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# THE INFORMATION CONTENT OF STANDARD & POOR'S COMMON STOCK RANKING CHANGES

# James Felton<sup>\*</sup>, Pu Liu<sup>\*\*</sup> and Douglas Hearth<sup>\*\*</sup>

#### Abstract

This study examines the information content of Standard & Poor's common stock ranking changes. Since prior studies find Standard & Poor's common stock rankings provide investors with a measure of risk, a ranking change may signify a change in risk. Common stock ranking changes made by Standard & Poor's may provide investors with a low-cost means of predicting the direction of future market risk.

Internal memoranda containing ranking changes from June 1985 through May 1987 were obtained directly from Standard & Poor's. Using a sample of 191 upgrades and 582 downgrades, results indicate that mean portfolio betas change following Standard & Poor's memorandum dates for ranking changes.

#### INTRODUCTION

Common stock rankings published by investment advisory services such as Standard & Poor's, Moody's, and Value Line are purported to aid investors by capsulating an abundance of information into a single symbol. While each ranking system is unique, common stock rankings are usually described as either predictions of performance or measures of quality. Standard & Poor's and Moody's common stock rankings are described as measures of quality, while Value Line ranks common stocks both on quality (safety) and relative future performance (timeliness).

While common stock rankings that predict future returns provide investors with buy, sell, or hold recommendations, the purpose of quality rankings is not made clear by the investment advisory services that produce them. Previous studies by Haugen [1979], Muller, Fielitz, and Greene [1983, 1984], and Muller and Fielitz [1987] find that Standard & Poor's quality rankings provide investors with a reliable measure of risk. Stocks ranked the highest are found to have the least risk, and risk rises with each lower ranking. While Standard & Poor's quality rankings appear to categorize common stocks into risk classes, their value to investors remains in doubt since beta provides investors with a more familiar, unambiguous measure of risk.

This study extends previous research of the information content of common stock quality rankings by addressing the following research question: Since Standard & Poor's common stock quality rankings are found to provide investors with a reliable measure of risk, does a ranking change indicate a change in risk? If so, then common stock ranking changes made by Standard & Poor's may contain information which is useful to investors. At best, ranking changes could provide investors with a reliable, low-cost means of predicting the direction of future market risk. Stocks upgraded by Standard & Poor's are predicted to have a fall in risk, while downgraded stocks are predicted to have a subsequent rise in risk.

#### STANDARD & POOR'S COMMON STOCK RANKINGS

Standard & Poor's common stock rankings are derived from a system that begins with a computer-generated score for per-share growth, stability, and cyclicality of earnings and dividends for the most recent ten years of

<sup>\*</sup>Central Michigan University

<sup>\*\*</sup>University of Arkansas

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available data. Standard & Poor's then makes adjustments to the computer-generated scores based on corporate size and sales volume. Finally, the scores are reviewed and modified by Standard & Poor's for "relative current standing" and special considerations (such as natural disasters, strikes, and non-recurring accounting adjustments). Many companies' stocks are not ranked due to insufficient data. Also, Standard & Poor's does not rank the stocks of foreign companies, investment companies, and certain finance-oriented companies. Unranked stocks are denoted NR (no ranking). The rankings are defined as follows: A+ (Highest), A (High), A- (Above Average), B+ (Average), B (Below Average), B- (Lower), C (Lowest), and D (In Reorganization).

Standard & Poor's makes daily ranking changes when new data (mostly quarterly earnings) are released. The ranking changes are circulated on internal memoranda, and they are published at the end of the month in the *Stock Guide*. A ranking change can be either an upgrade, a downgrade, the initiation of a ranking (from NR to a ranking), or the withdrawal of a ranking (from a ranking to NR).

#### **PREVIOUS STUDIES OF STANDARD & POOR'S RANKINGS**

While early studies by Stevenson [1966] and Soldofsky [1968] question the usefulness of Standard & Poor's common stock rankings, more recent studies find that the rankings provide investors with information. Haugen [1979], Muller, Fielitz, and Greene [1983, 1984], and Muller and Fielitz [1987] conclude that the rankings are closely related to risk as measured by both beta and the standard deviation of returns. Haugen [1979] finds that risk rises for each ranking from A+ to C, while Muller, Fielitz, and Greene [1983, 1984] and Muller and Fielitz [1987] find that risk rises for each ranking from A+ to B. While the rankings are found to be a good measure of risk, they are not found to be a reliable measure of return.

#### THE DATA

This paper examines common stock ranking changes made by Standard & Poor's during the two-year period from June 1, 1985 to May 31, 1987 (and published in the *Stock Guide* from July 1985 to June 1987). During this period there were 1,879 common stock ranking changes published in the *Stock Guide*. Memoranda containing daily ranking changes during the two-year period were obtained by request from Standard & Poor's. For inclusion in the sample, a firm must be included in the University of Chicago Center for Research in Security Prices (CRSP) Daily Stock Files during the period of study. Table 1 lists the sample of 773 ranking changes by ranking category.

#### **EMPIRICAL TESTS AND RESULTS**

The return and standard deviation of return for both a pre-event period and a post-event period are calculated for the portfolios of upgraded and downgraded stocks. The upgraded portfolios include A to A+, A- to A, B+ to A-, B to B+, B- to B, C to B-, Within-Class Upgrades, Across-Class Upgrades, and All Upgrades; and the downgraded portfolios include A+ to A, A to A-, A- to B+, B+ to B, B to B-, B- to C, C to D, Within-Class Downgrades, Across-Class Downgrades, and All Downgrades. The pre-event period is the 50 days prior to the memorandum date, and the post-event period is the 50 days subsequent to the memorandum date. The return and standard deviation of return for these nineteen port-folios are presented in Table 2.

A close correspondence is found between Standard & Poor's rankings and risk (measured by the standard deviation of returns), both before and after ranking changes, which is consistent with previous studies. For portfolios before an upgrade, the following standard deviations (ranking) are found: 1.68% (A), 1.53% (A-), 2.03% (B+), 2.13% (B), 2.55% (B-), and 2.92% (C). For portfolios subsequent to an upgrading, the following standard deviations (ranking) are found: 1.79% (A+), 1.75% (A), 1.85% (A-), 2.17% (B+), 2.51% (B), and 3.29% (B-). Thus, except for the portfolio up-graded from A- to A, risk rises for each lower ranking, both before and after ranking changes.

For portfolios prior to a downgrading, the following standard deviations (ranking) are found: 1.72% (A+), 1.76% (A), 1.80% (A-), 2.35% (B+), 3.20% (B), 4.09% (B-), and 7.71% (C). For portfolios subsequent to a downgrading, the following standard deviations (ranking) are found: 1.73% (A), 1.88% (A-), 1.94% (B+), 2.46%

(B), 3.07% (B-), 3.94% (C), and 7.73% (D). Thus, for portfolios of downgrades, risk also rises for each lower ranking, both before and after ranking changes.

While Standard & Poor's rankings are found to be a reliable measure of risk, no relation is found between rankings and return, which is consistent with previous findings.

A paired t-test is performed for the nineteen groups to determine whether portfolio betas change subsequent to the memorandum date. The pre-event period is from day -250 to day -51, and the post-event period is from day 51 to day 250. The upgraded companies are tested for a fall in the mean portfolio beta, and the results of the (one-tailed) tests are contained in Table 3. The downgraded companies are tested for a rise in the portfolio beta, and the results of the (one-tailed) t-tests are contained in Table 4.

As reported in Table 3, eight of the nine portfolios of upgrades experienced a decline in beta following ranking changes, and four of the portfolios (B to B+, C to B-, Across-Class Upgrades, and All Upgrades) had statistically significant drops in beta following ranking changes. The mean beta for the B to B+ portfolio fell from 1.42 to 1.20, with a t-statistic of -1.95. The C to B- portfolio beta fell from 1.32 to 1.12, with a t-statistic of -1.86. For the Across-Class Upgrades portfolio, the mean beta fell from 1.25 to 1.10, with a t-statistic of -1.94. Finally, the mean beta for the All Upgrades portfolio of 191 stocks fell from 1.23 to 1.12, with a t-statistic of -2.51.

Table 4 contains the results of the paired t-test for a rise in the mean portfolio beta following ranking changes for downgrades. Seven of the ten portfolios of downgrades had a rise in beta following ranking changes. However, only the A- to B+ portfolio had a statistically significant rise in beta. The A- to B+ beta rose from 1.02 to 1.09, with a statistic of 1.76. The All Downgrades portfolio experienced only a slight, statistically insignificant, rise in beta from 1.07 to 1.09 following the memorandum date.

#### SUMMARY AND CONCLUSIONS

Standard & Poor's common stock rankings are found to be a good measure of risk as measured by both beta and standard deviation of returns, both before and after ranking changes. The results of paired t-tests indicate that mean portfolio betas change following memorandum dates, as predicted. For the All Upgrades portfolio, the mean beta fell from 1.23 to 1.12, which is statistically significant at  $\alpha$ =.01. For the All Downgrades portfolio, the mean beta rose from 1.07 to 1.09, which is statistically insignificant.

Standard & Poor's common stock rankings, which are closely related to risk, are based almost entirely on publicly-available ten-year histories of corporate earnings and dividends. Standard & Poor's common stock ranking changes, which are found to indicate a change in risk, are made in response to changes in earnings and dividends. Thus, public announcements of earnings and dividends may contain information regarding future market risk. Additional research of the relation between risk and announcements of earnings and dividends may be useful in trying to predict future market risk. However, Standard & Poor's common stock ranking changes may provide portfolio managers with a lowcost method for predicting the direction of future betas. In their attempt to maintain portfolio risk at its desired level, portfolio managers may be able to employ ranking changes as a means for adjusting portfolios before changes in risk occur.

	Prior	New	Sample	Total
Within-Class Upgrades	А	A+	20	
	A-	А	31	
	В	B+	26	
	B-	В	40	117
Across-Class Upgrades	B+	A-	27	
	С	B-	46	
	D	С	1	74
All Upgrades				191
Within-Class Downgrades	A+	А	33	
6	А	A-	70	
	B+	В	138	
	В	B-	140	381
Across-Class Downgrades	A-	B+	102	
C C	B-	С	95	
	С	D	4	201
All Downgrades				582
All Ranking Changes				773

TABLE 1
Sample Of Standard & Poor's Common Stock Ranking Changes By
Category. Memorandum Dates From June 1985 To May 1987.

TABLE 2

		50 Days Before Event		50 Days After Event	
Portfolio	n	Return	SD	Return	SD
A to A+	20	11.27	1.68	8.05	1.79
A- to A	31	8.56	1.53	8.41	1.75
B+ to A-	27	11.99	2.03	7.81	1.85
B to B+	26	7.36	2.13	3.93	2.17
B- to B	40	8.50	2.55	4.39	2.51
C to B-	46	12.34	2.92	5.38	3.29
Within-Class	117	8.73	2.09	5.97	2.14
Across-Class	74	12.65	2.66	6.07	2.85
All Upgrades	191	10.24	2.32	6.01	2.44
A+ to A	33	2.33	1.72	5.60	1.73
A to A-	70	8.26	1.76	5.72	1.88
A- to B+	102	6.02	1.80	4.77	1.94
B+ to B	138	5.43	2.35	6.36	2.46
B to B-	140	4.49	3.20	5.99	3.07
B- to C	95	0.99	4.09	7.97	3.94
C to D	4	-52.24	7.71	17.17	7.73
Within-Class	381	5.33	2.57	6.04	2.56
Across-Class	201	2.48	3.28	6.53	3.23
All Downgrades	582	4.35	2.83	6.21	2.81

### TABLE 3

Paired t-test For A Fall In The Mean Portfolio Beta From A Pre-event Period (Days -250 To -51) To A Post-event Period (Days 51 To 250) For Companies With The Following Common Stock Ranking Changes From June 1, 1985 To May 30, 1987.

		Upg	rades		
Ranking Change	n	Pre-Event Beta	Post-Event Beta	Change	t
A to A+	20	1.16 (0.47)	1.09 (0.37)	-0.07	-0.65
A- to A	31	1.02 (0.33)	1.04 (0.37)	0.02	0.31
B+ to A-	27	1.17 (0.50)	1.05 (0.44)	-0.12	-1.31
B to B+	26	1.42 (0.55)	1.20 (0.46)	-0.22	-1.95*
B- to B	40	1.26 (0.66)	1.17 (0.44)	-0.09	-0.97
C to B-	46	1.32 (0.68)	1.12 (0.41)	-0.20	-1.86*
Within Class	117	1.21 (0.55)	1.13 (0.42)	-0.08	-1.61
Across Class	74	1.25 (0.62)	1.10 (0.43)	-0.15	-1.94*
All Upgrades	191	1.23 (0.57)	1.12 (0.42)	-0.11	-2.51**

\*Significant at  $\alpha$ =.05 (one-tailed test)

\*\*Significant at  $\alpha$ =.01 (one-tailed test)

### TABLE 4

Paired t-test For A Rise In The Mean Portfolio Beta From A Pre-event Period (Days -250 To -51) To A Post-event Period (Days 51 To 250) For Companies With The Following Common Stock Ranking Changes From June 1, 1985 To May 30, 1987.

		Down	grades		
Ranking Change	n	Pre-Event Beta	Post-Event Beta	Change	t
A+ to A	33	1.01 (0.38)	1.04 (0.25)	0.03	0.36
A to A-	70	1.05 (0.48)	1.03 (0.34)	-0.02	-0.23
A- to B+	102	1.02 (0.42)	1.09 (0.38)	0.07	1.76*
B+ to B	138	1.05 (0.44)	1.07 (0.44)	0.02	0.61
B to B-	140	1.04 (0.64)	1.08 (0.41)	0.04	0.65
B- to C	95	1.19 (0.61)	1.15 (0.63)	-0.04	-0.53
C to D	4	2.11 (0.53)	1.64 (0.11)	-0.47	-1.40
Within Class	381	1.04 (0.52)	1.06 (0.40)	0.02	0.77
Across Class	201	1.11 (0.53)	1.13 (0.51)	0.02	0.35
All Downgrades	582	1.07 (0.52)	1.09 (0.44)	0.02	0.83

\*Significant at  $\alpha$ =.05 (one-tailed test)

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