very frequently. The explanation is partly the "through-the-cycle" technique that is used by credit rating institutes. For instance, Moody's states that this method is useful since it measures default risk over long horizons and is adjusted only when the institutes are sure that the company's risk profile is likely to have changed permanently (ibid). Since credit institutes want to prevent an increased bond and stock market volatility they are not very interested in changing the credit ratings in short term perspective (Borrus et al 2004). Thus, the investors have in great extent affected Moody's and Standard & Poor's way of thinking concerning the timeliness of their credit ratings. This may be a reason not to rely on the credit rating institutes estimations on companies risk profiles today.

3.3.1 The grading system of credit institutes

Rated bonds are often classified under investment-grade bonds, speculative-grade bonds or junk bonds. Bonds rated above BBB are considered *investment-grade bonds*, while BB and B rated bonds are *speculative bonds*. Bonds that are rated as CCC or D are usually refereed to as *junk bonds.* (Bodie et al, 2005)

Table 3:1 Standard & Poor's and Moody's grading system (Bodie et al, 2005)

Bond Ratings								
	Very High Quality		**High Quality**		**Speculative**		**Very poor**	
Standard & Poor's	*AAA*	*AA*	*A*	*BBB*	*BB*	*B*	*CCC*	*D*
Moody's	*Aaa*	*Aa*	*A*	*Baa*	*Ba*	*B*	*Caa*	*C*

At times both Moody's and Standard & Poor's have used adjustments to these ratings: S&P uses plus and minus signs: A+ is the strongest rating and A- the weakest. Moody's uses a 1, 2 or 3 designation, with 1 indicating the strongest.

Moody's	**S&P**	
Aaa	*AAA*	Debt rated Aaa and AAA has the highest rating. Capacity to pay interest and principal is extremely strong.
Aa	*AA*	Debt rated Aa and AA has very strong capacity to pay interest and repay principal. Together with the highest rating, this group comprises the high-grade bond class.
A	*A*	Debt rated A has a strong capacity to pay interest and repay principal, although it is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than debt in high-rated categories.
Baa	*BBB*	Debt rated Baa and BBB is regarded as having an adequate capacity to pay interest and repay principal. Whereas it normally exhibits adequate protection parameters, adverse economic conditions or changing circumstances are more likely to lead a weakened capacity to pay interest and repay principal for debt in this category than in higher-rated categories. These bonds are medium-grade obligations.
Ba	*BB*	Debt rated in these categories is regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. BB and Ba indicate the lowest degree of speculation, and CC and Ca is the highest grade of speculation. Although such debt will likely have some quality and protective characteristics, these are outweighted by large uncertainties or major risk exposures to adverse conditions. Some issues may be in default.
B	*B*	
Caa	*CCC*	
Ca	*CC*	
C	*C*	This rating is reserved for income bonds on which no interest is being paid.
D	*D*	Debt rated D is in default, and payment of interest and/or repayment of principal is in arrears.

3.4 Measuring the default risk

When an analyst or other stakeholders are assessing the credit risk of a company they may use many different models and approaches in order to get a proper value of the probability of default. Since there are many different factors and methods to look at, the results may vary. The two major approaches are the qualitative and the quantitative models. The credit institutes do not discriminate between the two groups and therefore often use combinations of them. Rating institutes base their rating on different financial ratios to a great extension. The most widely used ratios are: (Bodie et al, 2005)

- Coverage ratios (ratios of company earnings to fixed costs)
- Leverage ratio (debt-to-equity-ratio)
- Liquidity ratios (commonly current assets/current liabilities)
- Profitability ratios (returns on assets or equity.
- Cash flow-to debt ratio

3.5 Qualitative models

When public information about the borrower is not sufficient, creditors must gather relevant information themselves from rating agencies. The need for comprehensive company information is more adequate if the default risk is estimated to be at a high level. Qualitative factors could touch upon lots of different aspects depending on the company's industry, history and so on, but there are still some general factors that have to be considered when making a credit decision. Saunders (1997) makes a clear distinction between *borrower-specific* and *market-specific* qualitative factors. Borrower specific issues relate to anything that could be traced right back to the individual borrower and market specific factors relates to issues that has an impact on borrowers at the specific credit decision time.

3.5.1 Borrower specific factors

The different factors with an origin in Saunders' (1997) qualitative model are further explained in the following parts of the chapter.

3.5.1.1 Reputation

The borrower's lending-history is of course of high magnitude. If a company has a reputation of not making repayments on time, it will not be as attractive to the lender (and vice versa). The reputation is a general problem for smaller and younger firms, which cannot show a history of repayment at all. These companies are thereby "punished" for this and can thus only obtain worse credit agreements than established companies.

Borrowers often strive for establishing an advantageous *implicit contract*, which is a long-term agreement between a lender and a borrower, completely based on company reputation. Lastly, reputation can only be established through repayments and monitored actions.

3.5.1.2 Leverage

Capital structure largely affects credit decisions since a high level of debt, for instance bonds and bank loans, puts an increasing pressure (in the shape of interest charges) on cash flows within a company.

When talking about the borrowers leverage, one speaks about its debt to equity ratio. This ratio is not very interesting to the lender when being low, but when a special level of leverage is reached, the possibility of bankruptcy increases as well as the loss of principal and interest for the lender.

3.5.1.3 Volatility of Earnings

Similarly with leverage, volatility in earnings within a company is not wanted when looking from the lender perspective. A high level of volatility in earnings could indicate that a company cannot pay its principals and interest from time to time. This is also a dilemma for newer firms since it is harder for them to sustain a stable level of earnings.

3.5.1.4 Collateral

A last important aspect on the borrower specific side concerns the level of collateral that could possibly back up a credit and serve as a security. It is very common that credits are backed up by some kind of asset and is thus a safety for the creditor in the case that the borrower should default on its obligations. Loans could be divided into non-secured and secured. A loan that has a security is a lower risk for the lender, which means that the credit agreement should be shaped in a more beneficial way for the borrower than a loan without security.

3.5.2 Market specific factors

3.5.2.1 The Business Cycle

Saunders (1997) argues that the position of the economy is of high relevance since a company's business cycle phase could be largely effected by it. People are for instance prepared to cut down on luxury habits during a recession in the economy, but they would not cut down on basic consumption goods like food. Companies active in the market of luxury goods during a recession therefore possess a higher credit risk for a financial intermediate since they are more prone to default. This fact has forced financial intermediates to greatly increase the level credit rationings during recession a times. Small and young companies are negatively affected by this fact as well.

3.5.2.2 The Level of Interest Rates

A monetary policy of restrictive character means a high level of interest rates. Such a case limits financial intermediates funds to finance lending contracts and increases the credit risk in general as well. Borrowers often take large risks in times of high interest levels and this interest could also encourage only the most risky borrowers to borrow money. Thus, financial intermediates must be careful when lending under times with high interest levels.

3.6 Quantitative models

There are two major ways of measuring the credit-worthiness of companies, utilizing a quantitative method. These are the market-based approach (basing the credit value on market expectations, i.e. stock value) and the accounting-based approach (using the balance sheet, income statement and cash flow models).

3.6.1 Merton's option pricing model

Merton's credit rating model from 1974 uses the market-determined bond and stock prices in order interpret the market's belief of the value of the firm. This approach treats a company's equity as a call option on its own assets (www2). It means that all the corporate securities (bonds, stocks etc.) can be viewed as claims on the corporate assets. Merton based his original model on Black and Scholes' option pricing formula for European call options. The strike price of the call option is the book value of the firm's assets. (Vassalou et al, 2004) This assumes that that there is no effects on prices when assets are traded, no transaction costs, unlimited access to short selling and that borrowing/ lending can be done at the same riskless rate. (Lando, 2004)

There are many variations on the standard Merton model, making different versions of it applicable on various market scenarios. There are for instance versions that assume stochastic interest rates, discrete coupons, continuous coupons and so on. (Lando, 2004)

The Merton model is a good instrument for extracting premiums and estimating default probabilities in theory. In practice on the other hand, it has some downside problems. Most loans are for instance not traded very frequently, which is assumed in the model. Also setting the equilibrium risk premium is extremely sensitive regarding the volatility of the underlying asset of the borrower and is therefore extremely important to appreciate in a rightful manner. The volatility also varies over time (Saunders, 1997).

There is one further developed version of Merton's model that recognizes these problems. This model is called *KMV Credit Monitor* and is developed by the KMV Corporation. This model can handle many of the downsides of Merton's original model by using an option pricing model to extract the implied asset

volatility of a firm. This means that the volatility in the original model is backed out by the option pricing model by observed and calculated values. KMV's Credit Monitor estimates the expected default frequency (EDF), which is an approximation of a given firms probability of default. It also worth noting that KMV claims that this model outperforms S & P's rating and Z-Score models when it comes to predicting bankruptcy (Saunders, 1997).

KMV's Credit Monitor focuses on the company as a whole, while Merton's original model only could handle the debt (Kealhofer, 2003). Merton's model also focused on the company's debt with respect to asset value and volatility, while Credit Monitor focuses on the relationship between equity characteristics and asset characteristics of the company. Further, it is relatively easy to estimate a company's default risk when calculated the default point. You simply calculate the number of standard deviation moves that is required for the company to reach the default point within a given tome horizon. This measure is called Distance to default, $DD(h)$.

When the distance to default is approximated Credit Monitor uses actual default rates of companies in the same risk range to be able to calculate the probability of default (EDF). This requires a big database of default experience which KMV has been tracking since 1973 (Kealhofer, 2003). By using historical values of probabilities of default for companies within the same range of risk, one could get the EDF for a given DD within a given time.

3.6.2 Altman's Z-Score model

The purpose of Altman's model was to empirically find the characteristics of a default company and develop a predictive model. Altman's model was constructed in late 1960's using a Multiple Discriminant Analysis by using financial ratios as inputs. He based his entire model on manufacturing companies that defaulted between 1944 and 1965. (Altman, 1968)

Altman's sample input consisted of 66 companies, 33 of which were default companies. He collected data from balance sheets and income statements from Moody's Industrial Manual and also selected annual reports 1-5 years before bankruptcy. (Altman et al, 1981)

Altman chose variables to be included based on popularity in literature, relevancy and also a couple of newly invented ratios (Altman, 1968). He analyzed a total of 22 variables of which were financial ratios from the categories of liquidity, profitability, leverage, solvency and activity (Altman et al, 1981) He believed that solvency ratios would be the most important ones (Altman, 1968). The variables included in the original test are found in Appendix I.

After performing the MDA and making the necessary statistical tests, the final Z-Score model was as follows:

$$Z = 0.012 \cdot X_1 + 0.014 \cdot X_2 + 0.033 \cdot X_3 + 0.006 \cdot X_4 + 0.999 \cdot X_5$$

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 equity/Par value debt
X_5 = Sales/Total assets

To eliminate variables and receive the Z-Score model, Altman used statistical significance measures, correlations, predictive accuracy and his own experience. Further, Altman got a cut-off score which indicated that if a company got a Z-Score less than this amount, it was to be classified as default, otherwise it was classified as non-default. He also came to the conclusion that the model had a "grey area" where companies with a score in-between these values were often misclassified (Altman et al, 1981). To able to decide the value of the cut-off point, Altman analyzed the misclassified companies and saw that only two companies were misclassified within the small part of the "grey area". Ranges within the "grey area" that were higher or lower than the range all had more misclassifications. It was then clear that the most accurate cut-off point would be the average score of these two companies in the Z-Score scale (Altman, 1968).

Further, he acknowledged that Z-Score were able to predict corporate failure up to two years before bankruptcy. The results from his sample showed that 3 companies were misclassified (2 of which were future default companies) a year prior to bankruptcy and 11 companies (9 of which were future default companies) were misclassified 2 years prior to bankruptcy (Altman et al, 1981).

Altman also needed to test his Z-Score on a new sample of companies. This test was performed on 99 companies of which 25 were default companies. Many of the healthy companies that were chosen were having temporary financial problems. To include these companies would show how sensitive an accurate the model were. The results showed that the Type I errors (to classify a healthy company as non-healthy) were 4%, Type II error (to classify a non-healthy company as healthy) were 21,2% and the models total accuracy were 83,5%. These results show that the model is fairly sensitive when it comes to distinguish between temporary and lasting financial problem (Altman et al, 1981).

Edward Altman concluded that his Z-Score model were to be useful to complete business loan evaluations, accounts receivable management, internal control procedures and investment strategies. He also stated that when performing loan evaluations, the Z-Score model should be completed with a more "qualitative and intuitive" part by creditors (Altman et al, 1981). He also claimed the model could be used to see which companies to further analyse and thereby save time, cost and effort when making credit decisions. Those companies with a Z-Score over 3

should not be in need of further investigation, while those with a score lower than 3 should be put more effort in analysing (Altman 1968).

Many attempts were made by other analysts to improve Z-Score and to find a better model. In 1977 together with Haldeman and Narayanan, Altman developed an improved model, called the ZETA-Score model. But since the ZETA model was developed together with a private firm, it can not be fully revealed to the public. The variables included are published, but the coefficients (weights of each ratio) are not. The seven financial ratios in the ZETA model are: (Altman, 1983)

X_1 = Return on assets
X_2 = Stability of earnings
X_3 = Debt service
X_4 = Cumulative profitability
X_5 = Liquidity
X_6 = Capitalization
X_7 = Size

The three founders of the ZETA model came to the conclusion that their model was a great improvement of the Z-Score model. Type I errors of ZETA were considerably lower and the methodology concerning accuracy and data were better performed than in Z-Score.

3.6.3 Taffler's accounting based model

Many people have tried to improve the Z-Score model in different ways. One man that seems to have succeeded very well is R.J. Taffler. (Taffler, 1983) In 1983 he further developed the Z-Score model into a new model, which has proven to be one of the most well predicting models of company bankruptcy in the UK (Smith, 1997). The model is however purely accounting-based.

The Taffler Z-Score consists of four weighted ratios which sums up to a single score in a multiple discriminant analysis. The model was built on 46 so called healthy manufacturing companies and 46 unhealthy ones that were active from 1969 to 1976. (Taffler, 1982) Taffler used stepwise linear discriminant analysis to assemble the model that discriminated very well between distressed and non-distressed companies. The complete Taffler model was in fact not fully released until in 2003 (Smith & Graves, 2005). Agarwal and Taffler wrote a working paper together and disclosed the model which has the following characteristics (Agarwal & Taffler, 2003):

$$Z = 3.20 + 2.18*(\text{Profit before tax/Average current liabilities}) + 2.50(\text{Current assets/Total liabilities}) - 10.68(\text{Current liabilities/Total assets}) + 0.0289*(\text{No credit interval})$$

Something that totally differs Taffler's model from the original Z-Score is the "No credit interval" (NCI). This part contributes with the number of days the company can continue to finance its business from its assets when no revenues can be collected anymore. NCI is calculated in the subsequent manner:

$$NCI = \frac{(Current\ assets - Inventory - Current\ liabilities)}{(Sales\ Profit\ before\ tax + Depreciation)}$$

Taffler's model predicts a company to be financially distressed if the score is negative and healthy if the score is positive. If the company has a negative score the model also notifies how seriously distressed the company is by using the negative scale (Smith & Graves, 2005)

3.7 Financial ratios

The figure below shows the selected financial ratios included as inputs in the quantitative methodology. The selection of ratios is based on the empirical study as well as written sources. (Altman, 1968; Bodie et al 2005; Chung & Pruitt, 1994; Shroeder et al 2001; www1; www4; Berggren, 2005; Hermansson, 2005; Jerntorp, 2005; Voss, 2005)

Table 3:2 Financial ratios to be used in quantitative method

Financial ratios	Formula	Description
Basic ratios		
Age of company	–	The number of years the company has been active.
Liquidity ratios		
Altman's X_1	$\frac{\text{Working capital}}{\text{Total assets}}$	Measure of the net liquid assets relative to total capitalization.
Current ratio (Working capital ratio)	$\frac{\text{Current assets}}{\text{Current liabilities}}$	Measures the company's ability to pay short-term loans.
Quick ratio (Acid test ratio, Cash ratio)	$\frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$	Measures the company's ability to pay short-term loans using the most liquid assets.
Profitability ratios		
Gross profit margin	$\frac{\text{Earnings before interest and taxes}}{\text{Total operating revenues}}$	Estimates a company's efficiency in the production process.
Net profit margin	$\frac{\text{Net income}}{\text{Total operating revenues}}$	An indicator of a company's cost control.
Return On Assets	$\frac{\text{Net operating profit after taxes}}{\text{Average total assets}}$	Percentage return on the assets employed.
Altman's X_3	$\frac{\text{Earnings before interest and taxes}}{\text{Total assets}}$	Measures the productivity of assets excluding tax and leverage factors.

Altman's X_5 (Total assets turnover)	$\frac{\text{Sales}}{\text{Total assets}}$	Measures the degree to which a business uses its assets to generate revenues.
Leverage/Solvency ratios		
Altman's X_2	$\frac{\text{Retained earnings}}{\text{Total assets}}$	Provides an estimate on how a company has been able to reinvest its earnings in itself
Altman's X_4	$\frac{\text{Market value equity}}{\text{Par value of debt}}$	Measures how much the firm's assets can decline before liabilities exceed assets.
Short-term debt ratio	$\frac{\text{Short-term debt}}{\text{Total assets}}$	Measures the extent to which a firm employs short-term debt to finance its assets.
Long-term debt ratio	$\frac{\text{Long-term debt}}{\text{Total assets}}$	Measures the extent to which a firm employs long-term debt to finance its assets.
Debt-to-equity ratio	$\frac{\text{Total debt}}{\text{Total equity}}$	Measures the extent to which shareholders own the company.
Interest coverage ratio	$\frac{\text{Earnings before interest \& taxes}}{\text{Quarterly interest \& bank charges}}$	Shows the ability to generate income to cover interest obligations.
Operating ratios		
Accounts receivable turnover ratio	$\frac{\text{Net credit sales}}{\text{Average accounts receivable}}$	Measures the ability to collect its receivables under a specified period.
Account payable turnover ratio	$\frac{\text{Inventory purchases}}{\text{Average accounts payable}}$	Evaluates a company's payment pattern of accounts payable.
Average days payable	$\frac{365}{\text{Account payable turnover ratio}}$	A measure of the average days it takes for a firm to settle its obligations.
Market-based ratios		
Return on Equity	$\frac{\text{Net income}}{\text{Total equity}}$	Presents the relationship between company profits and its equity.
Approximated Tobin's q	$\frac{\text{Market value of Equity + (Current liab. -Current assets + Long-term Debt)}}{\text{Total assets}}$	The market's own valuation of company assets in relation to the current replacement of the assets.
Book-to-Market ratio	$\frac{\text{Total assets-Total debt}}{\text{Market value of Equity}}$	Provides a ratio between the book value related to the markets valuation of a company.

4. QUALITATIVE STUDY

A presentation of the results concerning the qualitative research will be provided in this section. Interviews have been conducted with four of the largest Swedish commercial banks regarding the topic of credit rating. The qualitative study includes FöreningsSparbanken, SEB, Handelsbanken and Nordea.

4.1 FöreningsSparbanken

Interview with Anders Jerntorp, FöreningsSparbanken Malmö. 04/22/2005
Title: Bank director / Credit Manager

According to Anders Jerntorp, the ASK system,[2] is among other things used when FöreningsSparbanken manage credit commissions. The system is built on risk classification modules that are important for loan approvals. The grading system for credit worthiness is termed with a five-figure scale. The assessment is primary based on figures from historical financial data. A biased approach is also taken into consideration but will not have the same substance as the statistic figures in this phase. Deviations from ASK system will most certainly have impact on the decision regarding loan approval and the condition of the loan. The results of the research will be compared towards the statistics of "Upplysningscentralen". However, Jerntorp emphasize the importance of a qualitative approach besides to a quantitative study to make reliable credit valuations.

In addition to the above assessment strategy, Jerntorp has developed a method, which observes qualitative measure in higher extent.

Jerntorp's three-step model includes:
1) The first step are particular important for newly established companies, but not excluded from well-known companies. The capability of firm's management and management's ability to accomplish business objectives is taken into consideration in this phase. FöreningsSparbanken also observes the historical review of the payment record of the lender.

2a) The objective is to decide the short term payment ability by investigate companies' balance sheets and income statements. Today's significant ratios differ from the time the Z-Score model was developed. Many companies have highly valued Goodwill and other intangible assets, which make the creditors focus on new variables. Cash Flow ratios and increased analysis of solidity have great importance on today's credit agenda. Jerntorp states that the historical credit rating emphasized on solidity and return on equity in higher extent than the current credit rating.

[2] ASK Automatisk Stöd vid Kreditgivning

2b) This step involves the assessments of companies' long-term payment ability. Estimations of company's business strategy and the future supply as well as the demand regarding the specific industry are taken into consideration. In addition, FöreningsSparbanken's credit department also values the management's strategy and objectives.

3) An aspect not to forget is the collateral provided by the company and the bank's risk exposure as well as the interest rate margins.

The industry patterns differ in higher extent of industry specific factors. This can be explained by the fact that many companies for instance within IT and consulting groups, have a high level of human resources instead of tangible assets. The policy of FöreningsSparbanken's credit rating system says that intangible assets should be financed with the company's equity for a loan approval.

4.2 Handelsbanken

Interview with Lars Voss, Handelsbanken Malmö. 04/29/2005
Title: Regional Credit Manager

Handelsbanken makes each credit assessment on local office level, but are governed by the regional office. Lars Voss is credit manager of Handelsbanken's southern region, including Skåne, Halland and Blekinge, controlling a total amount of 57 local offices.

Voss states that Handelsbanken utilizes a template to assess the credit value of a company. Historical figures taken from companies' annual report have got decreased influence when measuring credit risk, at least when evaluating smaller and medium-sized businesses. Larger companies, on the other hand have more straightforward reports that are suitable for quantitative analyses. The quantitative analyses used when assess companies credit risk include:

- Cash flow
- EBITA
- Coverage ratios
- Return on total assets
- Solvency and Solidity ratios
- Turnover

Most important are the cash flows ratios used to determine the future ability to make payments.

When evaluating the credit risk of the target company, Handelsbanken observes 2 major areas, namely the risk of financial constraints and the financial power of resistance. The aspects belonging to each area are evaluated and graded with a

number from 1-5, where 5 is the highest. When all of the aspects are graded, a total grade (also between 1-5) is calculated.

The financial constraints area includes a range of different aspects affecting the appraisal of the company's future performance. Examples of these aspects are:

- Industry
- Age of the company
- Management (risk aversion and ability)
- Sensitivity to business cycles
- Market position
- Structure of customers
- Structure of suppliers
- Investments
- Currency and interest risks
- Political and market risks
- Legal disputes
- Payment remarks

The financial power of resistance, deals with how the company copes with different scenarios, such as new investments or financial emergencies that requires additional capital. Examples of these are:

- Company's liquidity
- Infusion of borrowed capital
- Access to risk capital
- Risk transference within the group

When Handelsbanken have completed the grading of a company, the rating is compared to the rating of S&P for deviations. The comparison works as a complement to their rating.

Handelsbanken also restricts their credit agreements with different covenants, both financial ratios as well as strictly operational. Examples of financial ratios are: Net Debt-to EBITDA, Cash flow or Solvency related ratios. The operational covenants on the other hand, could include factors like the structure of ownership and related matters.

After the Basel II recommendations were taken into utilization, Handelsbanken increased the structure of its documentation and made the manual of credit rating more pedagogic. The changes have not affected the accuracy of credit rating.

4.3 Nordea

Interview with Lars-Gunnar Hermansson, Nordea Malmö. 04/26/2005
Title: Credit Manager

Nordea has developed a credit rating system, which originated from the bank crisis in Sweden in the early 90's. Since Nordea suffered big losses in the period, investors and media required clearer rules and restrictions concerning the lending activities. Nordea is still continuously developing the credit rating system by paying attention to new experiences regarding credit rating.

The credit rating system is presently divided into three different parts:

- Financial factors
- Qualitative factors
- Customer factors

The financial factors include historical review of financial ratios such as equity ratios, yield ratios, rate of return and interest rate coverage. According to Hermansson the financial factors have the strongest impact on the rating, which is explained by the fact that a quantitative approach is not as subjective as a qualitative approach. Approximately 70-80% of the rating is based on the financial ratios.
A person responsible for a specific company is evaluating the qualitative factors within Nordea. The credit evaluation concern issues like the ability of the management, the market situation as well as the financial flexibility. Furthermore, the customer related factors are connected to the age of the company, former payment problems and the industry type.

The customer related factors are taken into consideration in the last stage before deciding a company's rating. The credit rating is summed up to a score between 0-5+, where 5+ is the highest and 0 the lowest. Nordea also compare their final score to S&P's rating for deviations, which works as a complement to their own rating. Together with the credit score, Nordea finally observes the company's collateral coverage before the rating is presented.

Hermansson also emphasized the importance of focusing on the future by setting attention to *future cash flows* within a company. The cash flows are very useful when evaluating the future *payment ability*, which is a central point. It is the payment ability that sets the level of risk that Nordea has to bear, which is also connected to the credit conditions set by the bank.

Lars-Gunnar Hermansson also claims that the new accounting laws have had a severe impact on companies. For instance the real estate companies are forced to value their property in a different way. Measurements with reference to cash

flows and solidity ratios would be of greater importance under the new accounting laws.

Another important aspect to regard in credit assessment is existing differences within different branches. Hermansson claims that companies in the industry of real estate differ to other companies. This is explained by the fact that the real estates firms usually have higher level of property assets compared to firms within the service sector. These companies are the hardest to evaluate because of the domination of qualitative factors, such as human resources.

Hermansson also discussed the significance of being attentive towards companies with a high level of working credit. The statement is based on companies' ability to use the credit for covering losses or buying inventory to prevent amortization payments, which is not what it is intended for. The working credit should normally sum up to between 10-20% of the company's turnover.

Nordea normally evaluates their ratings of companies once a year, unless the companies are rated 2+ or worse. In some cases it also applies companies with ratings 3-. The companies are then being evaluated on quarterly bases or every sixth month, since they bear a higher level of risk. Nordea requires that the companies fulfill an agreement called covenant, which include upholding of some specific ratios. If the terms of the agreement are broken, Nordea is able to terminate the agreement and force the company to repay its loan.

4.4 SEB

Interview with Hans Berggren, SEB Malmö, 04/25/2005
Credits Merchant Banking
Title: Senior Credit Officer

After the Swedish bank crisis in the early '90s, where SEB incurred great losses, a fully structured credit analysis environment was constructed. Nowadays it consists of the Group Credit Committee (GCC) at top level with several divisions including the Baltic Credit Committee, Corporate Credit Committee and Structured Credit Committee under its supervision. The divisions in turn supervise their respective branches.

Since the financial climate constantly changes, the credit policy is continuously being revised. The level of credit policy differs between companies, which mean that the credit risk classification of a specific company determines an approach to measure the company's credit risk. When evaluating the risk class of a company, SEB always consider the future ability to make payments, which is the most important aspect. In addition all transactions should be based on analyses. The predictions regarding the credit risk are made from historical data of 2-3 years. The data is then used to create analyses of 3 future scenarios:

- Management's own predictions
- The predictions of SEB's analysts
- Sensitivity analysis

Collateral when credit rating, on the other hand, is of minor importance. SEB uses its own credit classification system with 16 classes, where 1 is equivalent to S&P's AAA and 16 is similar to D. In order to evaluate a target company, Berggren claims that a certain risk classification book is utilized, which contains explanations and principles of the different risk classes. Furthermore, a clear distinction is made between larger and smaller companies, because of the importance to assess the companies differently.

The Risk Classification Committee grades companies by:

- Structure
- Quality
- Well-behaved historically
- Views of the management
- Industry
- Differentiation
- Financial growth
- Liquidity
- Cash flow
- Debt Service Equity
- Financial flexibility

Berggren differs between credit evaluations in different industries, since the service companies for instance are hard to measure with quantitative models. To determine the level of a company's risk it is of great importance to look at the industry as a whole and make comparisons with its competitors. In addition SEB consider the evaluated company's comparative advantages. This approach of modeling will however lead to more subjective judgments.

The Basel II recommendations have made the credit classification more robust. SEB use historical data on losses from different credit classes, which is combined with restrictions of Basel II as well as the qualitative aspects. Afterward SEB extracts a probability of default of the specific company.

To avoid credit losses SEB has set up a number of covenants. This is done in division level and enables the bank to withdraw from its obligations when a client begins to show signs of financial distress. The covenants are based on Cash Flow Capacity, Debt Service Ratio, net debt/EBITDA and Profitability ratios. In addition net debt/equity is sometimes used as a complement to these ratios.

Berggren claimed that Altman's Z-Score model puts too much emphasis on the balance sheet. He was also skeptical to "equity" being used as a measure, since he considered it being easy to tamper with. When creating a model you should instead focus on different measures related to cash flows, since it gives a more accurate value of the company's level of performance.

5. QUANTITATIVE METHODOLOGY

In this chapter we will explain how the quantitative data were processed. In addition, a thorough and extensive description of the performance concerning the MDA is provided. Afterwards, we will continue with the different steps undertaken during our modelling. At the end of the chapter we will present the methods we later used when comparing our CRITA-model (Credit Rating Including Time Aspect) with Altman's Z-Score model.

5.1 Step I: Developing the CRITA-model

As stated earlier in Chapters 2 & 3, we will use a statistical tool called Multiple Discriminant Analysis (MDA), to create our CRITA-model.

5.1.1 What is Multiple Discriminant Analysis?

This method of analysis is used to classify a sample, in our case companies, into two or more groups on the basis of a number of different variables. (Afifi & Clark, 1996) The purpose of a multiple discriminant analysis is to divide a sample into two (or more) groups. In this study the objective with the MDA is to separate default from non-default companies. To be able to perform the MDA, one first has to find a population containing individuals that are classifiable into certain groups, prior to the analysis. After performing the analysis a formula is extracted (expression), similar-looking as the regression analysis formula. However, in contrast to the regression analysis, the MDA formula only includes the variables (and coefficients) that are used when determining which group a company belongs to. Thus, the expression shows which variables are used to discriminate which group of default or the non-default the individual (company) belongs to. The group classifications made by the MDA are then compared to the group classification made prior to the MDA.

5.1.2 Data selection

The companies in our study were selected from the Securities Exchange Commission (SEC) homepage, on the basis of the industry specific terms from the home page, the sample is based of companies within all categories of S&P's rating. We also chose not to include service or knowledge-based companies, since the assets of those types of companies are hard to quantify. Difficulties in collecting data have forced us to limit the sample in Step I[2] to an entire amount of 53 companies, of which 19 defaulted 2004. The limitations of data also forced us to only include 9 companies in Step II[3].

[2] Step I; The development process of CRITA-model.
[3] Step II; Our comparison between the CRITA-model, Altman's Z-Score model and S&P historical ratings on 9 companies.

5.1.3 Data processing for the model development

After gathering the necessary data from the SEC homepage, i.e. approximately 500 quarterly and annual reports for the 53 companies (34 non-default and 19 default), we commenced with the ratio calculations. For some companies we had to calculate more than 8 periods since the fourth quarterly report were included in the annual report. We therefore needed the previous three quarterly reports to calculate the fourth quarter's financial ratios.

We calculated the 21 ratios we had chosen after the text research and our qualitative study. Since we are using a time aspect in our model, this meant a total of 168 ratios per company for the 8 quarters studied. All and all we calculated more than 9,000 financial ratios for the 53 companies. To avoid a lot of the tedious work of calculating the necessary ratios by hand, and also to minimize the human error factor, we constructed Excel spreadsheets that would make the number-crunching part of the thesis go much faster. We made one template for the non-bankruptcy companies and another one for the bankruptcy ones. The latter was made because of the time of default was different for the companies, which made this template a bit more complicated to create.

After calculating the 21 ratios for each of the 8 quarters, we then calculated a weighted average. To be able to use the ratios in a time aspect in the statistical model, we calculated a weighted (average) value for the different ratios that were included. The most recent value for the ratio had the highest weight and it decreased so that the value 8 quarters ago had the lowest weight. The finished ratio calculations can be found in Appendix II.

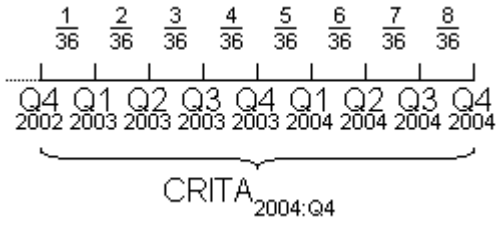

Figure 5:1 Weighting approach of CRITA

The motivation of using a long term biased approach than the Z-Score model and weight the ratio-values over time is based on the following reasons:

- Including values from longer period of time could capture a company's turnaround if it as incurred a short period of financial distress (www5).

- Some companies' results are often dependent on a specific season where profits are great. To only measure a company's result based on the results

of one quarter alone could result in a wrong interpretation of its financial health (www5).

- The concept of value based management (VBM) is defined as a management approach where a company continuously try to maximize shareholder value (www5). This is done by trying to use the company assets and know-how in the best possible manner, in a long time perspective. To be in line with the VBM approach, a company's true value can only be captured by evaluation of a longer time period. It takes a long time to truly incorporate value in a company. Although, true value of a company can also be lost in a short period of time if the company acts wrong in today business environment. This is why we argue that the best possible way to evaluate a company's value would be to measure its performance over a longer time period and divide this time period into different weighted parts where the most recent is multiplied with the largest weight. (ibid)

5.1.4 Performing the MDA

We started by gathering the weighted values for each company and then pasting them into a new 'compilation' spreadsheet. We then introduced a new variable called 'Discriminant Dummy' and assigned each company with either a '0' or a '1'. The bankruptcy companies were assigned a '0' and the non-bankruptcy ones were assigned a '1'. This was done because the statistical tool had to know which group the companies belonged to before it could determine how to discriminate between them.

The data from the compiled spreadsheet was pasted into SPSS and then used the Multiple Discriminant Analysis function. We chose the Stepwise-method which added a new discriminant variable in each step, if it complied with a certain F-value. SPSS automatically chose the best and most suitable variables that both discriminated well and were statistically significant. Selected printouts from the MDA are found in Appendix III and also discussed in Chapter 6.

5.1.5 Statistically testing the MDA results

After the MDA was done and we had found a suitable model, we continued by testing the model for possible errors of significance, misspecifications etc. This was done in order to get a model that was statistical significant and unbiased (Lando, 2004).

Wilk's lambda is a multivariate measure of group differences over several variables. In the stepwise method, SPPS automatically includes the variables with the lowest Wilk's lambda. Wilk's lambda ranges from 0 to 1, where a value close to 0 indicates that the group means are different. For each step, the overall lambda value for the discriminant function decreases. To further test the function we also

looked the F-value for each variable and also the significance by reading their p-values.

The results from the MDA are found in Chapter 6.1 and Appendix III, and will be further discussed in Chapter 6.

5.1.6 Creating the CRITA-scale

The last step that has to be undertaken in the model creation is to create a scale of the different credit rating levels in the CRITA model. We sorted the companies into four groups, A (companies ranked between A- to AAA), B (companies ranked between B- to BBB), C (companies ranked between C to CCC) and D (for bankrupted companies). For each group we then added all the companies' CRITA values that were provided from the SPSS result. We then calculated the average CRITA value for each group and then finally constructed a scale including all the four groups.

5.2 Step II: CRITA-Score vs. Z-Score

When comparing CRITA-Score to Z-Score, we used 9 new companies, 4 of which defaulted during 2004. The reason for using new companies was that we wanted unbiased data that was not already used when developing the CRITA-model. To make a fair comparison of the rating progression we chose to look two years prior to default date, or in the case of the non-default companies, two years prior to the present.

The data for the new companies were also downloaded from the SEC homepage. In order to test the two models against each other we needed a reference measure. The reference used was the historical rating provided by Standard & Poor's.

5.2.1 Model Comparison I – comparing ratings

When computing the ratios for the comparison we only had to calculate those that were significant in the previously performed MDA (only this time we had to calculate 4 years back from the default date to receive the weighted value two years prior to default). The latter was done in order to make a trend further back when comparing the two models to the S&P reference rating. In order to compare the MDA with the Z-Score model we also had to calculate the ratios used in that model, namely Working Capital/Total Assets, Retained Earnings/Total Assets, Earnings Before Interest and Taxes/Total assets, Market Value Equity/Par Value Debt and Sales/Total Assets. To minimize human errors, we once again constructed Excel spreadsheets. The spreadsheets in Step II not only calculated financial ratios, but CRITA and Z-Score values. The results from the calculations are found in Appendix IV.

We then compared which of the two models or the historical ratings that identified the negative trend first and plotted the results in a diagram.

5.2.2 Model Comparison II – Mahalanobis distance

Another way to compare the two models' ability to discriminate between default or non-default companies is to calculate the Mahalanobis distance for each model. This means that you calculate how "far" between the group means the different models provide. The larger the distance, the better the model discriminates, which is illustrated in Figure 5:2.

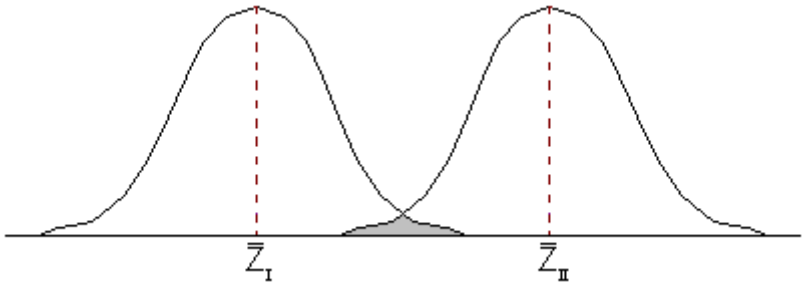

Figure 5:2 Mahalanobis distance

The formula for calculating Mahalanobis distance is:

$$D^2 = \frac{(\bar{Z}_I - \bar{Z}_{II})^2}{S_Z^2}$$

The Z values are the two mean values of the groups (Z_I for non-default, Z_{II} for default), S is the pooled sample variance and D^2 is the squared distance between the means. (Afifi, 1996)

The pooled sample variance is calculated is by using the following formula:

$$S_Z^2 = \sum_{i=1}^{n} \frac{(z_i - \bar{z})^2}{(n-1)}$$

We calculated all the necessary variables for both the CRITA and the Z-Score model. After that we compared which of the two models that discriminated the best, i.e. had the largest distance between its group means.

6. RESULTS AND ANALYSIS

This chapter is introduced by a presentation concerning the results of the MDA. In addition, a discussion and explanation will follow regarding the significance of the results. Afterwards, CRITA's reliability will be reviewed and compared to Altman's Z-Score in Step II. Accordingly, an extensive analysis of the results regarding Step II and the different aspects that influenced the outcome will be outlined.

6.1 The results of Step I

The MDA extracted four significant financial ratios included in the CRITA-model. A presentation of the significant ratios is illustrated in the table below. In the right column the table shows the different coefficients of the variables incorporated in the CRITA-model. The final CRITA-formula is also presented underneath the table of coefficients.

Note that the signs for each variable have been inverted to create positive values for the non-default companies and vice versa. This is done in order to clarify the results, i.e. the higher the grade the better the company performs. It does not affect the results of the MDA in any way.

Table 6:1 Canonical discriminant function coefficients

	Function
	1
ROA	-13.626
ALTMANX2	.424
SDRATIO	6.800
TOBINQ	-.726
(Constant)	-1.681

Unstandardized coefficients

The CRITA- Score model:

$$\text{CRITA} = 1.681 + 13.626 \cdot \overline{\text{Return On Assets}} - 0.424 \cdot \overline{\text{Altmans } X_2}$$
$$- 6.8 \cdot \overline{\text{Short - term debt ratio}} + 0.726 \cdot \overline{\text{Tobins q}}$$

The above results from the MDA are based on the fact that all 53 companies, of which 19 defaulted 2004, were incorporated in the statistical modelling (Appendix II). Further, the objective of the CRITA-model is to categorise companies within default or non default conditions. In Table 6.2 it is illustrated to which extent the CRITA-model classifies companies in the sample to the right

category. In a creditors point of view the importance of rightfully classify a company is of central meaning. There are two ways of misclassification, which includes Type I and Type II errors. Worst case scenario for a creditor is to classify a company within financial distress as a company with great financial health. This type of error is statistically referred to Type I. The opposite misclassification, to classify a healthy company as financially distressed, is referred to as Type II error.

According to Table 6:3 the CRITA-model classifies 16 of 19 companies within financial default. The remaining three companies are typical Type I errors. In addition, CRITA categorises 1 of 34 companies with greater financial health as a default company, referring to Type II error. Finally, the CRITA model classifies companies correctly to a degree of 92.5%.

The defaulted companies are categorised as DUMMY 0 and the non-defaulted companies as DUMMY 1.

Table 6:2 Classification Results (a)

			Predicted Group Membership		
		DUMMY	0	1	Total
Original	Count	0	16	3	19
		1	1	33	34
	%	0	84.2	15.8	100.0
		1	2.9	97.1	100.0

a 92.5% of original grouped cases correctly classified.

6.1.1 Significance of CRITA-Score

As can be seen in Table 6:3 Wilk's lambda decreases for each step that is performed by SPSS in the discriminant modelling. After step 4 when all of the ratios are included, Wilk's lambda reaches a low value of 0.308 indicating that the group means are significantly different. When studying the F-test function the p-values on each step remains at 0.000 making the function significant at more than 99 % in each step. From observing all these aspects the conclusion to be made is that the discriminant function (CRITA-Score) is statistically significant with significantly different group means.

Table 6:3 Variables entered/removed(a,b,c,d)

Step	Entered	Wilks' Lambda							
						Exact F			
		Statistic	df1	df2	df3	Statistic	df1	df2	Sig.
1	SDRATIO	.529	1	1	51.000	45.459	1	51.000	.000
2	TOBINQ	.401	2	1	51.000	37.285	2	50.000	.000
3	ROA	.345	3	1	51.000	30.962	3	49.000	.000
4	ALTMANX2	.308	4	1	51.000	26.978	4	48.000	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.
a Maximum number of steps is 44.
b Minimum partial F to enter is 3.84.
c Maximum partial F to remove is 2.71.
d F level, tolerance, or VIN insufficient for further computation.

6.1.2 The CRITA-Scale

Altman recently published the table presented below.

Table 6:4 The grading scale of Z-Score (Altman, 2003)

Grade	Average Annual Number of Firms	Average Z-Score	Std. Dev.
AAA	11	5.02	1.50
AA	46	4.30	1.81
A	131	3.60	2.26
BBB	107	2.78	1.50
BB	50	2.45	1.62
B	80	1.67	1.22
CCC	10	0.95	1.10

In order to make the comparison between CRITA-Score and Z-Score, we also developed a table of our own, with similar features.

Table 6:5 The grading scale of CRITA-Score

Grade	Number of Firms	Average CRITA-Score	Std. Dev.
A	15	1.20	0.87
B	14	1.16	0.64
C	5	1.11	0.76
D	19	-2.29	1.06

6.2 Interpreting the results of Step I

The interviews performed at the four major Swedish banks all claimed that the most important factor to consider when evaluating the credit-worthiness of a company was the ability to fulfil its obligations, i.e. repay their loans. The interviews also emphasised on the fact that qualitative aspects have got an increased influence later on when assessing companies' financial health.

6.2.1 The selection of financial ratios

The four financial ratios extracted from the MDA can be differently categorized. The CRITA includes *Return On Assets*, which is a profitability ratio. The solvency/leverage ratio that became significant where *Altman's X2*, as well as *Short-term debt ratio*. Finally, *Tobin's q*, which can be categorized as market based ratio was included in the CRITA-model.

Since the MDA chose three accounting based and one market based ratio CRITA can be classified as a hybrid credit model. The combined approach of the quantitative and qualitative approach shows apparent influences from Merton's as well as Taffler's model. By studying the different approaches we find that CRITA-Score incorporates financial ratios from Z-Score (Altman's X_2), Taffler's (Short-term debt ratio) as well as Merton's (to some extent Tobin's q). The nuances of the different models will contribute to accurate credit worthiness of companies' when testing the model in Step II. Furthermore, the fourth ratio in the CRITA-Score, Return On Assets, will capture relevant aspects from the balance sheet and the income statement. CRITA's mix of ratios seems to reflect many aspects to fairly evaluate a company's credit status.

6.2.1.1 Return On Assets

This financial ratio explains how effective the company has used its assets in the work, i.e. a measurement of the capital utilization. The interviews emphasized on profitability ratios in higher extent than ratios only connected to the balance sheet because of the fact that some companies have highly valued goodwill and intangible assets. The profitability ratio is an indicator of how profitable the firm is. The repayment ability, which is of central meaning, is highly reflected in this ratio. The numbers could also be compared to other companies within the same industry in purpose of evaluating the specific firm's business performance. Accordingly, the measurement shows a company's sensitivity to business cycles. The large positive value in the CRITA-Score indicates the importance of having a high return on assets.

6.2.1.2 Altman's X_2

The ratio is a measure of the extent to which a company has been able to reinvest its earnings in itself. This is measured by dividing Retained Earnings with the companies' Total Assets. Since the ratio has a negative sign in the CRITA-model, a company should try to keep the Altman's X_2 as low as a possible. But since an

older company often has a higher degree of retained earnings (i.e. higher Altman's X_2) than a younger company, the negative sign contradicts the statement that a younger company has a higher risk of default.

6.2.1.3 Short-Term Debt Ratio

The short-term debt ratio assesses the proportion of the capital structure, which consist of short term debts. The higher the ratio, the greater the use of financial leverage, posing an increased risk/return situation for investors or future creditors. Even though the ratio generally focuses on the short-term performance of a company, the properties of this ratio is somewhat changed when weighting it with historical values. By doing this a time aspect is included and it better illustrates a longer-term development instead of just a current value/status.

Anders Jerntorp at FöreningsSparbanken emphasizes the importance of considering the short-term payment ability, when evaluating a company. This argument is also held true by the other credit managers in the empirical study. The importance of the Short-Term Debt Ratio can also be seen in the CRITA-model, where it has a large negative value in the formula, making it a critical ratio to consider.

6.2.1.4 Tobin's q

The banks argued that qualitative factors are extremely important to consider when evaluating a company in a fair manner. It is however impossible to incorporate in a purely quantitative model. This is why banks normally construct a credit template that includes both a quantitative model and a qualitative evaluation that sums up to a credit grade. Since we do not have access to inside information about specific companies we are not entitled to judge them in a qualitative manner. This has also never been an issue since the purpose of this thesis is to construct an objective model that can be applied on any company by any stakeholder. Furthermore, we argue that the only way to include qualitative factors in our quantitative model is by using some kind of market based ratio. A part of CRITA includes Tobin's q which incorporates qualitative factors and thereby contributes to give companies an accurate credit score in a qualitative perspective.

Tobin's q includes the following qualitative aspects that the banks have been emphasised on as important when evaluating companies' financial health.

- The capability of firm's management and management's ability to accomplish business objectives.
- Company's business strategy as well as industry patterns.
- Industry
- Age of the company
- Management (risk aversion and ability)
- Sensitivity to business cycles
- Market position

- Structure of customers
- Structure of suppliers
- Investments
- Currency and interest risks
- Political and market risks
- Legal disputes
- Payment remarks

However, Hermansson (Nordea) claimed that the financial quantitative factors have the strongest impact on the rating, which is explained by the fact that the quantitative approach is not as subjective as the qualitative approach. Approximately 70-80% of Nordea's approach to assess companies' credit worthiness is based on quantitative financial ratios. The MDA extracted four financial ratios, of which three were based on information from companies' quarterly reports.

Tobin's q will provide the CRITA-model with subjective interpreted information. However, Tobin's q will also give the CRITA-Score other angles of approaches that capture repayment ability, future expectations as well as traditional quantitative ratios.

6.3 The results of Step II

A comparison between the CRITA-model, Z-Score and S&P's accuracy of rating companies will be presented and discussed in this part. As stated in the quantitative methodology an amount of 9 companies, of which 4 default companies, will be included in the sample. The results of the illustrations in this part will be further interpreted in the following analysis section.

6.3.1 Default companies

6.3.1.1 Congoleum Corp.

The Figure 6:1 illustrates that the CRITA-model predicts Congoleum's default two quarters ahead of S&P. Initially, the Z-Score comes to the same conclusion. However, the following quarters the Z-Score model upgrades Congoleum to CCC. Hence, in this illustration the CRITA-model is superior.

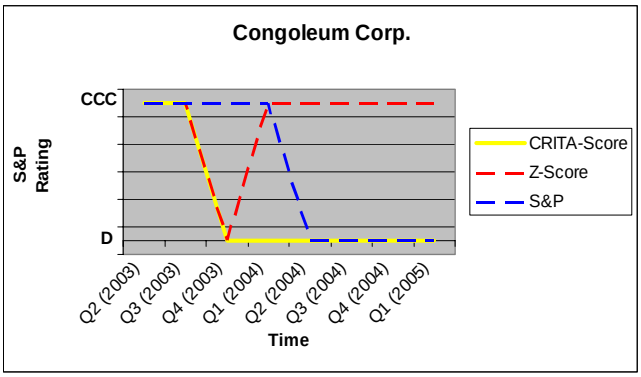

Figure 6:1 Financial state of Congoluem Corp.

6.3.1.2 Fibermark, Inc.

In Figure 6:2 The CRITA-model categorize Fibermark as a CCC stable. Altman's Z-Score makes predictions of the firm's bankruptcy four quarters previous to S&P. The illustration demonstrates the Z-Score model to be superior to both CRITA and S&P.

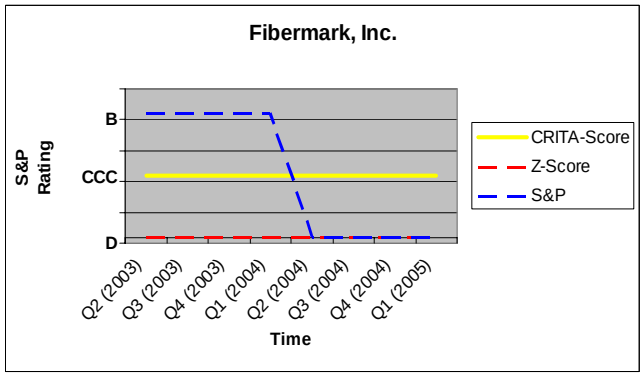

Figure 6:2 Financial state of Fibermark, Inc.

6.3.1.3 Intermet Corp.

Initially the CRITA and Z-Score models are synchronized at a level of CCC, but while CRITA maintains a steady grade Z-Score downgrades Intermet Corp. to a D. The rating provided from S&P originally shows a more positive view of the firm. However, a dramatic drop occurs from the first to the last quarter of 2004, which includes a plunge from BB to D. The Z-Score model predicts bankruptcy one quarter before S&P. The sudden drop of the Z-Score curve can be explained by the possibility that Intermet Corp. has renewed its business after the actual financial default. According to Figure 6:3, the Z-Score model is superior compared to both S&P and CRITA-Score.

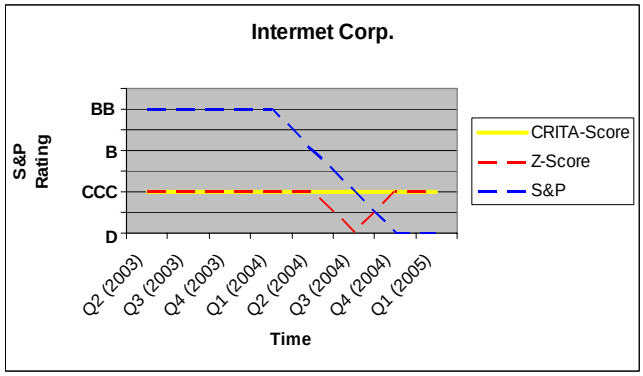

Figure 6:3 Financial state of Intermet Corp.

6.3.1.4 Jordan Industries, Inc.

The models show a homogeneous credit score of Jordan Industries. The CRITA as well as Z-Score models discover a negative trend prior to S&P. However, the Z-Score is the only model that predicts the bankruptcy of the company.

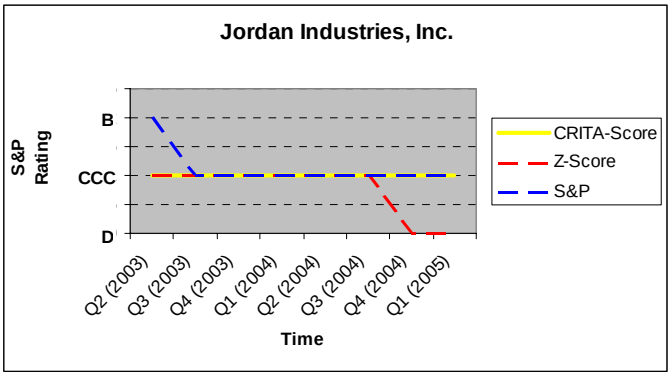

Figure 6:4 Financial state of Jordan Industries, Inc.

6.3.2 Non default companies

6.3.2.1 Arch Coal, Inc.

The Figure 6:5 illustrates large dissimilarities between the different models. CRITA-Score classifies the company as an AA stable compared to S&P's BB stable and Z-Score's CCC.

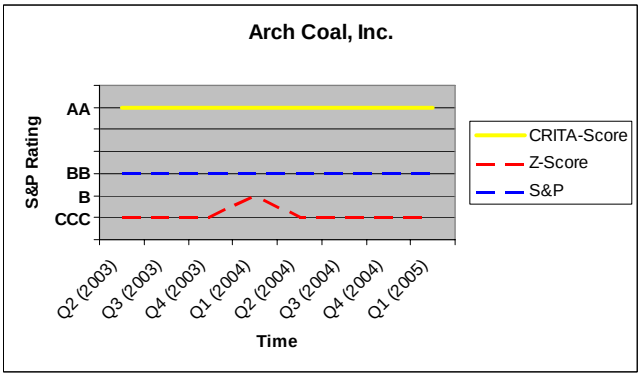

Figure 6:5 Financial state of Arch Coal, Inc.

6.3.2.2 Colgate-Palmolive Co.

Figure 6:6 shows that CRITA and S&P as well as Z-Score categorise Colgate-Palmolive as a company with great financial health. The Z-Score model, however, lags at least five quarters.

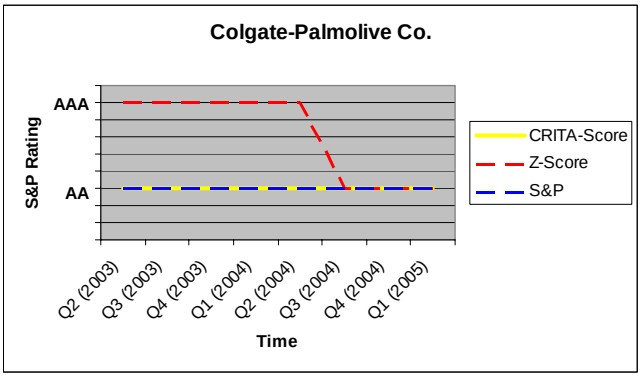

Figure 6:6 Financial state of Colgate-Palmolive Co.

6.3.2.3 Ecolab, Inc.

The Figure 6:7 illustrates similarity between Z-Score and S&P's rating concerning the credit worthiness of Ecolab. Initially, the CRITA-model evaluated Ecolab as a company within financial distress but eventually it unites the other two credit grades.

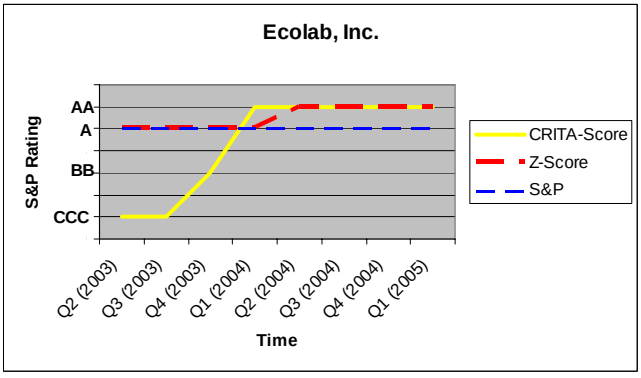

Figure 6:7 Financial state of Ecolab, Inc.

6.3.2.4 Noble Energy, Inc.

The evaluation of Noble Energy's financial health is ambiguous between the different models as presented in Figure 6:8. The contradictions will be further discussed in the analysis section.

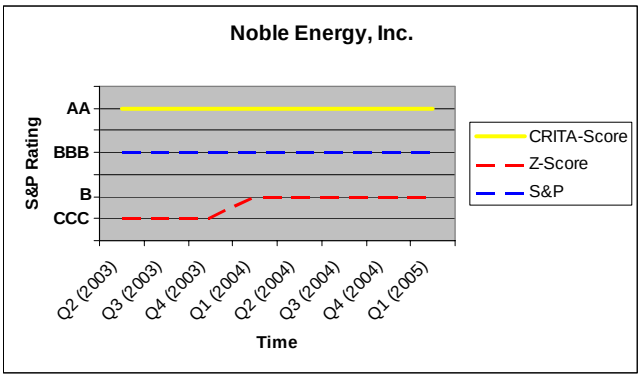

Figure 6:8 Financial state of Noble energy, Inc.

6.3.2.5 Wal-Mart Stores, Inc.

Since 1983, S&P has rated Wal-Mart Stores a steady AA. Despite of this fact, the Z-Score model predicts a downgrading to at least BBB. In addition, CRITA downgrades the company dramatically from AA to CCC stable in only one quarter.

Figure 6:9 Financial state of Wal-Mart Stores, Inc.

6.3.3 Results of the Mahalanobis distances calculations

The results of the Mahalanobis distances for each model, are presented below. The distance of CRITA–Score's, which is higher than the Z-Score, include that CRITA-Score separates default companies from non default companies more accurately.

Table 6:6 Mahalanobis distances of CRITA-Score and Z-Score

Model	Average Z_I	Average Z_{II}	Pooled sample variance	Mahalanobis distance
CRITA-Score	1.559	0.145	0.737	**2.712**
Z-Score	2.966	0.152	3.258	**2.431**

6.4 Interpreting the results of Step II

6.4.1 Default companies

A summary of the comparison between the different ratings on the defaulted companies in Step II, illustrates the complexity of making predictions of financial default. According to the results of Step I, the CRITA-Score should be more than adequate in eliminating Type I-errors (84.2 % accuracy). This is however not fully reflected in figures 6:1-6:4, since the CRITA-model does not rate all of them as being default. However, the CRITA-Score categorize all the default companies as being in financial distress. One of the reasons why CRITA-Score does not categorize the companies as default could be deduced to the fact that there is a "grey area" between the companies that are ranked C and those ranked with a D. That means that if a company has a score between 0.35 and –1.23, the CRITA-scale can not define whether it should be ranked a C or a D. The only conclusions CRITA can make about companies within the "grey area" are that the firms are in financial distress.

The calculations of the Mahalanobis distances show that the CRITA-Score separates default companies from non default companies marginally better than Altman's Z-Score (2.712 versus 2.431). This is also not fully reflected in figures 6:X. The misclassifications can be explained by the fact that the amount of companies included in the sample of Step II can not be regarded as a normal distribution.

6.4.2 Non-default companies

The ambivalent results of Step II regarding non-default companies can be explained by the fact that the mean values of the CRITA-Score's grades are in a too short range to categorize healthy companies accurately. Considering the size of the standard deviations, a company rated with a C could just as well be categorized as an A and vice versa. The Z-Score model also has a large standard deviation, but does not result in misclassifications of CRITA-Score's magnitude. The essence of the statement above is that a Z-Score rating contains less degree of uncertainty than a CRITA-Score rating, which is a result of the fact that the Z-Score model includes a relatively lower variance than the CRITA-model.

As stated in the theoretical framework, S&P makes long-term biased credit evaluations of companies in purpose of prevent high volatility and capture true value of companies. Despite of CRITA-Score's large standard deviations it actually follows the rating of S&P in several cases regarding the non default companies in Step II. This indicates that CRITA better captures the true financial health of a company than the Z-Score model. A long term credit rating model has benefits, which include reduced misclassifications due to seasonality patterns and turnaround possibilities. As mentioned in chapter 5, the Value Based Management approach incorporates that a company's true value can only be captured by

evaluation of a longer time period. However, an approach that evaluates a firm on short term biases will be more beneficial from a shareholder point of view. This is because of the fact that it gives the shareholder the possibility to capture downsides and upsides.

6.5 The effects of weighted average values

The CRITA-Score is based on average weighted financial data from companies' quarterly reports. This statement will result in a credit rating model that regards companies' financial health from a two year period. Altman's Z-Score model is an approach that measures the current financial health from one period (quarter of a year) back.

The fact that CRITA-Score measures financial health over a certain period of time instead of a current time, have advantages as well as disadvantages. As it is illustrated in Step II, the Z-Score is to a greater extent more sensitive to change in companies' financial conditions. The advantage with a sensitive credit rating model is that the signs of companies' financial default will be discovered prior to a long term biased approach. However, the disadvantage is that there exists an increased risk of making premature conclusions of companies' financial conditions. This can be explained by the fact that the model is based on ratios from one period only, where a specific occurrence could have huge influence.

The CRITA-model reduces the risk of making premature conclusions because of the fact that it includes 8 quarters of financial data. However, the CRITA-model responds later to signs of financial default, yet with more certainty than the Z-Score.

6.6 Costs of misclassification

A credit rating model that makes inaccurate evaluations of companies' financial conditions will result in consequences for the creditors and the company itself. Stakeholders will respond to a company with increased carefulness, which will increase the company's indirect costs. According to the results of Step II, CRITA-Score divided companies' inaccurately. The misclassifications, which refer to Type I errors, will lead to the fact that companies are unable to fulfil their obligations and will cause the creditor a financial loss. Therefore, the importance of rightfully classifying companies in a creditor's perspective is highly relevant.

However, there exist some dilemmas to categorize companies accurately with a quantitative credit rating model. As stated in the theoretical framework there exist a number of company specific factors that are highly significant with the credit risk of a firm. Companies' susceptibility to business cycle, the proportion of variable and fixed costs, liquidity ability as well as cash flow generative capacity

are all important aspects taken in consideration when evaluating a company. The qualitative information can not be extracted for a specific company utilizing the CRITA-model, it demands deeper research of the specific company.

Tobin's q has the objective to capture the qualitative aspects. However, the results extracted from the MDA do not reveal the degree of influence from Tobin's q.

7. CONCLUSIONS

The conclusions of the developed CRITA-Score will be presented and discussed in this section. The part will provide the reader with pro as well as contra statements concerning CRITA-Score's ability to make progress in today's financial climate. Suggestions of further research concerning the topic of credit rating will complete the chapter.

Much like a doctor who performs a complete physical examination, includes heart rate, blood pressure, reflexes etc, the CRITA-Score incorporates many aspects of a company to give a fair view of its total financial health. Establishing a model that considers all the qualitative and quantitative important aspects of a company is complicated. It is no coincidence that the attempts of discovering early stages of financial default have puzzled scientists, creditors and financial institutes for a long time.

7.1 CRITA-Score

The qualitative research has provided the study with valuable information that considers the essence of aspects to determine companies' financial health and predict financial default. However, the quantitative method extracted four significant ratios that are of central meaning when assessing companies' financial health;

- Return on assets
- Altman's X2
- Short-term debt ratio
- Tobin's q

7.2 Pro CRITA

Since we have developed a credit rating model from a creditor's perspective, the long term perspective is essential to make rightful classifications. The weighted average values prevent high volatility assessments of the companies. In addition, the long term biased approach reduces the risk of making premature conclusions about companies' financial state. This kind of dilemma is apparent when a company, after a long period of negative results is forced to sell a subsidiary for example. This will lead to a temporary positive effect on its results. A shorter time perspective only considers the current effect of the disposed assets and thus increase the company's rating. Thereby, the credit risk of the company will be severely reduced on false pretences. This will, most definitely, result in increased losses for the creditors. CRITA-Score will decrease the risk of these types of errors because of the average weighted values.

Accordingly, we claim that a long term approach is superior to a short term method to determine financial health conditions in a creditor's perspective.

The foundation of the developed hybrid credit model has large influences from three existing model approaches. Accordingly, the CRITA model has been anchored to well-established scientific research, some of which is used by practitioners in today's financial environment. The conclusion of the above statement is that CRITA-Score captures important and nuanced information needed to determine companies' financial status.

7.3 Contra CRITA

The ambivalent results of our analysis show that CRITA is not able to predict financial default accurately enough prior to a two year period. Furthermore, utilizing the CRITA-Score to evaluate companies' financial health will at this stage probably incur losses for creditors. The largest disadvantages with the CRITA-model include too many Type I errors and misclassifications of companies because of the fact that the scale of the CRITA-Score is too wide ranging in each credit class. The high standard deviation results in the fact that CRITA-Score will classify the companies with large degree of uncertainty.

Although CRITA-Score has influence from market based approach, the Tobin's q does not fully reflect all the specific qualitative aspects of a company. Accordingly, we claim that the qualitative factors are highly relevant in order to make accurate estimations of companies' financial health.

The disadvantage with the weighted average values appears when a sudden negative trend occurs for a specific company. The CRITA-Score will therefore not pick up this development until it is too late. These type I errors are the main reasons why we at this point are not able to recommend creditors utilizing the CRITA-Score to predict financial default and determine the financial health.

Another negative aspect with CRITA-Score is the "grey area", which refers to the area between 0.35 to –1.23 at the CRITA-Scale. The "grey area" causes misclassifications between default- and non-default companies. Accurate classifications within these two groups have the highest priority with the objective to eliminate type I and Type II errors.

7.4 Concluding remarks

Based on the pros and contras of the CRITA-model we came to the conclusion that the CRITA-model is not ready to be utilized by creditors as the one and only credit rating model. Even though it incorporates many aspects of the company it is hard determine whether it really goes fully in-depth, especially in a qualitative

manner. Another thing that probably is the most important factor is the weighting average modelling. The 8 quarters included in every ratio can possibly include long-term biases, especially if there a sudden negative drop occurs in the company's result that may lead to default. The CRITA-model, will not down grade the company as a default until several quarters later. However, CRITA-Score may work as a complement to available qualitative credit rating models with the objective to see if any dissimilarity exists between the models evaluations.

CRITA-Score is an approach which is not yet ready to be implemented as a stand alone credit evaluation system by creditors. It is not accurate enough at determining a company's financial health two years prior default. Its Type I errors needs to be eliminated, it needs further statistical verification and the grading system needs to be more nuanced. Still, CRITA captures many aspects of a company's financial health by including a combination of ratios that is complete and by including a long time perspective. If it is further developed, Credit Rating Including Time Aspect has future potential to serve as a useful tool for creditors.

7.5 Suggestions to further research

The world of credit rating that we dealt with in this study is such a broad topic that it is impossible to cover all the different aspects in only one thesis. We will therefore briefly mention some of the aspects that we did not consider due to amongst other things, time constraints.

- First of all, we used weighted average values in our quantitative methodology. Would the outcome have been different if the study incorporated weighted values of a shorter time period or included non-weighted values?

- Is it possible to incorporate more qualitative aspects in the model?

- We based our model on American companies in the non-service sector; would the results be different if we included other non-American companies in other sectors?

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APPENDICES

Appendix I: Altman's original sample of ratios

Liquidity

1. Current ratio
2. Cash and marketable securities/Current liabilities
3. (Current assets – Current liabilities)/Total assets

Profitability

4. Gross profit/Sales
5. Profit before taxes/Sales
6. Profit after taxes/Sales
7. Profit after taxes before interest/Total assets
8. Profit before taxes and interest/Total assets
9. Number of years of negative profits in last 3 years

Leverage

10. Short term debt/Total assets
11. Long term debt/Total assets
12. Total debt/Total assets

Solvency

13. Retained earnings/Total assets
14. Market value equity/Par value debt
15. Net worth/Total debt

Activity

16. Sales/Cash and marketable securities
17. Sales/Inventory
18. Cost of goods sold/Inventory
19. Sales/Net fixed assets
20. Sales/Current liabilities
21. Sales/Total assets
22. Working capital/Sales

Appendix II: Ratio calculations for Step I

II.I. Non-default companies

Alabama Power Co. (A)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	97.000	97.000	97.000	98.000	98.000	98.000	98.000	99.000	**99.000**
Altman's X1	-0.019	-0.054	-0.024	-0.021	-0.011	0.010	0.015	0.013	**-0.002**
Current ratio	0.804	0.647	0.749	0.797	0.884	1.131	1.231	1.182	**1.023**
Quick ratio	0.518	0.492	0.537	0.565	0.617	0.823	0.884	0.830	**0.729**
Gross profit margin	0.686	0.653	0.613	0.635	0.673	0.661	0.576	0.577	**0.621**
Net profit margin	0.149	0.233	0.092	0.128	0.131	0.230	0.100	0.140	**0.146**
Return On Assets	0.010	0.019	0.005	0.008	0.009	0.018	0.006	0.008	**0.010**
Altman's X3	0.015	0.031	0.009	0.012	0.015	0.029	0.009	0.009	**0.015**
Altman's X5	0.066	0.082	0.056	0.060	0.068	0.077	0.056	0.055	**0.063**
Return on Equity	0.233	0.467	0.096	0.150	0.198	0.345	0.117	0.138	**0.196**
Altman's X2	0.108	0.115	-0.208	0.103	0.102	0.109	-0.201	0.103	**0.020**
Altman's X4	0.102	0.099	0.143	0.137	0.120	0.139	0.131	0.148	**0.134**
Short-term debt ratio	0.099	0.152	0.097	0.102	0.092	0.074	0.067	0.073	**0.069**
Long-term debt ratio	0.311	0.258	0.280	0.274	0.284	0.299	0.302	0.305	**0.292**
Debt-to-Equity ratio	9.769	10.096	6.986	7.295	8.309	7.216	7.608	6.769	**7.565**
Interest coverage ratio	2.836	7.121	2.028	3.050	3.505	7.862	2.610	2.438	**3.829**
Total assets turnover	0.066	0.082	0.056	0.060	0.068	0.077	0.056	0.055	**0.063**
Accounts receivable turnover ratio	3.034	3.116	2.326	3.288	3.710	3.587	2.685	3.111	**3.143**
Accounts payable turnover ratio	2.080	2.443	1.820	2.492	2.470	2.580	2.277	2.768	**2.453**
Average days payable	175.465	149.411	200.502	146.452	147.774	141.477	160.318	131.841	**150.730**
Approximated Tobin's q	0.372	0.353	0.358	0.346	0.340	0.341	0.335	0.347	**0.344**
Market-to-Book ratio	14.105	14.521	11.563	12.083	13.808	12.132	13.052	11.155	**12.461**

Albemarle Corp. (BBB)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	116.000	116.000	116.000	117.000	117.000	117.000	117.000	118.000	**118.000**
Altman's X1	0.209	0.188	0.196	0.195	0.178	-0.032	0.153	0.180	**0.143**
Current ratio	2.430	2.244	2.291	2.249	2.034	0.906	2.000	2.153	**1.934**
Quick ratio	1.479	1.316	1.317	1.389	1.226	0.552	1.093	1.207	**1.121**
Gross profit margin	0.217	0.203	0.222	0.189	0.203	0.216	0.212	0.210	**0.209**
Net profit margin	0.084	0.036	0.062	0.042	0.064	0.002	0.044	0.048	**0.042**
Return On Assets	0.018	0.008	0.014	0.010	0.015	0.000	0.008	0.010	**0.009**
Altman's X3	0.018	0.009	0.019	0.014	0.021	0.000	0.010	0.014	**0.012**
Altman's X5	0.216	0.209	0.215	0.232	0.237	0.170	0.185	0.204	**0.204**
Return on Equity	0.020	0.009	0.015	0.011	0.016	0.001	0.011	0.014	**0.011**
Altman's X2	0.470	0.448	0.441	0.443	0.455	0.259	0.263	0.263	**0.340**
Altman's X4	3.224	2.647	2.831	2.775	3.180	1.146	1.416	1.398	**1.999**
Short-term debt ratio	0.146	0.151	0.151	0.157	0.172	0.336	0.153	0.156	**0.165**
Long-term debt ratio	0.140	0.171	0.165	0.157	0.128	0.189	0.368	0.328	**0.238**
Debt-to-Equity ratio	0.310	0.378	0.353	0.360	0.314	0.873	0.706	0.715	**0.585**
Interest coverage ratio	18.295	8.046	19.572	11.996	21.695	-0.043	2.924	3.458	**8.262**
Total assets turnover	0.216	0.209	0.215	0.232	0.237	0.170	0.185	0.204	**0.204**
Accounts receivable turnover ratio	1.404	1.363	1.361	1.400	1.383	1.352	1.261	1.424	**1.363**
Accounts payable turnover ratio	2.642	2.577	2.429	2.213	2.346	2.725	2.056	2.132	**2.318**
Average days payable	138.152	141.657	150.287	164.936	155.587	133.933	177.529	171.194	**159.052**
Approximated Tobin's q	0.854	0.834	0.864	0.831	0.903	0.822	0.953	0.824	**0.865**
Market-to-Book ratio	0.773	0.797	0.764	0.790	0.735	0.789	0.649	0.763	**0.746**

Anheuser-Busch, Inc. (A+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	151.000	151.000	151.000	152.000	152.000	152.000	152.000	153.000	**153.000**
Altman's X1	-0.010	-0.020	-0.015	-0.005	0.001	-0.006	-0.009	-0.006	**-0.007**
Current ratio	0.923	0.853	0.878	0.960	1.009	0.957	0.924	0.954	**0.944**
Quick ratio	0.645	0.577	0.561	0.607	0.685	0.638	0.573	0.599	**0.610**
Gross profit margin	0.495	0.506	0.441	0.482	0.493	0.495	0.429	0.455	**0.468**
Net profit margin	0.146	0.149	0.079	0.137	0.147	0.146	0.086	0.126	**0.123**
Return On Assets	0.044	0.046	0.020	0.037	0.044	0.043	0.021	0.031	**0.034**
Altman's X3	0.059	0.065	0.024	0.050	0.060	0.059	0.023	0.039	**0.044**
Altman's X5	0.299	0.310	0.253	0.265	0.299	0.289	0.240	0.247	**0.267**
Return on Equity	0.015	0.017	0.007	0.013	0.016	0.017	0.008	0.014	**0.013**
Altman's X2	0.917	0.958	0.949	0.947	0.962	0.942	0.953	0.951	**0.950**
Altman's X4	4.707	4.432	4.671	4.303	4.467	3.809	3.846	3.429	**4.009**
Short-term debt ratio	0.131	0.138	0.126	0.132	0.130	0.129	0.122	0.130	**0.109**
Long-term debt ratio	0.485	0.491	0.496	0.498	0.500	0.511	0.512	0.519	**0.507**
Debt-to-Equity ratio	0.212	0.226	0.214	0.232	0.224	0.263	0.260	0.292	**0.252**
Interest coverage ratio	8.421	9.509	3.483	7.410	8.755	8.845	3.304	5.612	**6.456**
Total assets turnover	0.299	0.310	0.253	0.265	0.299	0.289	0.240	0.247	**0.267**
Accounts receivable turnover ratio	4.958	5.087	4.920	5.107	4.961	4.943	4.748	5.046	**4.955**
Accounts payable turnover ratio	2.188	2.163	1.972	2.115	2.284	2.186	1.894	1.992	**2.073**
Average days payable	166.826	168.725	185.128	172.544	159.790	167.007	192.684	183.279	**176.829**
Approximated Tobin's q	3.399	3.299	3.419	3.218	3.314	2.952	2.958	2.750	**3.059**
Market-to-Book ratio	0.132	0.133	0.130	0.136	0.131	0.148	0.150	0.158	**0.144**

Archer Daniels Midland Co. (A+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	80.000	80.000	80.000	81.000	81.000	81.000	81.000	82.000	**82.000**
Altman's X1	0.168	0.175	0.191	0.204	0.190	0.195	0.185	0.197	**0.192**
Current ratio	1.474	1.514	1.636	1.659	1.523	1.512	1.532	1.605	**1.564**
Quick ratio	0.804	0.853	0.946	0.973	0.831	0.853	0.851	0.997	**0.901**
Gross profit margin	0.063	0.052	0.050	0.057	0.066	0.063	0.052	0.074	**0.061**
Net profit margin	0.017	0.015	0.012	0.019	0.024	0.024	-0.011	0.030	**0.016**
Return On Assets	0.008	0.007	0.005	0.009	0.012	0.011	-0.005	0.014	**0.008**
Altman's X3	0.011	0.009	0.008	0.012	0.016	0.016	-0.008	0.020	**0.011**
Altman's X5	0.437	0.451	0.468	0.451	0.461	0.441	0.500	0.475	**0.467**
Return on Equity	0.016	0.017	0.011	0.018	0.022	0.021	-0.009	0.024	**0.014**
Altman's X2	0.097	0.103	0.108	0.112	0.108	0.111	0.113	0.127	**0.113**
Altman's X4	0.786	0.708	0.920	0.908	0.888	0.922	1.041	1.131	**0.969**
Short-term debt ratio	0.354	0.340	0.300	0.310	0.363	0.381	0.349	0.325	**0.314**
Long-term debt ratio	0.215	0.220	0.225	0.218	0.194	0.183	0.193	0.195	**0.200**
Debt-to-Equity ratio	1.272	1.413	1.087	1.101	1.126	1.085	0.960	0.884	**1.047**
Interest coverage ratio	1.982	1.648	1.530	2.621	3.558	3.897	-1.925	4.882	**2.420**
Total assets turnover	0.437	0.451	0.468	0.451	0.461	0.441	0.500	0.475	**0.467**
Accounts receivable turnover ratio	2.307	2.321	2.441	2.279	2.282	1.997	2.156	2.141	**2.195**
Accounts payable turnover ratio	2.629	2.361	2.536	2.599	2.865	2.407	2.440	2.182	**2.463**
Average days payable	138.852	154.622	143.950	140.445	127.411	151.669	149.572	167.250	**149.272**
Approximated Tobin's q	0.495	0.442	0.518	0.493	0.499	0.507	0.572	0.587	**0.532**
Market-to-Book ratio	0.960	1.109	0.984	0.985	0.895	0.841	0.813	0.816	**0.883**

Avista Corp. (BB+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	114.000	114.000	114.000	115.000	115.000	115.000	115.000	116.000	**116.000**
Altman's X1	0.003	0.000	0.003	0.007	0.001	-0.005	0.007	-0.014	**-0.001**
Current ratio	1.013	0.999	1.013	1.031	1.004	0.977	1.030	0.949	**0.996**
Quick ratio	0.622	0.743	0.711	0.678	0.623	0.600	0.705	0.540	**0.637**
Gross profit margin	0.466	0.376	0.276	0.310	0.430	0.272	0.356	0.292	**0.330**
Net profit margin	0.041	0.019	0.041	0.036	0.045	-0.040	0.066	0.028	**0.028**
Return On Assets	0.003	0.001	0.004	0.003	0.003	-0.003	0.006	0.003	**0.003**
Altman's X3	0.007	0.002	0.007	0.006	0.004	-0.004	0.009	0.004	**0.004**
Altman's X5	0.062	0.067	0.101	0.096	0.061	0.067	0.092	0.091	**0.082**
Return on Equity	0.013	0.006	0.017	0.013	0.011	-0.011	0.026	0.012	**0.011**
Altman's X2	0.039	0.041	0.040	0.042	0.042	0.039	0.042	0.040	**0.041**
Altman's X4	0.390	0.449	0.497	0.536	0.497	0.518	0.482	0.440	**0.484**
Short-term debt ratio	0.248	0.231	0.229	0.216	0.238	0.223	0.236	0.265	**0.211**
Long-term debt ratio	0.250	0.267	0.253	0.259	0.245	0.246	0.243	0.220	**0.243**
Debt-to-Equity ratio	2.566	2.228	2.013	1.866	2.010	1.930	2.073	2.273	**2.079**
Interest coverage ratio	1.001	0.335	1.134	0.946	0.697	-0.692	1.506	0.740	**0.685**
Total assets turnover	0.062	0.067	0.101	0.096	0.061	0.067	0.092	0.091	**0.082**
Accounts receivable turnover ratio	0.733	0.885	1.270	1.234	0.915	1.000	1.230	1.220	**1.116**
Accounts payable turnover ratio	0.433	1.071	1.109	0.993	0.813	0.588	0.718	1.302	**0.914**
Average days payable	841.991	340.848	329.002	367.535	448.987	620.949	508.568	280.436	**437.637**
Approximated Tobin's q	0.441	0.492	0.489	0.384	0.484	0.494	0.468	0.447	**0.477**
Market-to-Book ratio	2.583	2.238	2.167	3.352	2.151	2.181	2.251	2.411	**2.242**

BorgWarner, Inc. (A-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	75.000	75.000	75.000	76.000	76.000	76.000	76.000	77.000	**77.000**
Altman's X1	0.076	0.091	0.117	0.105	0.121	0.139	0.116	0.062	**0.105**
Current ratio	1.449	1.547	1.753	1.560	1.672	1.811	1.618	1.267	**1.576**
Quick ratio	1.048	1.139	1.325	1.198	1.298	1.418	1.282	0.925	**1.207**
Gross profit margin	0.191	0.178	-0.500	0.191	0.190	0.173	0.184	0.197	**0.130**
Net profit margin	0.058	0.050	0.063	0.057	0.061	0.053	0.076	0.072	**0.064**
Return On Assets	0.016	0.012	0.017	0.016	0.017	0.014	0.020	0.020	**0.017**
Altman's X3	0.023	0.018	0.024	0.024	0.026	0.020	0.024	0.019	**0.022**
Altman's X5	0.269	0.247	0.263	0.285	0.280	0.256	0.252	0.258	**0.262**
Return on Equity	0.051	0.039	0.042	0.043	0.022	0.018	0.022	0.028	**0.029**
Altman's X2	0.145	0.152	0.162	0.169	0.182	0.189	0.193	0.179	**0.179**
Altman's X4	0.785	0.829	1.072	0.986	2.125	2.121	2.483	1.663	**1.768**
Short-term debt ratio	0.168	0.166	0.155	0.188	0.180	0.171	0.188	0.230	**0.165**
Long-term debt ratio	0.220	0.216	0.209	0.190	0.180	0.177	0.161	0.163	**0.179**
Debt-to-Equity ratio	1.274	1.206	0.933	1.015	0.471	0.471	0.403	0.601	**0.649**
Interest coverage ratio	7.598	6.420	9.773	10.213	10.662	8.920	11.857	8.419	**9.661**
Total assets turnover	0.269	0.247	0.263	0.285	0.280	0.256	0.252	0.258	**0.262**
Accounts receivable turnover ratio	2.120	1.939	2.007	1.941	1.774	1.699	1.785	1.878	**1.844**
Accounts payable turnover ratio	1.390	1.335	2.604	1.453	1.314	1.283	1.265	1.521	**1.472**
Average days payable	262.588	273.462	140.179	251.198	277.749	284.471	288.549	239.954	**257.497**
Approximated Tobin's q	0.449	0.442	0.482	0.458	0.823	0.778	0.911	0.755	**0.717**
Market-to-Book ratio	2.009	1.954	1.634	1.669	0.837	0.881	0.751	0.928	**1.101**

CenterPoint Energy Resources Corp. (BBB)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	27.000	27.000	27.000	28.000	28.000	28.000	28.000	29.000	**29.000**
Altman's X1	0.008	0.021	0.034	0.040	0.032	-0.013	0.016	0.026	**0.020**
Current ratio	1.064	1.200	1.247	1.324	1.274	0.922	1.075	1.126	**1.137**
Quick ratio	0.869	0.864	1.047	1.210	1.075	0.675	0.955	1.060	**0.977**
Gross profit margin	0.287	0.282	0.222	0.198	0.237	0.239	0.187	0.193	**0.216**
Net profit margin	0.014	-0.011	0.023	0.034	0.008	-0.002	0.027	0.040	**0.020**
Return On Assets	0.002	-0.002	0.006	0.011	0.002	0.000	0.009	0.013	**0.006**
Altman's X3	0.004	-0.002	0.006	0.018	0.003	-0.001	0.013	0.021	**0.010**
Altman's X5	0.173	0.158	0.230	0.323	0.197	0.181	0.298	0.322	**0.256**
Return on Equity	1832.250	-1137.00	3628.100	6744.636	934.957	-223.500	5581.909	7996.417	**3994.433**
Altman's X2	0.025	0.023	0.025	0.036	0.037	0.036	0.041	0.053	**0.039**
Altman's X4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Short-term debt ratio	0.120	0.107	0.137	0.123	0.118	0.162	0.220	0.203	**0.146**
Long-term debt ratio	0.370	0.391	0.346	0.348	0.346	0.297	0.266	0.266	**0.308**
Debt-to-Equity ratio	365534.9	332138.7	330875.7	291838.7	271655.5	308916.7	332841.5	293555.1	**307775.1**
Interest coverage ratio	0.434	-0.243	0.786	2.860	0.442	-0.211	2.227	3.544	**1.629**
Total assets turnover	0.173	0.158	0.230	0.323	0.197	0.181	0.298	0.322	**0.256**
Accounts receivable turnover ratio	1.990	2.853	4.300	4.337	2.411	2.524	4.301	3.491	**3.422**
Accounts payable turnover ratio	1.583	2.360	2.770	3.275	2.447	2.614	2.963	2.559	**2.690**
Average days payable	230.628	154.652	131.772	111.448	149.149	139.607	123.205	142.642	**138.000**
Approximated Tobin's q	0.362	0.370	0.312	0.308	0.314	0.310	0.249	0.241	**0.288**
Market-to-Book ratio	379696.6	334355.8	354390.5	326531.1	312804.4	364304.5	351972.3	332142.4	**341347.2**

Charter Communications, Inc. (CCC+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	10.000	10.000	10.000	11.000	11.000	11.000	11.000	12.000	**12.000**
Altman's X1	-0.033	-0.040	-0.041	-0.043	-0.039	-0.056	-0.017	-0.060	**-0.043**
Current ratio	0.401	0.294	0.283	0.285	0.296	0.265	0.758	0.204	**0.361**
Quick ratio	0.401	0.294	0.283	0.285	0.296	0.265	0.758	0.204	**0.361**
Gross profit margin	0.408	0.404	0.398	0.381	0.387	0.377	0.401	0.374	**0.387**
Net profit margin	-0.030	0.030	-0.046	-0.241	-0.335	-2.640	-0.265	-0.277	**-0.629**
Return On Assets	-0.002	0.002	-0.003	-0.014	-0.020	-0.175	-0.019	-0.020	**-0.042**
Altman's X3	-0.006	0.001	-0.022	-0.011	-0.018	-0.162	-0.018	-0.020	**-0.041**
Altman's X5	0.056	0.056	0.057	0.059	0.060	0.073	0.072	0.076	**0.067**
Return on Equity	-0.032	0.030	-0.047	-0.208	-0.348	-4.063	-0.495	-0.721	**-1.008**
Altman's X2	-0.222	-0.223	-0.227	-0.250	-0.271	-0.518	-0.520	-0.569	**-0.417**
Altman's X4	0.055	0.059	0.057	0.070	0.058	0.040	0.032	0.023	**0.043**
Short-term debt ratio	0.054	0.057	0.058	0.061	0.056	0.076	0.069	0.075	**0.056**
Long-term debt ratio	0.918	0.910	0.915	0.924	0.945	1.121	1.140	1.165	**1.054**
Debt-to-Equity ratio	18.068	17.089	17.507	14.352	17.198	25.228	31.277	42.664	**26.661**
Interest coverage ratio	-0.350	0.059	-1.198	-0.598	-0.893	-6.547	-0.725	-0.795	**-1.705**
Total assets turnover	0.056	0.056	0.057	0.059	0.060	0.073	0.072	0.076	**0.067**
Accounts receivable turnover ratio	5.397	5.775	6.422	6.878	7.100	6.728	6.787	7.726	**6.914**
Accounts payable turnover ratio	0.592	0.600	0.598	0.604	0.633	0.634	0.607	0.644	**0.621**
Average days payable	616.698	608.164	610.242	603.878	577.075	575.685	601.486	566.988	**587.918**
Approximated Tobin's q	1.004	1.007	1.012	1.036	1.042	1.225	1.195	1.254	**1.143**
Market-to-Book ratio	0.521	0.581	0.491	0.227	-0.013	-4.163	-5.401	-8.250	**-3.466**

Chiquita Brands International, Inc. (B+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	104.000	104.000	104.000	105.000	105.000	105.000	105.000	106.000	**106.000**
Altman's X1	0.143	0.165	0.165	0.191	0.206	0.191	0.186	0.217	**0.193**
Current ratio	1.455	1.639	1.616	1.723	1.783	1.755	1.716	1.780	**1.727**
Quick ratio	1.128	1.222	1.191	1.305	1.438	1.385	1.312	1.402	**1.341**
Gross profit margin	0.131	0.127	0.163	0.146	0.159	0.135	0.150	0.194	**0.157**
Net profit margin	0.067	0.016	0.012	0.025	0.036	-0.030	0.033	0.093	**0.033**
Return On Assets	0.031	0.006	0.005	0.012	0.017	-0.011	0.014	0.046	**0.016**
Altman's X3	0.028	0.007	0.007	0.013	0.015	-0.010	0.016	0.045	**0.017**
Altman's X5	0.473	0.379	0.390	0.454	0.468	0.377	0.432	0.474	**0.434**
Return on Equity	0.098	0.014	0.009	0.023	0.035	-0.028	0.028	0.077	**0.030**
Altman's X2	0.053	0.062	0.066	0.076	0.090	0.081	0.091	0.124	**0.090**
Altman's X4	0.642	0.901	1.138	1.062	1.050	0.919	1.162	1.305	**1.096**
Short-term debt ratio	0.314	0.259	0.268	0.264	0.263	0.252	0.260	0.278	**0.238**
Long-term debt ratio	0.194	0.208	0.203	0.193	0.186	0.189	0.177	0.157	**0.182**
Debt-to-Equity ratio	1.559	1.110	0.879	0.942	0.952	1.088	0.860	0.766	**0.934**
Interest coverage ratio	4.239	1.044	1.182	2.204	2.763	-1.744	3.131	11.658	**3.812**
Total assets turnover	0.473	0.379	0.390	0.454	0.468	0.377	0.432	0.474	**0.434**
Accounts receivable turnover ratio	2.504	2.144	2.407	2.465	2.408	2.130	2.527	2.317	**2.359**
Accounts payable turnover ratio	2.398	2.067	2.259	2.339	2.129	1.938	2.323	2.101	**2.167**
Average days payable	152.216	176.555	161.558	156.078	171.482	188.341	157.097	173.763	**169.210**
Approximated Tobin's q	0.377	0.464	0.574	0.488	0.451	0.403	0.499	0.507	**0.478**
Market-to-Book ratio	1.512	1.268	0.989	1.117	1.171	1.380	1.109	0.995	**1.148**

Cooper Cameron Corp. (A-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	8.000	8.000	8.000	9.000	9.000	9.000	9.000	10.000	**10.000**
Altman's X1	0.214	0.216	0.219	0.247	0.776	0.304	0.287	0.311	**0.347**
Current ratio	1.683	1.671	1.688	1.810	4.466	2.431	2.282	2.456	**2.496**
Quick ratio	1.023	0.984	0.992	1.144	3.594	1.547	1.421	1.563	**1.674**
Gross profit margin	0.293	0.288	0.277	0.253	0.235	0.266	0.254	0.257	**0.259**
Net profit margin	0.052	0.084	0.042	0.037	0.034	0.055	0.045	0.052	**0.048**
Return On Assets	0.010	0.017	0.065	0.000	0.008	0.013	0.080	0.012	**0.028**
Altman's X3	0.014	0.015	0.036	0.010	0.013	0.019	0.056	0.018	**0.025**
Altman's X5	0.193	0.204	0.763	0.192	0.250	0.245	0.887	0.231	**0.401**
Return on Equity	0.008	0.013	0.027	0.007	0.008	0.011	0.031	0.010	**0.015**
Altman's X2	0.066	0.083	0.083	0.081	0.098	0.110	0.115	0.126	**0.105**
Altman's X4	3.079	3.049	2.872	2.202	2.519	2.871	3.066	3.024	**2.835**
Short-term debt ratio	0.314	0.322	0.318	0.305	0.224	0.212	0.224	0.213	**0.216**
Long-term debt ratio	0.099	0.098	0.095	0.168	0.211	0.208	0.195	0.186	**0.178**
Debt-to-Equity ratio	0.325	0.328	0.348	0.454	0.397	0.348	0.326	0.331	**0.357**
Interest coverage ratio	14.050	15.429	9.512	10.125	2.673	21.789	7.488	17.475	**12.507**
Total assets turnover	0.193	0.204	0.763	0.192	0.250	0.245	0.887	0.231	**0.401**
Accounts receivable turnover ratio	1.323	1.461	10.322	0.003	1.549	1.449	9.838	1.309	**3.639**
Accounts payable turnover ratio	0.795	0.879	8.315	2.379	0.777	0.848	7.784	0.801	**2.969**
Average days payable	459.143	415.163	43.896	153.454	469.891	430.536	46.890	455.667	**303.923**
Approximated Tobin's q	1.157	1.163	1.063	0.961	0.530	1.111	1.191	1.085	**1.024**
Market-to-Book ratio	0.461	0.452	0.495	0.507	0.516	0.480	0.453	0.496	**0.486**

Delta Airlines, Inc. (CC)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	79.000	79.000	79.000	80.000	80.000	80.000	80.000	81.000	**81.000**
Altman's X1	-0.050	-0.064	-0.063	-0.081	-0.094	-0.111	-0.107	-0.137	**-0.102**
Current ratio	0.798	0.751	0.750	0.687	0.627	0.559	0.607	0.564	**0.626**
Quick ratio	0.768	0.721	0.719	0.657	0.591	0.524	0.573	0.532	**0.593**
Gross profit margin	0.387	0.406	0.393	0.337	0.431	0.379	0.375	0.371	**0.382**
Net profit margin	0.056	-0.048	0.359	-0.116	-0.496	-0.167	-0.569	-0.294	**-0.257**
Return On Assets	0.007	-0.006	0.047	-0.015	-0.078	-0.027	-0.097	-0.049	**-0.043**
Altman's X3	0.012	-0.010	-0.019	-0.023	-0.018	-0.028	-0.106	-0.056	**-0.045**
Altman's X5	0.129	0.134	0.129	0.126	0.164	0.165	0.178	0.168	**0.158**
Return on Equity	0.152	-0.092	0.733	-0.257	-1.932	-0.709	-4.530	-0.986	**-1.455**
Altman's X2	0.053	0.046	0.032	0.017	-0.063	-0.092	-0.201	-0.251	**-0.110**
Altman's X4	0.068	0.099	0.092	0.080	0.056	0.050	0.026	0.055	**0.057**
Short-term debt ratio	0.249	0.256	0.251	0.260	0.252	0.252	0.273	0.313	**0.243**
Long-term debt ratio	0.444	0.444	0.435	0.450	0.499	0.519	0.597	0.600	**0.528**
Debt-to-Equity ratio	14.653	10.119	10.868	12.463	17.856	19.914	38.903	18.280	**20.685**
Interest coverage ratio	1.636	-1.366	-2.681	-3.082	-2.178	-3.105	-10.372	-4.534	**-4.441**
Total assets turnover	0.129	0.134	0.129	0.126	0.164	0.165	0.178	0.168	**0.158**
Accounts receivable turnover ratio	5.858	4.397	4.661	4.434	4.813	4.782	5.198	4.593	**4.785**
Accounts payable turnover ratio	1.137	1.187	1.183	1.234	1.286	1.392	1.476	1.421	**1.347**
Average days payable	320.896	307.574	308.493	295.802	283.844	262.172	247.258	256.951	**272.872**
Approximated Tobin's q	0.541	0.577	0.561	0.589	0.635	0.669	0.726	0.787	**0.675**
Market-to-Book ratio	6.486	4.329	4.971	5.068	5.938	5.910	5.862	1.736	**4.733**

Dow Chemical Co. (A-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	106.000	106.000	106.000	107.000	107.000	107.000	107.000	108.000	**108.000**
Altman's X1	0.066	0.077	0.083	0.088	0.111	0.104	0.117	0.139	**0.109**
Current ratio	1.278	1.337	1.364	1.386	1.526	1.456	1.512	1.616	**1.485**
Quick ratio	0.836	0.882	0.939	0.933	1.036	0.980	1.041	1.115	**1.011**
Gross profit margin	0.154	0.140	0.138	0.151	0.152	0.137	0.150	0.201	**0.158**
Net profit margin	0.048	0.042	0.111	0.050	0.070	0.061	0.094	0.116	**0.082**
Return On Assets	0.010	0.008	0.023	0.011	0.016	0.014	0.023	0.029	**0.020**
Altman's X3	0.015	0.012	0.012	0.017	0.024	0.020	0.027	0.041	**0.025**
Altman's X5	0.204	0.198	0.199	0.222	0.233	0.232	0.238	0.254	**0.232**
Return on Equity	0.015	0.012	0.030	0.012	0.018	0.016	0.024	0.028	**0.021**
Altman's X2	0.231	0.233	0.239	0.242	0.249	0.250	0.251	0.272	**0.252**
Altman's X4	1.248	1.365	1.466	1.804	1.801	1.730	1.955	2.235	**1.848**
Short-term debt ratio	0.237	0.227	0.228	0.228	0.211	0.228	0.229	0.226	**0.199**
Long-term debt ratio	0.287	0.290	0.281	0.282	0.290	0.272	0.253	0.237	**0.266**
Debt-to-Equity ratio	0.801	0.733	0.682	0.554	0.555	0.578	0.512	0.447	**0.554**
Interest coverage ratio	2.947	2.363	4.636	3.780	5.495	4.456	6.629	10.059	**6.049**
Total assets turnover	0.204	0.198	0.199	0.222	0.233	0.232	0.238	0.254	**0.232**
Accounts receivable turnover ratio	1.527	1.471	1.495	1.526	1.519	1.494	1.534	1.542	**1.519**
Accounts payable turnover ratio	1.501	1.474	1.492	1.619	1.578	1.630	1.648	1.710	**1.619**
Average days payable	243.168	247.596	244.642	225.460	231.283	223.890	221.446	213.500	**225.889**
Approximated Tobin's q	0.876	0.919	0.943	1.113	1.082	1.032	1.079	1.131	**1.061**
Market-to-Book ratio	0.727	0.684	0.659	0.533	0.553	0.579	0.549	0.520	**0.568**

Dupont (E.I.) De Nemours Co. (AA-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	201.000	201.000	201.000	202.000	202.000	202.000	202.000	203.000	**203.000**
Altman's X1	0.099	0.180	0.146	0.156	0.215	0.189	0.204	0.212	**0.190**
Current ratio	1.324	1.527	1.415	1.426	1.785	1.636	1.916	1.854	**1.703**
Quick ratio	0.958	1.227	1.101	1.141	1.379	1.252	1.351	1.370	**1.280**
Gross profit margin	0.313	0.243	0.242	0.287	0.275	0.204	0.227	0.320	**0.262**
Net profit margin	0.092	-0.142	0.098	0.083	0.067	0.058	0.046	0.130	**0.069**
Return On Assets	0.018	-0.023	0.017	0.018	0.013	0.009	0.008	0.026	**0.013**
Altman's X3	0.023	-0.039	-0.003	0.021	0.010	0.006	0.001	0.040	**0.012**
Altman's X5	0.193	0.164	0.175	0.208	0.209	0.157	0.168	0.198	**0.184**
Return on Equity	0.015	-0.019	0.015	0.013	0.011	0.006	0.006	0.018	**0.010**
Altman's X2	0.291	0.265	0.275	0.270	0.294	0.284	0.286	0.279	**0.281**
Altman's X4	2.537	2.507	2.500	2.668	2.999	3.103	3.468	3.599	**3.122**
Short-term debt ratio	0.307	0.341	0.352	0.366	0.273	0.298	0.223	0.248	**0.257**
Long-term debt ratio	0.144	0.141	0.116	0.112	0.157	0.153	0.156	0.146	**0.144**
Debt-to-Equity ratio	0.394	0.399	0.400	0.375	0.333	0.322	0.288	0.278	**0.326**
Interest coverage ratio	10.126	-16.178	-1.146	9.494	4.481	2.616	0.427	14.365	**4.676**
Total assets turnover	0.193	0.164	0.175	0.208	0.209	0.157	0.168	0.198	**0.184**
Accounts receivable turnover ratio	1.290	1.086	1.381	1.649	1.234	0.900	1.089	1.328	**1.223**
Accounts payable turnover ratio	1.864	1.776	2.417	2.466	2.364	2.021	1.930	1.883	**2.085**
Average days payable	195.777	205.574	151.034	148.009	154.389	180.584	189.080	193.852	**177.275**
Approximated Tobin's q	1.187	1.170	1.140	1.231	1.233	1.364	1.264	1.355	**1.275**
Market-to-Book ratio	0.481	0.428	0.454	0.410	0.441	0.392	0.473	0.426	**0.434**

Energy East Corp. (BBB+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	5.000	5.000	5.000	6.000	6.000	6.000	6.000	7.000	**7.000**
Altman's X1	-0.005	0.022	0.020	0.031	0.054	0.042	0.043	0.053	**0.041**
Current ratio	0.963	1.225	1.234	1.386	1.770	1.562	1.488	1.655	**1.515**
Quick ratio	0.863	1.027	1.046	1.322	1.571	1.255	1.252	1.566	**1.334**
Gross profit margin	0.283	0.274	0.370	0.297	0.321	0.265	0.264	0.223	**0.277**
Net profit margin	0.026	-0.007	0.054	0.076	0.039	0.017	0.045	0.094	**0.051**
Return On Assets	0.003	-0.001	0.005	0.011	0.003	0.001	0.005	0.014	**0.007**
Altman's X3	0.004	0.000	-0.006	0.017	0.016	0.003	0.008	0.024	**0.011**
Altman's X5	0.101	0.086	0.087	0.139	0.092	0.090	0.113	0.150	**0.114**
Return on Equity	0.010	-0.002	0.016	0.036	0.010	0.005	0.015	0.040	**0.019**
Altman's X2	0.108	0.105	0.100	0.106	0.113	0.111	0.111	0.121	**0.112**
Altman's X4	0.573	0.648	0.674	0.673	0.814	0.752	0.775	0.832	**0.757**
Short-term debt ratio	0.121	0.097	0.085	0.081	0.070	0.075	0.089	0.081	**0.069**
Long-term debt ratio	0.318	0.346	0.355	0.353	0.366	0.360	0.352	0.347	**0.353**
Debt-to-Equity ratio	1.744	1.542	1.484	1.487	1.229	1.329	1.290	1.202	**1.333**
Interest coverage ratio	0.695	-0.034	-0.895	2.837	2.477	0.457	1.289	3.677	**1.746**
Total assets turnover	0.101	0.086	0.087	0.139	0.092	0.090	0.113	0.150	**0.114**
Accounts receivable turnover ratio	1.356	1.467	1.483	2.061	1.415	1.675	1.776	1.897	**1.714**
Accounts payable turnover ratio	2.268	2.236	1.751	2.743	1.950	2.216	2.201	2.627	**2.290**
Average days payable	160.958	163.254	208.438	133.042	187.170	164.681	165.802	138.919	**162.246**
Approximated Tobin's q	0.575	0.611	0.632	0.613	0.667	0.646	0.650	0.649	**0.642**
Market-to-Book ratio	2.223	1.943	1.884	1.937	1.586	1.721	1.639	1.608	**1.725**

Fortune Brands, Inc. (A)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	18.000	18.000	18.000	19.000	19.000	19.000	19.000	20.000	**20.000**
Altman's X1	0.073	0.076	0.020	0.030	0.038	0.046	0.077	0.096	**0.060**
Current ratio	1.251	1.268	1.069	1.105	1.127	1.160	1.298	1.384	**1.227**
Quick ratio	0.771	0.779	0.621	0.668	0.696	0.684	0.763	0.814	**0.731**
Gross profit margin	0.459	0.462	0.460	0.449	0.446	0.447	0.445	0.439	**0.447**
Net profit margin	0.112	0.092	0.095	0.082	0.163	0.125	0.057	0.085	**0.099**
Return On Assets	0.029	0.023	0.023	0.019	0.040	0.029	0.014	0.019	**0.024**
Altman's X3	0.037	0.038	0.034	0.030	0.036	0.035	0.039	0.031	**0.035**
Altman's X5	0.253	0.254	0.223	0.225	0.245	0.235	0.242	0.225	**0.235**
Return on Equity	0.027	0.019	0.018	0.013	0.028	0.021	0.010	0.014	**0.017**
Altman's X2	0.757	0.766	0.664	0.663	0.668	0.686	0.701	0.706	**0.693**
Altman's X4	2.505	2.930	2.552	2.994	3.123	3.103	3.309	3.449	**3.138**
Short-term debt ratio	0.290	0.285	0.287	0.291	0.296	0.286	0.258	0.249	**0.246**
Long-term debt ratio	0.135	0.135	0.167	0.164	0.161	0.161	0.157	0.155	**0.158**
Debt-to-Equity ratio	0.399	0.341	0.392	0.334	0.320	0.322	0.302	0.290	**0.321**
Interest coverage ratio	12.344	13.159	13.404	10.456	12.982	12.151	13.800	11.280	**12.371**
Total assets turnover	0.253	0.254	0.223	0.225	0.245	0.235	0.242	0.225	**0.235**
Accounts receivable turnover ratio	1.672	1.636	1.729	1.689	1.731	1.659	1.771	1.613	**1.689**
Accounts payable turnover ratio	3.118	3.048	3.300	2.887	3.037	3.016	2.961	2.738	**2.960**
Average days payable	117.062	119.765	110.604	126.408	120.187	121.028	123.261	133.316	**123.625**
Approximated Tobin's q	1.127	1.287	1.304	1.496	1.549	1.500	1.455	1.453	**1.449**
Market-to-Book ratio	0.540	0.473	0.472	0.400	0.381	0.400	0.425	0.428	**0.422**

Frontier Oil Corp. (BB-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	54.000	54.000	54.000	55.000	55.000	55.000	55.000	56.000	**56.000**
Altman's X1	0.092	0.118	0.060	0.031	0.123	0.157	0.129	0.141	**0.117**
Current ratio	1.350	1.231	1.157	1.069	1.314	1.389	1.346	1.361	**1.299**
Quick ratio	0.749	0.950	0.653	0.547	0.712	0.810	0.788	0.644	**0.719**
Gross profit margin	0.029	0.065	0.050	0.020	0.127	0.065	0.030	0.095	**0.066**
Net profit margin	-0.002	0.006	0.008	-0.007	0.067	0.030	0.000	0.050	**0.026**
Return On Assets	-0.001	0.004	0.005	-0.006	0.069	0.030	0.000	0.043	**0.024**
Altman's X3	-0.001	0.008	0.010	-0.009	0.108	0.045	0.001	0.065	**0.037**
Altman's X5	0.616	0.681	0.845	0.774	0.986	0.956	1.065	0.819	**0.897**
Return on Equity	-0.002	0.010	0.010	-0.008	0.098	0.042	0.000	0.049	**0.032**
Altman's X2	0.049	0.051	0.074	0.061	0.122	0.137	0.148	0.171	**0.124**
Altman's X4	0.681	0.608	0.962	0.951	1.097	1.143	1.522	1.460	**1.202**
Short-term debt ratio	0.262	0.510	0.383	0.446	0.392	0.405	0.373	0.391	**0.374**
Long-term debt ratio	0.492	0.238	0.263	0.243	0.226	0.206	0.199	0.177	**0.220**
Debt-to-Equity ratio	1.468	1.645	1.040	1.051	0.912	0.875	0.657	0.685	**0.888**
Interest coverage ratio	-0.122	1.026	1.574	-1.021	13.495	6.404	0.029	18.230	**7.070**
Total assets turnover	0.616	0.681	0.845	0.774	0.986	0.956	1.065	0.819	**0.897**
Accounts receivable turnover ratio	7.714	7.362	6.494	5.806	7.051	6.271	7.089	7.452	**6.868**
Accounts payable turnover ratio	2.788	2.950	2.945	3.030	3.177	3.210	5.955	5.209	**4.115**
Average days payable	130.941	123.722	123.919	120.454	114.900	113.713	61.294	70.066	**96.620**
Approximated Tobin's q	0.914	0.575	0.824	0.868	0.781	0.746	0.941	0.867	**0.831**
Market-to-Book ratio	0.478	0.553	0.570	0.474	0.564	0.559	0.492	0.519	**0.527**

General Electric Co. (AAA)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	111.000	111.000	111.000	112.000	112.000	112.000	112.000	113.000	**113.000**
Altman's X1	0.355	0.367	0.382	0.367	0.343	0.354	0.384	0.384	**0.370**
Current ratio	2.227	2.352	2.244	2.326	2.153	2.247	2.396	2.412	**2.314**
Quick ratio	2.176	2.299	2.200	2.277	2.107	2.199	2.348	2.361	**2.265**
Gross profit margin	0.628	0.632	0.595	0.622	0.592	0.584	0.591	0.609	**0.601**
Net profit margin	0.114	0.109	0.128	0.097	0.106	0.106	0.127	0.100	**0.110**
Return On Assets	0.006	0.006	0.008	0.005	0.006	0.006	0.008	0.005	**0.006**
Altman's X3	0.008	0.008	0.009	0.006	0.007	0.007	0.009	0.007	**0.007**
Altman's X5	0.054	0.053	0.058	0.050	0.053	0.054	0.059	0.053	**0.055**
Return on Equity	0.014	0.013	0.015	0.010	0.012	0.012	0.016	0.010	**0.012**
Altman's X2	0.128	0.128	0.128	0.127	0.123	0.125	0.122	0.124	**0.124**
Altman's X4	0.801	0.863	0.835	0.901	0.845	0.876	0.860	0.929	**0.877**
Short-term debt ratio	0.290	0.271	0.307	0.277	0.297	0.284	0.275	0.272	**0.254**
Long-term debt ratio	0.275	0.260	0.265	0.256	0.252	0.264	0.283	0.283	**0.270**
Debt-to-Equity ratio	1.248	1.159	1.197	1.110	1.184	1.142	1.163	1.076	**1.142**
Interest coverage ratio	1.867	2.023	1.918	1.596	1.724	1.729	1.739	1.350	**1.667**
Total assets turnover	0.054	0.053	0.058	0.050	0.053	0.054	0.059	0.053	**0.055**
Accounts receivable turnover ratio	3.254	3.314	3.630	3.225	3.191	2.975	3.311	2.892	**3.161**
Accounts payable turnover ratio	0.628	0.586	0.736	0.648	0.727	0.682	0.751	0.677	**0.694**
Average days payable	581.375	622.786	495.733	563.449	502.220	534.917	486.278	539.222	**527.952**
Approximated Tobin's q	0.372	0.351	0.361	0.369	0.373	0.390	0.380	0.415	**0.384**
Market-to-Book ratio	0.963	1.022	0.893	0.973	0.972	0.940	0.921	0.862	**0.928**

Gillette Co. (AA-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	102.000	102.000	102.000	103.000	103.000	103.000	103.000	104.000	**104.000**
Altman's X1	0.037	0.052	-0.003	0.020	-0.004	0.032	-0.013	0.035	**0.016**
Current ratio	1.104	1.143	0.991	1.058	0.989	1.087	0.968	1.094	**1.044**
Quick ratio	0.777	0.825	0.696	0.685	0.619	0.710	0.661	0.753	**0.702**
Gross profit margin	0.614	0.611	0.499	0.607	0.604	0.598	0.570	0.582	**0.584**
Net profit margin	0.150	0.173	0.140	0.168	0.174	0.177	0.133	0.172	**0.162**
Return On Assets	0.035	0.041	0.036	0.038	0.043	0.047	0.039	0.041	**0.041**
Altman's X3	0.049	0.058	0.051	0.054	0.060	0.064	0.054	0.057	**0.057**
Altman's X5	0.228	0.234	0.261	0.229	0.245	0.257	0.290	0.238	**0.253**
Return on Equity	0.010	0.013	0.011	0.010	0.011	0.011	0.010	0.010	**0.011**
Altman's X2	0.696	0.709	0.730	0.775	0.784	0.792	0.781	0.788	**0.773**
Altman's X4	5.181	5.059	5.333	6.195	6.641	6.778	6.551	7.129	**6.468**
Short-term debt ratio	0.358	0.359	0.369	0.349	0.381	0.369	0.392	0.375	**0.347**
Long-term debt ratio	0.277	0.264	0.244	0.252	0.206	0.226	0.200	0.193	**0.219**
Debt-to-Equity ratio	0.193	0.198	0.188	0.161	0.151	0.148	0.153	0.140	**0.156**
Interest coverage ratio	30.188	45.615	46.545	44.167	54.636	47.857	34.294	36.765	**42.562**
Total assets turnover	0.228	0.234	0.261	0.229	0.245	0.257	0.290	0.238	**0.253**
Accounts receivable turnover ratio	1.578	1.537	1.827	1.805	2.017	2.091	2.420	2.091	**2.046**
Accounts payable turnover ratio	1.797	1.791	0.808	0.693	2.022	1.902	0.726	0.740	**1.197**
Average days payable	203.157	203.757	451.728	526.817	180.525	191.884	502.575	493.325	**377.546**
Approximated Tobin's q	3.534	3.365	3.519	3.951	4.110	4.221	4.086	4.210	**4.022**
Market-to-Book ratio	0.111	0.120	0.118	0.107	0.106	0.101	0.106	0.107	**0.107**

GlobalSantaFe Corp. (A-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	57.000	57.000	57.000	58.000	58.000	58.000	58.000	59.000	**59.000**
Altman's X1	0.149	0.136	0.133	0.161	0.059	0.072	0.075	0.090	**0.095**
Current ratio	3.193	2.954	3.082	3.632	1.474	1.554	1.584	1.741	**2.072**
Quick ratio	3.193	2.954	3.082	3.632	1.474	1.554	1.584	1.741	**2.072**
Gross profit margin	0.267	0.231	0.228	0.228	0.192	0.222	0.268	0.281	**0.243**
Net profit margin	0.088	0.033	0.048	0.023	0.220	0.126	-0.015	0.103	**0.082**
Return On Assets	0.007	0.002	0.004	0.001	0.014	0.010	-0.001	0.008	**0.006**
Altman's X3	0.008	0.003	0.004	0.000	-0.006	0.013	0.009	0.009	**0.006**
Altman's X5	0.081	0.075	0.082	0.062	0.064	0.077	0.083	0.080	**0.076**
Return on Equity	0.008	0.003	0.004	0.001	0.014	0.008	-0.001	0.006	**0.005**
Altman's X2	0.228	0.228	0.229	0.229	0.249	0.254	0.250	0.253	**0.245**
Altman's X4	3.408	3.461	3.678	4.144	4.824	5.402	5.956	6.908	**5.317**
Short-term debt ratio	0.068	0.069	0.064	0.061	0.125	0.130	0.129	0.121	**0.098**
Long-term debt ratio	0.193	0.194	0.194	0.195	0.092	0.092	0.092	0.091	**0.120**
Debt-to-Equity ratio	0.293	0.289	0.272	0.241	0.207	0.185	0.168	0.145	**0.198**
Interest coverage ratio	2.784	1.088	1.641	0.152	-2.151	-7.045	1.557	4.675	**0.160**
Total assets turnover	0.081	0.075	0.082	0.062	0.064	0.077	0.083	0.080	**0.076**
Accounts receivable turnover ratio	1.410	1.379	1.615	1.228	1.270	1.363	1.339	1.299	**1.339**
Accounts payable turnover ratio	2.378	2.323	2.385	1.522	2.236	2.187	1.551	1.744	**1.927**
Average days payable	153.502	157.102	153.040	239.827	163.221	166.912	235.279	209.262	**195.132**
Approximated Tobin's q	0.934	0.972	1.008	1.095	1.080	1.222	1.335	1.462	**1.224**
Market-to-Book ratio	0.829	0.806	0.784	0.701	0.748	0.647	0.591	0.540	**0.658**

Granite Broadcasting Corp. (CCC)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	15.000	15.000	15.000	16.000	16.000	16.000	16.000	17.000	**17.000**
Altman's X1	-0.154	-0.163	0.208	0.189	0.178	0.151	0.145	0.055	**0.115**
Current ratio	0.549	0.551	3.619	3.049	3.353	2.399	2.524	1.529	**2.382**
Quick ratio	0.549	0.551	3.619	3.049	3.353	2.399	2.524	1.529	**2.382**
Gross profit margin	0.191	0.144	0.162	0.189	0.235	0.071	0.312	0.522	**0.269**
Net profit margin	-0.469	-0.561	-0.344	-0.670	-0.538	-0.740	-0.956	-0.757	**-0.700**
Return On Assets	-0.029	-0.032	-0.021	-0.034	-0.032	-0.043	-0.068	-0.043	**-0.042**
Altman's X3	-0.023	-0.038	-0.045	-0.039	-0.038	-0.054	-0.075	-0.041	**-0.049**
Altman's X5	0.064	0.057	0.057	0.051	0.063	0.058	0.073	0.054	**0.060**
Return on Equity	-0.363	-0.260	-0.204	-0.530	-0.447	-1.653	-6.196	-2.275	**-2.148**
Altman's X2	-0.483	-0.510	-0.478	-0.523	-0.603	-0.649	-0.771	-0.738	**-0.646**
Altman's X4	0.105	0.154	0.113	0.073	0.081	0.027	0.011	0.017	**0.051**
Short-term debt ratio	0.341	0.364	0.079	0.092	0.076	0.108	0.095	0.104	**0.102**
Long-term debt ratio	0.444	0.440	0.771	0.788	0.859	0.863	0.932	0.956	**0.846**
Debt-to-Equity ratio	9.527	6.502	8.839	13.619	12.401	37.252	90.691	58.779	**41.503**
Interest coverage ratio	-1.321	-2.229	-2.834	-2.015	-1.813	-2.528	-3.250	-1.931	**-2.355**
Total assets turnover	0.064	0.057	0.057	0.051	0.063	0.058	0.073	0.054	**0.060**
Accounts receivable turnover ratio	1.399	1.257	1.456	1.308	1.496	1.378	1.614	1.275	**1.410**
Accounts payable turnover ratio	10.577	4.366	4.603	6.839	8.891	16.297	13.611	6.839	**9.797**
Average days payable	34.507	83.608	79.303	53.373	41.054	22.397	26.817	53.369	**44.652**
Approximated Tobin's q	0.680	0.727	0.659	0.664	0.756	0.738	0.799	0.920	**0.776**
Market-to-Book ratio	2.610	1.589	1.557	1.842	0.864	1.104	-2.403	-3.334	**-0.409**

Hercules, Inc. (BB)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	91.000	91.000	91.000	92.000	92.000	92.000	92.000	93.000	**93.000**
Altman's X1	0.143	0.160	0.131	0.121	0.142	0.136	0.109	0.113	**0.126**
Current ratio	1.880	2.012	1.794	1.738	1.868	1.803	1.618	1.641	**1.746**
Quick ratio	1.450	1.569	1.385	1.301	1.441	1.375	1.222	1.207	**1.322**
Gross profit margin	0.375	0.376	0.357	0.358	0.363	0.345	0.311	0.324	**0.341**
Net profit margin	0.068	0.041	0.019	0.055	0.008	-0.102	0.094	0.010	**0.016**
Return On Assets	0.012	0.007	0.003	0.010	0.001	-0.019	0.018	0.002	**0.003**
Altman's X3	0.013	0.011	0.004	0.009	0.003	-0.004	0.002	-0.001	**0.002**
Altman's X5	0.181	0.177	0.170	0.178	0.187	0.188	0.189	0.193	**0.186**
Return on Equity	0.031	0.017	0.007	0.019	0.003	-0.039	0.029	0.003	**0.005**
Altman's X2	0.575	0.581	0.558	0.588	0.577	0.555	0.562	0.585	**0.572**
Altman's X4	0.883	0.623	0.735	0.801	0.739	0.763	0.970	1.007	**0.852**
Short-term debt ratio	0.163	0.158	0.165	0.164	0.164	0.170	0.176	0.177	**0.147**
Long-term debt ratio	0.281	0.517	0.479	0.482	0.491	0.477	0.446	0.453	**0.465**
Debt-to-Equity ratio	1.132	1.605	1.361	1.248	1.353	1.311	1.031	0.993	**1.200**
Interest coverage ratio	1.789	0.906	0.180	0.833	0.267	-0.400	0.250	-0.086	**0.208**
Total assets turnover	0.181	0.177	0.170	0.178	0.187	0.188	0.189	0.193	**0.186**
Accounts receivable turnover ratio	1.234	1.198	1.188	1.173	1.236	1.206	1.366	1.452	**1.291**
Accounts payable turnover ratio	1.770	1.716	1.709	1.615	1.683	1.710	1.780	1.839	**1.740**
Average days payable	206.225	212.707	213.513	226.065	216.860	213.470	205.050	198.471	**210.130**
Approximated Tobin's q	0.529	0.778	0.822	0.879	0.833	0.835	0.942	0.973	**0.878**
Market-to-Book ratio	1.421	0.773	0.750	0.683	0.712	0.715	0.625	0.585	**0.690**

Imperial Oil, Ltd. (AAA)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	123.000	123.000	123.000	124.000	214.000	124.000	124.000	125.000	**125.000**
Altman's X1	0.025	-0.024	-0.062	-0.044	-0.054	-0.059	-0.054	-0.096	**-0.060**
Current ratio	1.104	0.912	0.775	0.841	0.815	0.822	0.837	0.739	**0.816**
Quick ratio	0.892	0.740	0.655	0.659	0.666	0.695	0.744	0.609	**0.682**
Gross profit margin	0.232	0.339	0.098	0.245	0.226	0.237	0.221	0.191	**0.217**
Net profit margin	0.114	0.081	0.056	0.100	0.083	0.093	0.090	0.066	**0.083**
Return On Assets	0.041	0.030	0.020	0.040	0.035	0.040	0.040	0.028	**0.035**
Altman's X3	0.049	0.045	0.032	0.056	0.054	0.060	0.057	0.042	**0.050**
Altman's X5	0.356	0.369	0.372	0.395	0.422	0.422	0.436	0.425	**0.413**
Return on Equity	0.044	0.030	0.019	0.031	0.028	0.032	0.031	0.020	**0.028**
Altman's X2	0.307	0.319	0.317	0.329	0.339	0.338	0.349	0.350	**0.338**
Altman's X4	2.623	2.929	3.243	3.664	3.620	3.336	3.561	3.850	**3.520**
Short-term debt ratio	0.244	0.278	0.274	0.279	0.293	0.334	0.332	0.369	**0.291**
Long-term debt ratio	0.106	0.068	0.069	0.068	0.048	0.027	0.026	0.003	**0.037**
Debt-to-Equity ratio	0.381	0.341	0.308	0.273	0.276	0.300	0.281	0.260	**0.286**
Interest coverage ratio	68.333	46.667	33.083	71.300	77.222	82.000	-36.318	294.000	**97.833**
Total assets turnover	0.356	0.369	0.372	0.395	0.422	0.422	0.436	0.425	**0.413**
Accounts receivable turnover ratio	3.058	3.557	3.550	3.608	3.654	3.726	3.763	3.443	**3.604**
Accounts payable turnover ratio	1.519	1.337	1.799	1.771	1.800	1.877	1.834	1.823	**1.788**
Average days payable	240.275	273.083	202.834	206.148	202.724	194.432	199.048	200.173	**205.402**
Approximated Tobin's q	0.997	1.103	1.246	1.384	1.338	1.291	1.356	1.533	**1.352**
Market-to-Book ratio	0.710	0.647	0.589	0.513	0.533	0.530	0.503	0.438	**0.519**

Ingles Markets. Inc. (BB-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	40.000	40.000	40.000	41.000	41.000	41.000	41.000	42.000	**42.000**
Altman's X1	0.074	0.126	0.124	0.108	0.110	0.110	0.120	0.115	**0.114**
Current ratio	1.424	1.776	1.725	1.661	1.728	1.680	1.686	1.646	**1.680**
Quick ratio	0.302	0.621	0.658	0.527	0.541	0.543	0.669	0.575	**0.580**
Gross profit margin	0.265	0.260	0.262	0.247	0.264	0.262	0.265	0.254	**0.259**
Net profit margin	0.007	0.007	0.014	0.003	0.014	0.032	0.005	0.009	**0.012**
Return On Assets	0.003	0.003	0.006	0.002	0.007	0.016	0.002	0.005	**0.006**
Altman's X3	0.006	0.005	0.010	0.003	0.011	0.013	0.017	0.008	**0.010**
Altman's X5	0.490	0.473	0.469	0.508	0.500	0.512	0.512	0.529	**0.507**
Return on Equity	0.016	0.016	0.029	0.008	0.027	0.064	0.009	0.017	**0.025**
Altman's X2	0.137	0.128	0.131	0.131	0.136	0.139	0.138	0.140	**0.137**
Altman's X4	0.305	0.291	0.295	0.310	0.354	0.357	0.391	0.392	**0.356**
Short-term debt ratio	0.174	0.163	0.170	0.164	0.152	0.161	0.175	0.178	**0.145**
Long-term debt ratio	0.551	0.579	0.563	0.566	0.565	0.554	0.537	0.534	**0.551**
Debt-to-Equity ratio	3.280	3.437	3.395	3.227	2.827	2.802	2.555	2.549	**2.846**
Interest coverage ratio	0.440	0.434	0.779	0.200	0.825	1.027	1.414	0.622	**0.822**
Total assets turnover	0.490	0.473	0.469	0.508	0.500	0.512	0.512	0.529	**0.507**
Accounts receivable turnover ratio	14.824	16.019	16.143	15.972	14.844	15.784	15.934	15.150	**15.579**
Accounts payable turnover ratio	2.854	2.877	2.644	2.857	2.844	3.002	3.456	4.507	**3.346**
Average days payable	127.869	126.875	138.053	127.747	128.341	121.581	105.621	80.988	**112.922**
Approximated Tobin's q	0.698	0.668	0.655	0.684	0.708	0.699	0.696	0.699	**0.693**
Market-to-Book ratio	1.246	1.199	1.236	1.195	1.118	1.118	1.033	1.030	**1.108**

Kellogg Co. (BBB+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	97.000	97.000	97.000	98.000	98.000	98.000	98.000	99.000	**99.000**
Altman's X1	-0.093	-0.073	-0.095	-0.083	-0.060	-0.043	-0.067	-0.059	**-0.065**
Current ratio	0.665	0.729	0.650	0.698	0.765	0.833	0.746	0.773	**0.753**
Quick ratio	0.456	0.521	0.415	0.477	0.531	0.595	0.506	0.538	**0.520**
Gross profit margin	0.452	0.453	0.444	0.433	0.452	0.461	0.449	0.442	**0.448**
Net profit margin	0.091	0.101	0.088	0.092	0.099	0.101	0.078	0.099	**0.094**
Return On Assets	0.020	0.022	0.018	0.021	0.023	0.024	0.018	0.024	**0.022**
Altman's X3	0.031	0.034	0.024	0.033	0.035	0.036	0.027	0.036	**0.032**
Altman's X5	0.219	0.220	0.209	0.232	0.232	0.234	0.222	0.245	**0.230**
Return on Equity	0.016	0.016	0.014	0.014	0.015	0.014	0.011	0.014	**0.014**
Altman's X2	0.198	0.208	0.220	0.229	0.240	0.250	0.250	0.271	**0.245**
Altman's X4	1.770	1.923	1.977	2.190	2.343	2.454	2.626	2.752	**2.421**
Short-term debt ratio	0.276	0.271	0.270	0.274	0.257	0.257	0.264	0.261	**0.235**
Long-term debt ratio	0.440	0.435	0.417	0.414	0.414	0.408	0.361	0.371	**0.395**
Debt-to-Equity ratio	0.565	0.520	0.506	0.457	0.427	0.407	0.381	0.363	**0.419**
Interest coverage ratio	3.559	4.039	2.366	4.357	4.695	4.949	3.723	4.934	**4.302**
Total assets turnover	0.219	0.220	0.209	0.232	0.232	0.234	0.222	0.245	**0.230**
Accounts receivable turnover ratio	2.740	2.730	2.673	2.936	2.693	2.688	2.818	2.981	**2.809**
Accounts payable turnover ratio	2.063	2.023	1.888	1.881	1.805	1.752	1.734	1.861	**1.829**
Average days payable	176.932	180.444	193.352	194.037	202.244	208.342	210.493	196.094	**199.930**
Approximated Tobin's q	1.800	1.866	1.870	2.003	2.048	2.082	2.068	2.171	**2.048**
Market-to-Book ratio	0.224	0.217	0.230	0.207	0.209	0.205	0.229	0.211	**0.215**

Kinder Morgan, Inc. (BBB)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	67.000	67.000	67.000	68.000	68.000	68.000	68.000	69.000	**69.000**
Altman's X1	-0.019	-0.017	-0.020	-0.060	-0.074	-0.065	-0.037	-0.023	**-0.043**
Current ratio	0.623	0.625	0.580	0.331	0.275	0.272	0.559	0.612	**0.465**
Quick ratio	0.569	0.583	0.534	0.310	0.218	0.215	0.510	0.493	**0.402**
Gross profit margin	0.683	0.706	0.683	0.621	0.780	0.776	0.668	0.666	**0.700**
Net profit margin	0.374	0.387	0.288	0.360	0.441	0.448	0.548	0.425	**0.433**
Return On Assets	0.009	0.010	0.008	0.013	0.010	0.011	0.018	0.014	**0.013**
Altman's X3	0.015	0.016	0.013	0.021	0.017	0.018	0.019	0.024	**0.019**
Altman's X5	0.025	0.025	0.028	0.035	0.024	0.025	0.032	0.034	**0.030**
Return on Equity	0.017	0.014	0.012	0.018	0.013	0.015	0.023	0.017	**0.017**
Altman's X2	0.066	0.071	0.073	0.078	0.083	0.087	0.096	0.105	**0.089**
Altman's X4	1.566	1.847	1.863	1.986	2.243	2.106	2.273	2.529	**2.188**
Short-term debt ratio	0.050	0.044	0.047	0.089	0.103	0.090	0.083	0.058	**0.064**
Long-term debt ratio	0.304	0.325	0.320	0.273	0.251	0.263	0.260	0.289	**0.277**
Debt-to-Equity ratio	0.639	0.541	0.537	0.504	0.446	0.475	0.440	0.395	**0.463**
Interest coverage ratio	4.919	3.900	3.420	5.483	4.546	4.663	4.792	5.820	**4.881**
Total assets turnover	0.025	0.025	0.028	0.035	0.024	0.025	0.032	0.034	**0.030**
Accounts receivable turnover ratio	3.327	4.111	4.066	4.348	3.075	3.555	4.086	3.584	**3.753**
Accounts payable turnover ratio	1.874	1.724	1.669	2.412	3.081	1.603	2.117	2.640	**2.248**
Average days payable	194.769	211.669	218.654	151.307	118.486	227.698	172.400	138.244	**170.852**
Approximated Tobin's q	0.878	1.025	1.024	1.052	1.118	1.072	1.076	1.190	**1.091**
Market-to-Book ratio	1.164	0.923	0.925	0.887	0.816	0.870	0.843	0.743	**0.847**

Mohawk Industries, Inc. (BBB+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	123.000	123.000	123.000	124.000	124.000	124.000	124.000	125.000	**125.000**
Altman's X1	0.190	0.218	0.155	-0.055	0.175	0.192	0.220	0.218	**0.172**
Current ratio	1.930	2.184	1.729	0.878	1.771	1.869	2.190	2.037	**1.853**
Quick ratio	0.894	1.023	0.790	0.412	0.835	0.855	0.940	0.863	**0.826**
Gross profit margin	0.273	0.280	0.277	0.291	0.264	0.279	0.302	0.258	**0.278**
Net profit margin	0.060	0.070	0.075	0.048	0.059	0.174	-0.035	0.047	**0.058**
Return On Assets	0.020	0.024	0.025	0.016	0.020	0.060	-0.011	0.015	**0.020**
Altman's X3	0.050	0.037	0.022	0.024	0.031	0.040	0.036	0.024	**0.031**
Altman's X5	0.328	0.336	0.329	0.323	0.340	0.343	0.334	0.322	**0.332**
Return on Equity	0.021	0.024	0.021	0.014	0.016	0.055	-0.009	0.012	**0.017**
Altman's X2	0.355	0.371	0.370	0.374	0.388	0.405	0.434	0.427	**0.404**
Altman's X4	2.303	2.527	2.907	1.743	3.210	2.797	3.475	3.513	**3.008**
Short-term debt ratio	0.204	0.184	0.213	0.448	0.227	0.221	0.185	0.210	**0.199**
Long-term debt ratio	0.199	0.203	0.191	0.185	0.169	0.164	0.166	0.157	**0.171**
Debt-to-Equity ratio	0.434	0.396	0.344	0.574	0.312	0.358	0.288	0.285	**0.349**
Interest coverage ratio	13.352	10.162	6.386	7.429	10.329	12.694	13.047	9.241	**10.434**
Total assets turnover	0.328	0.336	0.329	0.323	0.340	0.343	0.334	0.322	**0.332**
Accounts receivable turnover ratio	2.225	2.203	2.329	2.248	2.182	2.161	2.134	2.133	**2.180**
Accounts payable turnover ratio	1.406	1.426	1.496	1.629	1.572	1.576	1.489	1.792	**1.593**
Average days payable	259.640	255.932	243.990	224.054	232.197	231.530	245.069	203.709	**230.417**
Approximated Tobin's q	0.938	0.962	1.210	1.343	1.265	1.048	1.165	1.230	**1.180**
Market-to-Book ratio	0.643	0.627	0.508	0.332	0.475	0.571	0.532	0.490	**0.506**

Navistar International Corp. (BB-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	171.000	171.000	171.000	172.000	172.000	172.000	172.000	173.000	**173.000**
Altman's X1	0.027	-2.904	0.001	0.005	0.003	0.015	-0.011	-0.141	**-0.190**
Current ratio	1.079	0.102	1.003	1.015	1.009	1.046	0.974	0.717	**0.895**
Quick ratio	0.838	0.077	0.779	0.752	0.749	0.696	0.731	0.486	**0.646**
Gross profit margin	0.148	0.166	0.181	0.138	0.152	0.159	0.182	0.149	**0.160**
Net profit margin	-0.008	0.010	0.038	-0.012	0.018	0.024	0.055	0.007	**0.021**
Return On Assets	-0.002	0.003	0.011	-0.003	0.006	0.008	0.024	0.002	**0.008**
Altman's X3	-0.003	0.003	0.016	-0.006	0.009	0.012	0.026	0.004	**0.010**
Altman's X5	0.275	0.287	0.290	0.277	0.339	0.343	0.418	0.341	**0.340**
Return on Equity	-0.008	0.008	0.029	-0.007	0.013	0.022	0.065	0.006	**0.021**
Altman's X2	-0.134	-0.135	-0.119	-0.128	-0.121	-0.112	-0.104	-0.078	**-0.108**
Altman's X4	0.646	0.102	0.973	1.209	1.099	0.928	0.730	0.822	**0.871**
Short-term debt ratio	0.339	3.235	0.319	0.326	0.346	0.327	0.428	0.499	**0.521**
Long-term debt ratio	0.080	0.078	0.080	0.078	0.073	0.075	0.051	0.000	**0.055**
Debt-to-Equity ratio	1.548	9.803	1.028	0.827	0.910	1.078	1.370	1.216	**1.608**
Interest coverage ratio	-0.545	0.576	3.406	-1.194	2.167	2.931	5.351	0.818	**2.180**
Total assets turnover	0.275	0.287	0.290	0.277	0.339	0.343	0.418	0.341	**0.340**
Accounts receivable turnover ratio	2.001	2.078	2.376	1.981	2.391	2.791	3.232	2.531	**2.577**
Accounts payable turnover ratio	1.585	1.634	1.624	1.637	1.891	1.875	2.002	1.639	**1.781**
Average days payable	230.346	223.446	224.817	223.031	192.970	194.638	182.289	222.695	**206.502**
Approximated Tobin's q	0.323	3.321	0.469	0.562	0.531	0.434	0.411	0.551	**0.643**
Market-to-Book ratio	2.149	-6.844	1.543	1.218	1.259	1.600	1.492	1.222	**0.947**

Nicor, Inc. (AA)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	49.000	49.000	49.000	50.000	50.000	50.000	50.000	51.000	**51.000**
Altman's X1	-0.125	-0.091	-0.040	-0.041	-0.039	-0.048	-0.038	-0.029	**-0.044**
Current ratio	0.601	0.756	0.857	0.828	0.826	0.827	0.872	0.887	**0.841**
Quick ratio	0.559	0.454	0.636	0.793	0.771	0.494	0.683	0.854	**0.694**
Gross profit margin	0.330	0.395	0.172	0.189	0.315	0.314	0.211	0.184	**0.244**
Net profit margin	0.053	0.002	0.047	0.018	0.045	-0.039	0.053	0.037	**0.026**
Return On Assets	0.008	0.000	0.010	0.005	0.005	-0.003	0.012	0.011	**0.007**
Altman's X3	0.014	0.000	0.015	0.007	0.008	-0.005	0.018	0.016	**0.010**
Altman's X5	0.169	0.096	0.196	0.309	0.121	0.079	0.225	0.308	**0.203**
Return on Equity	0.019	0.000	0.022	0.013	0.013	-0.008	0.029	0.027	**0.016**
Altman's X2	0.243	0.206	0.170	0.179	0.181	0.162	0.161	0.173	**0.174**
Altman's X4	1.026	1.051	1.011	1.091	1.202	0.963	0.991	1.079	**1.052**
Short-term debt ratio	0.314	0.374	0.281	0.240	0.224	0.275	0.295	0.258	**0.244**
Long-term debt ratio	0.148	0.129	0.130	0.137	0.139	0.130	0.125	0.129	**0.131**
Debt-to-Equity ratio	0.974	0.952	0.989	0.917	0.832	1.038	1.010	0.927	**0.955**
Interest coverage ratio	4.022	0.068	6.010	2.186	3.301	-1.722	6.648	4.975	**3.429**
Total assets turnover	0.169	0.096	0.196	0.309	0.121	0.079	0.225	0.308	**0.203**
Accounts receivable turnover ratio	0.868	0.994	2.048	2.292	1.105	1.196	2.227	1.960	**1.726**
Accounts payable turnover ratio	0.623	1.181	2.321	4.055	0.845	1.151	1.206	1.778	**1.666**
Average days payable	585.781	309.121	157.268	90.023	431.818	317.219	302.696	205.304	**273.878**
Approximated Tobin's q	0.747	0.750	0.587	0.590	0.614	0.569	0.578	0.576	**0.597**
Market-to-Book ratio	1.136	0.938	1.413	1.515	1.461	1.520	1.398	1.466	**1.423**

OMNOVA Solutions, Inc. (B)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	4.000	4.000	4.000	5.000	5.000	5.000	5.000	6.000	**6.000**
Altman's X1	0.127	0.148	0.113	0.138	0.121	0.106	0.092	0.137	**0.119**
Current ratio	1.565	1.700	1.431	1.561	1.419	1.349	1.295	1.498	**1.437**
Quick ratio	1.089	1.204	1.039	1.101	0.993	0.947	0.929	1.081	**1.023**
Gross profit margin	0.246	0.238	0.241	0.248	0.252	0.212	0.196	0.198	**0.220**
Net profit margin	-0.028	-0.060	-0.349	-0.036	-0.002	-0.021	-0.073	-0.058	**-0.068**
Return On Assets	-0.010	-0.020	-0.127	-0.013	-0.001	-0.009	-0.032	-0.025	**-0.027**
Altman's X3	-0.009	0.020	-0.188	-0.013	-0.001	0.009	-0.052	-0.025	**-0.031**
Altman's X5	0.331	0.338	0.401	0.363	0.420	0.456	0.449	0.439	**0.421**
Return on Equity	-0.039	-0.065	-0.409	-0.029	-0.001	-0.017	-0.056	-0.047	**-0.066**
Altman's X2	-0.300	-0.326	-0.528	-0.540	-0.526	-0.544	-0.592	-0.624	**-0.548**
Altman's X4	0.400	0.503	0.488	0.639	0.662	0.788	0.795	0.715	**0.687**
Short-term debt ratio	0.224	0.211	0.262	0.246	0.288	0.304	0.313	0.275	**0.252**
Long-term debt ratio	0.371	0.404	0.438	0.461	0.429	0.417	0.420	0.476	**0.437**
Debt-to-Equity ratio	2.502	1.988	2.048	1.564	1.511	1.270	1.258	1.399	**1.501**
Interest coverage ratio	-1.724	1.962	-16.216	-1.115	-0.078	0.808	-4.365	-2.019	**-2.588**
Total assets turnover	0.331	0.338	0.401	0.363	0.420	0.456	0.449	0.439	**0.421**
Accounts receivable turnover ratio	2.331	1.739	1.766	1.654	1.864	1.883	1.828	1.771	**1.814**
Accounts payable turnover ratio	1.530	1.527	1.638	1.735	1.821	1.689	1.559	1.675	**1.666**
Average days payable	238.633	239.067	222.892	210.364	200.489	216.049	234.178	217.956	**219.681**
Approximated Tobin's q	0.482	0.566	0.667	0.775	0.783	0.879	0.910	0.876	**0.813**
Market-to-Book ratio	1.699	1.244	0.878	0.648	0.597	0.492	0.458	0.463	**0.618**

Penn National Gaming. (BB-)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	21.000	21.000	21.000	22.000	22.000	22.000	22.000	23.000	**23.000**
Altman's X1	-0.008	-0.005	-0.060	-0.061	0.039	0.014	-0.002	-0.008	**-0.007**
Current ratio	0.931	0.951	0.661	0.673	1.487	1.168	0.978	0.964	**1.014**
Quick ratio	0.931	0.951	0.661	0.673	1.487	1.168	0.978	0.964	**1.014**
Gross profit margin	0.506	0.514	0.511	0.510	0.517	0.513	0.529	0.518	**0.517**
Net profit margin	0.045	0.040	0.029	0.050	0.062	0.056	0.073	0.052	**0.055**
Return On Assets	0.008	0.008	0.006	0.011	0.012	0.010	0.010	0.009	**0.010**
Altman's X3	0.015	0.013	0.009	0.017	0.024	0.023	0.020	0.013	**0.018**
Altman's X5	0.210	0.206	0.198	0.218	0.191	0.188	0.140	0.157	**0.178**
Return on Equity	0.038	0.032	0.020	0.031	0.029	0.021	0.007	0.006	**0.018**
Altman's X2	0.076	0.085	0.001	0.102	0.111	0.124	0.134	0.121	**0.107**
Altman's X4	0.306	0.328	0.362	0.456	0.614	0.788	2.428	2.333	**1.315**
Short-term debt ratio	0.118	0.109	0.178	0.185	0.080	0.085	0.108	0.209	**0.113**
Long-term debt ratio	0.691	0.676	0.612	0.594	0.578	0.556	0.520	0.326	**0.520**
Debt-to-Equity ratio	3.263	3.048	2.762	2.194	1.629	1.269	0.412	0.429	**1.347**
Interest coverage ratio	0.890	0.794	0.580	1.104	2.043	1.949	2.790	1.552	**1.736**
Total assets turnover	0.210	0.206	0.198	0.218	0.191	0.188	0.140	0.157	**0.178**
Accounts receivable turnover ratio	13.748	12.507	11.627	12.038	10.123	9.127	6.107	7.972	**9.269**
Accounts payable turnover ratio	3.921	5.126	5.314	6.992	8.131	11.657	9.553	10.098	**8.787**
Average days payable	93.100	71.203	68.689	52.200	44.891	31.312	38.208	36.146	**44.981**
Approximated Tobin's q	0.948	0.939	0.958	1.009	0.943	1.047	2.048	1.583	**1.326**
Market-to-Book ratio	0.769	0.836	0.734	0.622	0.848	0.711	0.244	0.372	**0.565**

PetroQuest Energy, Inc. (CCC+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	20.000	20.000	20.000	21.000	21.000	21.000	21.000	22.000	**22.000**
Altman's X1	-0.081	-0.059	-0.087	-0.059	-0.055	-0.128	-0.105	-0.103	**-0.092**
Current ratio	0.435	0.542	0.416	0.511	0.591	0.344	0.390	0.482	**0.456**
Quick ratio	0.435	0.542	0.416	0.511	0.591	0.344	0.390	0.482	**0.456**
Gross profit margin	0.711	0.744	0.838	0.826	0.870	0.806	0.806	0.804	**0.813**
Net profit margin	-0.187	0.023	0.156	0.174	0.197	0.175	0.221	0.193	**0.171**
Return On Assets	-0.012	0.002	0.013	0.018	0.023	0.020	0.023	0.017	**0.018**
Altman's X3	-0.019	0.002	0.020	0.027	0.034	0.030	0.032	0.025	**0.026**
Altman's X5	0.065	0.069	0.077	0.102	0.112	0.113	0.098	0.085	**0.096**
Return on Equity	-0.016	0.002	0.015	0.020	0.022	0.017	0.022	0.013	**0.016**
Altman's X2	-0.040	-0.038	-0.019	-0.001	0.022	0.040	0.056	0.067	**0.031**
Altman's X4	3.309	4.565	2.873	3.347	3.505	3.865	2.913	3.059	**3.334**
Short-term debt ratio	0.143	0.129	0.148	0.121	0.135	0.195	0.173	0.199	**0.146**
Long-term debt ratio	0.082	0.014	0.126	0.146	0.149	0.105	0.166	0.199	**0.144**
Debt-to-Equity ratio	0.302	0.219	0.348	0.299	0.285	0.259	0.343	0.327	**0.305**
Interest coverage ratio	-11.357	11.733	11.628	7.166	9.777	9.744	8.735	6.695	**8.270**
Total assets turnover	0.065	0.069	0.077	0.102	0.112	0.113	0.098	0.085	**0.096**
Accounts receivable turnover ratio	1.222	1.405	1.558	2.065	1.249	1.210	1.845	1.271	**1.488**
Accounts payable turnover ratio	0.221	0.242	0.163	0.175	0.139	0.172	0.164	0.173	**0.171**
Average days payable	1651.108	1510.614	2244.221	2090.910	2619.570	2116.035	2221.383	2112.901	**2167.100**
Approximated Tobin's q	0.908	0.728	1.001	1.097	1.200	1.395	1.259	1.517	**1.252**
Market-to-Book ratio	1.039	1.308	0.921	0.822	0.719	0.602	0.669	0.496	**0.710**

Pitney Bowes, Inc. (A+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	83.000	83.000	83.000	84.000	84.000	84.000	84.000	85.000	**85.000**
Altman's X1	0.017	0.003	-0.015	-0.039	-0.053	-0.043	-0.061	-0.557	**-0.155**
Current ratio	1.061	1.009	0.949	0.877	0.842	0.864	0.817	0.332	**0.756**
Quick ratio	0.966	0.916	0.870	0.804	0.773	0.793	0.755	0.304	**0.694**
Gross profit margin	0.251	0.256	0.254	0.237	0.244	0.247	0.244	0.235	**0.243**
Net profit margin	0.105	0.104	0.121	0.108	0.112	0.112	0.061	0.114	**0.102**
Return On Assets	0.013	0.014	0.017	0.014	0.015	0.015	0.009	0.015	**0.014**
Altman's X3	0.019	0.020	0.024	0.020	0.022	0.021	0.012	0.023	**0.020**
Altman's X5	0.128	0.131	0.137	0.128	0.133	0.128	0.139	0.134	**0.133**
Return on Equity	0.013	0.013	0.016	0.013	0.013	0.013	0.008	0.014	**0.013**
Altman's X2	0.443	0.460	0.456	0.447	0.458	0.442	0.432	0.440	**0.445**
Altman's X4	1.489	1.539	1.619	1.630	1.727	1.625	1.657	0.885	**1.473**
Short-term debt ratio	0.276	0.285	0.298	0.320	0.334	0.317	0.335	0.834	**0.405**
Long-term debt ratio	0.405	0.387	0.359	0.338	0.318	0.338	0.321	0.360	**0.343**
Debt-to-Equity ratio	0.672	0.650	0.618	0.613	0.579	0.615	0.604	1.129	**0.726**
Interest coverage ratio	4.305	4.180	4.875	4.589	4.752	4.773	2.384	4.865	**4.268**
Total assets turnover	0.128	0.131	0.137	0.128	0.133	0.128	0.139	0.134	**0.133**
Accounts receivable turnover ratio	2.682	2.716	2.764	2.499	2.514	2.496	2.562	2.264	**2.500**
Accounts payable turnover ratio	0.655	0.634	0.650	0.656	0.679	0.701	1.328	1.251	**0.928**
Average days payable	557.564	575.261	561.257	556.322	537.546	520.615	274.808	291.744	**435.727**
Approximated Tobin's q	1.401	1.419	1.436	1.450	1.497	1.447	1.470	1.974	**1.572**
Market-to-Book ratio	0.316	0.317	0.324	0.319	0.309	0.323	0.316	-0.183	**0.206**

Rockwell Collins, Inc. (A)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	2.000	2.000	2.000	3.000	3.000	3.000	3.000	4.000	**4.000**
Altman's X1	0.173	0.219	0.203	0.202	0.209	0.220	0.243	0.282	**0.232**
Current ratio	1.441	1.594	1.584	1.617	1.621	1.655	1.725	1.926	**1.705**
Quick ratio	0.747	0.867	0.898	0.856	0.903	0.927	1.051	1.195	**0.989**
Gross profit margin	0.265	0.274	0.265	0.275	0.268	0.265	0.266	0.286	**0.272**
Net profit margin	0.095	0.124	0.098	0.108	0.099	0.102	0.103	0.118	**0.107**
Return On Assets	0.023	0.031	0.029	0.026	0.026	0.027	0.030	0.031	**0.029**
Altman's X3	0.034	0.044	0.040	0.036	0.257	0.038	-0.172	0.045	**0.029**
Altman's X5	0.247	0.246	0.287	0.232	0.257	0.264	0.292	0.267	**0.266**
Return on Equity	0.014	0.023	0.016	0.015	0.014	0.013	0.014	0.013	**0.015**
Altman's X2	0.064	0.086	0.105	0.119	0.134	0.146	0.171	0.194	**0.148**
Altman's X4	4.136	3.485	4.776	4.211	4.551	4.947	5.094	6.326	**5.028**
Short-term debt ratio	0.391	0.369	0.348	0.327	0.336	0.336	0.335	0.304	**0.305**
Long-term debt ratio	0.013	0.013	0.013	0.073	0.073	0.070	0.070	0.070	**0.061**
Debt-to-Equity ratio	0.242	0.287	0.209	0.237	0.220	0.202	0.196	0.158	**0.204**
Interest coverage ratio	84.000	110.000	104.000	48.500	359.500	54.000	-247.000	43.000	**42.958**
Total assets turnover	0.247	0.246	0.287	0.232	0.257	0.264	0.292	0.267	**0.266**
Accounts receivable turnover ratio	1.289	1.304	1.465	1.253	1.387	1.283	1.380	1.225	**1.317**
Accounts payable turnover ratio	2.689	2.770	2.805	2.720	2.849	2.960	2.714	2.471	**2.730**
Average days payable	135.757	131.760	130.143	134.191	128.131	123.293	134.507	147.722	**134.172**
Approximated Tobin's q	1.511	1.125	1.531	1.556	1.727	1.856	1.892	2.158	**1.801**
Market-to-Book ratio	0.357	0.465	0.371	0.356	0.317	0.296	0.288	0.264	**0.314**

Star Gas Partners L.P. (CCC+)

Name	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)	(Weighted) Value
Company age	46.000	46.000	46.000	47.000	47.000	47.000	47.000	48.000	**48.000**
Altman's X1	-0.071	-0.071	-0.049	-0.028	0.059	0.009	-0.029	0.118	**0.017**
Current ratio	0.768	0.768	0.816	0.913	1.228	1.037	0.892	1.321	**1.044**
Quick ratio	0.632	0.632	0.652	0.728	1.030	0.843	0.711	1.085	**0.851**
Gross profit margin	0.356	-0.285	0.272	0.462	0.435	0.498	-0.780	0.364	**0.141**
Net profit margin	0.040	-0.159	0.061	0.045	0.129	-0.186	-0.382	0.212	**-0.038**
Return On Assets	0.012	-0.032	0.053	0.019	0.075	-0.041	-0.066	0.084	**0.014**
Altman's X3	0.012	-0.032	0.057	0.018	0.074	-0.044	-0.066	-0.092	**-0.025**
Altman's X5	0.303	0.200	0.843	0.406	0.576	0.237	0.172	0.433	**0.384**
Return on Equity	0.027	-0.054	0.080	0.031	0.106	-0.063	-0.156	0.514	**0.096**
Altman's X2	-0.011	-0.011	-0.018	-0.008	-0.013	-0.012	0.013	-0.015	**-0.008**
Altman's X4	0.590	0.773	0.800	0.723	0.950	0.922	0.513	0.245	**0.646**
Short-term debt ratio	0.306	0.306	0.265	0.319	0.260	0.234	0.273	0.368	**0.264**
Long-term debt ratio	0.447	0.447	0.540	0.495	0.475	0.531	0.550	0.361	**0.479**
Debt-to-Equity ratio	1.694	1.294	1.249	1.384	1.053	1.085	1.949	4.079	**1.989**
Interest coverage ratio	1.148	-3.070	4.324	1.681	0.864	-3.385	0.879	-6.834	**-1.383**
Total assets turnover	0.303	0.200	0.843	0.406	0.576	0.237	0.172	0.433	**0.384**
Accounts receivable turnover ratio	3.038	2.261	8.702	2.941	3.064	1.312	1.415	2.749	**2.792**
Accounts payable turnover ratio	6.502	4.126	24.199	5.986	8.038	3.555	9.721	8.778	**8.641**
Average days payable	56.138	88.456	15.083	60.977	45.410	102.676	37.548	41.582	**54.467**
Approximated Tobin's q	0.964	1.101	1.234	1.111	1.114	1.227	1.002	0.422	**0.962**
Market-to-Book ratio	0.553	0.422	0.302	0.316	0.380	0.334	0.418	1.514	**0.625**

II.II. Default companies

Amcast International Corp.

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	136	137	137	137	137	138	138	138	**138**
Altman's X1	0.023	-0.432	-0.494	-0.680	0.066	0.069	0.073	0.120	**-0.079**
Current ratio	1.077	0.452	0.505	0.324	1.276	1.258	1.297	1.534	**1.113**
Quick ratio	0.696	0.293	0.442	0.245	0.929	0.941	0.940	1.144	**0.823**
Gross profit margin	0.074	0.063	0.111	0.122	0.284	0.117	0.116	0.127	**0.138**
Net profit margin	-0.058	-0.345	-0.564	-0.016	0.031	0.009	-0.013	0.017	**-0.063**
Return On Assets	-0.020	-0.128	-0.157	-0.007	0.008	0.005	-0.006	0.008	**-0.019**
Altman's X3	-0.019	-0.020	-0.006	0.005	0.034	0.005	-0.006	0.008	**0.004**
Altman's X5	0.348	0.401	0.306	0.480	0.248	0.488	0.431	0.504	**0.423**
Return on Equity	-0.212	-1.595	-3.544	-0.153	0.213	0.072	-0.052	0.043	**-0.366**
Altman's X2	0.057	-0.074	-0.264	-0.375	-0.372	-0.366	-0.392	-0.380	**-0.340**
Altman's X4	0.136	0.109	0.049	0.051	0.036	0.063	0.110	0.195	**0.100**
Short-term debt ratio	0.303	0.788	0.997	1.006	0.238	0.266	0.245	0.225	**0.422**
Long-term debt ratio	0.397	0.004	0.000	0.000	0.761	0.729	0.761	0.775	**0.559**
Debt-to-Equity ratio	7.327	9.134	20.457	19.754	27.479	15.869	9.108	5.121	**13.981**
Interest coverage ratio	-1.615	-1.845	-0.537	0.267	2.683	0.287	-0.355	0.496	**0.299**
Total assets turnover	0.348	0.401	0.306	0.480	0.248	0.488	0.431	0.504	**0.423**
Accounts receivable turnover ratio	2.116	2.271	1.824	2.718	1.433	2.747	2.314	2.677	**2.341**
Accounts payable turnover ratio	2.033	1.898	1.059	2.877	1.339	3.088	1.762	3.585	**2.409**
Average days payable	179.569	192.339	344.737	126.883	272.692	118.204	207.197	101.825	**178.991**
Approximated Tobin's q	0.469	0.523	0.542	0.731	0.731	0.723	0.799	0.850	**0.735**
Book-to-Market ratio	3.143	2.403	0.071	-0.111	0.030	0.083	-0.057	-0.002	**0.221**

Briazz

Name	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	(Weighted) Value
Company age	7	7	7	7	8	8	8	8	**8**
Altman's X1	0.123	0.005	-0.125	-0.459	-0.665	-1.096	-0.569	-0.583	**-0.573**
Current ratio	1.736	1.023	0.629	0.303	0.224	0.136	0.315	0.253	**0.362**
Quick ratio	1.575	0.876	0.505	0.245	0.174	0.107	0.265	0.199	**0.300**
Gross profit margin	0.121	0.145	0.109	0.040	0.068	0.054	0.068	0.171	**0.095**
Net profit margin	-0.294	0.312	-0.613	-1.473	-0.374	-0.547	-0.300	-0.209	**-0.453**
Return On Assets	-0.106	0.134	-0.290	-0.845	-0.246	-0.401	-0.255	-0.206	**-0.310**
Altman's X3	-0.113	-0.139	-0.326	-0.528	-0.254	-0.447	-0.272	-0.209	**-0.306**
Altman's X5	0.383	0.445	0.531	0.679	0.679	0.817	0.907	1.001	**0.784**
Return on Equity	-0.374	0.259	-0.751	-2.055	-1.516	-5.072	-1.812	-1.520	**-2.033**
Altman's X2	-2.950	-3.283	-4.412	-6.556	-7.267	-9.367	-11.118	-11.717	**-8.696**
Altman's X4	1.638	2.130	1.120	0.716	0.191	0.068	0.106	0.086	**0.414**
Short-term debt ratio	0.167	0.212	0.336	0.658	0.857	1.269	0.831	0.781	**0.783**
Long-term debt ratio	0.017	0.039	0.051	0.022	0.019	0.024	0.591	0.819	**0.313**
Debt-to-Equity ratio	0.611	0.469	0.893	1.396	5.226	14.663	9.469	11.620	**7.866**
Interest coverage ratio	-218.500	-19.898	-41.409	-14.688	-16.406	-12.359	-3.932	-3.755	**-18.195**
Total assets turnover	0.383	0.445	0.531	0.679	0.679	0.817	0.907	1.001	**0.784**
Accounts receivable turnover ratio	13.188	11.593	11.842	14.573	20.095	26.607	23.414	27.132	**21.424**
Accounts payable turnover ratio	4.845	4.926	4.384	3.040	2.116	1.750	1.943	2.737	**2.683**
Average days payable	75.336	74.093	83.262	120.071	172.497	208.618	187.823	133.342	**151.369**
Approximated Tobin's q	0.196	0.571	0.609	0.967	0.852	1.208	1.310	1.539	**1.112**
Market-to-Book ratio	2.708	1.395	1.414	0.658	0.740	-3.320	-2.811	-4.356	**-1.621**

Donnkenny, Inc.

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	24	25	25	25	25	26	26	26	**26**
Altman's X1	0.583	0.655	0.610	0.675	0.666	0.631	-0.139	-0.229	**0.298**
Current ratio	3.014	4.357	3.570	4.391	4.385	3.816	0.858	0.790	**2.699**
Quick ratio	1.745	2.356	1.584	2.301	2.367	1.891	0.368	0.399	**1.371**
Gross profit margin	0.244	0.301	0.218	0.220	0.208	0.235	0.088	0.075	**0.168**
Net profit margin	0.020	0.003	-0.087	-0.016	-0.007	-0.026	-0.261	-0.223	**-0.114**
Return On Assets	0.013	0.001	-0.044	-0.010	-0.005	-0.013	-0.088	-0.114	**-0.050**
Altman's X3	0.012	0.001	-0.043	-0.008	-0.007	-0.016	-0.094	-0.110	**-0.050**
Altman's X5	0.682	0.545	0.505	0.550	0.633	0.495	0.358	0.494	**0.502**
Return on Equity	0.248	0.012	-0.457	-0.091	-0.036	-0.067	-0.490	-1.084	**-0.393**
Altman's X2	-0.998	-1.246	-1.269	-1.062	-0.897	-0.964	-1.180	-1.206	**-1.103**
Altman's X4	0.067	0.168	0.115	0.114	0.143	0.216	0.193	0.092	**0.147**
Short-term debt ratio	0.289	0.195	0.237	0.199	0.197	0.224	0.978	1.091	**0.558**
Long-term debt ratio	0.546	0.598	0.603	0.677	0.704	0.684	0.011	0.009	**0.390**
Debt-to-Equity ratio	14.839	5.950	8.717	8.809	6.973	4.622	5.195	10.837	**7.605**
Interest coverage ratio	1.144	0.129	-5.139	-0.884	-0.673	-1.462	-8.438	-8.957	**-4.456**
Total assets turnover	0.682	0.545	0.505	0.550	0.633	0.495	0.358	0.494	**0.502**
Accounts receivable turnover ratio	1.375	1.070	1.339	3.626	27.285	28.308	64.825	120.325	**48.464**
Accounts payable turnover ratio	1.582	1.446	2.990	2.979	3.914	2.289	2.290	2.246	**2.574**
Average days payable	230.660	252.401	122.091	122.541	93.257	159.462	159.362	162.493	**150.845**
Approximated Tobin's q	0.020	0.076	0.090	0.102	0.168	0.250	0.341	0.340	**0.230**
Book-to-Market ratio	2.922	1.555	1.657	1.241	0.767	0.468	0.055	-0.989	**0.419**

DT Industries, Inc.

Name	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	(Weighted) Value
Company age	10	10	11	11	11	11	12	12	**12**
Altman's X1	0.012	0.168	0.157	0.006	0.169	-0.023	-0.048	-0.068	**0.019**
Current ratio	1.025	1.595	1.599	1.015	1.703	0.954	0.908	0.884	**1.132**
Quick ratio	0.830	1.287	1.191	0.761	1.200	0.672	0.656	0.796	**0.862**
Gross profit margin	0.174	0.209	0.200	0.147	0.170	0.169	0.149	0.097	**0.152**
Net profit margin	-0.212	-0.025	-0.012	-0.087	-0.082	-1.241	-0.166	-0.414	**-0.360**
Return On Assets	-0.036	-0.006	-0.003	-0.018	-0.016	-0.272	-0.037	-0.083	**-0.077**
Altman's X3	-0.050	-0.006	-0.004	-0.027	-0.024	-0.272	-0.038	-0.038	**-0.069**
Altman's X5	0.181	0.251	0.237	0.212	0.197	0.257	0.228	0.205	**0.222**
Return on Equity	-0.229	-0.021	-0.011	-0.083	-0.071	-1.350	-0.189	-0.547	**-0.411**
Altman's X2	-0.060	-0.084	-0.091	-0.109	-0.130	-0.494	-0.541	-0.653	**-0.377**
Altman's X4	0.334	0.697	0.671	0.524	0.563	0.475	0.383	0.264	**0.453**
Short-term debt ratio	0.471	0.282	0.263	0.420	0.241	0.491	0.517	0.588	**0.444**
Long-term debt ratio	0.030	0.147	0.136	0.000	0.167	0.007	0.007	0.000	**0.046**
Debt-to-Equity ratio	2.996	1.435	1.489	1.909	1.775	2.106	2.614	3.781	**2.445**
Interest coverage ratio	-5.541	-0.633	-0.808	-5.241	-3.585	-37.838	-4.649	-4.779	**-9.609**
Total assets turnover	0.181	0.251	0.237	0.212	0.197	0.257	0.228	0.205	**0.222**
Accounts receivable turnover ratio	0.860	1.394	1.461	1.465	1.337	1.599	1.569	1.403	**1.455**
Accounts payable turnover ratio	2.545	2.890	3.607	3.516	2.716	2.303	2.410	1.021	**2.379**
Average days payable	143.396	126.291	101.183	103.804	134.396	158.479	151.432	357.578	**184.951**
Approximated Tobin's q	0.186	0.278	0.246	0.214	0.228	0.266	0.255	0.224	**0.240**
Book-to-Market ratio	2.977	1.910	2.251	2.634	2.571	2.124	2.375	2.647	**2.430**

Eagle Picher Holdings, Inc.

Name	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	(Weighted) Value
Company age	160	160	160	160	161	161	161	161	**161**
Altman's X1	-0.175	-0.143	0.183	0.148	0.145	0.149	0.121	-0.142	**0.056**
Current ratio	0.640	0.691	1.981	1.598	1.644	1.679	1.524	0.711	**1.361**
Quick ratio	0.458	0.496	1.517	1.273	1.248	1.249	1.080	0.492	**1.009**
Gross profit margin	0.218	0.239	0.234	0.260	0.227	0.224	0.188	0.131	**0.202**
Net profit margin	0.007	0.043	-0.025	-0.010	-0.035	0.029	-0.041	-0.255	**-0.065**
Return On Assets	0.002	0.013	-0.007	-0.003	-0.009	0.008	-0.011	-0.072	**-0.018**
Altman's X3	0.003	0.020	-0.005	0.001	-0.008	0.003	-0.010	-0.093	**-0.022**
Altman's X5	0.278	0.294	0.264	0.257	0.259	0.292	0.277	0.292	**0.278**
Return on Equity	125.591	768.600	-422.600	-166.822	-580.000	506.729	-612.333	-3568.80	**-915.796**
Altman's X2	-0.291	-0.287	-0.291	-0.278	-0.295	-0.290	-0.298	-0.396	**-0.314**
Altman's X4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Short-term debt ratio	0.487	0.464	0.186	0.247	0.225	0.220	0.231	0.489	**0.304**
Long-term debt ratio	0.382	0.384	0.672	0.616	0.633	0.615	0.607	0.415	**0.557**
Debt-to-Equity ratio	57157.63	51612.00	53864.50	53482.43	55268.20	49824.29	45155.58	43345.76	**49279.078**
Interest coverage ratio	0.219	1.324	-0.318	0.053	-0.580	0.198	-0.691	-6.084	**-1.475**
Total assets turnover	0.278	0.294	0.264	0.257	0.259	0.292	0.277	0.292	**0.278**
Accounts receivable turnover ratio	7.085	7.455	6.687	6.563	12.858	11.499	5.508	5.564	**7.907**
Accounts payable turnover ratio	2.344	1.755	1.786	1.672	1.580	1.922	1.837	1.668	**1.765**
Average days payable	155.725	207.927	204.311	218.283	230.955	189.919	198.657	218.857	**208.150**
Approximated Tobin's q	0.557	0.527	0.489	0.468	0.488	0.466	0.486	0.557	**0.501**
Book-to-Market ratio	8613.118	9213.000	8911.200	8530.467	9187.700	9813.832	8696.083	4556.160	**8056.609**

Factory 2 U Stores, Inc.

Name	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	(Weighted) Value
Company age	15	15	15	16	16	16	16	17	**17**
Altman's X1	0.071	0.201	-0.038	0.033	0.017	0.086	0.304	0.207	**0.136**
Current ratio	1.136	1.487	0.927	1.060	1.031	1.163	1.718	1.372	**1.285**
Quick ratio	0.290	0.353	0.429	0.265	0.270	0.244	0.445	0.247	**0.312**
Gross profit margin	0.320	0.332	0.228	1.639	0.312	0.342	0.693	0.341	**0.539**
Net profit margin	-0.046	-0.026	-0.103	0.026	-0.044	-0.025	-0.212	-0.154	**-0.094**
Return On Assets	-0.036	-0.020	-0.105	-0.019	-0.035	-0.018	-0.608	-0.170	**-0.177**
Altman's X3	-0.056	-0.030	-0.209	-0.029	-0.055	-0.028	-0.172	-0.056	**-0.082**
Altman's X5	0.734	0.752	1.231	-0.684	0.786	0.696	4.979	1.082	**1.523**
Return on Equity	-0.036	-0.021	-0.514	-0.052	-0.075	-0.035	-1.341	-0.485	**-0.435**
Altman's X2	-0.331	-0.342	-0.610	-0.524	-0.542	-0.504	-2.306	-2.363	**-1.270**
Altman's X4	1.630	2.048	0.439	0.582	0.771	0.871	1.854	0.614	**1.009**
Short-term debt ratio	0.520	0.412	0.511	0.544	0.549	0.529	0.424	0.557	**0.511**
Long-term debt ratio	0.051	0.051	0.051	0.044	0.045	0.042	0.001	0.001	**0.027**
Debt-to-Equity ratio	0.614	0.488	2.279	1.717	1.297	1.149	0.539	1.629	**1.263**
Interest coverage ratio	-31.381	-10.264	-50.023	-6.927	-9.302	-5.227	-10.147	-11.043	**-12.970**
Total assets turnover	0.734	0.752	1.231	-0.684	0.786	0.696	4.979	1.082	**1.523**
Accounts receivable turnover ratio	73.403	52.861	89.062	-138.483	254.181	293.442	640.692	106.959	**229.568**
Accounts payable turnover ratio	2.213	2.037	1.968	2.801	1.851	1.958	1.953	5.050	**2.735**
Average days payable	164.949	179.228	185.464	130.323	197.228	186.456	186.925	72.280	**155.352**
Approximated Tobin's q	0.911	0.799	0.335	0.354	0.485	0.452	0.485	0.136	**0.404**
Book-to-Market ratio	0.461	0.566	1.777	1.202	0.888	0.865	0.729	1.288	**1.021**

Falcon Products, Inc.

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	43	44	44	44	44	45	45	45	**45**
Altman's X1	0.1424	0.1578	0.1915	0.2406	0.1782	-0.0805	-0.0816	-0.1127	**0.0258**
Current ratio	1.6305	1.7555	2.0397	2.6055	1.8861	0.8182	0.8204	0.7779	**1.3330**
Quick ratio	0.7061	0.6965	0.7691	1.0457	0.7197	0.2748	0.2851	0.2849	**0.5031**
Gross profit margin	0.2318	0.2270	0.2363	0.2084	0.1076	0.1543	0.2339	0.1657	**0.1849**
Net profit margin	0.0154	-0.0045	-0.0107	-0.0896	-0.2438	-0.2451	-0.0781	-0.3344	**-0.1749**
Return On Assets	0.0058	-0.0011	-0.0023	-0.0203	-0.0591	-0.0464	-0.0165	-0.0741	**-0.0379**
Altman's X3	0.0087	-0.0006	-0.0028	-0.0295	-0.0472	-0.0461	-0.0156	-0.0726	**-0.0367**
Altman's X5	0.2770	0.2393	0.2133	0.2261	0.2463	0.1912	0.2101	0.2210	**0.2199**
Return on Equity	0.0313	-0.0081	-0.0158	-0.1464	-0.3036	-0.3057	-0.1173	-0.7167	**-0.2924**
Altman's X2	0.1175	0.1129	0.1094	0.0890	0.0319	-0.0184	-0.0573	-0.1308	**-0.0103**
Altman's X4	0.1895	0.1866	0.1992	0.1848	0.2451	0.1805	0.1632	0.1135	**0.1738**
Short-term debt ratio	0.2258	0.2089	0.1842	0.1499	0.2011	0.4431	0.4543	0.5075	**0.3528**
Long-term debt ratio	0.4943	0.5088	0.5397	0.5991	0.6059	0.4061	0.4035	0.4008	**0.4729**
Debt-to-Equity ratio	5.2766	5.3597	5.0210	5.4105	4.0799	5.5404	6.1290	8.8107	**6.1037**
Interest coverage ratio	0.5661	-0.0403	-0.1873	-1.7658	-2.5370	-2.3559	-0.7252	-3.0651	**-1.7655**
Total assets turnover	0.2770	0.2393	0.2133	0.2261	0.2463	0.1912	0.2101	0.2210	**0.2199**
Accounts receivable turnover ratio	2.3404	2.0158	1.8970	2.0364	2.0890	1.7641	2.1451	2.0651	**2.0215**
Accounts payable turnover ratio	2.2621	2.4692	2.0437	2.1489	2.3634	1.5903	1.7501	1.9976	**1.9866**
Average days payable	161.3511	147.8203	178.6010	169.8518	154.4372	229.5194	208.5538	182.7149	**187.3083**
Approximated Tobin's q	0.4884	0.4849	0.4924	0.4968	0.6254	0.6400	0.6251	0.6166	**0.5888**
Book-to-Market	4.1719	3.6474	2.9237	2.2457	3.2570	-10.0012	-10.1350	-8.0066	**-4.1528**

Frank's Nursery & Crafts, Inc.

Name	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	(Weighted) Value
Company age	53	53	53	54	54	54	54	55	**55**
Altman's X1	0.153	0.018	-0.043	-0.021	-0.001	-0.113	-0.249	-0.199	**-0.112**
Current ratio	1.442	1.032	0.913	0.968	0.998	0.833	0.646	0.749	**0.851**
Quick ratio	0.396	0.188	0.180	0.203	0.139	0.084	0.092	0.151	**0.144**
Gross profit margin	0.274	0.127	0.275	0.303	0.281	0.143	0.166	0.321	**0.238**
Net profit margin	0.031	-0.402	2.377	0.009	0.032	-0.359	-0.195	-0.017	**0.081**
Return On Assets	0.018	-0.128	1.487	0.008	0.021	-0.107	-0.108	-0.015	**0.079**
Altman's X3	0.024	-0.119	-0.042	0.007	0.023	-0.104	-0.123	0.000	**-0.047**
Altman's X5	0.771	0.296	0.702	0.748	0.700	0.290	0.632	0.739	**0.612**
Return on Equity	0.126	-0.725	8.453	0.080	0.177	-0.700	-0.936	-0.106	**0.379**
Altman's X2	0.024	-0.098	-0.164	-0.106	-0.104	-0.203	-0.382	-0.288	**-0.217**
Altman's X4	0.264	0.187	0.225	0.092	0.148	0.152	0.121	0.110	**0.141**
Short-term debt ratio	0.345	0.550	0.495	0.643	0.546	0.677	0.704	0.794	**0.655**
Long-term debt ratio	0.374	0.327	0.382	0.264	0.319	0.300	0.381	0.278	**0.320**
Debt-to-Equity ratio	3.792	5.338	4.444	10.921	6.760	6.565	8.263	9.058	**7.638**
Interest coverage ratio	1.747	-8.801	-2.726	0.349	1.784	-6.401	-5.990	0.000	**-2.613**
Total assets turnover	0.771	0.296	0.702	0.748	0.700	0.290	0.632	0.739	**0.612**
Accounts receivable turnover ratio	48.198	19.931	44.176	107.712	130.090	47.617	39.248	80.776	**69.681**
Accounts payable turnover ratio	1.492	2.264	1.290	3.188	1.223	1.579	1.145	3.031	**1.958**
Average days payable	244.702	161.241	282.960	114.481	298.471	231.230	318.830	120.411	**220.801**
Approximated Tobin's q	0.412	0.474	0.622	0.368	0.447	0.561	0.761	0.596	**0.567**
Book-to-Market ratio	1.476	0.746	0.621	1.119	1.056	0.155	-0.645	-0.613	**0.169**

Fresh Choice

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	16	17	17	17	17	18	18	18	**18**
Altman's X1	-0.113	-0.144	-0.141	-0.122	-0.186	-0.207	-0.457	0.216	**-0.138**
Current ratio	0.493	0.330	0.375	0.446	0.315	0.226	0.165	1.275	**0.509**
Quick ratio	0.435	0.263	0.310	0.381	0.258	0.168	0.129	1.255	**0.463**
Gross profit margin	0.775	0.773	0.768	0.778	0.773	0.775	0.775	0.772	**0.774**
Net profit margin	-0.139	-0.031	-0.012	-0.013	-0.222	-0.023	-0.446	-0.314	**-0.199**
Return On Assets	-0.080	-0.015	-0.006	-0.007	-0.152	-0.013	-0.303	-0.206	**-0.132**
Altman's X3	-0.079	-0.015	-0.006	-0.007	-0.162	-0.014	-0.352	-0.051	**-0.109**
Altman's X5	0.585	0.500	0.529	0.561	0.727	0.608	0.789	0.637	**0.648**
Return on Equity	-0.280	-0.044	-0.032	-0.023	-0.385	-0.039	-0.739	-0.496	**-0.329**
Altman's X2	-0.720	-0.755	-0.754	-0.783	-1.043	-1.099	-1.804	-1.903	**-1.314**
Altman's X4	1.041	1.268	0.723	1.123	1.262	1.077	0.862	0.512	**0.921**
Short-term debt ratio	0.223	0.214	0.225	0.221	0.271	0.268	0.547	0.784	**0.424**
Long-term debt ratio	0.056	0.057	0.055	0.056	0.061	0.062	0.005	0.005	**0.036**
Debt-to-Equity ratio	0.960	0.788	1.382	0.891	0.792	0.929	1.160	1.954	**1.209**
Interest coverage ratio	-34.143	-6.848	-2.200	-2.413	-33.300	-4.330	-59.788	-12.842	**-21.606**
Total assets turnover	0.585	0.500	0.529	0.561	0.727	0.608	0.789	0.637	**0.648**
Accounts receivable turnover ratio	71.336	-	42.858	38.078	313.748	-	-	-	**53.360**
Accounts payable turnover ratio	3.174	1.635	1.941	1.998	2.618	2.359	2.252	2.648	**2.346**
Average days payable	114.994	223.221	188.064	182.669	139.415	154.743	162.108	137.836	**158.869**
Approximated Tobin's q	0.460	0.544	0.399	0.489	0.666	0.625	0.938	0.193	**0.553**
Book-to-Market ratio	2.481	2.120	3.545	2.329	1.592	1.887	0.940	0.522	**1.575**

Gadzooks, Inc.

Name	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	(Weighted) Value
Company age	20	20	20	20	21	21	21	21	**21**
Altman's X1	0.417	0.417	0.391	0.406	0.428	0.346	0.316	0.052	**0.303**
Current ratio	2.888	2.888	2.590	2.466	2.809	2.259	1.938	1.086	**2.115**
Quick ratio	0.572	0.629	0.391	0.844	0.806	0.706	0.444	0.213	**0.540**
Gross profit margin	0.276	0.252	0.230	0.241	0.188	0.141	0.111	0.033	**0.146**
Net profit margin	0.022	0.001	-0.012	-0.023	-0.059	-0.115	-0.449	-0.398	**-0.206**
Return On Assets	0.014	0.001	-0.007	-0.018	-0.035	-0.071	-0.207	-0.306	**-0.127**
Altman's X3	0.024	0.002	-0.011	-0.029	-0.060	-0.118	-0.127	-0.366	**-0.137**
Altman's X5	0.656	0.641	0.600	0.774	0.627	0.634	0.465	0.920	**0.677**
Return on Equity	0.080	0.002	-0.019	-0.169	-0.340	-0.337	-1.484	-3.207	**-1.122**
Altman's X2	0.372	0.372	0.356	0.331	0.330	0.273	0.069	-0.269	**0.142**
Altman's X4	0.829	1.994	1.529	0.389	0.456	0.786	0.418	0.187	**0.622**
Short-term debt ratio	0.221	0.221	0.246	0.277	0.237	0.275	0.336	0.610	**0.349**
Long-term debt ratio	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Debt-to-Equity ratio	1.206	0.501	0.654	2.573	2.193	1.272	2.390	5.355	**2.573**
Interest coverage ratio	-65.114	-8.905	73.263	-22.597	374.222	-365.257	-64.654	185.767	**21.100**
Total assets turnover	0.656	0.641	0.600	0.774	0.627	0.634	0.465	0.920	**0.677**
Accounts receivable turnover ratio	41.111	35.174	38.848	67.185	47.895	43.628	32.025	50.577	**45.188**
Accounts payable turnover ratio	5.169	2.887	2.911	2.513	2.412	2.220	2.319	2.927	**2.632**
Average days payable	70.619	126.415	125.371	145.222	151.304	164.437	157.383	124.721	**142.307**
Approximated Tobin's q	-0.234	0.023	-0.015	-0.298	-0.320	-0.130	-0.175	0.062	**-0.126**
Book-to-Market ratio	4.250	1.772	2.006	6.720	7.075	3.350	4.715	3.417	**4.347**

Galey & Lord, Inc.

Name	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	(Weighted) Value
Company age	15	15	15	16	16	16	16	17	**17**
Altman's X1	-0.079	-0.077	-0.107	-0.097	-0.121	-0.135	-0.193	-0.233	**-0.155**
Current ratio	0.857	0.858	0.811	0.825	0.812	0.795	0.750	0.717	**0.781**
Quick ratio	0.441	0.481	0.463	0.420	0.397	0.371	0.423	0.405	**0.413**
Gross profit margin	0.066	0.081	0.080	0.100	0.058	0.014	-0.033	-0.124	**0.000**
Net profit margin	-0.094	-0.013	-0.034	-0.002	-0.042	-0.109	-1.311	-0.331	**-0.359**
Return On Assets	-0.021	-0.003	-0.008	0.000	-0.009	-0.026	-0.255	-0.053	**-0.068**
Altman's X3	-0.008	0.003	-0.001	0.006	-0.003	-0.022	-0.033	0.060	**0.003**
Altman's X5	0.220	0.261	0.226	0.197	0.227	0.237	0.206	0.166	**0.209**
Return on Equity	-1.323	-0.132	-0.433	-0.029	-1.830	-11.412	-70.952	-15.260	**-19.427**
Altman's X2	-0.077	-0.081	-0.091	-0.092	-0.250	-0.280	-0.429	-0.510	**-0.303**
Altman's X4	0.026	0.045	0.030	0.024	0.008	0.003	0.005	0.004	**0.012**
Short-term debt ratio	0.552	0.544	0.564	0.556	0.643	0.658	0.772	0.821	**0.686**
Long-term debt ratio	0.046	0.043	0.033	0.032	0.033	0.025	0.014	0.000	**0.021**
Debt-to-Equity ratio	38.147	22.078	33.833	41.014	129.575	300.841	206.148	228.209	**168.597**
Interest coverage ratio	-0.629	0.408	-0.142	0.737	-0.402	-2.587	-3.504	7.460	**0.565**
Total assets turnover	0.220	0.261	0.226	0.197	0.227	0.237	0.206	0.166	**0.209**
Accounts receivable turnover ratio	1.307	1.272	1.081	1.107	1.209	1.144	1.046	1.090	**1.124**
Accounts payable turnover ratio	3.874	4.670	4.207	4.825	4.738	4.439	3.268	7.025	**4.848**
Average days payable	94.213	78.152	86.762	75.642	77.031	82.235	111.689	51.958	**80.262**
Approximated Tobin's q	0.141	0.147	0.157	0.144	0.159	0.162	0.211	0.236	**0.184**
Book-to-Market ratio	25.625	15.555	22.822	28.718	62.187	139.684	56.077	49.767	**60.550**

Huffy Corporation

Name	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	(Weighted) Value
Company age	74	74	74	74	75	75	75	75	**75**
Altman's X1	0.273	0.247	0.043	0.017	0.063	0.071	0.074	0.002	**0.062**
Current ratio	1.631	1.505	1.078	1.029	1.124	1.136	1.137	1.004	**1.123**
Quick ratio	1.379	1.193	0.754	0.770	0.788	0.818	0.787	0.718	**0.811**
Gross profit margin	0.171	0.182	0.192	0.169	0.210	0.216	0.189	0.108	**0.176**
Net profit margin	0.009	0.014	0.011	-0.033	-0.014	0.024	0.022	-0.094	**-0.017**
Return On Assets	0.004	0.008	0.004	-0.015	-0.005	0.010	0.008	-0.037	**-0.007**
Altman's X3	0.006	0.012	0.009	-0.001	-0.006	0.008	0.009	-0.034	**-0.004**
Altman's X5	0.468	0.544	0.307	0.447	0.339	0.404	0.338	0.406	**0.389**
Return on Equity	0.009	0.017	0.008	-0.036	-0.015	0.030	0.021	-0.123	**-0.023**
Altman's X2	0.504	0.449	0.288	0.261	0.260	0.258	0.247	0.226	**0.270**
Altman's X4	1.021	0.875	0.822	0.722	0.554	0.550	0.607	0.523	**0.629**
Short-term debt ratio	0.434	0.490	0.549	0.574	0.513	0.520	0.541	0.592	**0.543**
Long-term debt ratio	0.000	0.000	0.018	0.001	0.056	0.054	0.049	0.002	**0.028**
Debt-to-Equity ratio	0.979	1.143	1.217	1.386	1.806	1.818	1.647	1.912	**1.645**
Interest coverage ratio	2.771	6.451	9.731	-0.313	-1.520	1.768	2.001	-4.666	**0.647**
Total assets turnover	0.468	0.544	0.307	0.447	0.339	0.404	0.338	0.406	**0.389**
Accounts receivable turnover ratio	1.353	1.838	1.212	1.370	1.071	1.317	1.086	1.170	**1.232**
Accounts payable turnover ratio	1.897	1.923	1.046	0.838	0.712	0.818	0.774	0.704	**0.882**
Average days payable	192.396	189.842	348.859	435.462	512.927	446.031	471.711	518.650	**445.903**
Approximated Tobin's q	0.169	0.181	0.440	0.399	0.308	0.299	0.334	0.310	**0.322**
Book-to-Market ratio	1.279	1.190	0.930	1.025	1.367	1.352	1.143	1.306	**1.221**

Pacific Magtron International Corp.

Name	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	(Weighted) Value
Company age	14	14	14	14	15	15	15	15	**15**
Altman's X1	0.167	0.148	0.025	0.012	-0.001	-0.037	-0.048	-0.046	**-0.009**
Current ratio	1.310	1.274	1.036	1.018	0.999	0.950	0.935	0.933	**0.993**
Quick ratio	0.891	0.853	0.750	0.736	0.693	0.668	0.676	0.591	**0.687**
Gross profit margin	0.069	0.063	0.057	0.056	0.058	0.050	0.053	0.042	**0.052**
Net profit margin	0.070	-0.042	-0.027	-0.162	-0.015	-0.033	-0.010	-0.008	**-0.032**
Return On Assets	0.082	-0.049	-0.034	-0.192	-0.021	-0.037	-0.013	-0.009	**-0.038**
Altman's X3	0.039	-0.034	-0.030	-0.090	-0.020	-0.039	-0.019	-0.074	**-0.043**
Altman's X5	1.229	1.233	1.170	1.252	1.379	1.207	1.260	1.335	**1.274**
Return on Equity	0.991	-0.460	-0.416	-1.908	-0.435	-1.333	-0.306	-0.161	**-0.622**
Altman's X2	0.069	0.025	-0.010	-0.032	-0.050	-0.096	-0.113	-0.140	**-0.077**
Altman's X4	0.118	0.147	0.086	0.119	0.050	0.031	0.044	0.066	**0.067**
Short-term debt ratio	0.540	0.538	0.699	0.683	0.725	0.733	0.735	0.688	**0.698**
Long-term debt ratio	0.202	0.224	0.188	0.210	0.195	0.218	0.226	0.258	**0.222**
Debt-to-Equity ratio	8.501	6.787	11.670	8.392	19.821	31.918	22.492	15.131	**18.326**
Interest coverage ratio	14.095	-11.884	-10.921	-32.048	-7.663	-12.950	6.630	-7.071	**-8.245**
Total assets turnover	1.229	1.233	1.170	1.252	1.379	1.207	1.260	1.335	**1.274**
Accounts receivable turnover ratio	4.123	4.008	3.898	3.752	4.816	3.949	3.948	3.687	**3.993**
Accounts payable turnover ratio	2.558	2.543	2.480	2.146	2.905	2.041	2.143	2.425	**2.357**
Average days payable	142.684	143.549	147.194	170.093	125.664	178.838	170.290	150.496	**156.919**
Approximated Tobin's q	0.122	0.189	0.239	0.304	0.242	0.284	0.317	0.367	**0.292**
Book-to-Market ratio	2.955	2.122	1.490	1.001	1.710	1.659	0.901	0.866	**1.317**

Robotic Vision Systems, Inc.

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	26	27	27	27	27	28	28	28	**28**
Altman's X1	-0.048	-0.028	-0.386	-0.505	-0.610	-0.558	-0.488	-0.486	**-0.472**
Current ratio	0.933	0.967	0.677	0.617	0.520	0.477	0.539	0.546	**0.582**
Quick ratio	0.372	0.880	0.605	0.567	0.265	0.277	0.322	0.326	**0.391**
Gross profit margin	-0.044	0.375	0.498	0.399	0.249	0.489	0.427	0.451	**0.405**
Net profit margin	-1.318	-1.689	-4.035	-0.678	-0.111	-0.449	-0.253	-0.211	**-0.728**
Return On Assets	-0.303	-0.159	-0.326	-0.086	-0.089	-0.119	-0.088	-0.064	**-0.118**
Altman's X3	-0.345	-0.170	-0.363	-0.087	-0.097	-0.106	-0.087	-0.066	**-0.121**
Altman's X5	0.262	0.101	0.090	0.129	0.870	0.236	0.342	0.311	**0.331**
Return on Equity	-0.229	-0.116	-0.285	-0.030	-0.054	-0.084	-0.059	-0.052	**-0.084**
Altman's X2	-4.901	-5.725	-7.388	-7.741	-9.088	-7.159	-6.976	-7.313	**-7.367**
Altman's X4	1.962	1.614	1.019	2.226	1.360	1.153	1.338	1.090	**1.360**
Short-term debt ratio	0.713	0.860	1.194	1.317	1.270	1.066	1.059	1.069	**1.111**
Long-term debt ratio	0.054	0.046	0.056	0.011	0.038	0.032	0.031	0.092	**0.047**
Debt-to-Equity ratio	0.510	0.620	0.981	0.449	0.735	0.867	0.747	0.917	**0.776**
Interest coverage ratio	-45.323	-33.731	-61.800	-12.109	-6.190	-7.873	-3.214	-1.950	**-12.858**
Total assets turnover	0.262	0.101	0.090	0.129	0.870	0.236	0.342	0.311	**0.331**
Accounts receivable turnover ratio	1.118	0.575	1.013	1.528	4.577	1.025	1.359	1.081	**1.628**
Accounts payable turnover ratio	0.728	2.745	0.408	0.421	4.246	0.406	1.744	0.746	**1.416**
Average days payable	501.650	132.951	894.424	866.272	85.960	898.058	209.322	489.287	**503.156**
Approximated Tobin's q	1.607	1.536	1.716	3.472	2.426	1.856	1.979	1.843	**2.099**
Book-to-Market ratio	0.155	0.064	-0.196	-0.111	-0.173	-0.077	-0.062	-0.127	**-0.098**

Schlotzskys, Inc.

Name	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	(Weighted) Value
Company age	31	31	32	32	32	32	33	33	**33**
Altman's X1	0.004	0.006	-0.023	-0.058	-0.070	-0.081	-0.082	-1.312	**-0.339**
Current ratio	1.038	1.057	0.817	0.624	0.574	0.464	0.472	0.106	**0.497**
Quick ratio	0.941	0.963	0.755	0.562	0.526	0.399	0.410	0.089	**0.444**
Gross profit margin	0.434	0.434	0.414	0.393	0.388	0.430	0.428	0.406	**0.413**
Net profit margin	-0.020	-0.071	-0.077	-0.159	-0.200	-0.396	-0.051	-6.836	**-1.652**
Return On Assets	-0.002	-0.007	-0.008	-0.017	-0.021	-0.044	-0.005	-1.042	**-0.246**
Altman's X3	-0.002	-0.011	-0.012	-0.025	-0.032	-0.011	-0.005	-2.062	**-0.470**
Altman's X5	0.111	0.104	0.102	0.107	0.105	0.113	0.105	0.302	**0.150**
Return on Equity	-0.010	-0.036	-0.042	-0.116	-0.156	-0.388	-0.044	-5.824	**-1.408**
Altman's X2	0.132	0.123	0.118	0.102	0.082	0.042	0.037	-1.954	**-0.377**
Altman's X4	0.523	0.467	0.422	0.320	0.286	0.236	0.247	0.226	**0.288**
Short-term debt ratio	0.094	0.104	0.123	0.154	0.164	0.152	0.155	1.467	**0.440**
Long-term debt ratio	0.340	0.335	0.319	0.304	0.308	0.339	0.339	0.099	**0.275**
Debt-to-Equity ratio	1.912	2.142	2.370	3.129	3.498	4.244	4.043	4.422	**3.679**
Interest coverage ratio	-0.376	-1.534	-1.548	-3.353	-4.441	-1.354	-0.678	-93.096	**-22.259**
Total assets turnover	0.111	0.104	0.102	0.107	0.105	0.113	0.105	0.302	**0.150**
Accounts receivable turnover ratio	3.676	3.971	4.436	4.528	4.246	4.388	3.856	4.698	**4.310**
Accounts payable turnover ratio	6.628	4.256	2.463	2.258	1.597	1.424	1.533	1.869	**2.049**
Average days payable	55.067	85.755	148.179	161.621	228.535	256.238	238.115	195.336	**200.755**
Approximated Tobin's q	0.563	0.534	0.528	0.508	0.512	0.535	0.543	1.765	**0.804**
Book-to-Market ratio	2.497	2.736	2.991	3.707	3.920	4.412	4.148	-1.598	**2.614**

Speizman Industries, Inc.

Name	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	(Weighted) Value
Company age	66	66	67	67	67	67	68	68	**68**
Altman's X1	0.207	0.224	0.217	0.215	0.221	0.192	0.179	0.130	**0.186**
Current ratio	1.412	1.471	1.459	1.449	1.485	1.395	1.368	1.244	**1.385**
Quick ratio	0.746	0.758	0.830	0.910	0.869	0.787	0.766	0.634	**0.775**
Gross profit margin	0.133	0.146	0.155	0.164	0.167	0.159	0.136	0.107	**0.143**
Net profit margin	-0.171	-0.039	-0.008	0.010	0.003	0.104	-0.076	-0.178	**-0.043**
Return On Assets	-0.047	-0.016	-0.003	0.004	0.001	0.040	-0.020	-0.053	**-0.011**
Altman's X3	-0.062	-0.016	-0.004	0.006	0.002	-0.011	-0.026	-0.043	**-0.018**
Altman's X5	0.295	0.422	0.426	0.405	0.397	0.379	0.269	0.306	**0.351**
Return on Equity	-1.214	-0.483	-0.064	0.083	0.063	1.657	-0.448	-1.360	**-0.161**
Altman's X2	0.003	-0.013	-0.016	-0.012	-0.011	-0.021	-0.043	-0.099	**-0.039**
Altman's X4	0.068	0.058	0.086	0.083	0.038	0.041	0.080	0.066	**0.064**
Short-term debt ratio	0.501	0.475	0.473	0.479	0.455	0.486	0.486	0.532	**0.490**
Long-term debt ratio	0.107	0.113	0.112	0.107	0.107	0.092	0.083	0.072	**0.093**
Debt-to-Equity ratio	14.639	17.223	11.640	11.985	26.105	24.324	12.555	15.118	**17.146**
Interest coverage ratio	-6.780	-1.632	-0.435	0.581	0.210	0.274	-2.181	-3.553	**-1.389**
Total assets turnover	0.295	0.422	0.426	0.405	0.397	0.379	0.269	0.306	**0.351**
Accounts receivable turnover ratio	0.988	1.588	1.550	1.268	1.141	1.188	0.864	1.125	**1.160**
Accounts payable turnover ratio	0.939	1.486	1.272	1.256	1.344	1.437	1.089	1.501	**1.326**
Average days payable	388.836	245.584	286.958	290.636	271.570	253.931	335.149	243.137	**279.889**
Approximated Tobin's q	-0.058	-0.076	-0.054	-0.059	-0.092	-0.076	-0.050	-0.018	**-0.056**
Book-to-Market ratio	9.417	12.067	8.244	8.447	20.306	17.807	9.500	9.919	**12.397**

Tropical Sportswear International Corp.

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	75	76	76	76	76	77	77	77	**77**
Altman's X1	0.494	0.477	0.443	0.515	0.390	0.409	0.422	0.483	**0.446**
Current ratio	3.687	3.713	3.005	5.072	2.097	2.336	2.397	3.031	**2.943**
Quick ratio	2.478	2.179	1.722	2.582	1.135	1.160	1.478	1.839	**1.667**
Gross profit margin	0.269	0.210	0.204	0.093	-0.151	0.148	0.239	0.212	**0.144**
Net profit margin	0.011	-0.051	0.006	-0.316	-1.234	-0.135	0.042	-0.077	**-0.240**
Return On Assets	0.004	-0.015	0.002	-0.093	-0.366	-0.052	0.021	-0.034	**-0.074**
Altman's X3	0.003	-0.025	0.003	-0.055	-0.453	-0.055	0.023	-0.037	**-0.083**
Altman's X5	0.348	0.303	0.325	0.309	0.365	0.419	0.505	0.480	**0.413**
Return on Equity	0.005	-0.041	0.006	-0.536	-1.183	-0.191	0.166	-0.463	**-0.328**
Altman's X2	0.217	0.208	0.198	0.121	-0.274	-0.374	-0.350	-0.455	**-0.222**
Altman's X4	1.458	0.731	0.536	0.315	0.445	0.334	0.148	0.091	**0.327**
Short-term debt ratio	0.184	0.176	0.221	0.126	0.355	0.306	0.302	0.238	**0.259**
Long-term debt ratio	0.318	0.332	0.313	0.451	0.500	0.581	0.565	0.644	**0.523**
Debt-to-Equity ratio	0.686	1.369	1.867	3.174	2.248	2.997	6.752	10.984	**5.169**
Interest coverage ratio	0.422	-2.790	0.339	-5.655	-25.505	-2.958	1.091	-1.664	**-4.936**
Total assets turnover	0.348	0.303	0.325	0.309	0.365	0.419	0.505	0.480	**0.413**
Accounts receivable turnover ratio	1.312	1.157	1.251	1.083	1.094	1.461	1.754	1.345	**1.361**
Accounts payable turnover ratio	1.462	1.899	1.806	1.902	2.118	2.158	1.103	1.716	**1.758**
Average days payable	249.677	192.201	202.103	191.856	172.349	169.161	330.864	212.721	**219.509**
Approximated Tobin's q	0.556	0.226	0.155	0.118	0.491	0.468	0.271	0.241	**0.307**
Book-to-Market ratio	0.680	1.324	1.631	2.321	0.379	0.383	1.033	1.473	**1.131**

Ultimate Electronics, Inc.

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	34	35	35	35	35	36	36	36	**36**
Altman's X1	0.278	0.332	0.223	0.132	0.307	0.321	0.260	0.316	**0.276**
Current ratio	2.192	2.851	1.869	1.328	2.456	2.751	2.086	2.352	**2.250**
Quick ratio	0.636	0.878	0.559	0.349	0.852	0.818	0.645	0.660	**0.679**
Gross profit margin	0.348	0.327	0.339	0.332	0.301	0.315	0.327	0.348	**0.328**
Net profit margin	0.002	-0.009	-0.012	-0.039	-0.027	-0.055	-0.106	-0.041	**-0.049**
Return On Assets	0.001	-0.005	-0.006	-0.019	-0.019	-0.025	-0.052	-0.021	**-0.024**
Altman's X3	0.011	-0.008	-0.010	-0.029	-0.032	-0.042	-0.031	-0.020	**-0.026**
Altman's X5	0.823	0.521	0.529	0.457	0.723	0.474	0.502	0.478	**0.530**
Return on Equity	0.003	-0.010	-0.016	-0.032	-0.046	-0.076	-0.168	-0.091	**-0.077**
Altman's X2	0.167	0.160	0.158	0.114	0.099	0.077	0.028	0.006	**0.073**
Altman's X4	2.123	1.802	1.531	1.369	1.060	0.863	0.850	0.493	**1.005**
Short-term debt ratio	0.233	0.180	0.257	0.403	0.211	0.183	0.240	0.233	**0.241**
Long-term debt ratio	0.028	0.097	0.006	0.000	0.188	0.214	0.134	0.208	**0.141**
Debt-to-Equity ratio	0.471	0.555	0.653	0.730	0.944	1.159	1.177	2.028	**1.183**
Interest coverage ratio	20.043	-51.022	-66.727	-95.467	-20.639	-22.728	-15.944	-6.616	**-29.671**
Total assets turnover	0.823	0.521	0.529	0.457	0.723	0.474	0.502	0.478	**0.530**
Accounts receivable turnover ratio	5.926	4.085	4.062	3.970	5.474	3.773	3.998	3.812	**4.185**
Accounts payable turnover ratio	3.674	3.157	2.425	2.729	3.094	3.101	2.708	2.833	**2.885**
Average days payable	99.349	115.601	150.502	133.772	117.977	117.698	134.806	128.855	**127.436**
Approximated Tobin's q	0.305	0.263	0.185	0.420	0.303	0.236	0.192	0.109	**0.228**
Book-to-Market ratio	1.333	1.452	1.831	1.081	1.421	1.757	1.970	2.571	**1.835**

WHX Corporation

Name	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	(Weighted) Value
Company age	8	9	9	9	9	10	10	10	**10**
Altman's X1	0.174	0.212	0.201	0.179	0.146	0.135	-0.073	-0.088	**0.062**
Current ratio	1.706	2.652	2.539	1.729	1.612	1.525	0.847	0.826	**1.425**
Quick ratio	1.371	1.917	1.801	1.315	1.181	0.977	0.540	0.478	**0.979**
Gross profit margin	0.123	0.173	0.196	0.202	0.179	0.185	0.189	0.176	**0.183**
Net profit margin	-0.198	-0.109	-0.049	-1.712	-0.175	-0.020	-0.009	-0.019	**-0.239**
Return On Assets	-0.027	-0.011	-0.006	-0.249	-0.033	-0.005	-0.002	-0.005	**-0.036**
Altman's X3	-0.008	-0.018	-0.008	-0.316	-0.032	-0.004	-0.001	-0.004	**-0.043**
Altman's X5	0.125	0.111	0.117	0.194	0.193	0.238	0.268	0.274	**0.220**
Return on Equity	-1.828	-0.668	-0.315	-10.739	-1.079	-0.132	-0.062	-0.233	**-1.543**
Altman's X2	-0.368	-0.431	-0.446	-1.075	-1.172	-1.165	-1.189	-1.183	**-1.042**
Altman's X4	0.025	0.037	0.037	0.045	0.044	0.051	0.053	0.030	**0.042**
Short-term debt ratio	0.247	0.128	0.131	0.245	0.238	0.257	0.480	0.507	**0.334**
Long-term debt ratio	0.299	0.365	0.355	0.442	0.466	0.458	0.234	0.230	**0.345**
Debt-to-Equity ratio	40.343	27.296	27.010	22.267	22.479	19.518	18.802	33.711	**24.884**
Interest coverage ratio	-1.278	-2.676	-1.147	-29.944	-2.783	-0.313	-0.095	-0.245	**-4.118**
Total assets turnover	0.125	0.111	0.117	0.194	0.193	0.238	0.268	0.274	**0.220**
Accounts receivable turnover ratio	2.058	1.738	1.698	1.720	1.742	1.954	1.771	1.757	**1.789**
Accounts payable turnover ratio	1.281	1.168	1.154	0.835	1.968	2.940	2.082	2.719	**2.062**
Average days payable	284.831	312.494	316.324	437.276	185.432	124.170	175.325	134.231	**210.589**
Approximated Tobin's q	0.138	0.171	0.172	0.294	0.352	0.360	0.345	0.340	**0.312**
Book-to-Market ratio	33.508	27.999	28.587	10.137	9.433	7.784	7.530	12.072	**12.749**

Appendix III: Selected printouts from the MDA

Casewise Statistics

Case Number		Actual Group	Highest Group: Predicted Group	Highest Group: P(D>d | G=g) p	Highest Group: P(D>d | G=g) df	Highest Group: P(G=g | D=d)	Highest Group: Squared Mahalanobis Distance to Centroid	Second Highest Group: Group	Second Highest Group: P(G=g | D=d)	Second Highest Group: Squared Mahalanobis Distance to Centroid	Discriminant Scores: Function 1
Original	1	0	0	.231	1	.737	1.436	1	.263	3.492	.769
	2	0	0	.159	1	1.000	1.986	1	.000	20.037	3.377
	3	0	0	.850	1	.995	.036	1	.005	10.600	2.156
	4	0	0	.934	1	.993	.007	1	.007	9.921	2.050
	5	0	1	.217	1	.714	1.524	0	.286	3.358	.135
	6	0	0	.160	1	1.000	1.975	1	.000	20.002	3.373
	7	0	0	.244	1	.756	1.356	1	.244	3.620	.803
	8	0	0	.438	1	.911	.601	1	.089	5.253	1.193
	9	0	0	.932	1	.993	.007	1	.007	9.934	2.052
	10	0	0	.541	1	.999	.374	1	.001	13.533	2.579
	11	0	0	.092	1	1.000	2.846	1	.000	22.601	3.655
	12	0	0	.987	1	.991	.000	1	.009	9.504	1.983
	13	0	0	.170	1	1.000	1.885	1	.000	19.713	3.340
	14	0	0	.387	1	.999	.749	1	.001	15.467	2.833
	15	0	0	.051	1	1.000	3.804	1	.000	25.175	3.918
	16	0	0	.884	1	.986	.021	1	.014	8.532	1.821
	17	0	0	.231	1	.738	1.432	1	.262	3.499	.771
	18	0	1	.209	1	.701	1.576	0	.299	3.283	.156
	19	0	1	.129	1	.512	2.304	0	.488	2.400	.418
	20	1	1	.625	1	.998	.238	0	.002	12.640	-1.588
	21	1	1	.945	1	.993	.005	0	.007	9.834	-1.168
	22	1	1	.034	1	1.000	4.497	0	.000	26.912	-3.220
	23	1	1	.267	1	.786	1.231	0	.214	3.832	.010
	24	1	1	.623	1	.961	.242	0	.039	6.632	-.608
	25	1	1	.887	1	.994	.020	0	.006	10.296	-1.241
	26	1	1	.893	1	.987	.018	0	.013	8.603	-.965
	27	1	1	.527	1	.999	.399	0	.001	13.682	-1.731
	28	1	1	.616	1	.959	.252	0	.041	6.578	-.597
	29	1	1	.846	1	.995	.038	0	.005	10.635	-1.294
	30	1	1	.263	1	.781	1.251	0	.219	3.797	.019
	31	1	1	.872	1	.995	.026	0	.005	10.424	-1.261
	32	1	1	.862	1	.985	.030	0	.015	8.369	-.925
	33	1	1	.534	1	.999	.387	0	.001	13.610	-1.722
	34	1	1	.991	1	.991	.000	0	.009	9.337	-1.088
	35	1	1	.280	1	.800	1.168	0	.200	3.946	-.019
	36	1	1	.403	1	.895	.700	0	.105	4.975	-.263
	37	1	1	.169	1	1.000	1.892	0	.000	19.735	-2.475
	38	1	1	.434	1	.999	.611	0	.001	14.813	-1.881
	39	1	1	.885	1	.994	.021	0	.006	10.315	-1.244
	40	1	1	.985	1	.992	.000	0	.008	9.523	-1.118
	41	1	1	.931	1	.988	.008	0	.012	8.881	-1.013
	42	1	1	.898	1	.994	.016	0	.006	10.206	-1.227
	43	1	1	.510	1	.999	.434	0	.001	13.880	-1.758
	44	1	1	.281	1	1.000	1.164	0	.000	17.189	-2.178
	45	1	1	.853	1	.995	.034	0	.005	10.577	-1.285
	46	1	0	.465	1	.921	.534	1	.079	5.457	1.236
	47	1	1	.533	1	.942	.388	0	.058	5.972	-.476
	48	1	1	.497	1	.932	.460	0	.068	5.705	-.421
	49	1	1	.388	1	.999	.744	0	.001	15.444	-1.962
	50	1	1	.469	1	.999	.525	0	.001	14.375	-1.824
	51	1	1	.301	1	.822	1.070	0	.178	4.132	-.065
	52	1	1	.886	1	.994	.021	0	.006	10.311	-1.244
	53	1	1	.754	1	.977	.098	0	.023	7.585	-.786
	1	1	1	.301	1	.822	1.070	0	.178	4.132	-.065
	2	1	1	.886	1	.994	.021	0	.006	10.311	-1.244
	3	1	1	.754	1	.977	.098	0	.023	7.585	-.786

** Misclassified case

Appendix IV: CRITA-Score and Z-Score values from Step II

IV.I. Non-default companies

Arch Coal, Inc. (BB)

CRITA (unweighted)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)
Return On Assets	0.000	-0.004	0.004	-0.003	0.001	0.001	0.000	-0.008
Altman's X2	-0.105	-0.111	-0.109	-0.112	-0.113	-0.114	-0.116	-0.120
Short-term Debt Ratio	0.155	0.155	0.109	0.121	0.122	0.117	0.116	0.112
Approximated Tobin's q	1.018	0.964	0.706	0.876	0.877	0.509	0.737	0.770

CRITA (unweighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	-0.001	0.005	0.010	0.029	0.004	0.004	0.007	0.002
Altman's X2	-0.122	-0.119	-0.107	-0.077	-0.074	-0.062	-0.051	-0.051
Short-term Debt Ratio	0.105	0.111	0.116	0.109	0.109	0.122	0.115	0.124
Approximated Tobin's q	0.661	0.763	0.715	0.840	0.834	1.071	0.897	0.859

CRITA (weighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	-0.001	0.000	0.002	0.008	0.008	0.008	0.008	0.007
Altman's X2	-0.117	-0.118	-0.116	-0.107	-0.099	-0.089	-0.078	-0.069
Short-term Debt Ratio	0.115	0.113	0.113	0.112	0.111	0.113	0.114	0.116
Approximated Tobin's q	0.727	0.727	0.722	0.744	0.766	0.842	0.864	0.873
CRITA-Score	**1.458**	**1.490**	**1.514**	**1.621**	**1.639**	**1.671**	**1.683**	**1.655**

Altman	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Altman's X1	0.062	0.058	0.099	0.137	0.134	0.027	0.109	0.103
Altman's X2	-0.122	-0.119	-0.107	-0.077	-0.074	-0.062	-0.051	-0.051
Altman's X3	-0.003	0.001	0.008	0.037	0.004	0.003	0.001	0.002
Altman's X4	1.024	1.253	1.273	1.779	1.765	1.710	1.653	1.585
Altman's X5	0.175	0.160	0.131	0.162	0.169	0.180	0.170	0.183
Altman's Z-Score	**0.685**	**0.818**	**0.889**	**1.408**	**1.298**	**1.162**	**1.224**	**1.194**

Colgate-Palmolive (AA)

CRITA (unweighted)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)
Return On Assets	0.040	0.042	0.042	0.041	0.046	0.047	0.049	0.045
Altman's X2	0.736	0.766	0.808	0.813	0.848	0.907	0.920	0.913
Short-term Debt Ratio	0.291	0.303	0.304	0.321	0.304	0.331	0.303	0.323
Approximated Tobin's q	4.952	4.910	4.930	4.847	4.240	4.643	4.416	4.473

CRITA (unweighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.049	0.049	0.050	0.045	0.047	0.039	0.033	0.035
Altman's X2	0.938	0.972	0.994	1.002	0.934	0.951	0.948	0.949
Short-term Debt Ratio	0.313	0.327	0.327	0.339	0.313	0.310	0.315	0.356
Approximated Tobin's q	4.586	4.416	3.917	4.264	4.046	3.168	3.453	3.499

CRITA (weighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.046	0.047	0.048	0.048	0.048	0.046	0.043	0.040
Altman's X2	0.893	0.917	0.941	0.960	0.960	0.961	0.959	0.958
Short-term Debt Ratio	0.315	0.318	0.320	0.325	0.323	0.320	0.319	0.327
Approximated Tobin's q	4.555	4.507	4.362	4.323	4.251	3.989	3.832	3.712
CRITA-Score	**3.102**	**3.048**	**2.928**	**2.854**	**2.812**	**2.613**	**2.466**	**2.296**

Altman	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Altman's X1	0.016	0.008	0.007	0.003	0.023	0.022	0.001	-0.017
Altman's X2	0.938	0.972	0.994	1.002	0.934	0.951	0.948	0.949
Altman's X3	0.071	0.068	0.071	0.067	0.066	0.060	0.050	0.053
Altman's X4	5.859	5.829	5.196	5.606	5.258	4.165	4.617	4.503
Altman's X5	0.331	0.341	0.344	0.335	0.305	0.318	0.323	0.316
Altman's Z-Score	**5.412**	**5.433**	**5.097**	**5.326**	**5.013**	**4.372**	**4.588**	**4.500**

Ecolab, Inc. (A)

CRITA (unweighted)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)
Return On Assets	0.027	0.031	0.017	0.015	0.020	0.027	0.017	0.019
Altman's X2	0.540	0.538	0.396	0.410	0.405	0.408	0.392	0.395
Short-term Debt Ratio	0.296	0.296	0.328	0.326	0.317	0.305	0.301	0.292
Approximated Tobin's q	1.581	1.466	1.050	1.173	1.244	1.177	1.121	1.192

CRITA (unweighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.022	0.028	0.021	0.020	0.023	0.027	0.020	0.020
Altman's X2	0.399	0.428	0.407	0.407	0.429	0.433	0.414	0.431
Short-term Debt Ratio	0.279	0.284	0.264	0.283	0.266	0.273	0.253	0.294
Approximated Tobin's q	2.197	2.230	2.145	2.132	2.249	2.317	2.276	2.414

CRITA (weighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.020	0.022	0.022	0.022	0.022	0.023	0.023	0.022
Altman's X2	0.403	0.406	0.406	0.407	0.412	0.418	0.418	0.422
Short-term Debt Ratio	0.300	0.295	0.286	0.283	0.278	0.276	0.269	0.274
Approximated Tobin's q	1.406	1.606	1.767	1.894	2.020	2.134	2.207	2.278
CRITA-Score	**0.766**	**0.966**	**1.145**	**1.253**	**1.383**	**1.496**	**1.583**	**1.596**

Altman	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Altman's X1	0.086	0.093	0.092	0.061	0.079	0.084	0.091	0.061
Altman's X2	0.399	0.428	0.407	0.407	0.429	0.433	0.414	0.431
Altman's X3	0.035	0.047	0.032	0.030	0.037	0.042	0.030	0.030
Altman's X4	4.432	4.536	4.546	4.354	4.823	5.009	5.143	5.255
Altman's X5	0.303	0.321	0.296	0.284	0.306	0.307	0.289	0.282
Altman's Z-Score	**3.741**	**3.909**	**3.810**	**3.640**	**4.015**	**4.157**	**4.163**	**4.212**

Noble Energy (BBB)

CRITA (unweighted)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)
Return On Assets	0.025	0.002	-0.012	-0.006	0.007	0.000	0.006	0.012
Altman's X2	0.220	0.218	0.181	0.167	0.175	0.170	0.168	0.166
Short-term Debt Ratio	0.147	0.142	0.153	0.139	0.137	0.141	0.173	0.193
Approximated Tobin's q	1.294	1.200	1.051	1.177	1.318	1.209	1.142	1.104

CRITA (unweighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.01	0.01	-0.01	0.03	0.02	0.03	0.03	0.03
Altman's X2	0.18	0.19	0.19	0.21	0.23	0.24	0.25	0.27
Short-term Debt Ratio	0.18	0.18	0.23	0.22	0.19	0.16	0.19	0.24
Approximated Tobin's q	1.04	1.07	1.13	1.18	1.19	1.24	1.25	1.21

CRITA (weighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.005	0.007	0.005	0.011	0.014	0.018	0.021	0.024
Altman's X2	0.173	0.176	0.178	0.185	0.195	0.208	0.219	0.233
Short-term Debt Ratio	0.165	0.170	0.185	0.196	0.198	0.193	0.193	0.202
Approximated Tobin's q	1.141	1.123	1.120	1.127	1.137	1.161	1.185	1.198
CRITA-Score	**1.385**	**1.367**	**1.228**	**1.231**	**1.266**	**1.368**	**1.415**	**1.400**

Altman	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Altman's X1	-0.056	-0.016	-0.062	-0.036	-0.015	0.031	0.020	-0.010
Altman's X2	0.180	0.188	0.185	0.207	0.226	0.245	0.245	0.268
Altman's X3	0.017	0.017	-0.009	0.044	0.039	0.041	0.041	0.049
Altman's X4	1.304	1.461	1.578	1.873	2.004	2.211	2.254	2.090
Altman's X5	0.091	0.083	0.073	0.109	0.113	0.105	0.106	0.103
Altman's Z-Score	**1.112**	**1.258**	**1.176**	**1.625**	**1.742**	**1.949**	**1.963**	**1.883**

Wal-Mart Stores, Inc. (AA)

CRITA (unweighted)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)
Return On Assets	0.020	0.017	0.025	0.020	0.023	0.020	0.027	0.019
Altman's X2	0.396	0.373	0.413	0.416	0.405	0.384	0.401	0.398
Short-term Debt Ratio	0.336	0.372	0.327	0.336	0.339	0.389	0.344	0.334
Approximated Tobin's q	2.858	2.679	3.246	3.378	2.932	2.453	2.537	2.557

CRITA (unweighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.025	0.020	0.026	0.020	0.024	0.020	0.027	0.020
Altman's X2	0.403	0.379	0.383	0.356	0.358	0.346	0.365	0.345
Short-term Debt Ratio	0.332	0.374	0.357	0.382	0.391	0.398	0.357	0.402
Approximated Tobin's q	2.555	2.491	2.364	2.590	2.256	2.121	2.063	2.035

CRITA (weighted)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Return On Assets	0.023	0.022	0.023	0.022	0.023	0.022	0.023	0.023
Altman's X2	0.400	0.396	0.392	0.383	0.376	0.368	0.365	0.359
Short-term Debt Ratio	0.344	0.351	0.353	0.360	0.367	0.375	0.373	0.382
Approximated Tobin's q	2.691	2.624	2.534	2.519	2.451	2.372	2.290	2.214
CRITA-Score	**1.431**	**1.337**	**1.269**	**1.209**	**1.116**	**1.001**	**0.965**	**0.850**

Altman	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)	Q3 (2004)	Q4 (2004)	Q1 (2005)
Altman's X1	-0.007	-0.023	-0.029	-0.059	-0.067	-0.051	-0.037	-0.078
Altman's X2	0.403	0.379	0.383	0.356	0.358	0.346	0.365	0.345
Altman's X3	0.036	0.020	0.054	0.032	0.038	0.030	0.042	0.031
Altman's X4	4.684	4.303	4.181	4.354	3.727	3.408	3.550	3.277
Altman's X5	0.640	0.601	0.717	0.608	0.640	0.587	0.689	0.587
Altman's Z-Score	**4.126**	**3.751**	**3.906**	**3.753**	**3.423**	**3.153**	**3.423**	**3.043**

IV.II. Default companies

Congoleum Corp.

CRITA (unweighted)	Q2 (2000)	Q3 (2000)	Q4 (2000)	Q1 (2001)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)
Return On Assets	-0.010	0.008	-0.025	-0.016	0.001	0.005	0.003	-0.050
Altman's X2	-0.020	-0.013	-0.036	-0.053	-0.053	-0.050	-0.044	-0.100
Short-term Debt Ratio	0.241	0.212	0.260	0.252	0.244	0.206	0.224	0.221
Approximated Tobin's q	0.332	0.363	0.367	0.316	0.303	0.345	0.291	0.293

CRITA (unweighted)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Return On Assets	0.004	0.002	-0.088	-0.013	-0.010	0.007	-0.019	-0.002
Altman's X2	-0.079	-0.080	-0.196	-0.217	-0.225	-0.231	-0.266	-0.256
Short-term Debt Ratio	0.220	0.226	0.358	0.347	0.363	0.322	0.306	0.298
Approximated Tobin's q	0.248	0.283	0.404	0.381	0.390	0.409	0.440	-0.160

CRITA (weighted)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Return On Assets	-0.010	-0.008	-0.025	-0.024	-0.023	-0.017	-0.017	-0.013
Altman's X2	-0.064	-0.070	-0.100	-0.130	-0.157	-0.181	-0.207	-0.226
Short-term Debt Ratio	0.226	0.225	0.253	0.276	0.300	0.312	0.316	0.317
Approximated Tobin's q	0.299	0.292	0.314	0.329	0.345	0.363	0.386	0.271
CRITA-Score	**0.249**	**0.286**	**-0.114**	**-0.233**	**-0.351**	**-0.330**	**-0.336**	**-0.359**

Altman	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Altman's X1	0.205	0.191	0.141	0.142	0.137	0.158	0.154	0.199
Altman's X2	-0.079	-0.080	-0.196	-0.217	-0.225	-0.231	-0.266	-0.256
Altman's X3	0.005	0.004	-0.100	-0.013	-0.010	-0.002	-0.033	-0.002
Altman's X4	0.114	0.122	0.067	0.016	0.026	0.039	0.031	0.131
Altman's X5	0.262	0.231	0.263	0.273	0.278	0.327	0.290	0.282
Altman's Z-Score	**0.481**	**0.433**	**-0.134**	**0.105**	**0.110**	**0.210**	**0.014**	**0.233**

Fibermark, Inc.

CRITA (unweighted)	Q2 (2000)	Q3 (2000)	Q4 (2000)	Q1 (2001)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)
Return On Assets	0.011	0.007	0.006	0.007	-0.018	-0.011	-0.014	0.001
Altman's X2	0.105	0.111	0.111	0.120	0.068	0.057	0.047	0.047
Short-term Debt Ratio	0.142	0.147	0.149	0.155	0.130	0.147	0.136	0.142
Approximated Tobin's q	0.416	0.413	0.339	0.323	0.588	0.624	0.608	0.598

CRITA (unweighted)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Return On Assets	0.005	0.002	-0.111	-0.011	-0.017	-0.231	-0.006	-0.042
Altman's X2	0.050	0.051	-0.061	-0.070	-0.089	-0.368	-0.373	-0.410
Short-term Debt Ratio	0.131	0.142	0.117	0.134	0.121	0.180	0.164	0.163
Approximated Tobin's q	0.547	0.572	0.619	0.615	0.605	0.783	0.738	-0.162

CRITA (weighted)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Return On Assets	-0.003	-0.002	-0.027	-0.025	-0.025	-0.072	-0.062	-0.061
Altman's X2	0.063	0.057	0.028	0.002	-0.023	-0.105	-0.177	-0.246
Short-term Debt Ratio	0.140	0.139	0.134	0.133	0.130	0.140	0.146	0.151
Approximated Tobin's q	0.548	0.563	0.584	0.596	0.598	0.639	0.666	0.489
CRITA-Score	**1.057**	**1.084**	**0.819**	**0.863**	**0.904**	**0.260**	**0.395**	**0.276**

Altman	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Altman's X1	0.156	0.152	0.191	0.171	0.161	0.161	0.148	0.194
Altman's X2	0.050	0.051	-0.061	-0.070	-0.089	-0.368	-0.373	-0.410
Altman's X3	0.009	0.005	-0.098	-0.001	-0.010	-0.253	-0.011	-0.030
Altman's X4	0.104	0.140	0.148	0.130	0.090	0.084	0.038	0.194
Altman's X5	0.193	0.178	0.197	0.207	0.211	0.235	0.237	0.278
Altman's Z-Score	**0.540**	**0.531**	**0.106**	**0.389**	**0.299**	**-0.870**	**-0.120**	**-0.048**

Intermet Corp.

CRITA (unweighted)	Q3 (2000)	Q4 (2000)	Q1 (2001)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)	Q2 (2002)
Return On Assets	0.008	0.012	0.000	0.004	-0.003	-0.012	0.006	0.006
Altman's X2	0.220	0.240	0.224	0.229	0.250	0.246	0.262	0.264
Short-term Debt Ratio	0.412	0.438	0.384	0.190	0.195	0.377	0.381	0.193
Approximated Tobin's q	0.507	0.536	0.404	0.373	0.500	0.409	1.399	0.552

CRITA (unweighted)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)
Return On Assets	-0.001	0.001	0.004	-0.009	0.000	-0.130	-0.011	-0.008
Altman's X2	0.266	0.278	0.276	0.273	0.264	0.159	0.127	0.126
Short-term Debt Ratio	0.196	0.180	0.179	0.164	0.194	0.225	0.216	0.214
Approximated Tobin's q	0.619	0.472	0.427	0.412	0.394	0.536	0.552	0.426

CRITA (weighted)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)
Return On Assets	0.001	0.000	0.001	-0.001	-0.001	-0.029	-0.028	-0.026
Altman's X2	0.254	0.261	0.266	0.270	0.269	0.246	0.217	0.192
Short-term Debt Ratio	0.268	0.242	0.224	0.208	0.199	0.198	0.198	0.203
Approximated Tobin's q	0.659	0.631	0.594	0.554	0.508	0.497	0.486	0.471
CRITA-Score	**0.238**	**0.384**	**0.492**	**0.544**	**0.573**	**0.195**	**0.210**	**0.206**

Altman	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)	Q2 (2004)
Altman's X1	0.064	0.056	0.079	0.097	0.079	0.031	0.100	0.054
Altman's X2	0.266	0.278	0.276	0.273	0.264	0.159	0.127	0.126
Altman's X3	-0.005	0.000	0.007	-0.014	0.000	-0.086	-0.007	-0.010
Altman's X4	0.551	0.300	0.253	0.250	0.203	0.254	0.250	0.014
Altman's X5	0.246	0.254	0.267	0.260	0.233	0.212	0.266	0.295
Altman's Z-Score	**1.011**	**0.891**	**0.922**	**0.862**	**0.819**	**0.340**	**0.689**	**0.513**

Jordan Industries, Inc.

CRITA (unweighted)	Q2 (2000)	Q3 (2000)	Q4 (2000)	Q1 (2001)	Q2 (2001)	Q3 (2001)	Q4 (2001)	Q1 (2002)
Return On Assets	0.010	-0.021	-0.010	-0.009	-0.008	-0.028	-0.022	-0.011
Altman's X2	-0.041	-0.066	-0.075	-0.085	-0.094	-0.123	-0.152	-0.162
Short-term Debt Ratio	0.168	0.161	0.191	0.172	0.171	0.165	0.167	0.161
Approximated Tobin's q	0.643	0.708	0.701	0.701	0.712	0.735	0.796	0.800

CRITA (unweighted)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Return On Assets	0.066	-0.002	-0.146	-0.011	-0.003	-0.006	-0.025	-0.026
Altman's X2	-0.226	-0.231	-0.268	-0.268	-0.273	-0.283	-0.318	-0.341
Short-term Debt Ratio	0.241	0.248	0.245	0.245	0.222	0.222	0.242	0.255
Approximated Tobin's q	0.780	0.787	0.846	0.812	0.812	0.819	0.867	0.867

CRITA (weighted)	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Return On Assets	0.002	0.003	-0.029	-0.027	-0.023	-0.020	-0.022	-0.024
Altman's X2	-0.148	-0.171	-0.199	-0.221	-0.240	-0.255	-0.274	-0.294
Short-term Debt Ratio	0.184	0.199	0.212	0.222	0.226	0.229	0.234	0.240
Approximated Tobin's q	0.760	0.770	0.791	0.800	0.806	0.811	0.825	0.837
CRITA-Score	**1.074**	**0.997**	**0.509**	**0.478**	**0.516**	**0.551**	**0.508**	**0.458**

Altman	Q2 (2002)	Q3 (2002)	Q4 (2002)	Q1 (2003)	Q2 (2003)	Q3 (2003)	Q4 (2003)	Q1 (2004)
Altman's X1	0.203	0.189	0.163	0.187	0.206	0.205	0.171	0.173
Altman's X2	-0.226	-0.231	-0.268	-0.268	-0.273	-0.283	-0.318	-0.341
Altman's X3	-0.005	-0.002	-0.028	-0.007	0.001	-0.003	-0.026	-0.018
Altman's X4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Altman's X5	0.252	0.249	0.248	0.229	0.257	0.253	0.254	0.238
Altman's Z-Score	**0.164**	**0.146**	**-0.025**	**0.057**	**0.126**	**0.093**	**-0.073**	**-0.091**