

Demotech, Inc. and A.M. Best Ratings Comparison Study  
Mark Kaminski, Ph. D.

Dr. Kaminski's statistical analysis which included a comparison of A. M. Best ratings and Demotech ratings demonstrated that A. M. Best ratings are 'strongly dependent on Financial Size Category, FSC' as well as corporate structure, i.e., mutual versus stock insurers.

The study and a summary of Dr. Kaminski's experience and expertise follows. The conclusions summarized above are based upon these excerpts from the Kaminski report:

1. "The main source of difference [in rating assigned by Demotech versus rating assigned by A. M. Best], in my opinion, is the fact that Demotech's ratings seem to be independent of FSC [size as characterized by Financial Size Category] while Best's ratings are very strongly dependent on FSC.
2. "The extremely high consistency of Best's ratings with regard to corporate structure [mutual versus stock insurer] cannot be a result of non-preferential treatment, but rather is forced." In other words, A. M. Best may favor stock insurers over mutual insurers even if they are the same size.

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## Goals of the Research

The purpose of this study was to investigate and analyze relationships between the property and casualty insurance company ratings of Demotech, Inc. (Demotech) and the A.M. Best Company (Best). Specifically, this analysis consisted of the following: (1) analyzing whether or not Demotech's ratings are predictive of Best's ratings, (2) testing the statistical hypothesis of the independence of Demotech's ratings on company size, and (3) investigating the consistency of both companies' ratings with respect to corporate structure.

## Data and Calculations Underlying the Analysis

In this analysis, 1,581 companies that were rated by both Demotech and Best were considered. The companies that were not rated by either Demotech or Best were not considered in this study. The data used in this study was supplied by Demotech and the 1999 Best's Key Rating Guide®.

The whole population of companies was divided into seven groups, which were based on the Financial Size Categories of Best. In this report, these groups are referred to as FSC Groups. FSC Groups were used as a proxy for firm size. The groups are defined in Attachment 1 to this report.

Attachment 2 contains tables with computed probabilities corresponding to Demotech's and Best's ratings by FSC Group. For each of the seven FSC Groups, four tables, numbered one through four, and three auxiliary data tables were created.

- Table 1 is a frequency distribution table showing the number of companies for each combination of Demotech's and Best's ratings.
- Table 2 contains probabilities corresponding to these rating combinations.
- Table 3 differs from Table 2 by defining groups of Best's ratings, which are displayed in columns.
- Table 4 contains groups of both Demotech's and Best's ratings. The grouping of ratings was done with the purpose of maximizing probabilities and analyzing potential relationships between groups of Demotech's and Best's ratings.
- The probabilities in Tables 2, 3, and 4 were computed based on corresponding frequencies from Table 1. These calculated numbers are estimates of actual probabilities.

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## Confidence Intervals of Probability Estimates

In order to measure the accuracy of these estimated probabilities, a 95% confidence interval for each of the estimated probabilities was calculated. In order to compute an upper bound (lower bound) of the 95% confidence interval of any given probability,  $\frac{1}{2}$  of the length of the 95% confidence interval must be added (subtracted) from the estimated probability. The confidence interval lengths are computed in the three auxiliary tables corresponding to Tables 1 through 4 for each FSC Group.

Finally, to illustrate the results, eight graphs were constructed. The following graphs are contained in Attachment 3:

- Graph 1 shows the relationship between FSC Group and probability of falling into the **▲** category for Demotech and Best. For Demotech the **▲** category consists of A", A' and A, and for Best it consists of A++, A+, A and A-.
- Graph 2 shows the conditional probability of a Best **▲** rating given a Demotech **▲** rating (i.e. Prob (A++ or A+ or A or A- | A" or A' or A)) for each FSC Group.
- Graphs 3 and 4 show similar information as Graphs 1 and 2 for Best's ratings of B++ or B+ or B or B- (category **■**) and a Demotech rating of S.
- Graphs 5 and 6 show similar information as Graphs 1 and 2 for Best's ratings of Best C++ or C+ or C+ or C- (category **●**) and a Demotech rating of M.
- Graphs 7 and 8 display the same information as Graph 1 for exclusively Mutual and exclusively Stock companies respectively.

Table 5 displays the number of companies in Category **▲** for Best and Table 6 divides these companies between Mutual and Stock companies. Tables 7 and 8 display the same information for Demotech. Tables 5 through 8 are contained in Attachment 4.

## Focus of the Study

This analysis focused on analyzing the level of stochastic dependence of Best's ratings on Demotech's ratings, or alternatively, the evaluation of the ability of Demotech's ratings to predict Best's ratings. Attachment 5 consists of a table entitled Compared Ratings Table that displays the conclusions concerning the value of Demotech's ratings as predictors of Best's ratings. The remainder of this section describes the analysis that supports these conclusions.

Considering conditional probabilities of Best's ratings given Demotech's ratings is not sufficient for the purpose of determining the value of one rating as a predictor of another. If B denotes the event of a certain Best rating, and D denotes a certain Demotech rating, a high conditional probability,  $P(B|D)$ , does not imply that event B is highly "predictable" by the occurrence of the event D. Consider the situation in which  $P(B|D)$  is close to 1.00 but  $P(B) > P(B|D)$ . In this situation the occurrence of D does not help to "predict" the occurrence of B. Therefore, in order to measure how useful D is for "predicting" B, it is

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reasonable not only to consider  $P(B|D)$  but also the ratios  $P(B|D) / P(B)$ , and  $(1-P(B)) / (1-P(B|D))$ . Both of these additional ratios characterize how valuable  $P(B|D)$  is in comparison with  $P(B)$ . In this analysis, in order to consider the event D to be useful in predicting event B, the requirement that either of the two additional ratios be greater than 1.00 was imposed. The greater either of these additional two ratios is, the greater the level of credibility that can be given to D for its usefulness in predicting B.

Additionally, the length of the 95% confidence intervals was considered. If the length of the confidence intervals was too large in comparison to the difference  $P(B|D) - P(B)$ , then no further consideration was given to D as a predictor of B. Thus, considering the three values  $P(B|D)$ ,  $P(B|D) / P(B)$ , and  $(1-P(B)) / (1-P(B|D))$ , and the length of these three values' confidence intervals for each of FSC Group, Demotech's ratings were characterized as either Excellent, Very Good, Good, Fair or Poor predictors of Best's ratings.

## Results of the Analysis of Demotech as a Predictor of Best by FSC Group

We begin with the largest companies, FSC Group 7. As shown in Table 4,  $P(\text{Best A++ or A+} | \text{A'' or A'}) = .9935$  with 95% confidence interval  $(0.8703, 1]$ . Also,  $P(\text{Best A++ or A+}) = 0.9894$ . Hence,  $P(\text{Best A++ or A+} | \text{A'' or A'}) > P(\text{Best A++ or A+})$ , thus a Demotech rating A'' or A' can be considered as a good predictor of a Best rating of A++ or A+. In the same FSC Group we have that  $P(\text{A++ or A+} | \text{S}) = P(\text{A++ or A+} | \text{M}) = P(\text{A++ or A+} | \text{L}) = P(\text{A++ or A+} | \text{S or M}) = P(\text{A++ or A+} | \text{S or M or L}) = P(\text{A++ or A+} | \text{M or L}) = 1$ . However, the lengths of the confidence intervals for these probabilities are too great to consider these estimates of probabilities to be meaningful. Similar comparison and reasoning is applied in the remaining FSC Groups.

In FSC Group 6 there were no combinations of ratings through which Demotech could be considered to be a valuable predictor of a Best rating.

In FSC Group 5 there are two predictors with value. Demotech A'' is a good predictor of Best A++ or A+ or A, and Demotech A' is a good predictor of Best A+ or A or A-. Other combinations with conditional probabilities that are great enough to be considered as good predictors have confidence intervals which are too large to warrant further consideration.

In FSC Group 4 there are three predictors with value: (1) Demotech A'' is a very good predictor of Best A++ or A+ or A or A-, (2) Demotech A'' is a good predictor of Best A+ or A or A-, and (3) Demotech A' is an excellent predictor of Best A+ or A or A-.

In FSC Group 3 there are two predictors with value. Demotech A'' is a good predictor of Best A++ or A+ or A or A-, and Demotech A' is a very good predictor of Best A+ or A or A-. The rest of conditional probabilities in this FSC Group are too low to be considered further.

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In FSC Group 2, we identify the following predictors with value: (1) Demotech A" is a good predictor of Best B++ or B+ or B or B-, (2) Demotech A" is a very good predictor of Best B++ or B+ or B, (3) Demotech S is a good predictor of Best B++ or B+ or B or B-, and (4) Demotech L is an excellent predictor of Best C++ or C+ or C or C-. For this fourth combination, the conclusion is based on the fact that  $P(C++ \text{ or } C+ \text{ or } C \text{ or } C- | L) = 1$ , with a very long 95% confidence interval of (0.5474, 1), but a very small unconditional probability of  $P(C++ \text{ or } C+ \text{ or } C \text{ or } C-) = 0.1764$ . The rest of the conditional probabilities in this FSC are either too small, or have confidence intervals which are too great to warrant further consideration.

In FSC Group 1, there are only 2 companies. Thus, no analysis was done.

Again, Attachment 5 summarizes these results by FSC Group.

## Testing the Hypothesis of Independence of Demotech's ratings on Company Size

A Chi-Square Test was used to test the hypothesis of independence of Demotech's ratings on FSC Group. The hypothesis of independence of Demotech's ratings on FSC Group was rejected at a significance level of 1%. After excluding Demotech L ratings, the hypothesis of independence of Demotech's ratings A", A', A, S, M by FSC Group was accepted at a significance level of 1%.

Best's ratings are clearly highly dependent on Company size as evidenced by Graphs 1, 7 and 8.

## Consistency of Ratings with Respect to Corporate Structure (Mutual, Stock)

No preferences towards Mutual or Stock companies were observed in the Demotech or Best's ratings. It is startling that the distribution by FSC Group of companies in the Best ▲ category was essentially identical for Stock companies, Mutual companies, and all companies combined. The maximum deviation at all FSC Groups was  $\pm 4\%$  points. This can be seen in Tables 5 and 6.

Under the condition of non-preferential rating, considering only FSC Groups 3, 4, 5, and assuming a consistency in the number of companies falling in the ▲ category within  $\pm 4\%$ , the probability of this type of event occurring is estimated to be less than  $2.6 \times 10^{-7}$ . Therefore, statistically speaking, this extremely high consistency of Best's ratings cannot be a consequence of the policy of non-preferential rating, but rather is more likely evidence of an intentional effort to have the same percentage of both Mutual and Stock companies obtain each rating.

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## Summary:

Over all, Demotech's ratings were found to be fair predictors of Best's ratings. In FSC Groups 3 and 4 Demotech and Best seem to have similar ratings. They differ for companies in FSC Groups 5, 6 and 7, and they differ further for the small companies in FSC Groups 1 and 2. The main source of difference, in my opinion, is the fact that Demotech's ratings seem to be independent of FSC while Best's ratings are very strongly dependent upon FSC. The strong dependency of Best's ratings on FSC is well illustrated in Graphs 1, 7 and 8. According to Graph 1, a company which belongs to FSC Group 5 can be 97% certain to be in the Best **A** category, and a company in FSC Group 6 or 7 can be 100% certain to be in the **A** category. At the same time, companies in FSC Group 3 have only a 50% chance of falling in the Best **A** category. Companies in FSC Group 2, have essentially no chance of obtaining an **A** category rating from Best. Graph 3 says that the Best **B** category of ratings is mainly reserved for companies of FSC Groups 2 and 3.

In FSC Groups 2, 3 and 4, some of Demotech's ratings are valuable predictors of Best's ratings. Due to the discrepancy of ratings between Demotech and Best in the larger FSC Groups described above, there are not many combinations of ratings for which Demotech's ratings are valuable predictors of Best's ratings.

No ratings preferences with regard to corporate structure were found for either the Demotech or the Best rating procedures. As previously mentioned, statistically speaking, the extremely high consistency of Best's ratings with regard to corporate structure cannot be a result of the policy of non-preferential treatment, but rather is being forced.

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## **Attachment 1**

### **Financial Size Category Groups**

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Financial Size Category Group Definitions**

A.M. Best FSC	FSC GROUP
1	1
2	2
3	3
4	3
5	3
6	4
7	4
8	4
9	5
10	5
11	5
12	6
13	6
14	6
15	7



# **Demotech, Inc. and A.M. Best Ratings Comparison Study**

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## **Attachment 2**

**Tables 1 through 4 for each FSC Group**

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 1**

FSC GROUP		TABLE 1 Frequency Distribution Table															
DT Rating	BEST Rating	BEST Rating										E					
		A++	A+	A	A-	B++	B+	B	B-	C++	C+		C	C-	D		
A*	A*	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
A	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Totals		0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0

FSC GROUP		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating	BEST Rating													
		A++	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
A*	A*	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S	S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
M	M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
L	L	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

FSC GROUP		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating (*)	BEST Rating													
		A++ or A+ or A or A-	A+ or A+	A or A-	A+ or A+ or A-	B++ or B+ or B or B-	B+ or B+	B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C+ or C+	C or C-	C++ or C+ or C or C-	C+ or C+ or C or C-	D or E
A*	A*	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S	S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
M	M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
L	L	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

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**Summary of Probabilities by Rating for Financial Size Category Group 1**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.0000	0.0000	0.0000	0.0000	0.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5000	0.0000

Demotech Rating	A*	A	S	M	L	Sum
Probability (*)	0.5000	0.0000	0.0000	0.0000	0.5000	1.0000

FSC GROUP	1												
Best Rating	A++ or A+ or A or A-	A+ or A or A-	A++ or A+	A+ or A	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or D or E	C++ or C+ or C or D or E	C+ or C or C- or D or E	C or C- or D or E	C- or D or E	D or E
Probability	0.0000	0.0000	0.0000	0.0000	0.5000	0.5000	0.0000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP	1												
Given	A* or A+ or A	A+ or A+ or A-	A++ or A+	A+ or A	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or D or E	C++ or C+ or C or D or E	C+ or C or C- or D or E	C or C- or D or E	C- or D or E	D or E
DT Rating	A* or A	A+ or A	A++ or A+	A+ or A	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or D or E	C++ or C+ or C or D or E	C+ or C or C- or D or E	C or C- or D or E	C- or D or E	D or E
Probability of BEST Rating (*)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A* or A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A+ or A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A+ or A or S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A or S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A or S or M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S or M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S or M or L	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
M or L	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 1**

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	1	the z value 1.644853627												
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 2												
	1/2 length of the	95	A	A+	A++	B+	B	B-	C++	C+	C	C-	D	E
A*	0.3651	0.3651	#DIV/0!	#DIV/0!	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651
A'	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
L	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651

FSC GROUP	1	the z value 1.644853627											
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 3											
	1/2 length of the	95	A+ or A or A-	A++ or A+	A+ or A	B++ or B+ or B-	B	B-	C++ or C+ or C-	C+	C	C-	D or E
A*	0.3651	0.3651	#DIV/0!	#DIV/0!	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651
A'	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
L	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651

FSC GROUP	1	the z value 1.644853627											
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 4											
	1/2 length of the	95	A++ or A+ or A-	A+ or A	A++ or A+	B++ or B+ or B-	B	B-	C++ or C+ or C-	C+	C	C-	D or E
A* or A' or A	0.3651	0.3651	#DIV/0!	#DIV/0!	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651
A' or A'	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A' or A	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A' or A or S	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
A or S or M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S or M	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
S or M or L	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
M or L	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 2**

FSC GROUP		2		TABLE 1 Frequency Distribution Table														
DT Rating	BEST Rating	A										E						
		A++	A+	A	A-	A+	B+	B	B-	C++	C+		C	C-	D			
A*	A*	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0
A	A	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0
S	S	0	0	0	0	1	1	2	0	1	0	0	0	0	0	0	0	0
M	M	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
L	L	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Totals		0	0	0	0	3	5	3	3	2	2	1	1	0	0	0	0	0

FSC GROUP		2		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings										
Given DT Rating	Probability of BEST Rating	A										E		
		A++	A+	A	A-	A+	B+	B	B-	C++	C+		C	C-
A*	A*	0.0000	0.0000	0.0000	0.0000	0.2500	0.5000	0.2500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	A	0.0000	0.0000	0.0000	0.0000	0.3333	0.3333	0.0000	0.3333	0.0000	0.0000	0.0000	0.0000	0.0000
S	S	0.0000	0.0000	0.0000	0.0000	0.2000	0.2000	0.4000	0.0000	0.2000	0.0000	0.0000	0.0000	0.0000
M	M	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	L	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5000	0.0000	0.0000	0.0000	0.5000	0.0000

FSC GROUP		2		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings										
Given DT Rating	Probability of BEST Rating (*)	A										E		
		A++ or A+ or A-	A+ or A-	A++ or A+ or A-	A+ or A-	B++ or B+ or B-	B+ or B-	B++ or B+ or B-	B+ or B-	C++ or C+ or C-	C+ or C-		C++ or C+ or C-	C+ or C-
A*	A*	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	A	0.0000	0.0000	0.0000	0.0000	0.6667	0.8000	0.8000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	M	0.0000	0.0000	0.0000	0.0000	0.5000	0.5000	0.5000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	L	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.5000	0.5000	0.0000

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 2**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.0000	0.0000	0.0000	0.0000	0.2841	0.1765	0.1765	0.1176	0.0000	0.0000	0.0588	0.0000	0.0000

Demotech Rating	A*	A	S	M	L	Sum
Probability (*)	0.2353	0.2941	0.0588	0.1176	0.1176	1.0000

FSC GROUP	2												
Best Rating	A++ or A+ or A or A-	A+ or A+ or A-	A+ or A or A-	A+ or A	A++ or A+	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or D or E	C++ or C+ or C-	C+ or C+ or C- or D or E	C+ or C- or D or E	D or E
Probability	0.0000	0.1765	0.0000	0.0000	0.0000	0.8235	0.6471	0.1765	0.1176	0.1765	0.0588	0.0588	0.0000

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP	2												
Given	Probability of BEST Rating (*)												
DT Rating	A+ or A+ or A or A-	A+ or A+ or A-	A+ or A or A-	A+ or A	A++ or A+	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or D or E	C++ or C+ or C-	C+ or C+ or C- or D or E	C+ or C- or D or E	D or E
A+ or A+ or A	0.0000	0.0000	0.0000	0.0000	0.0000	0.9167	0.8333	0.0833	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.8571	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A or S	0.0000	0.0000	0.0000	0.0000	0.0000	0.8750	0.7500	0.1250	0.0000	0.0000	0.0000	0.0000	0.0000
A or S	0.0000	0.0000	0.0000	0.0000	0.0000	0.8889	0.6667	0.1111	0.0000	0.0000	0.0000	0.0000	0.0000
A or S or M	0.0000	0.0000	0.0000	0.0000	0.0000	0.8333	0.6667	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000
S or M	0.0000	0.0000	0.0000	0.0000	0.0000	0.8750	0.6250	0.1250	0.0000	0.0000	0.0000	0.0000	0.0000
S or M or L	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.3333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M or L	0.0000	0.0000	0.0000	0.0000	0.0000	0.6000	0.2000	0.4000	0.2000	0.2000	0.2000	0.2000	0.0000
						0.5000	0.2500	0.5000	0.2500	0.2500	0.2500	0.2500	0.0000

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 2**

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	2	the z value 1.644853627															
Confidence Interval	95 percent	Interval for the probabilities in Table 2															
( must be a number between 51 and 99.9 )																	
	1/2 length of the	95	Interval for the probabilities in Table 2														
			A++	A+	A	A-	A+	B++	B+	B	B-	C++	C+	C	C-	D	E
A*			0.2017	0.2017	0.2017	0.2017	0.3116	0.3116	0.3116	0.3116	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017
A'			0.2371	0.2371	0.2371	0.2371	0.3607	0.3607	0.3607	0.3607	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371
A			0.1756	0.1756	0.1756	0.1756	0.2731	0.2731	0.2731	0.2731	0.1756	0.1756	0.1756	0.1756	0.1756	0.1756	0.1756
S			0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651
M			0.2875	0.2875	0.2875	0.2875	0.4175	0.4175	0.4175	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875
L			0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.4095	0.2875	0.2875	0.4175	0.2875	0.2875

FSC GROUP	2	the z value 1.644853627														
Confidence Interval	95 percent	Interval for the probabilities in Table 3														
( must be a number between 51 and 99.9 )																
	1/2 length of the	95	Interval for the probabilities in Table 3													
			A++ or A+ or A or A-	A+ or A or A-	A+ or A	A+ or A	B++ or B+ or B or B-	B+ or B+ or B or B-	B+ or B+ or B or B-	C++ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	D or E
A*			0.2017	0.2017	0.2017	0.2017	0.4703	0.4703	0.4703	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017
A'			0.2371	0.2371	0.2371	0.2371	0.4716	0.4716	0.4716	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371
A			0.1756	0.1756	0.1756	0.1756	0.4289	0.4289	0.4289	0.2731	0.2731	0.1756	0.1756	0.1756	0.1756	0.1756
S			0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651
M			0.2875	0.2875	0.2875	0.2875	0.4526	0.4526	0.4526	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875
L			0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.4526	0.4175	0.4175	0.4175	0.4175	0.4175	0.2875

FSC GROUP	2	the z value 1.644853627														
Confidence Interval	95 percent	Interval for the probabilities in Table 4														
( must be a number between 51 and 99.9 )																
	1/2 length of the	95	Interval for the probabilities in Table 4													
			A++ or A+ or A or A-	A+ or A or A-	A+ or A	A+ or A	B++ or B+ or B or B-	B+ or B+ or B or B-	B+ or B+ or B or B-	C++ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	D or E
A* or A' or A			0.1840	0.1840	0.1840	0.1840	0.3544	0.3544	0.3544	0.2054	0.2054	0.2054	0.1840	0.1840	0.1840	0.1840
A' or A'			0.2788	0.2788	0.2788	0.2788	0.4048	0.4048	0.4048	0.2788	0.2788	0.2788	0.2788	0.2788	0.2788	0.2788
A' or A			0.2527	0.2527	0.2527	0.2527	0.3827	0.3827	0.3827	0.2751	0.2751	0.2527	0.2527	0.2527	0.2527	0.2527
A' or A or S			0.2311	0.2311	0.2311	0.2311	0.3757	0.3757	0.3757	0.2538	0.2538	0.2311	0.2311	0.2311	0.2311	0.2311
A or S or M			0.2527	0.2527	0.2527	0.2527	0.3827	0.3827	0.3827	0.2751	0.2751	0.2527	0.2527	0.2527	0.2527	0.2527
S or M			0.4742	0.4742	0.4742	0.4742	0.3765	0.3765	0.3765	0.4742	0.4742	0.4742	0.4742	0.4742	0.4742	0.4742
S or M or L			0.3511	0.3511	0.3511	0.3511	0.3881	0.3881	0.3881	0.3762	0.3762	0.3639	0.3639	0.3639	0.3639	0.3511
M or L			0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035	0.4035

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 3**

FSC GROUP		TABLE 1 Frequency Distribution Table												
		BEST Rating												
DT Rating	A++	A+	A	A-	A+	B+	B	B-	C++	C+	C	C-	D	E
A*	4	23	38	60	31	31	1	1	1	0	0	0	0	0
A'	2	14	12	53	27	30	11	8	2	0	0	0	1	0
A	4	2	5	14	17	27	8	5	2	0	0	0	1	0
S	2	0	2	4	12	4	3	4	0	1	0	0	0	0
M	2	2	0	7	3	3	3	1	1	1	0	0	0	0
L	1	2	1	6	7	11	6	3	2	2	1	0	1	0
Totals	13	43	56	142	89	114	32	22	6	6	1	0	3	0

FSC GROUP		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings												
		Probability of BEST Rating												
Given DT Rating	A++	A+	A	A-	A+	B+	B	B-	C++	C+	C	C-	D	E
A*	0.0211	0.1211	0.2000	0.3158	0.1632	0.1632	0.0053	0.0053	0.0053	0.0000	0.0000	0.0000	0.0000	0.0000
A'	0.0125	0.0875	0.0750	0.3313	0.1875	0.1875	0.0688	0.0500	0.0000	0.0125	0.0000	0.0000	0.0063	0.0000
A	0.0471	0.0235	0.0588	0.1647	0.2000	0.3176	0.0941	0.0688	0.0235	0.0000	0.0000	0.0000	0.0118	0.0000
S	0.0714	0.0000	0.0000	0.0714	0.1429	0.4286	0.1071	0.1429	0.0000	0.0357	0.0000	0.0000	0.0000	0.0000
M	0.0000	0.0952	0.0000	0.3333	0.1429	0.1429	0.1429	0.0476	0.0476	0.0476	0.0000	0.0000	0.0000	0.0000
L	0.0233	0.0465	0.0233	0.1395	0.2558	0.1395	0.0698	0.0698	0.0465	0.0465	0.0233	0.0000	0.0233	0.0000

FSC GROUP		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings													
		Probability of BEST Rating (*)													
Given DT Rating	A++ or A+ or A-	A++ or A+ or A-	A+ or A-	A+ or A-	A+ or A-	B+ or B+ or B-	B+ or B+ or B-	B+ or B+ or B-	C++ or C+ or C-	C++ or C+ or C-	C++ or C+ or C-	C+ or C- or C- or D or E	C+ or C- or C- or D or E	C+ or D or E	D or E
A*	0.6579	0.3421	0.1421	0.3211	0.3368	0.3316	0.3316	0.0053	0.0053	0.0053	0.0000	0.0000	0.0000	0.0000	0.0000
A'	0.5063	0.1750	0.1000	0.1625	0.4750	0.4250	0.4250	0.0125	0.0125	0.0125	0.0188	0.0188	0.0063	0.0063	0.0063
A	0.2941	0.1294	0.0706	0.0824	0.6706	0.6118	0.6118	0.0235	0.0235	0.0235	0.0118	0.0118	0.0118	0.0118	0.0118
S	0.1429	0.0714	0.0714	0.0000	0.8214	0.6766	0.6766	0.0357	0.0357	0.0357	0.0357	0.0357	0.0000	0.0000	0.0000
M	0.4286	0.0952	0.4286	0.0952	0.4762	0.4286	0.4286	0.0952	0.0952	0.0952	0.0476	0.0476	0.0000	0.0000	0.0000
L	0.2326	0.0930	0.2093	0.0698	0.6279	0.5581	0.5581	0.1163	0.1163	0.1163	0.0698	0.0698	0.0465	0.0233	0.0233



**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 3**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.0247	0.0816	0.1063	0.2694	0.1689	0.0607	0.0417	0.0114	0.0114	0.0019	0.0000	0.0057	0.0000

Demotech Rating	A*	S	M	L	Sum
Probability (*)	0.3605	0.3036	0.0531	0.0398	1.0000

FSC GROUP	3
A++ or A+ or A or A-	0.4820
A+ or A or A-	0.4573
A++ or A+	0.1063
A+ or A	0.1879
B++ or B+ or B or B-	0.4877
B++ or B+ or B	0.4459
C++ or C+ or C or C-	0.0247
C++ or C+ or C	0.0247
C+ or C+ or C- or D or E	0.0304
C+ or C or C- or D or E	0.1252
C- or D or E	0.0076
D or E	0.0057

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP	3											
Given	A++ or A+ or A or A-	A+ or A or A-	A++ or A+	A+ or A	B++ or B+ or B or B-	B++ or B+ or B	C++ or C+ or C or C-	C++ or C+ or C or D or E	C+ or C+ or C- or D or E	C+ or C or C- or D or E	C- or D or E	D or E
DT Rating	Probability of BEST Rating (*)	A+ or A or A-	A++ or A+	A+ or A	B++ or B+ or B or B-	B++ or B+ or B	C++ or C+ or C or C-	C++ or C+ or C or D or E	C+ or C+ or C- or D or E	C+ or C or C- or D or E	C- or D or E	D or E
A* or A*	0.5310	0.2391	0.1126	0.2161	0.4529	0.4207	0.0115	0.0046	0.0046	0.0092	0.0046	0.0046
A* or A*	0.5886	0.2657	0.1229	0.2486	0.4000	0.3743	0.0086	0.0057	0.0057	0.0086	0.0029	0.0029
A* or A	0.4327	0.1592	0.0898	0.1347	0.5429	0.4898	0.0163	0.0082	0.0082	0.0163	0.0082	0.0082
A or A or S	0.4029	0.1502	0.0879	0.1209	0.5714	0.5092	0.0183	0.0110	0.0110	0.0183	0.0073	0.0073
A or S	0.2566	0.1150	0.0708	0.0619	0.7080	0.6283	0.0265	0.0088	0.0088	0.0177	0.0088	0.0088
A or S or M	0.2836	0.1119	0.0746	0.0672	0.6716	0.5970	0.0373	0.0149	0.0149	0.0224	0.0075	0.0075
S or M	0.2653	0.0816	0.0816	0.0408	0.6735	0.5714	0.0612	0.0408	0.0408	0.0408	0.0000	0.0000
S or M or L	0.2500	0.0870	0.0761	0.0543	0.6522	0.5652	0.0870	0.0543	0.0543	0.0652	0.0217	0.0109
M or L	0.2969	0.0938	0.0781	0.0781	0.5781	0.5156	0.1094	0.0825	0.0825	0.0781	0.0313	0.0156

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 3**

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	3	the z value	1.644853627										
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent												
<b>1/2 length of the 95 interval for the probabilities in Table 2</b>													
A*	A++	A+	A	B++	B+	B	B-	C++	C+	C	C-	D	E
0.0185	0.0415	0.0531	0.0664	0.0480	0.0480	0.0111	0.0111	0.0110	0.0070	0.0070	0.0070	0.0070	0.0070
0.0165	0.0387	0.0360	0.0740	0.0532	0.0560	0.0345	0.0298	0.0083	0.0165	0.0083	0.0083	0.0131	0.0083
0.0405	0.0307	0.0447	0.0718	0.0788	0.0985	0.0552	0.0447	0.0305	0.0154	0.0154	0.0154	0.0243	0.0154
0.0876	0.0441	0.0441	0.0876	0.1156	0.1893	0.1026	0.1156	0.0441	0.0693	0.0441	0.0441	0.0441	0.0441
0.0571	0.1133	0.0571	0.1908	0.1327	0.1327	0.1327	0.0898	0.0891	0.0898	0.0571	0.0571	0.0571	0.0571
0.0466	0.0589	0.0466	0.0929	0.0985	0.1226	0.0929	0.0690	0.0582	0.0589	0.0466	0.0466	0.0466	0.0296

FSC GROUP	3	the z value	1.644853627								
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent										
<b>1/2 length of the 95 interval for the probabilities in Table 3</b>											
A*	A++ or A+ or A or A-	A+ or A	A+ or A	B++ or B+ or B or B-	B++ or B+ or B	C++ or C+ or C or C-	C++ or C+ or C	C++ or C+ or C- or D or E	C+ or C- or D or E	C- or D or E	D or E
0.0955	0.0891	0.0940	0.0449	0.0670	0.0686	0.0881	0.0111	0.0070	0.0070	0.0070	0.0070
0.0912	0.0541	0.0901	0.0413	0.0522	0.0884	0.0837	0.0165	0.0165	0.0165	0.0131	0.0131
0.0949	0.0640	0.0872	0.0484	0.0519	0.1419	0.1356	0.0307	0.0154	0.0154	0.0243	0.0243
0.1156	0.0876	0.0876	0.0876	0.0441	0.2569	0.2348	0.0693	0.0693	0.0441	0.0441	0.0441
0.2138	0.1133	0.2138	0.1133	0.1133	0.2243	0.2138	0.1133	0.0898	0.0898	0.0571	0.0571
0.1173	0.0778	0.1117	0.0690	0.0690	0.1880	0.1776	0.0656	0.0690	0.0690	0.0466	0.0466

FSC GROUP	3	the z value	1.644853627							
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent									
<b>1/2 length of the 95 interval for the probabilities in Table 4</b>										
A* or A' or A	A++ or A+ or A or A-	A+ or A	A+ or A	B++ or B+ or B or B-	B++ or B+ or B	C++ or C+ or C or C-	C++ or C+ or C- or D or E	C+ or C- or D or E	C- or D or E	D or E
0.0572	0.0386	0.0560	0.0289	0.0386	0.0529	0.0510	0.0104	0.0081	0.0081	0.0081
0.0670	0.0454	0.0660	0.0314	0.0439	0.0554	0.0536	0.0111	0.0101	0.0101	0.0090
0.0687	0.0426	0.0668	0.0328	0.0394	0.0767	0.0730	0.0171	0.0144	0.0144	0.0144
0.0629	0.0392	0.0606	0.0306	0.0354	0.0746	0.0705	0.0165	0.0142	0.0129	0.0129
0.0787	0.0555	0.0709	0.0437	0.0437	0.1199	0.1078	0.0336	0.0272	0.0272	0.0272
0.0757	0.0500	0.0689	0.0424	0.0407	0.1142	0.1078	0.0331	0.0259	0.0259	0.0231
0.1217	0.0803	0.1138	0.0803	0.0678	0.1828	0.1696	0.0743	0.0678	0.0678	0.0523
0.0863	0.0559	0.0812	0.0533	0.0475	0.1346	0.1258	0.0559	0.0475	0.0475	0.0332
0.1117	0.0712	0.1091	0.0670	0.0670	0.1508	0.1430	0.0751	0.0627	0.0627	0.0471

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 4**

FSC GROUP		TABLE 1 Frequency Distribution Table												
DT Rating	BEST Rating	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
		A++	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
A*	6	38	31	81	22	9	1	0	0	0	0	0	0	0
A'	0	16	80	23	5	5	0	0	0	0	0	0	0	0
A	0	2	5	33	11	7	0	0	0	0	0	0	0	0
S	0	0	6	2	3	0	0	0	0	0	0	0	0	0
M	0	0	1	11	4	1	0	0	0	0	0	0	0	0
L	0	1	1	9	7	3	1	1	0	0	0	0	0	0
Totals	6	57	54	220	69	28	2	1	0	0	0	0	0	0

FSC GROUP		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating	A++	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
		A++	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
A*	0.0319	0.2021	0.1649	0.4309	0.1170	0.0479	0.0053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A'	0.0000	0.1143	0.1143	0.5714	0.1643	0.0357	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	0.0000	0.0345	0.0862	0.5690	0.1897	0.1207	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	0.0000	0.0000	0.0000	0.5455	0.1818	0.2727	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	0.0000	0.0000	0.0588	0.6471	0.2353	0.0588	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	0.0000	0.0435	0.0435	0.3913	0.3043	0.1304	0.0435	0.0435	0.0435	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FSC GROUP		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating (*)	A++ or A+ or A-	A+ or A+ or A-	A+ or A or A-	A+ or A	B+ or B+ or B-	B+ or B+ or B-	B+ or B+ or B-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	D or E	D or E
		A++ or A+ or A-	A+ or A+ or A-	A+ or A or A-	A+ or A	B+ or B+ or B-	B+ or B+ or B-	B+ or B+ or B-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	C+ or C+ or C-	D or E
A*	0.8298	0.3989	0.7979	0.2340	0.3670	0.1702	0.2000	0.1702	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A'	0.8000	0.2286	0.8000	0.1143	0.2286	0.2000	0.2000	0.2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	0.6897	0.1207	0.6897	0.0345	0.1207	0.3103	0.3103	0.3103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	0.5455	0.0000	0.5455	0.0000	0.0000	0.4545	0.4545	0.4545	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	0.7059	0.0588	0.7059	0.0000	0.0588	0.2941	0.2941	0.2941	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	0.4783	0.0870	0.4783	0.0435	0.0870	0.5217	0.4783	0.4783	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 4**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.0137	0.1304	0.1236	0.5034	0.1579	0.0046	0.0023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Demotech Rating	A*	A	S	M	L	Sum
Probability (*)	0.4302	0.3204	0.0252	0.0389	0.0526	1.0000

FSC GROUP	4												
Best Rating	A++ or A+ or A or A-	A+ or A+ or A-	A+ or A or A-	A+ or A	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	C+ or C+ or C or D or E	C+ or C+ or C or D or E	C- or C- or D or E	D or E
Probability	0.7712	0.4256	0.7574	0.1442	0.2540	0.2268	0.2265	0.0000	0.0000	0.0000	0.1236	0.0000	0.0000

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP	4												
Given	Probability of BEST Rating (*)												
DT Rating	A++ or A+ or A or A-	A+ or A+ or A-	A+ or A or A-	A+ or A	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or D or E	C+ or C+ or C or D or E	C+ or C+ or C or D or E	C- or C- or D or E	D or E
A* or A*	0.7979	0.2953	0.7824	0.1606	0.2788	0.2021	0.2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A* or A*	0.8171	0.3262	0.7988	0.1829	0.3079	0.1829	0.1829	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A* or A or S	0.7560	0.1970	0.7677	0.0909	0.1970	0.2323	0.2323	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S	0.6667	0.1014	0.7560	0.0861	0.1866	0.2440	0.2440	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S or M	0.6744	0.0930	0.6744	0.0290	0.1014	0.3333	0.3333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M	0.6429	0.0357	0.6429	0.0000	0.0357	0.3256	0.3256	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M or L	0.5686	0.0588	0.5686	0.0196	0.0588	0.4314	0.4314	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M or L	0.5750	0.0750	0.5750	0.0250	0.0750	0.4250	0.4250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 4**

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	4	the z value	1.644853627
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent		
<b>1/2 length of the</b>			
	<b>95</b>	<b>Interval for the probabilities in Table 2</b>	
A*	A++	A+	A
A*	A++	A+	A
A	A++	A+	A
S	A++	A+	A
M	A++	A+	A
L	A++	A+	A

FSC GROUP	4	the z value	1.644853627
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent		
<b>1/2 length of the</b>			
	<b>95</b>	<b>Interval for the probabilities in Table 3</b>	
A*	A++ or A+ or A or A-	A+ or A	A+ or A
A*	A++ or A+ or A or A-	A+ or A	A+ or A
A	A++ or A+ or A or A-	A+ or A	A+ or A
S	A++ or A+ or A or A-	A+ or A	A+ or A
M	A++ or A+ or A or A-	A+ or A	A+ or A
L	A++ or A+ or A or A-	A+ or A	A+ or A

FSC GROUP	4	the z value	1.644853627
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent		
<b>1/2 length of the</b>			
	<b>95</b>	<b>Interval for the probabilities in Table 4</b>	
A* or A' or A	A++ or A+ or A or A-	A+ or A	A+ or A
A* or A'	A++ or A+ or A or A-	A+ or A	A+ or A
A' or A	A++ or A+ or A or A-	A+ or A	A+ or A
A' or A or S	A++ or A+ or A or A-	A+ or A	A+ or A
A or S or M	A++ or A+ or A or A-	A+ or A	A+ or A
S or M	A++ or A+ or A or A-	A+ or A	A+ or A
M or L	A++ or A+ or A or A-	A+ or A	A+ or A

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 5**

FSC GROUP		TABLE 1 Frequency Distribution Table													
DT Rating	BEST Rating	DT Rating													
		A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E	
A*	A+	25	1	3	1	0	0	0	0	0	0	0	0	0	0
A*	A	11	1	7	1	0	0	0	0	0	0	0	0	0	
A	A	2	0	1	0	0	0	0	0	0	0	0	0	0	
S	S	2	0	0	0	0	0	0	0	0	0	0	0	0	
M	M	0	0	1	0	0	0	0	0	0	0	0	0	0	
L	L	3	0	1	0	0	0	0	0	0	0	0	0	0	
Totals		43	2	13	2	0	0	0	0	0	0	0	0	0	

FSC GROUP		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings												
Given DT Rating	Probability of BEST Rating	DT Rating												
		A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
A*	A+	0.2500	0.0250	0.0750	0.0250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A*	A	0.0476	0.0476	0.3333	0.0476	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	A	0.0000	0.6667	0.3333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	S	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	M	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	L	0.0000	0.0000	0.2500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FSC GROUP		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings												
Given DT Rating	Probability of BEST Rating (*)	DT Rating												
		A+ or A+ or A-	A+ or A or A-	A+ or A+	A+ or A	B+ or B+ or B-	B+ or B+ or B-	C+ or C+ or C-	C+ or C+ or C-	C+ or C or C- or D or E	C+ or C or D or E	D or E		
A*	A+	0.9750	0.9000	0.8750	0.6500	0.0250	0.0250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A*	A	0.9524	0.6190	0.5714	0.5714	0.0476	0.0476	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	A	1.0000	0.6667	0.6667	0.6667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	S	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	M	1.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	L	1.0000	0.7500	0.7500	0.7500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 5**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.1549	0.6056	0.0282	0.1831	0.0282	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Demotech Rating	A*	S	M	L	Sum		
Probability (*)	0.5634	0.2958	0.0423	0.0282	0.0141	0.0563	1.0000

FSC GROUP	5
A++ or A+ or A or A-	0.9718
A+ or A or A-	0.8169
A++ or A+	0.7606
A+ or A	0.6538
B++ or B+ or B or B-	0.0282
B++ or B+ or B	0.0282
C++ or C+ or C or C-	0.0000
C++ or C+ or C	0.0000
C+ or C+ or C- or D or E	0.0000
C+ or C- or C- or D or E	0.0282
C- or D or E	0.0000
D or E	0.0000

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP	5												
Given	0.9688	0.7969	0.7969	0.7656	0.6250	0.0313	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A+ or A or A-	0.9672	0.8033	0.7869	0.7705	0.6230	0.0328	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A	0.9583	0.6250	0.9167	0.5833	0.5833	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or A or S	0.9615	0.6538	0.9231	0.6154	0.6154	0.0385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S	1.0000	0.8000	1.0000	0.8000	0.8000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S or M	1.0000	0.6667	1.0000	0.6667	0.6667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M	1.0000	0.6667	1.0000	0.6667	0.6667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M or L	1.0000	0.7143	1.0000	0.7143	0.7143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M or L	1.0000	0.6000	1.0000	0.6000	0.6000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 5**

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	5	the z value 1.644853627														
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 2														
	1/2 length of the	95	Interval for the probabilities in Table 2													
		A++	A+	A	A-	A+	B++	B+	B	B-	C++	C+	C	C-	D	E
A*		0.1255	0.1937	0.0499	0.0738	0.0499	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317
A'		0.0698	0.2343	0.0898	0.1908	0.0898	0.0571	0.0571	0.0571	0.0571	0.0571	0.0571	0.0571	0.0571	0.0571	0.0571
A		0.2371	0.4307	0.2371	0.3607	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371
S		0.2875	0.4526	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875
M		0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651
L		0.2017	0.4329	0.2017	0.3116	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017

FSC GROUP	5	the z value 1.644853627													
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 3													
	1/2 length of the	95	Interval for the probabilities in Table 3												
		A++ or A+ or A or A-	A++ or A+ or A-	A+ or A or A-	A+ or A	B++ or B+ or B or B-	B++ or B+ or B	C++ or C+ or C or C-	C++ or C+ or C or D or E	C+ or C+ or C- or D or E	C or C- or D or E	C- or D or E	D or E		
A*		0.2397	0.2307	0.2080	0.1974	0.0499	0.0499	0.0317	0.0317	0.0317	0.0317	0.0317	0.0317		
A'		0.3085	0.2530	0.3013	0.2438	0.0898	0.0898	0.0571	0.0571	0.0571	0.0571	0.0571	0.0571		
A		0.4716	0.4307	0.4716	0.4307	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371		
S		0.4526	0.4526	0.4526	0.4526	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875	0.2875		
M		0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651	0.3651		
L		0.4703	0.4329	0.4703	0.4329	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017		

FSC GROUP	5	the z value 1.644853627													
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 4													
	1/2 length of the	95	Interval for the probabilities in Table 4												
		A++ or A+ or A or A-	A++ or A+ or A-	A+ or A or A-	A+ or A	B++ or B+ or B or B-	B++ or B+ or B	C++ or C+ or C or C-	C++ or C+ or C- or D or E	C+ or C+ or C- or D or E	C or C- or D or E	C- or D or E	D or E		
A* or A' or A		0.1923	0.1753	0.1753	0.1564	0.0526	0.0526	0.0406	0.0406	0.0406	0.0406	0.0406	0.0406		
A' or A'		0.1964	0.1798	0.1781	0.1586	0.0552	0.0552	0.0425	0.0425	0.0425	0.0425	0.0425	0.0425		
A' or A		0.2881	0.2402	0.2825	0.2335	0.1159	0.1159	0.1013	0.1013	0.1013	0.1013	0.1013	0.1013		
A' or A or S		0.2799	0.2369	0.2749	0.2309	0.1080	0.1080	0.0943	0.0943	0.0943	0.0943	0.0943	0.0943		
A or S		0.4109	0.3997	0.4109	0.3997	0.3511	0.3511	0.3511	0.3511	0.3511	0.3511	0.3511	0.3511		
A or S or M		0.4099	0.3797	0.4089	0.3797	0.3108	0.3108	0.3108	0.3108	0.3108	0.3108	0.3108	0.3108		
S or M		0.3765	0.4116	0.3765	0.4116	0.4742	0.4742	0.4742	0.4742	0.4742	0.4742	0.4742	0.4742		
S or M or L		0.4048	0.3732	0.4048	0.3732	0.2788	0.2788	0.2788	0.2788	0.2788	0.2788	0.2788	0.2788		
M or L		0.4109	0.3881	0.4109	0.3881	0.3511	0.3511	0.3511	0.3511	0.3511	0.3511	0.3511	0.3511		



**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 6**

FSC GROUP		TABLE 1 Frequency Distribution Table													
DT Rating	BEST Rating	A++	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
		A*	7	15	2	17	0	0	0	0	0	0	0	0	0
A*	13	4	0	12	0	0	0	0	0	0	0	0	0	0	0
A	7	3	0	9	0	0	0	0	0	0	0	0	0	0	0
S	3	2	0	3	0	0	0	0	0	0	0	0	0	0	0
M	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0
L	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Totals	36	25	2	44	0	0	0	0	0	0	0	0	0	0	0

FSC GROUP		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating	A++	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
		A*	0.1707	0.3659	0.0488	0.1707	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A*	0.4483	0.1379	0.0000	0.4138	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	0.3684	0.1579	0.0000	0.4737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	0.3750	0.2500	0.0000	0.3750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	0.5000	0.1667	0.0000	0.3333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	0.7500	0.0000	0.0000	0.2500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FSC GROUP		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating (*)	A++ or A+ or A or A-	A+ or A+ or A-	A+ or A	B++ or B+ or B or B-	B+ or B+ or B or B-	C++ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	D or E	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	D or E	D or E
		A*	1.0000	0.5854	0.8293	0.5366	0.4146	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A*	1.0000	0.5862	0.5517	0.5862	0.1379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	1.0000	0.5263	0.6316	0.5263	0.1579	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	1.0000	0.6250	0.6250	0.6250	0.2500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	1.0000	0.6667	0.5000	0.6667	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	1.0000	0.7500	0.2500	0.7500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 6**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.3364	0.2336	0.0187	0.4112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Demotech Rating	A*	S	M	L	Sum
Probability (*)	0.3832	0.2710	0.1776	0.0374	1.0000

FSC GROUP 6												
Best Rating	A++ or A+ or A or A-	A+ or A or A-	A+ or A	A++ or A+	B++ or B+ or B or B-	B+ or B	C++ or C+ or C or C-	C++ or C+ or C or D or E	C+ or C+ or C- or D or E	C+ or C+ or C- or D or E	C- or C- or D or E	D or E
Probability	1.0000	0.5888	0.6636	0.5701	0.0000	0.0000	0.0000	0.0000	0.0000	0.0187	0.0000	0.0000

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP 6												
Given DT Rating	Probability of BEST Rating (*)											
	A++ or A+ or A or A-	A+ or A or A-	A+ or A	A++ or A+	B++ or B+ or B or B-	B+ or B	C++ or C+ or C or C-	C++ or C+ or C or D or E	C+ or C+ or C- or D or E	C+ or C+ or C- or D or E	C- or C- or D or E	D or E
A* or A*	1.0000	0.5730	0.6966	0.5506	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A+	1.0000	0.5857	0.7143	0.5571	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A- or A-	1.0000	0.5625	0.5833	0.5625	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or A or S	1.0000	0.5714	0.5883	0.5714	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S	1.0000	0.5556	0.6296	0.5556	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S or M	1.0000	0.5758	0.6061	0.5758	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M	1.0000	0.6429	0.5714	0.6429	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M or L	1.0000	0.6667	0.5000	0.6667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M or L	1.0000	0.7000	0.4000	0.7000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 6**

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	6	the z value	1.644853627												
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent														
<b>1/2 length of the 95 Interval for the probabilities in Table 2</b>															
	A++	A+	A	A-	A+	B++	B+	B	B-	C++	C+	C	C-	D	E
A*	0.1041	0.1484	0.0615	0.1575	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310
A'	0.1904	0.1120	0.0427	0.1835	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427
A	0.2081	0.1448	0.0623	0.2330	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623
S	0.2889	0.2484	0.1264	0.2889	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264
M	0.3497	0.2426	0.1554	0.3026	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554
L	0.4329	0.2017	0.2017	0.3116	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017

FSC GROUP	6	the z value	1.644853627												
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent														
<b>1/2 length of the 95 Interval for the probabilities in Table 3</b>															
	A++ or A+ or A or A-	A+ or A+ or A	A+ or A	A+ or A	B++ or B+ or B or B-	B+ or B+ or B or B-	B+ or B+ or B or B-	C++ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	D or E
A*	0.2400	0.1857	0.2184	0.1781	0.1575	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310
A'	0.2778	0.2160	0.2099	0.2160	0.1120	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427	0.0427
A	0.3275	0.2444	0.2655	0.2444	0.1448	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623	0.0623
S	0.4257	0.3532	0.3532	0.3532	0.2484	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264	0.1264
M	0.4502	0.3887	0.3497	0.3887	0.2426	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554
L	0.4703	0.4329	0.3116	0.4329	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017	0.2017

FSC GROUP	6	the z value	1.644853627												
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent														
<b>1/2 length of the 95 Interval for the probabilities in Table 4</b>															
	A++ or A+ or A or A-	A+ or A+ or A	A+ or A	A+ or A	B++ or B+ or B or B-	B+ or B+ or B or B-	B+ or B+ or B or B-	C++ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	C+ or C+ or C or C-	D or E
A* or A' or A	0.1680	0.1286	0.1411	0.1282	0.0908	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295
A' or A'	0.1875	0.1455	0.1597	0.1421	0.1073	0.0372	0.0372	0.0372	0.0372	0.0372	0.0372	0.0372	0.0372	0.0372	0.0372
A' or A	0.2217	0.1700	0.1728	0.1700	0.0980	0.0534	0.0534	0.0534	0.0534	0.0534	0.0534	0.0534	0.0534	0.0534	0.0534
A' or A or S	0.2807	0.1595	0.1618	0.1595	0.0932	0.0461	0.0461	0.0461	0.0461	0.0461	0.0461	0.0461	0.0461	0.0461	0.0461
A or S	0.2072	0.2179	0.2296	0.2179	0.1461	0.0911	0.0911	0.0911	0.0911	0.0911	0.0911	0.0911	0.0911	0.0911	0.0911
A or S or M	0.2594	0.2029	0.2075	0.2029	0.1301	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758	0.0758
S or M	0.3510	0.2976	0.2857	0.2976	0.2168	0.1620	0.1620	0.1620	0.1620	0.1620	0.1620	0.1620	0.1620	0.1620	0.1620
S or M or L	0.3247	0.2756	0.2475	0.2756	0.1783	0.1307	0.1307	0.1307	0.1307	0.1307	0.1307	0.1307	0.1307	0.1307	0.1307
M or L	0.3820	0.3402	0.2925	0.3402	0.2354	0.2129	0.2129	0.2129	0.2129	0.2129	0.2129	0.2129	0.2129	0.2129	0.2129

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
 Summary of Probabilities by Rating for Financial Size Category Group 7

FSC GROUP		TABLE 1 Frequency Distribution Table												
DT Rating	BEST Rating	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
		A*	36	1	0	0	0	0	0	0	0	0	0	0
A'	49	0	0	0	0	0	0	0	0	0	0	0	0	0
A	3	16	0	0	0	0	0	0	0	0	0	0	0	0
S	1	2	0	0	0	0	0	0	0	0	0	0	0	0
M	1	5	0	0	0	0	0	0	0	0	0	0	0	0
L	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	54	132	0	0	0	0	0	0	0	0	0	0	0	0

FSC GROUP		TABLE 2 Probabilities of Best Ratings Given Demotech Ratings												
Given DT Rating	Probability of BEST Rating	A+	A	A-	B++	B+	B	B-	C++	C+	C	C-	D	E
		A*	0.3956	0.5934	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A'	0.2097	0.7903	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	0.1500	0.8000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	0.3333	0.6667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	0.1667	0.8333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FSC GROUP		TABLE 3 Probabilities of Best Ratings Given Demotech Ratings													
Given DT Rating	Probability of BEST Rating (*)	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-	A+ or A+ or A-
		A*	1.0000	1.0000	0.9890	0.6044	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A'	1.0000	1.0000	1.0000	0.7903	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A	1.0000	1.0000	1.0000	0.8500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	1.0000	1.0000	1.0000	0.6667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M	1.0000	1.0000	1.0000	0.8333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
L	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
**Summary of Probabilities by Rating for Financial Size Category Group 7**

Best Rating	A++	A+	A	A-	B+	B	B-	C++	C+	C	C-	D	E
Probability (*)	0.2872	0.7021	0.0106	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Demotech Rating	A*	A	S	M	L	Sum
Probability (*)	0.4840	0.3298	0.1064	0.0160	0.0319	1.0000

FSC GROUP 7													
Best Rating	A++ or A+ or A or A-	A+ or A or A-	A+ or A	A++ or A+	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	D or E
Probability	1.0000	0.7128	0.9894	0.7128	0.0000	0.0106	0.0000	0.0000	0.0000	0.0106	0.0000	0.0000	0.0000

**TABLE 4**  
**Probabilities of Best Ratings Given DT Ratings**

FSC GROUP 7													
Given	Probability of BEST Rating (*)												
DT Rating	A+ or A+ or A or A-	A+ or A+ or A or A-	A+ or A+ or A or A-	A+ or A+ or A or A-	A+ or A+ or A or A-	B++ or B+ or B or B-	B++ or B+ or B or B-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	C++ or C+ or C or C-	D or E
A+ or A+ or A or A-	1.0000	0.6994	0.9894	0.6994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A	1.0000	0.6797	0.9935	0.6797	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A+ or A or S	1.0000	0.8049	0.9878	0.8049	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S	1.0000	0.8000	0.9882	0.8000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
A or S or M	1.0000	0.8261	0.9565	0.8261	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M	1.0000	0.8276	0.9655	0.8276	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S or M or L	1.0000	0.7778	1.0000	0.7778	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
M or L	1.0000	0.8667	1.0000	0.8667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		0.9167	1.0000	0.9167	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

(\*) Estimated Probabilities were computed only for the companies which were both rated by Demotech and Best.

**Demotech, Inc. and A.M. Best Ratings Comparison Study**  
 Summary of Probabilities by Rating for Financial Size Category Group 7

**Auxiliary Computations to Tables 1 through 4 - Confidence Interval Calculations**

FSC GROUP	7	the z value 1.644853627														
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 2														
	1/2 length of the	95	Interval for the probabilities in Table 2													
		A++	A+	A	A-	A+	B++	B+	B	B-	C++	C+	C	C-	D	E
A*		0.1061	0.1294	0.0227	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144
A'		0.0939	0.1780	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209
A		0.1385	0.2901	0.0937	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596
S		0.3607	0.4307	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371
M		0.2426	0.4217	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554
L		0.1554	0.4502	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554

FSC GROUP	7	the z value 1.644853627														
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 3														
	1/2 length of the	95	Interval for the probabilities in Table 3													
		A++ or A+ or A or A-	A+ or A or A-	A+ or A	A++ or A+	A+ or A	B++ or B+ or B or B-	B+ or B+ or B	B+ or B+ or B	C++ or C+ or C or C-	C+ or C+ or C	C++ or C+ or C or D or E	C+ or C+ or C or D or E	C+ or C+ or C or D or E	C+ or C+ or C or D or E	D or E
A*		0.1672	0.1672	0.1305	0.1662	0.1305	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	0.0144	
A'		0.1996	0.1996	0.1780	0.1996	0.1780	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	
A		0.3213	0.3213	0.2983	0.3139	0.2983	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	0.0596	
S		0.4716	0.4716	0.4307	0.4716	0.4307	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	0.2371	
M		0.4502	0.4502	0.4217	0.4502	0.4217	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	
L		0.4502	0.4502	0.4502	0.4502	0.4502	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	0.1554	

FSC GROUP	7	the z value 1.644853627														
Confidence Interval ( must be a number between 51 and 99.9 )	95 percent	Interval for the probabilities in Table 4														
	1/2 length of the	95	Interval for the probabilities in Table 4													
		A++ or A+ or A or A-	A+ or A or A-	A+ or A	A++ or A+	A+ or A	B++ or B+ or B or B-	B+ or B+ or B	B+ or B+ or B	C++ or C+ or C or C-	C+ or C+ or C	C++ or C+ or C or D or E	C+ or C+ or C or D or E	C+ or C+ or C or D or E	C+ or C+ or C or D or E	D or E
A* or A' or A		0.1227	0.1227	0.1029	0.1220	0.1029	0.0154	0.0154	0.0154	0.0154	0.0154	0.0154	0.0154	0.0154	0.0154	
A' or A'		0.1301	0.1301	0.1077	0.1287	0.1077	0.0174	0.0174	0.0174	0.0174	0.0174	0.0174	0.0174	0.0174	0.0174	
A' or A		0.1744	0.1744	0.1571	0.1734	0.1571	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	
A' or A or S		0.1716	0.1716	0.1541	0.1706	0.1541	0.0308	0.0308	0.0308	0.0308	0.0308	0.0308	0.0308	0.0308	0.0308	
A or S		0.2981	0.2981	0.2745	0.2924	0.2745	0.1053	0.1053	0.1053	0.1053	0.1053	0.1053	0.1053	0.1053	0.1053	
A or S or M		0.2731	0.2731	0.2509	0.2688	0.2509	0.0853	0.0853	0.0853	0.0853	0.0853	0.0853	0.0853	0.0853	0.0853	
S or M		0.3901	0.3901	0.3608	0.3901	0.3608	0.2311	0.2311	0.2311	0.2311	0.2311	0.2311	0.2311	0.2311	0.2311	
S or M or L		0.3439	0.3439	0.3250	0.3439	0.3250	0.1528	0.1528	0.1528	0.1528	0.1528	0.1528	0.1528	0.1528	0.1528	
M or L		0.3660	0.3660	0.3544	0.3660	0.3544	0.1840	0.1840	0.1840	0.1840	0.1840	0.1840	0.1840	0.1840	0.1840	

# **Demotech, Inc. and A.M. Best Ratings Comparison Study**

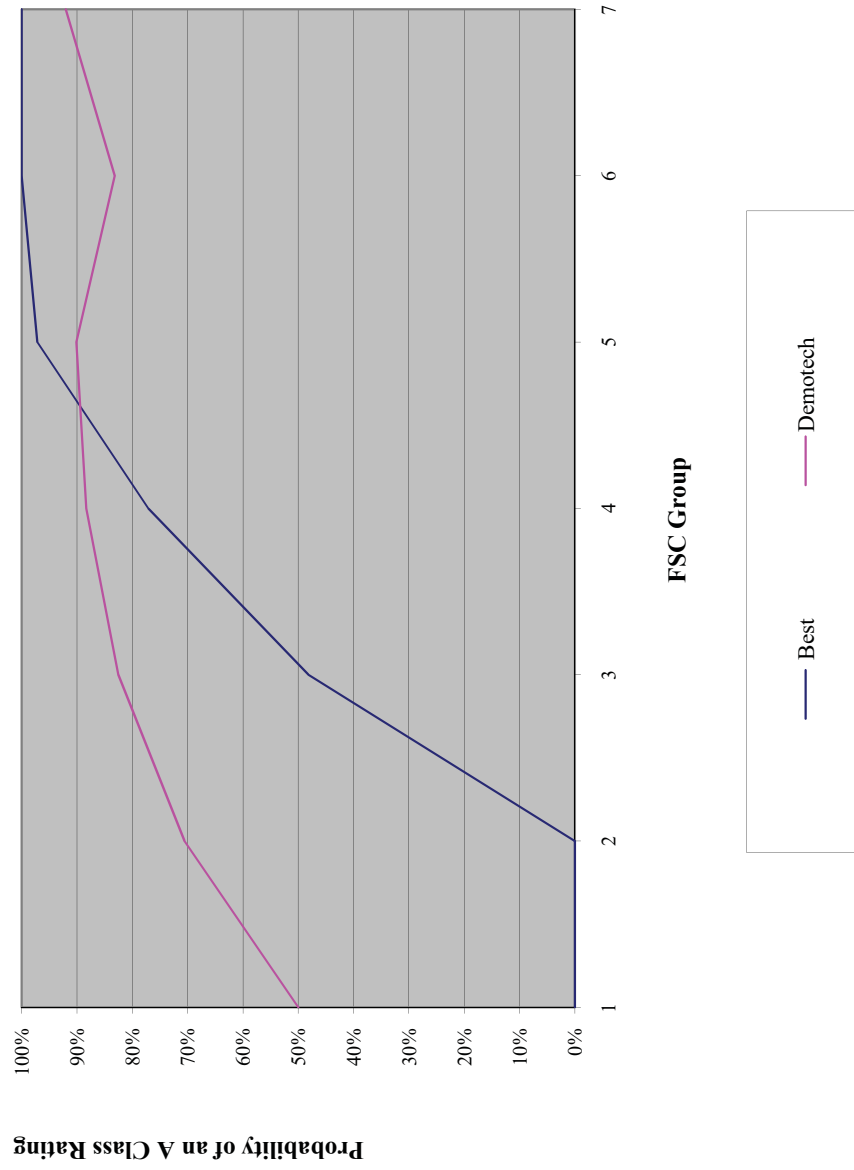
By Mark Kaminski, Ph. D.

February 7, 2000

## **Attachment 3**

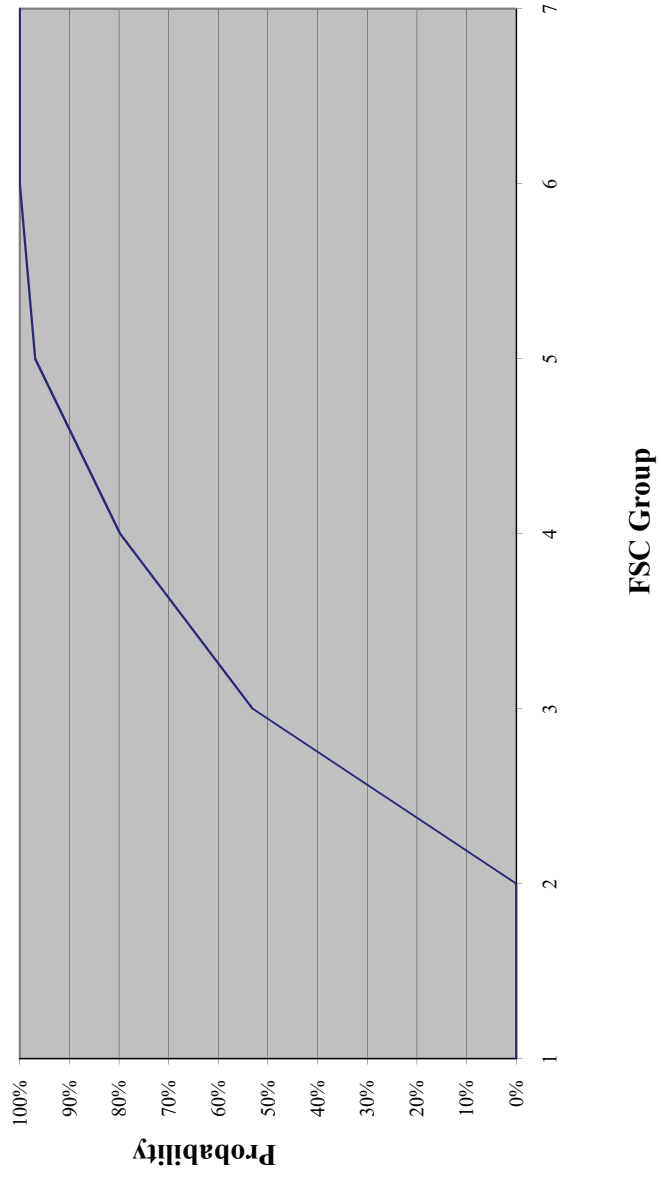
### **Graphs 1 through 8**

**Graph 1**  
**Rating Distribution by FSC Group**

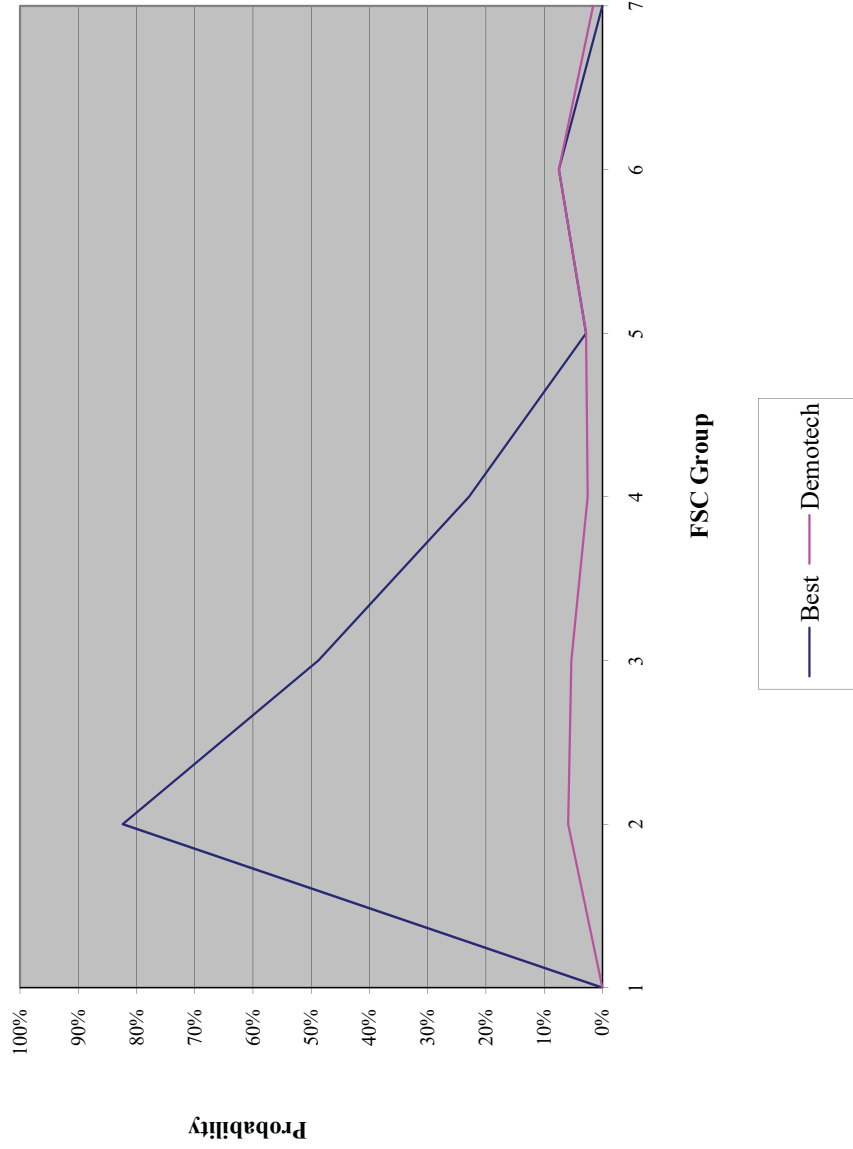




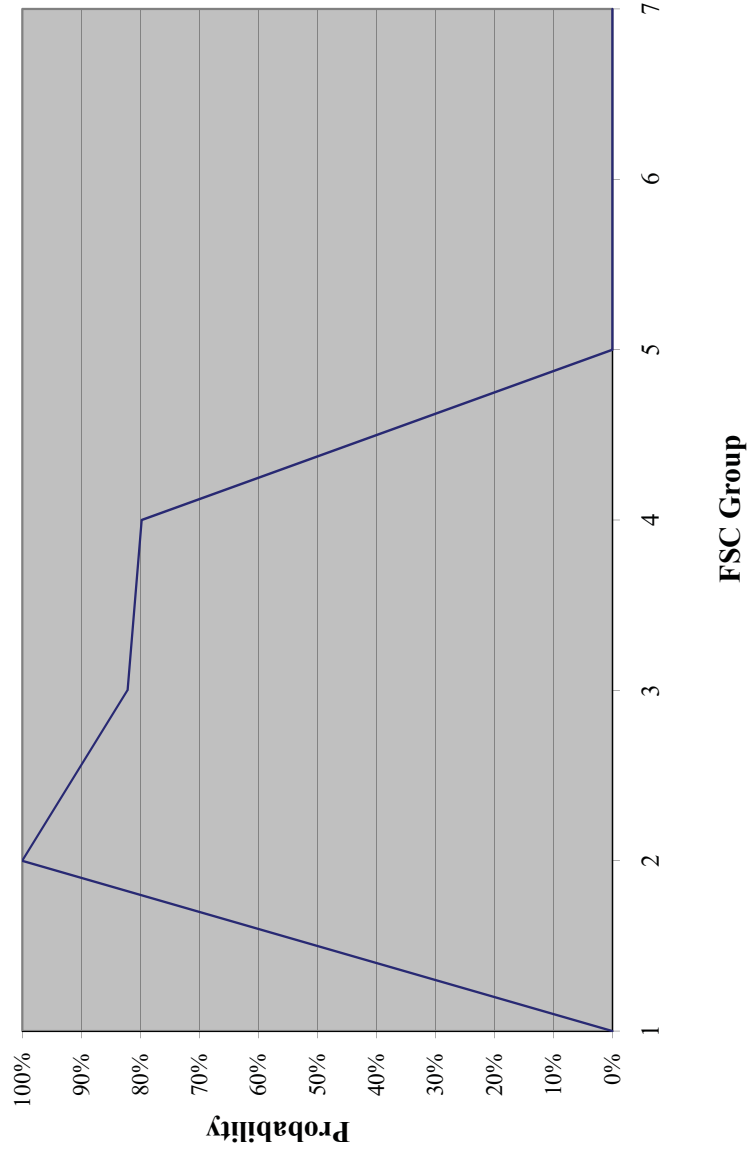
**Graph 2**  
**P(Best: A++ or A+ or A or A- / Demotech: A" or A' or A ) by FSC**  
**Group**



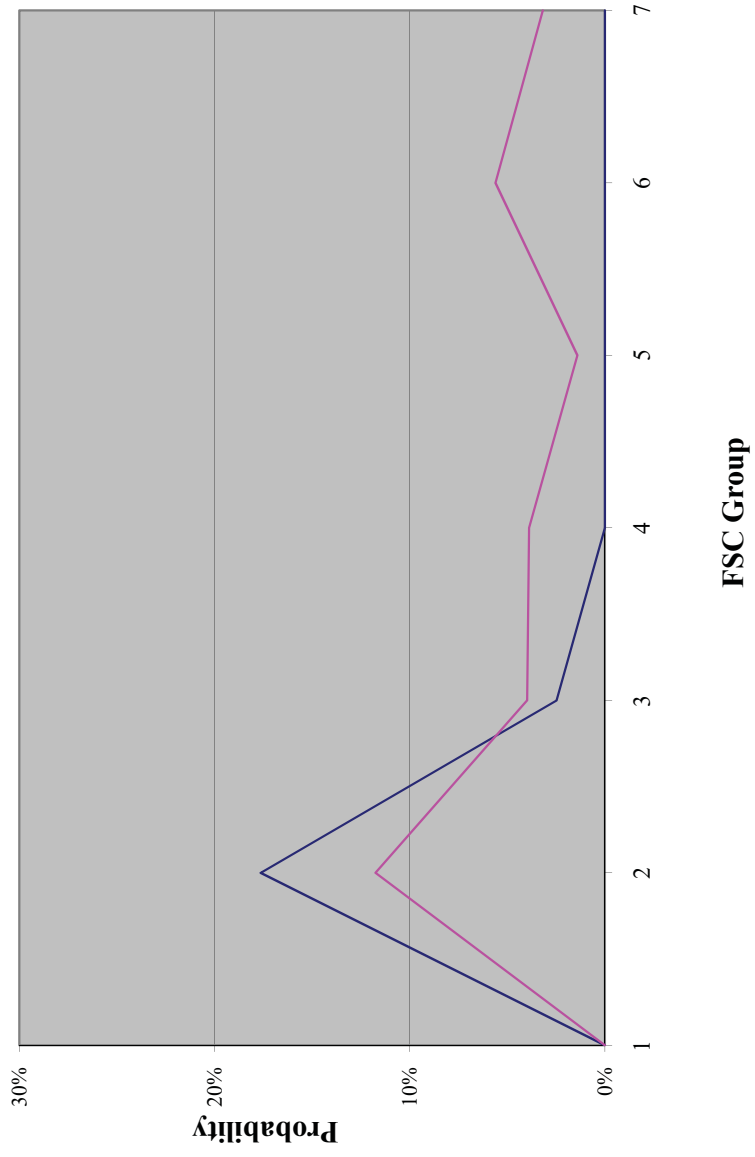
**Chart 3**  
**P (Demotech: S & Best: B++ or B+ or B or B-) by FSC Group**



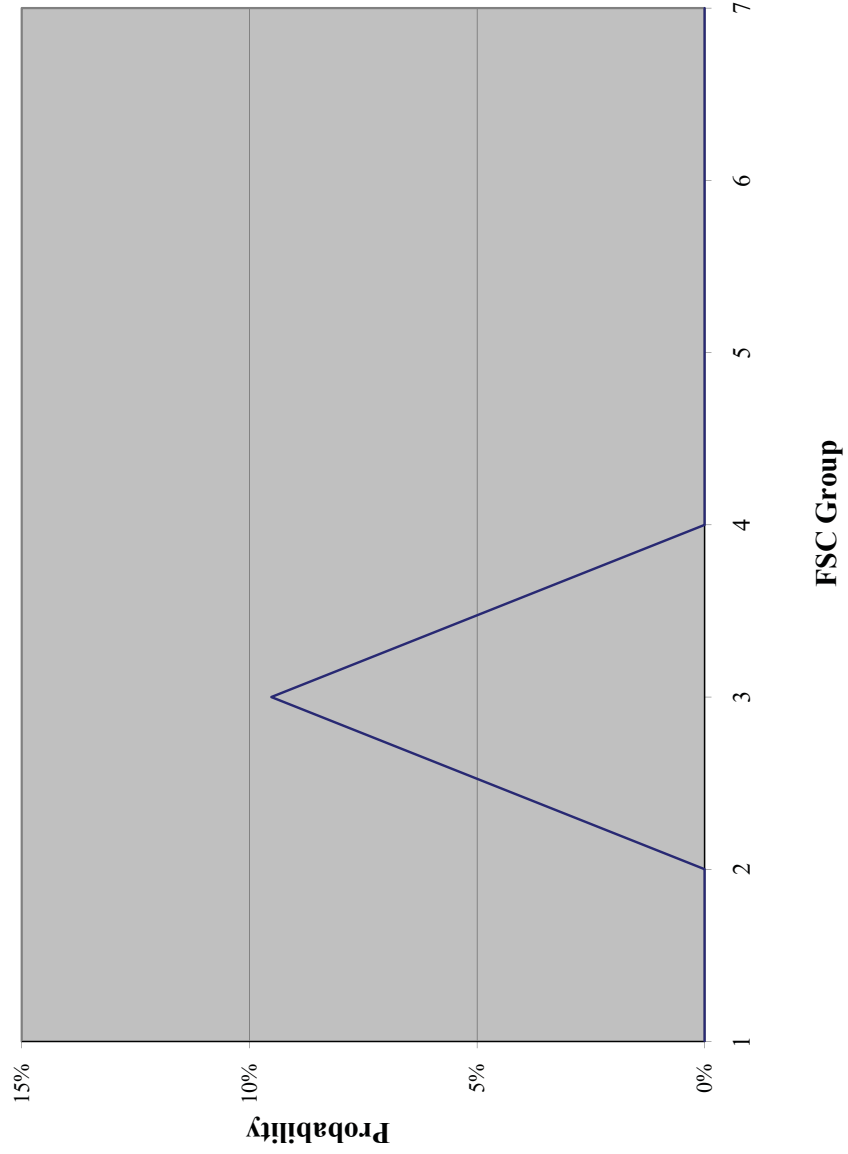
**Graph 4**  
**P(Best: B++ or B+ or B or B- / Demotech: S ) by FSC Group**



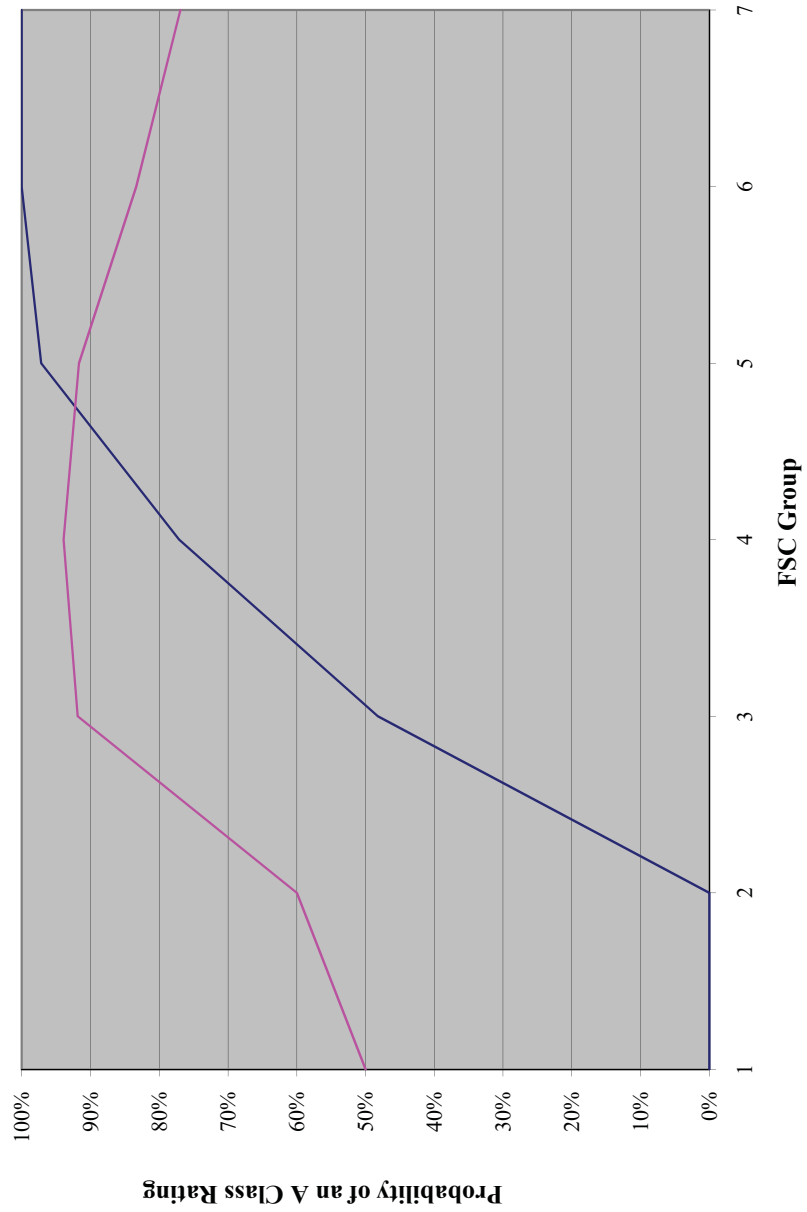
**Graph 5**  
**P(Demotch: M & Best: C++ or C+ or C or C-) by FSC Group**



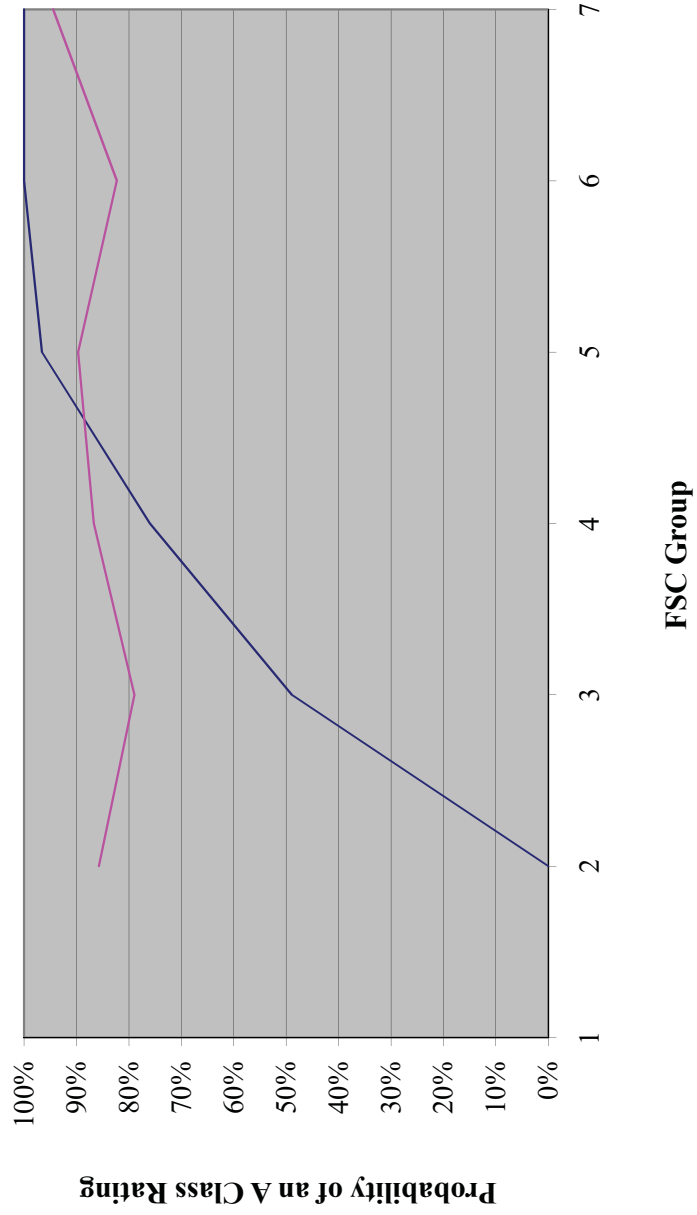
**Graph 6**  
**P(Best: C++ or C+ or C or C- / Demotech: M ) by FSC Group**



**Graph 7**  
**Rating Distribution by FSC Group**  
**Mutual Companies Only**



**Graph 8**  
**Rating Distribution by FSC Group**  
**Stock Companies Only**



# **Demotech, Inc. and A.M. Best Ratings Comparison Study**

By Mark Kaminski, Ph. D.

February 7, 2000

## **Attachment 4**

### **Tables 5 through 8**



TABLE 5

A. M. BEST			
FSC Group	Number of Companies in the A Group	Total Number of Companies *	Percentage of Companies in the A Group
1	0	2	0.00%
2	0	17	0.00%
3	254	527	48.20%
4	337	437	77.12%
5	69	71	97.18%
6	107	107	100.00%
7	188	188	100.00%

TABLE 6

A. M. BEST					
FSC Group	STOCK			MUTUAL	
	Number of Companies in the A Group	Total Number of Companies *	Percentage of Companies in the A Group	Number of Companies in the A Group	Percentage of Companies in the A Group
1	0	0	N/A	0	0.0000
2	0	7	0.00%	0	0.00%
3	174	356	48.88%	65	48.15%
4	228	300	76.00%	93	80.87%
5	56	58	96.55%	12	100.00%
6	96	96	100.00%	6	100.00%
7	162	162	100.00%	13	100.00%

(\*) Stock and Mutual Companies are not the only type of Corporate Structure, therefore in general, the sum of third and sixth columns in Table 6 will not equal the values in the third column of Table 5.

TABLE 7

DEMOTTECH			
FSC Group	Number of Companies in the A Group	Total Number of Companies *	Percentage of Companies in the A Group
1	1	2	50.00%
2	12	17	70.59%
3	435	527	82.54%
4	386	437	88.33%
5	64	71	90.14%
6	89	107	83.18%
7	173	188	92.02%

TABLE 8

DEMOTTECH						
FSC Group	STOCK			MUTUAL		
	Number of Companies in the A Group	Total Number of Companies *	Percentage of Companies in the A Group	Number of Companies in the A Group	Total Number of Companies *	Percentage of Companies in the A Group
1	0	0	N/A	1	2	0.5000
2	6	7	85.71%	6	10	60.00%
3	281	356	78.93%	124	135	91.85%
4	260	300	86.67%	108	115	93.91%
5	52	58	89.66%	11	12	91.67%
6	79	96	82.29%	5	6	83.33%
7	153	162	94.44%	10	13	76.92%

(\*) Stock and Mutual Companies are not the only type of Corporate Structure, therefore in general, the sum of third and sixth columns in Table 8 will not equal the values in the third column of Table 7.

# **Demotech, Inc. and A.M. Best Ratings Comparison Study**

By Mark Kaminski, Ph. D.

February 7, 2000

## **Attachment 5**

### **Predictor Conclusions**

# Demotech, Inc. and A.M. Best Ratings Comparison Study

## Predictor Conclusions

**The Compared Ratings Table**

FSC GROUP	Predicting Ratings	
	Excellent	Very Good
1	N/A	N/A
2	Demotech L to Best C++ or C+ or C or C-	Demotech A" to Best B++ or B+ or B
3		Demotech A" to Best A+ or A or A-
4	Demotech A' to Best A+ or A or A-	Demotech A" to Best A++ or A+ or A or A-
5		Demotech A" to Best A++ or A+ or A
6		Demotech A' to Best A+ or A or A-
7		Demotech A" or A' to Best A++ or A+

# Demotech, Inc. and A.M. Best Ratings Comparison Study

## Predictor Conclusions

### Comparisons of Mutual vs. Stock Companies

BEST, MUTUAL	
FSC GROUP	Probability of A++ or A+ or A or A-
1	0.0000
2	0.0000
3	0.4815
4	0.8087
5	0.9718
6	1.0000
7	1.0000

BEST, STOCK	
FSC GROUP	Probability of A++ or A+ or A or A-
1	N/A
2	0.0000
3	0.4888
4	0.7600
5	0.9655
6	1.0000
7	1.0000

DEMOTECH, MUTUAL	
FSC Group	Probability of A" or A' or A
1	0.5000
2	0.6000
3	0.9185
4	0.9391
5	0.9167
6	0.8333
7	0.7692

DEMOTECH, STOCK	
FSC Group	Probability of A" or A' or A
1	N/A
2	0.8571
3	0.7893
4	0.8667
5	0.8966
6	0.8229
7	0.9444