Stock Splits And False Signaling Cost Within A Management Reputation Framework

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Abstract

In order for signals to be informationally consistent in an efficient capital market, false signaling must be costly. To date researchers have been unable to identify any cost incurred by false signalers in the case of stock splits. This study identifies inhibited future ability to signal as a cost incurred by false signalers. False signalers are firms that announce stock splits and subsequently report earnings below pre-event Value Line forecasts. Ability to signal is monitored through observation of market reaction (abnormal daily returns generated under the mean adjusted returns model). The results indicate that previous false signalers experience less favorable market reaction to subsequent split announcements than a comparison group. Previous false signalers demonstrate positive earnings performance with subsequent split announcements, and weak evidence indicates earnings performance superior to the comparison group. The notion that previous false signalers attempt to reestablish their reputations when conveying future signals is supported.

I. Introduction

Previous studies have reported abnormal positive common stock returns associated with stock split announcements (SSAs). Some researchers have attributed this positive market response to the expectation of cash dividend increases which often follow stock splits (see Foster and Vickrey (1978), Cohen and Zinbarg (1967), Barker (1958), and Fama et al. (1969)). However, SSAs are favorably received by the market when there are no cash dividend associations (see Grinblatt et al. (1984)). Grinblatt et al. conclude that the observed favorable market response for the most part, cannot be explained by near term increases in cash dividends.

The earnings signaling hypothesis was proposed by Fama (1976). He argued that while empirical studies had focused on the cash dividend implications of SSAs, the information signaled should be concerned with a more fundamental measure of corporate performance - earnings. The earnings signaling hypothesis as it relates to SSAs was tested and confirmed by Doran and Nachtmann (1988) and Doran (forthcoming) using analyst forecasts and revisions. Lakonishok and Lev (1987)(1) and Asquith et al. (1989) reached consistent results using time series models. These studies provide evidence that management uses SSAs to signal favorable earnings information to the market.

Why managers announce stock splits rather than issue direct press releases of favorable earnings estimates has not been determined. Grinblatt et al. (1984) suggest that with SSAs firms are less likely to reveal useful information to competitors, and management avoids liability to stockholders if the earnings projections prove to be incorrect. As split announcements are more ambiguous, they avoid the incurrence of such risks.

Spence (1973) provides a signaling model that has been adapted to a financial decision making framework by Ross (1977), Leland and Pyle (1977), and Bhattacharya (1979). This framework assumes asymmetric informational advantages to managers, that management benefits by conveying favorable information to the market, and false signaling is costly. In the absence of false signaling cost, managers of both undervalued and overvalued firms would announce stock splits, eventually resulting in SSAs having no informational value.

Akerlof's (1970) lemons argument indicates that if there is indiscriminate favorable market response to SSAs by all firms, managers of overvalued firms who would benefit from temporary stock price increases(2) would mimic undervalued firms by announcing stock splits. They would continue to do so until the market realizes the preponderance of false signalers and dismisses the split signal due to lack of informational value. Given the sustained popularity of stock splits and the numerous studies documenting their favorable reception by the market, it does not appear that SSAs are being dismissed as having no informational value.

Heinkel (1984) developed a signaling model that suggests a cost of false signaling is a loss of reputation which inhibits management's ability to signal in the future. According to Heinkel, managers maintain their reputations to have the opportunity to signal favorable information in the future. Managers who provide false signals to the market incur the cost of inhibited ability to signal in the future. Under this "reputation" model managers usually, but don't always, signal truthfully.

To date researchers have been unable to identify any requisite false signaling cost incurred by split announcing firms. This study empirically tests the proposition that false signalers incur the cost of being inhibited in signaling favorable information to the market when announcing future stock splits. False signalers are identified as those who previously announced stock splits and subsequently reported earnings less than analyst forecasts. Ability to signal is monitored by analyzing market reaction to announcements by false signalers relative to a comparison group.

Section I of the paper identifies the specific hypotheses tested. The empirical methodology and data utilized in the analysis are discussed in Section II. Section III provides the results of the empirical tests and additional analysis. The final section of the paper provides the conclusions.

II. Hypotheses

This paper first tests the proposition that a false signaling cost of SSAs is the inability of false signalers to convey information to the market in the future. A lack of favorable market response would be consistent with management completely losing the ability to signal through subsequent SSAs. The first hypothesis stated in alternative form is:

H1: There is no positive market response to stock split announcements by previous false signalers.

Given management's' discretionary announcement of another stock split, it is expected that positive market reaction will be observed. If the ability to signal is completely lost due to previous false signaling, management would likely pursue other means of communicating information to the market.

The second hypothesis recognizes that a possible cost of false signaling is a diminished ability to signal to the market. If previous false signalers incur a cost of diminished ability to signal, the market reaction to SSAs by the comparison group will be more favorable than the response to SSAs by previous false signalers. The second hypothesis tested is:

H2: Market reaction to SSAs by previous false signalers is not less than market reaction to SSAs by the comparison group.

III. Methodology and Data

This study analyzes market reaction to SSAs by previous false signalers and a comparison group. Classification is based upon the firm's earnings performance associated with its immediately preceding SSA. Stock split events were identified using the Center for Research in Security Prices (CRSP) Daily Master file. They include all stock dividends and stock splits equivalent to a distribution factor of five for four (25% for stock dividends) or larger. The statistical analysis requires two performance measures: 1) earnings performance in conjunction with the firm's preceding "previous" SSA, and 2) market reaction (daily returns) performance for the event period of the subsequent ("current") SSA.

Performance Metrics

The Value Line Investment Survey provides all earnings data used to calculate the earnings performance measure(3). The Survey's Summary and Index section is the source of earnings forecasts(4). Reported earnings are obtained from the Survey's Ratings and Reports section. The Survey is a weekly publication which is dated and publicly available on the Friday of each week. Matched pairs of forecasted and realized earnings were obtained for each event. The Summary and Index issued immediately preceding each event was used to collect the forecasted earnings data. The earnings per share (EPS) forecast is a four-quarter projection. The period is composed of the two preceding quarters and the two quarters subsequent to the publication date. Realized EPS numbers were collected to match quarter by quarter the earnings forecast period.

The earnings performance for each firm's previous SSA is measured as the percentage deviation of reported earnings from the forecast. This performance metric was used by Doran and Nachtmann (1988), and Elliott and Philbrick (1990). The earnings performance for the firm's preceding SSA is:

$$EP_{(i,t=p)} = \frac{R_{(i,t=p)} - F_{(i,t=p}}{F_{(i,t=p)}} \qquad (1)$$

$EP_{(i,t=p)}$ is the percentage deviation of actual EPS from expected EPS of firm i for time period p (earnings period of the previous SSA). $F_{(i,t=p)}$ is forecast (expected) EPS obtained from the Value Line forecast issued the week immediately preceding the SSA. $R_{(i,t=p)}$ is the reported EPS conditional on the SSA event. Reported earnings are retroactively adjusted for the stock split to assure consistency of measurement. Normalizing to $F_{(i,t=p)}$ allows cross-sectional comparison of earnings performance across earnings levels.

TABLE 1
DISTRIBUTION OF SAMPLE EVENTS BY YEAR

Year	Full sample	Test group	Comparison group
1971	0.0%	0.0%	0.0%
1972	0.0%	0.0%	0.0%
1973	0.9%	0.0%	1.2%
1974	0.0%	0.0%	0.0%
1975	1.6%	4.3%	0.8%
1976	5.9%	5.8%	6.0%
1977	4.7%	1.4%	5.5%
1978	10.6%	13.0%	10.0%
1979	13.7%	15.9%	13.2%
1980	29.1%	27.5%	29.4%
1981	26.9%	24.7%	27.5%
1982	6.6%	7.2%	6.4%

If the firm's earnings performance for the previous SSA was less than zero, the current event is classified as being announced by a previous false signaler, otherwise (earnings performance for previous event greater than zero) the event is included in the comparison group(5).

Market reaction to SSAs is monitored by observation of returns during the event period (day of and day following the SSA). Various models have been used to generate abnormal returns. Brown and Warner (1985) find that the mean adjusted returns model is at least as good as other models when analyzing nonclustered daily returns data. Time series analysis of the events included in the study indicates a general clustering of the data in the period 1978-1981 (see Table 1). However, the clustering is consistent across the two groups (81.1% of the events of the previous false signaler group and 80.1% of the events of the comparison group)(6). Other studies of market reaction to stock split and/or stock dividend announcements (Woolridge (1983), Grinblatt et al. (1984), and Brennan and Copeland (1988)) have used the mean adjusted returns model.

Three measures of market reaction are monitored: raw return, abnormal return, and standardized abnormal return (RAW, ABNL, and STD)(7). RAW and ABNL are provided for descriptive purposes, all statistical tests are conducted using STD(8). The daily returns data obtained from CRSP are:

$$R_{it} = \frac{(P_{it} + D_{it}) - P_{it-1}}{P_{it-1}} \qquad (2)$$

Where R_{it} = return on stock i for day t.
P_{it} = closing price of stock i on day t.
D_{it} = cash dividend per share on stock i when day t is the ex-dividend date.

$$RAW = \sum_{t=0}^{1} R_{it} / 2 \qquad (3)$$

$$ABNL = \sum_{t=0}^{1} A_{it} / 2 \qquad (4)$$

Where $A_{it} = R_{it} - \bar{R}_i$,
R_{it} = the return on stock i for event day t, and
R_i = the mean return of the comparison period.

$$R_i = \sum_{t=3}^{42} R_{it} / 40 \qquad (4b)$$

$$STD = \sum_{t=0}^{1} A'_{it} / 2 \qquad (5)$$

$$A'_{it} = A_{it} / S'(A_i) \qquad (5a)$$

$$S'(A_i) = S(A_i)\sqrt{(1/40 + 1)} \qquad (5b)$$

$$S(A_i) = \sqrt{\sum_{t=3}^{42} (A_{it} - A_i)^2/39} \qquad (5c)$$

Where $S(A_i)$ = the standard deviation of the comparison period daily returns.
$S'(A_i)$ = reflects the appropriate adjustment to S(Ai) for the out of sample prediction point.
$\bar{A}_i$ = mean abnormal return of the comparison period.

The comparison period used in calculating the "mean" return is days 3-42 (with the date of announcement = 0) relative to the announcement date of the stock split(9).

The t test used to determine the significance of the mean return of the particular group is similar to that used byBrown and Warner (1985):

$$t = \overline{STD} / (s_g/\sqrt{n}) \qquad (6)$$

$$\overline{STD} = \sum_{i=1}^{n} STD / n \qquad (6a)$$

Where n = the number of sample events in group g, and
s_g = standard deviation of STD for group g.

Data

The CRSP Daily Stock Master File was used to identify the SSA events. The period analyzed extended from 11/17/71 to 12/31/82. This is the same sample period examined by Doran and Nachtmann (1988) and Doran (forthcoming) where SSAs were found to signal favorable earnings information to the market. 1,825 events were identified on the CRSP file for this period. The initial selection criterion required that the split announcing firm have a previous SSA during the sample period. This reduced the sample to 641 events. The next selection criterion required earnings performance data to be available from Value Line. This reduced the sample to 337 events. Of these events 1 was eliminated because the earnings forecast was less than $1.00. This controls for large forecast error bias noted by Fried and Givoly (1982) and Beaver et al., (1979). The next sample selection criterion required sufficient daily returns data on CRSP. This requirement resulted in a sample of 329 events.

Figure 1 illustrates the application of the sample requirements and the resulting events included in this study. These 329 sample events were assigned to the previous false signaler or comparison group by applying the positive/negative earnings performance cutoff. The comparison group is established at this point and consists of 251 announcements by 190 firms.

FIGURE 1
SAMPLE SELECTION CRITERIA

Stock Split per CRSP 11/17/71-12/31/82?
Yes - 1825 events

Previous SSA by announcing firm?
No - 1184 events
Yes - 641 events

Preceding firm SSA have required Value Line earnings performance data?
No - 304 events
Yes - 337 events

Value Line earnings forecast for preceding SSA > or = $1.00?
No - 1 event
Yes - 336 events

Requisite returns data available from CRSP?
No - 7 events
Yes - 329 events

Preceding SSA have earnings performance less than zero?
No - 251 events - Comparison Group
Yes - 78 events

Change in Management?
No - 69 events - False Signaler Group

Since SSAs are interpreted as "management signals", the false signaler group is restricted to SSAs by firms with consistent top level management. The test group was scrutinized for changes in top level management that occurred between the previous and current SSA dates(10). There were nine instances of changes in top management. These events are excluded in an attempt to ameliorate the identification of previous false signalers. The false signaler group is composed of 69 events by 62 firms.

Descriptive statistics are presented in Table 2. The relative composition of the two groups is similar with the exception of the group classification performance metric. The application of the positive/negative cutoff has resulted in a clear distinction of the previous earnings performance of the firms in the sample groups.

TABLE 2
SAMPLE DESCRIPTIVE STATISTICS

	Test Group	Comparison Group
Number of sample events	69	251
Number of firms	62	190
% New York Stock Exchange	91	97
% American Stock Exchange	9	3
% Stock splits	100	99
% Stock dividends	0	1
Average (mean) split factor	1.71	1.70
$EP_{(t=p)}$:		
mean	-.0664	.1537
Standard deviation	.074	.204
t Statistic	-7.45*	11.94*
RAW (previous SSA)		
mean	.0120	.0121
Standard deviation	.021	.022
ABNL (previous SSA)		
mean	.0110	.0114
Standard deviation	.022	.022
STD (previous SSA)		
mean	.5967	.6010
Standard deviation	1.094	1.047
t statistic	4.96*	9.50*

Where:
RAW = Average event period daily return per CRSP
ABNL = Average event period daily abnormal return
STD = Standardized average event period daily abnormal return
$EP_{(t=p)}$ = Earnings performance associated with previous SSA
* Significant at the 5% level

IV. Tests and Results

The results of hypotheses tests are presented in Table 3. There is significant positive market reaction to SSAs by the false signaler group. As expected, H1 is rejected and it is concluded that previous false signalers do not incur a "complete inability to signal" cost in the case of future SSAs.

The market response to SSAs by the comparison group is more favorable than the market response to SSAs by previous false signalers. This is evidenced by the difference of means t statistic of 2.53. To ensure that outliers are not driving the results, the nonparametric Wilcoxon-Mann-Whitney rank sum test is conducted. The results are unchanged(11). The evidence indicates a diminution of future ability to signal the market in the case of SSAs by previous false signalers. These findings result in rejection of H2.

Additional Analysis

The favorable market reaction to SSAs by previous false signalers is consistent with an efficient market within the earnings signaling framework if previous false signalers are truthful in the future. To test this requirement, the earnings performance of the current SSA period is analyzed. The methodology is the same as that used to

determine the firm's earnings performance for its previous SSA (see equation 1).

The results are also presented in Table 3. The number of sample events has declined due to the unavailability of the Value Line data for some events. The earnings performance by previous false signalers (mean = 9.7%) is significantly positive. The earnings performance of the comparison group (mean = 5.5%) also significantly exceeds the analysts' forecasts.

The earnings performance of previous false signalers exceeds that of the comparison group. The difference of means test yields a t statistic of 1.73 which is significant at the 10% level. This result suggests that where management has lost (at least partially) its reputation due to previous false signaling, precautions are taken to assure confidence in future earnings performance before signaling the market by announcing another stock split.

To further analyze this "reputation maintenance" notion, additional analysis of earnings performance by previous false signalers is conducted. The test group is divided into three subgroups so as to obtain approximately the same number of events in each subgroup. This classification scheme results in cut-off points of -2.2% and -6.5%. False signalers with previous earnings performance of less than -6.5% comprise group one, while those with previous earnings performance of greater than -2.2% make up group three. Those with earnings performance between the cut-offs are included in group two.

TABLE 3
PANEL A
MARKET REACTION TEST RESULTS
(CURRENT SSA)

	Test group		Comparison group
Number of events	69		251
RAW: Mean	.0069		.0131
Standard deviation	.017		.022
ABNL: Mean	.0063		.0122
Standard deviation	.017		.022
STD: Mean	.3430		.6565
Standard deviation	.851		1.098
t Statistic	2.85*		10.40*
Difference of Means t		2.53*	

PANEL B
EARNINGS PERFORMANCE

$EP_{(t=c)}$:			
Number of events	67		244
Mean	.0973		.0554
Standard deviation	.170		.177
t Statistic	4.68*		4.89*
Difference of Means t		1.73**	

Where:
RAW = Average event period daily return per CRSP
ABNL = Average event period daily abnormal return
STD = Standardized average event period daily abnormal return
$EP_{(t=c)}$ = Earnings performance associated with current SSA
* Significant at the 5% level
** Significant at 10%level

TABLE 4
SAMPLE DESCRIPTIVES OF THE CURRENT SSA SUBSAMPLES OF FALSE SIGNALER GROUP
PANEL A - ONE SAMPLE TESTS

	Group 1	Group 2	Group 3
$EP_{(t=c)}$:			
Number of events	22	22	23
Mean	.1449	.0886	.0602
Standard deviation	.191	.181	.129
t Statistic	3.56*	2.29*	2.24*
Market Reaction:			
Number of events	23	23	23
RAW: Mean	.0085	.0078	.0044
Standard deviation	.017	.018	.017
ABNL: Mean	.0084	.0074	.0032
Standard deviation	.018	.018	.017
STD:			
Number of events	23	23	23
Mean	.4109	.3849	.2331
Standard deviation	.816	.822	.937
t Statistic	2.41*	2.25*	1.19

PANEL B - DIFFERENCE OF MEANS TESTS

	Groups 1 and 2	Groups 2 and 3	Groups 1 and 3
STD	.11	.58	.69
$EP_{(t=c)}$:	1.01	.61	1.75**

Where:
RAW = Average event period daily return per CRSP
ABNL = Average event period daily abnormal return
STD = Standardized average event period daily abnormal return
$EP_{(t=c)}$ = Earnings performance associated with current SSA
Group 1 = Previous SSA earnings performance less than -6.5%
Group 3 = Previous SSA earnings performance greater than -2.2%
Group 2 = Previous SSA earnings performance less than -2.2% and greater than -6.5%
* Significant at 5% level
** Significant at 10%level

Descriptive statistics for the subsamples are provided in Table 4. As indicated in Panel A, all subgroups of previous false signalers demonstrate significantly positive earnings performance in the case of the current SSA. The most favorable earnings performance is demonstrated by group one (mean = +14.5%), while group three demonstrates the least favorable earnings performance (mean = +6.0%). The difference of means test for these two extreme groups yields a t statistic of 1.75, significant at the 10% level.

This weak result lends further support to the reputation maintenance notion. It appears that for false signalers, the earnings performance of the current SSA is negatively related to the earnings performance of the previous SSA. In other words, the more negative the earnings performance associated with the previous SSA, the more positive the earnings performance associated with the current SSA. There is no significant difference in the market reaction metrics across the false signaler subgroups. However, consistent with the negative relationship between $EP_{(t=c)}$ and $EP_{(t=p)}$, the market response to group one SSAs is more favorable than that of group two, which exceeds that of group three.

Consistent with Heinkel (1984), previous false signalers (and particularly those who provided the most severe false signals) are hesitant to announce a subsequent stock split unless they are relatively confident of favorable future earnings performance. The observed general negative relationship between the previous and current event earnings performance indicates the possibility that the more severe the previous false signal, the more favorable the requisite earnings performance of the current SSA to reinstate management's reputation with the market to enable signaling in the future.

Sensitivity Analysis

A potential weakness of the current study is the inclusion of SSAs with contaminating announcements. Contaminating simultaneous announcements were monitored by referencing the Wall Street Journal Index for days 0, +1, and +2, where the SSA date is 0. The incidence of contaminating events was so high that limiting the sample to pure events resulted in 13 total events. An analysis of the pure sample was not conducted due to a lack of sufficient data. However, with such a high degree of contemporaneous announcements (96% in this study), to limit the analysis to "pure" events may result in analysis of stock split announcements that are atypical. Nevertheless, the conclusions must be qualified due to the possible influence of simultaneous contemporaneous events.

Incidence of simultaneous announcements is presented in Table 5. Although there is a very high incidence of simultaneous announcements, their relative occurrence is similar across the sample groups. This is particularly the case regarding the nature of cash dividend announcements coinciding with the current SSA. Since previous studies have rationalized the favorable market reaction to SSAs as being due to associated cash dividend increases, and given the high incidence of these contemporaneous announcements, additional analysis is conducted where cash dividend associations are controlled for.

As indicated in Table 5, most SSAs are accompanied by simultaneous announcements of regular cash dividend increases. Table 6 presents test results where the sample is restricted to these most typical SSAs. The results are consistent with those for the full sample. The observed less favorable market response to SSAs by false signalers is not attributed to differential simultaneous cash dividend increase announcements.

V. Conclusions

The proposition that a possible cost of false signaling in the case of SSAs is an inhibited ability to signal the market in the future is supported by the results. For signals to be informationally consistent in an efficient capital market, false signaling must be costly (Spence 1973). The results of this study support the notion that one such cost is a diminished ability to signal in the future.

Tests of H1 indicate significant positive market response to SSAs by previous false signalers. However, significantly less favorable market reaction is observed for previous false signalers relative to the comparison group which results in rejection of H2. These findings are consistent with false signalers experiencing a diminished ability to signal when announcing future stock splits. The results hold when contemporaneous cash dividend increase announcements are controlled for.

Previous false signalers demonstrate superior favorable earnings performance relative to the comparison group when announcing future stock splits. Within the false signaler group there is an observed general negative relationship between the earnings performance of the previous and current SSA. Although this study does not attempt to develop a management signaling equilibrium model, these findings do have implications for such work, particularly within a reputation maintenance framework.

The results are consistent with the following explanation. When management falsely signals the

TABLE 5
INCIDENCE OF SIMULTANEOUS ANNOUNCEMENTS
PANEL A - PREVIOUS SSA

	Test group %	Comparison group %
Dividends:		
No Dividend announcement	25.0	27.2
Increase regular dividend	55.9	60.4
Unchanged regular dividend	17.6	10.8
Special dividend	1.5	1.2
Earnings announcement	16.2	15.1
Miscellaneous	11.8	12.4

PANEL B - CURRENT SSA

	Test group %	Comparison group %
Dividends:		
No Dividend announcement	31.9	30.0
Increase regular dividend	58.0	59.2
Unchanged regular dividend	10.1	10.4
Special dividend	0.0	0.4
Earnings announcement	24.6	18.3
Miscellaneous	23.5	19.1

market, a loss of reputation cost diminishes future signaling ability. When announcing a subsequent stock split, management demonstrates relatively favorable earnings performance, possibly in an attempt to reinstate lost reputation and regain the ability to signal the market. The degree of favorable earnings performance necessary to repair management reputation may be related to the severity of the previous false signal. The more severe the previous false signal, the greater the loss of reputation, and the more favorable the earnings performance requisite for reputation reinstatement.

VI. Suggestions For Future Research

This study tested the relative ability of previous false signalers to convey information to the market through subsequent SSAs. The results indicate that previous false signalers maintain an ability to signal, but its strength is diminished. As mentioned in the Introduction, false signalers that have completely lost the ability to signal stock splits. Accordingly, the market receives SSAs as management signals of favorable future performance. through SSAs would likely seek other means of signaling the market. Future research can concentrate on subsequent signals that are not limited to future SSAs (e.g., a management forecast of favorable future earnings, etc.). The market reaction to all types of subsequent management signals could be scrutinized. These announcements would likely be more proximate to the false signal event. Also, firms that signal falsely and never announce a subsequent stock split could be studied. Such an extension of this effort may shed additional light on false signaling costs associated with SSAs.

Footnotes

1. Lakonishok and Lev (1987) also find support for the "optimal trading range hypothesis". Per the trading range hypothesis firms whose stock is selling at a price in excess of this "optimal range" will split the stock in order to return the desired market price. However as Grinblatt et al. (1984) argue, given the costs associated with splits and reversals, managers with unfavorable information concerning future firm performance would not declare

TABLE 6
SSAS WITH SIMULTANEOUS REGULAR DIVIDEND INCREASE ANNOUNCEMENT (CURRENT SSA)

	Test group	Comparison group
Number of events	40	148
RAW: Mean	.0059	.0144
Standard deviation	.015	.021
ABNL: Mean	.0055	.0134
Standard deviation	.016	.022
STD: Mean	.3493	.7558
Standard deviation	.747	1.150
t Statistic	2.21*	9.19*
Difference of Means t	2.69*	

Where:
RAW = Average event period daily return per CRSP
ABNL = Average event period daily abnormal return
STD = Standardized average event period daily abnormal return
* Significant at 5% level

2. A temporary stock price increase would prove beneficial to managers of overvalued firms for example if the firm plans to issue stock, or if management intends to reduce its equity ownership in the firm.

3. For a discussion of the superiority of analysts' forecasts relative to time series models and the particular superiority of Value Line, see Philbrick and Ricks (1991), Fried and Givoly (1982), Brown and Rozeff (1978), Brown et al. (1987 and 1987a).

4. The Investment Survey was selected because it is a weekly publication and as such a timely forecast, minimizes the impact of confounding events between the time of the analyst forecast and the SSA. Also Brown and Kim (1991) show that more timely earnings forecasts are better proxies for market expectations. Although there is no requisite assumption that false signalers were intentionally such, the selection of a shorter term horizon minimizes unforeseen future events that impact upon the earnings performance metric. Doran (1990) analyzes a longer term (but less timely) Value Line forecast in analyzing earnings performance of splitting firms for the sample period used in this study and finds a high correlation between the short term and long term earnings performance metrics (Spearman Correlation Coefficient = .6139, significant at .001).

5. In a further attempt to scrutinize false signalers, those firms that experienced negative market response to the previous SSA were excluded from the analysis. The results are consistent. Also, since analyst forecasts have been found to be optimistic [(see Fried and Givoly (1982), and Ali et al. (1992)] the tests were performed using a cut-off of -1% for purposes of identifying false signalers. The results are consistent.

6. In the case of specific announcement date clustering, time series analysis revealed that for the false signaler group there were three instances where two firms announced a stock split on the same date. In the case of the comparison group, there were 21 instances where two firms had the same announcement date, and three instances where three firms announced stock splits on the same date. To test for potential bias, these events were excluded, and the statistical tests performed on the reduced data set. The results were unchanged.

7. This is the same methodology and notation used by Doran (1991).

8. All tests were replicated using RAW and ABNL. The results were unchanged.

9. For a discussion of the appropriateness of this comparison period in the case of splitting firms see Grinnblatt et al. (1984).

10. Changes in the firm's president, chief executive officer, or chairman of the board was considered to constitute change in top management. These instances were identified by referencing Moody's Industrial Manual and Moody's Transportation Manual. When the requisite information was not provided by Moody's, the Wall Street Journal Index and the Wall Street Journal were referenced.

11. The Wilcoxon-Mann-Whitney rank sum test yielded z scores of 2.45, 2.18, and 2.18 for RAW, ABNL, and STD respectively (all significant at the 5% level).

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