Journal Of Financial And Strategic Decisions Volume 7 Number 1 Spring 1994

INTERNAL/EXTERNAL TOP MANAGEMENT SUCCESSION AND FIRM PERFORMANCE

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Abstract

We analyze the relationship between the board's choice of an internal promotion or external hire of a top executive and relative corporate performance. The board's choice is predicted using accounting earnings (*ROA* and *EBIT*) and stock prices (*ROE* and Stock Return), in the coincident (year 0) and lagged years (-1 to -3), as measures of performance. The origin of the successor is significantly related only to *ROA* and *EBIT* suggesting that boards look at accounting measures more than market measures in evaluating managerial performance. The relationship between poor accounting earnings and outsider appointments is stronger for small firms and the *CEO* position. Cross-sectional differences in the excess stock returns around the announcement date confirm the value to the firm of outside appointments following poor stock performance.

INTRODUCTION

The relation between management turnover and firm performance has received an increasing amount of attention recently. Managerial performance is said to be monitored and managerial tenure influenced by internal mechanisms such as the board of directors (Fama, 1980), other officeholders (Fama and Jensen, 1983), and large share blockholders (Shleifer and Vishny, 1986). Recent research shows that such internal mechanisms are effective in removing managers of poorly-performing firms. The probability of a top management change has been found to be inversely related to a firm's stock performance (Coughlan and Schmidt, 1985; Warner, Watts, and Wruck, 1988). However, as the reported probability of a management change in a poorly-performing firm is not high,¹ Warner *et al* (1988, pp. 488) suggest examining other measures of firm performance, such as accounting earnings, in order to identify the variables actually used in evaluating performance.

There is some evidence that accounting earnings play an important role in corporate governance, particularly in the hiring, firing, and compensation of the top management team. For example, DeAngelo (1988) found that dissident shareholders waging a proxy fight for board seats most often cited the firms accounting earnings as evidence of poor performance. Managers facing such proxy fights responded by overstating earnings during this period. Moreover a higher than average rate of top management turnover was reported following both successful and unsuccessful proxy fights with the new managers taking an "earnings" bath upon assuming office. Moore (1973) also found that new managers made accounting changes that decreased earnings immediately after taking office and reported "improved" earnings in the following periods. Weisbach (1988) found the relationship between firm performance and turnover to be stronger when accounting earnings are used as the measure of performance and concluded that "boards of directors look at accounting numbers when evaluating a CEO's (Chief Executive Officer's) performance, possibly even more than at stock performance" (pp. 448).

Internal monitoring mechanisms probably place greater reliance on accounting earnings as an accurate measure of performance because accounting data is considered to be less noisy, internally generated and therefore not subject to market biases (see Healy, 1985; Leftwich 1983; Smith and Warner, 1979). Stock prices on the other hand possess noise created by the securities market (Warner *et al*, 1988). Furthermore, as Lambert and Larcker (1987) following Gjesdal (1981) state "an information system that is useful in valuing the firm need not be useful

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in assessing a manager's performance." (pp. 104). This may explain the use of accounting variables in executive compensation contracts (Antle and Smith, 1986).

We extend the research on the relation between various measures of firm performance and management turnover by presenting evidence bearing upon the decision to fill managerial vacancies through internal promotion or external hiring. Logit regressions are used to assess the relative importance of accounting and market measures of performance as predictors of the internal/external succession decision. In the next section, we discuss the role of the board in monitoring a firm's top management and the choice of an internal/external successor. In Section 3 the sample data and methodology are described. The results are presented in Section 4 and in Section 5 a summary and conclusions are provided.

INTERNAL/EXTERNAL SUCCESSION AND FIRM PERFORMANCE

State laws require that a corporation be "managed" by a board of directors, who delegate the duty of "managing" to a single CEO or a team of senior managers—the top-management. Legal treatises have long maintained that a fundamental responsibility of the board is to manage the firm in the best interests of the shareholders (Spellman, 1931). However, in practice, boards delegate the control of the corporation to senior managers while retaining the legal right to hire, fire, and set compensation for top management. The board's choice of top managers is fundamental to the control of corporate resources, and is not likely to be a trivial matter.

The board's involvement in corporate governance is greatest when the replacement of a top executive is necessary or desired (Zald, 1969; Vancil, 1987). The board has the responsibility of selecting the top management team in accordance with shareholder's interests. Majority of the replacements for top managerial posts come from within the firm while outside appointments have been found to range from 13% (Reinganum, 1985) to 25% (Vancil, 1987). Internal succession is usually associated with a smooth continuance of present policies and is not a response to management problems (Brown, 1982; Helmich, 1977; Vancil, 1987). The greater incidence of insider appointments may also reflect the fact that insiders possess valuable firm specific human capital which could be costly to replace. Furthermore, the possibility of promotion is a powerful motivational force for insiders (Lazear and Rosen, 1981), which outside appointments can endanger.

Outside succession should be more likely only if the benefits outweigh such costs to the firm, as when a turnaround in firm performance is desired. Starbuck and Hedberg (1977), Hofer (1988), and Bibeault (1982) are among many researchers who hypothesize that an outside successor is essential for successful turnaround strategies for firms that experience poor performance. Partial confirmation of the value of outside appointments to a firm is provided by event studies of share price movements around the date of the announcement. Reinganum (1985), looked at all *Wall Street Journal (WSJ)* announcements of internal and external appointments for years 1978-1979 and found significant positive stock price reaction only for outsider appointments in small firms. Warner *et al* (1988) also report significant positive market reaction for 42 outsider appointments for a random sample of 269 firms in the period 1963-1980. However, Furtado and Rozeff (1987) analyzed all appointments headlined in the *WSJ* for years 1975-1982 and found significant positive reaction to both internal promotions and external hires, especially in their sample of small firms. External hires in large firms had a negative, but insignificant, effect on stock prices.

Many of the recent studies in this area have looked at the "forced departure" of top executives of a firm. However, dismissals are rare or under-reported and their frequency difficult to determine.² The studies therefore include voluntary and involuntary departures such as early retirements and resignations and exclude only mandatory retirements or death. However, even when the board does not initiate the turnover, the subsequent appointment is made exclusively by the board. It is the board that decides to promote from within or go outside. As such, we focus upon top management appointments to learn about the performance measures used by the board in making the decision.³

Two studies that examined management succession failed to find any significant relationship between outside appointments and firm performance. Dalton and Kesner (1985) selected a sample of 96 NYSE firms that experienced a management succession in a one year period. They obtained two measures of performance, return on equity and common stock returns, for three years preceding the change. Logit regressions (origin of successor as the dependent variable and the performance measures as the independent variables) did not support the hypothesis that poor performance leads to outside succession. However, further analysis of the data showed the

relationship to be non-linear with outside succession more likely in the mid-range of performance. Neither the better nor the worse performers were more likely to choose outsiders. In the other study, Warner, *et al*, (1988) selected every sixth firm listed on July 2, 1962, on the New York Stock Exchange and the American Stock Exchange. For this random sample of 269 firms, 351 changes were reported in the *WSJ* over the years 1962-1980. They found a significant inverse relationship between the likelihood of change and prior performance (measured as share price relative to the market). However for changes involving outside succession (N=42), they found no such relationship with prior performance.

We extend the above two studies as follows. First, in addition to market adjusted measures of stock performance, we also incorporate accounting measures of performance in the analysis. As firm performance is traditionally analyzed relative to other firms in the same industry we adjust the accounting measures for industry performance.⁴ Second, instead of assessing unconditional probabilities of outside succession in a random sample of firms we analyze the origin of the successor only for firms making an appointment decision. This should highlight the relationship between the boards' choice of an internal versus an external candidate and firm performance.

DATA AND METHODOLOGY

Data

The study uses the data on 220 internal and 103 external appointments collected by Furtado and Rozeff (1987).⁵ From this sample only firms with information available on the COMPUSTAT tapes for four years, the year of appointment and the preceding three years, are included. The final sample has 139 appointments, of which 97 (70%) are internal promotions and 42 (30%) are external hires (see Table 1). There are 43 (31%) CEO appointments (26 internal promotions and 17 external hires) and 96 (69%) non-CEO appointments to the president and chairman positions (71 are internal promotions and 25 are external hires).

TABLE 1Internal Promotions And External Hires By Post(CEO, Non-CEO)^a And Firm-size (Small, Large)^bFor 139 Appointments During The Period 1975-1982.

Post a	nd Size	Internal	External	Total
Post - Non-C	CEO	71 26	25 17	96 43
Total		97	42	139
Size – Small Large		55 42	30 12	85 54
Total		97	42	139

a. Non-CEO posts are those of president and/or chairman positions only.

- b. A firm is small (large) if its market value of equity as at December end in the year of the appointment is below (above) the median value of all firms on the *CRSP* daily return file for that year.
- c. This sample has been cleansed of firms that announce appointments (day 0) but also announce other economic news (such as earnings, change in dividends, forecasts, stock splits, capital expenditure plans, 'heard on the street' stories) around days 20 to +3 of the appointments. The original 'clean' sample of 323 appointments is reduced to 139 because of the need to have data on the Compustat tapes for 4 consecutive years prior to the appointment.

Internal and external appointments by size of the firm are also presented in Table 1. The size of the firm is based on the market value of the firm's equity as at December-end in the year in which a change occurs. A firm is large (small) if the value is above (below) the median value of all firms on the University of Chicago's Center for Research in Security Prices (*CRSP*) daily return file for that year. While internal promotions outnumber external hires, external hires comprise a greater proportion of all appointments for small firms (35%) than for large firms (22%).

Methodology

The primary hypothesis (i.e., boards promote internally or hire externally for a top post based on relative firm performance) is tested using logit equations. The dependent variable is 1 if there is an internal promotion, and 0 for an external hire. The independent variables are accounting and market measures of relative firm performance; two accounting measures, return on total assets (*ROA*) and earnings before interest and taxes adjusted for total assets (*EBIT*), one hybrid market measure, return on market value of equity (*ROE*), and one market measure, return on common stock adjusted for market return (*STKRET*).⁶ Performance is measured for the coincident year (year 0) and the preceding three years (years -1 to -3). Year 0 is defined as the year for which current internal accounting information should be available to the board. For appointments made in the first half of the fiscal year, the preceding year is defined as year 0, and for appointments made in the second half of the fiscal year, the appointment is defined as year 0. For the *ROA*, *EBIT*, and *ROE* measures, relative performance is the difference between firm performance and the average performance of all firms with the same two digit SIC industry-code. Relative stock return is measured by taking the difference between the firm's return and the market return for a one year period preceding the quarter in which the appointment is made.⁷ Calculation of these variables is described in Appendix 1.

RESULTS

The logit regression models for each of the performance measures are presented in Table 2. The first important result from these models is that the board's decision to promote an insider or to appoint an outsider is significantly related to relative corporate performance. Thus, unlike Dalton & Kesner (1985) and Warner *et al*, (1988) we find that the probability of an outside appointment is inversely related to relative firm performance. Second, the accounting performance measures of *ROA* and *EBIT* have a greater association with the internal-promotion or external-hire decision than market-based measures. This supports Weisbach's (1988) contention that boards are more likely to monitor and base their decisions on internal information, such as accounting earnings, than on stock prices. The model likelihood ratio chi-square values are statistically significant at the .05 level for both *ROA* and *EBIT*, and not significant for the market measures, *ROE* and *STKRET* (see Table 2). The ROA model has a χ^2 of *11.13* (p<.05) and R=.14, and the *EBIT* model has a χ^2 of *15.15* (p<.004) and R=.21.⁸ Third, performance in the year of the announcement has the greatest effect on the appointment are significant at the .05 level. The coefficients for years -1 to -3 are not significant and the individual Rs have zero values indicating that the lagged measures provide no partial contribution to the model. This result contrasts with Warner, *et al's* (1988) finding that management change may be a response to poor performance with a lag of up to two years.

In order to further investigate the relationship of prior performance and management succession, an implied probability of internal promotion for each firm is estimated based on the logit equation for *EBIT* in year 0. An expanded sample of 246 firms (for which *EBIT* in year 0 is available) is ranked by *EBIT* and divided into quintiles ranging from the worst performing to the best performing groups. Mean implied probabilities of internal promotion for each quintile, based on this logit equation, are presented in Table 3. The mean *EBIT* values for the quintiles are shown in the first column and range from -17.02% for the bottom quintile to 9.97% for the top quintile. The mean implied probabilities are presented in the second column. The probability of internal promotions is seen to monotonically rise from 44.97% for the worst performers to 79.43% for the best performers. For small firms the mean implied probability of internal promotion ranges from 38.57% for the worst performers to 74.65% for the best performers. This is in contrast to the higher implied probabilities of 66.01% for the worst performers to 83.32% for the best group when appointing an internal successor in large firms. One-way analysis of

variance and Scheffe's pairwise comparison of means (alpha level .05) show significant differences between the five groups for both the small and large firms.

TABLE 2

Logit Equations Predicting The Origin (Internal Promotion Or External Hire) Of Top-Post Appointments^a Using *ROA*, *EBIT*, *ROE* And *STKRET^a* In The Year Of Appointment (Year 0) And The Preceding Three Years (Years -1 to -3).

Probabilities Are In Parenthesis Below The Coefficient. *Indicates Significance At The .10 Or Lower Level

Variable	Model 1	Model 2	Model 3	Model 4
	<i>ROA</i>	<i>EBIT</i>	<i>ROE</i>	<i>STKRET</i>
	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)
Intercept	.89	1.06	.88	1.08
	(.00)*	(.00)*	(.00)*	(.00)*
Year	0 .09 (.12)	8.44 (.16)	00 (.00)	24 (.00)
	(.03)*	(.01)*	(.63)	(.63)
Year -1	07 (.00)	-4.06 (.00)	.00 (.00)	51 (.00)
	(.26)	(.29)	(.96)	(.34)
Year -2	.09 (.00)	4.04 (.00)	.00 (.00)	45 (.00)
	(.26)	(.36)	(.36)	(.23)
Year -3	04 (.00)	-3.63 (.00)	00 (.00)	.57 (.00)
	(.62)	(.43)	(.19)	(.17)
Model Likelihood Ratio Chi-square	11.13	15.15	3.48	4.22
(Model p Value)	(.03)*	(.004)*	(.48)	(.38)
Model R ^c	.14	.21	0.0	0.0

a. There are 97 internal promotions and 42 external hires based on a sample of 139 firms for which data for four years is available on COMPUSTAT tapes.

b. ROA is industry-adjusted return on total assets.

EBIT is size-(total assets) and industry-adjusted earnings before interest and taxes. *ROE* is industry-adjusted return on equity.

STKRET is market-adjusted share price return.

c. The R statistic measures the predictive ability of the model. R is set to 0 when the model chi-square is less than 2p, where p is the number of variables in the estimation equation. Individual Rs (in parenthesis beside the coefficient) reflect partial contribution to the model.

TABLE 3
Mean Implied Probabilities Of Internal Promotion For
Small And Large Firms Based On The Logit Equation
Using EBIT, In The Year Of Appointment By Quintiles
Based On Low To High EBIT."

ALL FIRMS			;	SMALL FIRMS				LARGE FIRMS			
Group	Mean EBIT	Mean Prob	Actual ^b	Group	Mean EBIT	Mean Prob	Actual ^b	Group	Mean EBIT	Mean Prob	Actual ^b
1 n=49	-17.02	44.97	(38.78) 19	1 n=30	-21.41	38.57	(43.33) 13	1 n=19	-5.25	66.01	(68.42) 13
2 n=49	-4.95	61.84	(67.35) 33	2 n=30	-8.74	54.53	(46.67) 14	2 n=19	-1.19	70.80	(63.16) 12
3 n=50	0.79	67.48	(66.00) 33	3 n=30	-2.95	62.12	(60.00) 18	3 n=20	0.87	73.05	(85.00) 17
4 n=49	2.36	71.42	(81.63) 40	4 n=30	0.81	66.78	(76.67) 23	4 n=19	4.42	76.63	(73.68) 14
5 n=49	9.97	79.43	(71.43) 35	5 n=30	8.04	74.65	(70.00) 21	5 n=19	12.46	83.32	(78.95) 15

a. An expanded sample of 246 firms is used for which the *EBIT*_o measure is available on COMPUSTAT tapes. There are 193 non-CEO appointments, 53 CEO appointments, 150 small firms and 96 large firms. The sample has 160 internal promotions and 86 external hires. See Table 1 (b) for definition of small and large firms.

b. The actual number of internal promotions within each quintile are in parentheses and used for comparison with the mean implied probabilities. Thus 19 out of 49 internal hires in quintile 1 is 38.78% actual versus an implied probability of 44.97% for this quintile.

Internal/External Succession And Post (CEO Or Non-CEO)

Significant differences exist between the role of the CEO and other posts in the top management team; the CEO position usually being the center of control in a firm (Lambert and Larcker, 1985).⁹ The boards' choice of a successor is therefore more likely to be associated with prior performance for the CEO post. Hence, we investigate the relationship between each of the performance measures and internal or external appointment to the CEO or non-CEO posts separately (see Table 4). Appointments to the CEO post are significantly related to the accounting measures of performance in year 0 and to the hybrid measure, *ROE*, in year 0 and the lagged years, while appointments to the non-CEO posts are not associated with prior performance. Chi-square values for *ROA* (15.65, p < .01), *EBIT* (17.42, p < .01), as well as *ROE* (19.10, p < .01) are significant for the CEO post. Stock performance preceding the appointment is not related to the origin of the successor for either type of post.

Internal/External Succession And Firm Size

Reinganum (1985) and Furtado and Rozeff (1987) find a disproportionate number of external hires in small firms, and conjecture that this is related to costs of maintaining an internal labor market and differences in the value of firm-specific human capital for large and small firms. Size is also reported to be an important determinant of the origin of a successor by Dalton and Kesner (1983) and Warner *et al* (1988). We, thus, analyze the results for small and large firms separately (see Table 5). The results provide evidence that in small firms, executive succession decisions are more closely related to accounting measures of firm performance than in large firms; although the opposite is true for the hybrid measure of *ROE*. The model chi-square values for *ROA* (9.05, p<.10), and *EBIT* (13.14, p<.01) are significant only for the small firms. The *ROE* model for large firms has a significant chi-square (8.38, p<.10) while the chi-square value for small firms is not significant. Both the *STKRET* models for large and small firms have insignificant values.

TABLE 4

Logit Equations Predicting The Origin (Internal Promotion Or External Hire) Of Top Post Appointments^a Using ROA, EBIT, ROE And STKRET^b In The Year Of Appointment (Year 0) And The Preceding Three Years (Years -1 To -3) Based On The Post (CEO Or Non-CEO) Of The Appointee.

	Model 1		Model 2		Model 3		Model 4	
	ROA		EBIT		ROE		<i>STKRET</i>	
Variable	CEO	Non-CEO	CEO	Non-CEO	CEO	Non-CEO	CEO	Non-CEO
	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)
Intercept	.44	1.12	1.00	1.22	1.14	1.08	.36	1.66
	(.27)	(.00)*	(.03)*	(.00)*	(.02)*	(.00)*	(.40)	(.00)*
Year 0	0.26 (.17)	.00 (.00)	11.98 (.19)	5.10 (.00)	.16 (.32)	00 (.00)	16 (.00)	47 (.00)
	(.05)*	(.95)	(.04)*	(.25)	(.01)*	(.46)	(.86)	(.46)
Year -1	21 (.00)	04 (.00)	-7.12 (.00)	-4.04 (.00)	06 (26)	.00 (.00)	13 (.00)	-1.09 (05)
	(.21)	(.62)	(.32)	(.44)	(.02)*	(.96)	(.88)	(.13)
Year -2	.21 (.00)	.12 (.00)	-8.59 (.00)	7.80 (.00)	.01 (.00)	.00 (.00)	.07 (.00)	87 (08)
	(.32)	(.23)	(.44)	(.21)	(.38)	(.55)	(.90)	(.11)
Year -3	.05 (.00)	07 (.00)	29.33 (.16)	-7.69 (.00)	02 (10)	00 (.00)	.74 (.00)	.91 (.07)
	(.78)	(.44)	(.06)	(.17)	(.11)*	(.38)	(.31)	(.11)
Model Likelihood Ratio Chi-Square	15.65	4.16	17.42	5.64	19.10	1.83	1.32	6.81
(Model p Value)	(.004)*	(.39)	(.002)*	(.23)	(.0008)*	(.77)	(.86)	(.15)
Model \mathbf{R}^{c}	.36	0.0	.40	0.0	.44	0.0	0.0	0.0

Probabilities are in parenthesis below the coefficient.

a. There are 43 CEO (17 external and 26 internal) and 96 non-CEO (25 external and 71 internal) appointments. Non-CEO posts include president and chairman positions.

b. See Table 2 (b).

c. See Table 2 (c).

Internal/External Succession And Excess Returns

Finally, the benefits of internal/external hiring should be reflected in the market's reaction around the announcement date. Furtado and Rozeff (1987) report positive and negative announcement period returns as equally likely regardless of whether firms are small or large or whether appointments are internal or external (see their Table 5, pp. 154). However, market reaction can be expected to be related to prior performance, for example, firms performing poorly should have different market reactions to the announcement of an external hire versus an internal appointment if external hire is considered part of a turnaround strategy. On the other hand, market reaction should be positive when good performers confirm their investment in human capital by announcing internal promotions. However, markets may also react positively to external hires in good firms because of increased anticipation of the 'real' effect brought by a proven external leader. The difficulty in separating the 'information' and 'real effects' in an appointment decision was discussed by Jensen and Warner (1988) and Warner *et al* (1988). In order to control for information effects, Bonnier and Bruner (1989) only considered poor performing firms when studying the effects of origin, firm-size and managerial title on excess returns. We test this relationship by including prior performance in a fully specified regression equation as follows:

 $ER = f(Size, Post, Origin, Stock Return (STK_{o}), and the interaction terms of these variables)$

Excess return (ER) is defined as:

$$\sum_{t=-1}^{0} (R_{i,t} - R_{m,t})$$

which is the cumulative two-day market adjusted daily return.¹⁰ Stock return (STK_o) in this equation is calculated differently from the variable (*STKRET*) used for the logit equations. Here, STK_o is the sum of 240 daily returns for each firm i, for the trading period from day -21 to day -260. Overall, the mean excess return is .64% with a range from -11.44% to +55.46% with 120 positive and 111 negative excess returns.¹¹

The relationship between excess returns and the independent variables is found to be highly significant. The complete model has an R^2 of .22 and a F value of 4.13 which is significant at the .01 level (see Table 6). The main effects show a significant negative correlation (p < .01) between excess returns and size, origin and prior stock performance. The excess returns for large firms, internal promotions, and firms with good prior performance are therefore all estimated to be negative. Or put another way, small firms with bad prior performance that seek external hires are associated with positive excess returns. Only post of the appointee has no significant main effect

TABLE 5

Logit Equations Predicting The Origin (Internal Promotion Or External Hire) Of Top-post Appointments^a Using *ROA*, *EBIT*, *ROE* And *STKRET*^b In The Year Of Appointment (Year 0) And The Preceding Three Years (Years -1 to -3) Based On The Size Of The Firm (Large Or Small)

	Model 1		Model 2		Model 3		Model 4	
	ROA		EBIT		ROE		STKRET	
Variable	Large	Small	Large	Small	Large	Small	Large	Small
	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)	Coeff. (R)
Intercept	1.16	.80	1.18	1.01	1.08	.63	1.42	.70
	(.01)*	(.00)*	(.00)*	(.00)*	(.00)*	(.01)*	(.00)*	(.06)*
Year 0	05 (.00)	.10 (.14)	08 (.00)	9.32 (.20)	.05 (.11)	00 (.00)	94 (.00)	.47 (.00)
	(.75)	(.04)*	(.99)	(.01)*	(.10)*	(.42)	(.33)	(.48)
Year -1	.11 (.00)	08 (.00)	2.39 (.00)	-4.74 (.00)	.00 (.00)	00 (.00)	.41 (.00)	34 (.00)
	(.62)	(.22)	(.87)	(.27)	(.63)	(.84)	(.68)	(.62)
Year -2	.09 (.00)	.09 (.00)	06 (.00)	4.42 (.00)	03 (.00)	.00 (.00)	.15 (.00)	58 (.00)
	(.78)	(.26)	(.99)	(.37)	(.22)	(.36)	(.90)	(.17)
Year -3	11 (.00)	04 (.00)	.79 (.00)	-4.48 (.00)	01 (16)	00 (.00)	78 (.00)	.93 (.11)
	(.71)	(.60)	(.95)	(.40)	(.07)*	(.48)	(.45)	(.07)*
Model Likelihood Ratio Chi-Square	0.77	9.05	.35	13.14	8.38	2.21	2.31	6.55
(Model p Value)	(.94)	(.06)*	(.99)	(.01)*	(.08)*	(.70)	(.68)	(.16)
Model R ^c	0.0	.10	0.0	.22	.08	0.0	0.0	0.0

Probabilities are in parenthesis below the coefficient.

a. There are 54 large (12 external and 42 internal) and 85 small (30 external and 55 internal) firms.

See Table 1 (b) for definition of large and small firms.

b. See Table 2 (b).

c. See Table 2 (c).

and this is in contrast to the results of Bonnier and Bruner (1989) who find that cross sectional differences in stock price effects are related to the title of the appointee.¹² The significance of the coefficients in the complete model are analyzed using restricted models (Fisher, 1970, pp. 362) which are formed by excluding one independent variable at a time. The unexplained variance in the complete and restricted models are compared and an F value is

TABLE 6

Regression Equations For Tests Of Relationship Between The Cumulative Two Day (Day -1, 0) Excess Stock Return, ER^a , And Firm-size, Post Of The Manager, Origin Of Appointee, Prior Stock Return $(STK_a)^b$ And Their Interaction Terms For 231 Appointments

	Restricted	Models	Independent	Variable	Excluded
Variable	Complete Model	Size	Post	Origin	Stock Return
Intercept Size Post Origin STK	.041*** 050*** 012 032*** - 158***	.024*** .003 018* - 104***	.036*** 038*** 032*** - 101***	.022*** 020** 012 - 034**	.017* 03* .000 003
Size X Post Size X Origin Size X STK ₀ Post X Origin Post X STK ₀ Origin X STK ₀	.037 .046** .135*** 011 .106*** .177***	017 .057 .113***	.036** .079*** .120***	.011 .004 .009	.027 .017 023
Size X Post X Origin Size X Post X STK ₀ Size X Origin X STK ₀ Origin X Post X STK ₀ Size X Post X Origin X STK ₀	022 092 187*** 107** .134	054	116***	.028	007
F Value R-square F Statistic, ^d Comparing Restricted	4.13*** .22	5.57*** .15 2.58*	6.30*** .17 2.02	1.95* .06 5.74***	1.18 .04 6.50***
And Complete Model					

a. The dependent variable of excess stock return, ER, is:

)

$$\sum_{t=-1}^{0} (R_{i,t} - R_{m,t})$$

for each firm i on days -1, 0 adjusted for return on the market (R_m). The mean ER is .64% with a range from -11.44% to 55.46%. See Table 1(a)(b) for definition of post—CEO, non-CEO; firm-size—small, large.

b. STK_0 : Cumulative 240 trading days prior return from day -21 to day -260 for each firm i.

c. *** (p<.01); **(p<.05); * (p<.10)

d. The F statistic mentioned by Fisher (1980) tests the significance of the excluded variable and is computed as:

 $F = \left[\left(SSE(restricted) - SSE(complete)\right) / (d.f.e.(restricted) - d.f.e.(complete))\right] / (SSE(complete) / d.f.e.(complete)) / (d.f.e.(restricted) - d.f.e.(restricted) - d.f.e.($

SSE: Sum of Squares Error; d.f.e.: degrees of freedom for the error term.

determined. Each comparison is then used to assess the contribution of the variable excluded from the restricted model. Comparison of the complete and restricted models confirms the significance of the coefficients for firm-size (F = 2.58 with p < .10), origin of the appointee (F = 5.38 with p < .01), and prior stock return (F = 6.50 with p < .01).

SUMMARY AND CONCLUSIONS

The results of this study show that the board's choice of an internal promotion or external hire is significantly related to prior performance, especially as measured by accounting earnings (*EBIT* and *ROA*). Market measures (*ROE* and *STKRET*) are generally found to be unrelated to the boards' decision. The significant role of accounting earnings in corporate governance has also been shown in studies on performance-based bonus schemes (Healy, 1985), differences in executive compensation (Antle and Smith, 1986), management information used in management buyouts (DeAngelo, 1986), and proxy contests (DeAngelo, 1988). Weisbach (1988) also finds accounting earnings to be a better predictor of management turnover than stock prices.

Board's actions are found to be best predicted by current financial information. Accounting earnings, *ROA* and *EBIT*, measured at the fiscal year-end closest to the date of management change, are the only variables with significant coefficients in the prediction equation. Coefficients for the lagged measures (years -1 to -3) of these accounting earnings are insignificant. For large firms, the likelihood of an internal promotion is influenced by prior performance to a much lesser degree than for small firms. For CEO posts, origin of the appointment is linked to the prior period's accounting performance. No such association is found for the non-CEO posts. Market reaction to the appointments is significantly related to the origin of the appointee, prior stock performance, firmsize, and their interaction. Excess returns around the announcement date show the positive value to a small firm of making outsider appointments following poor stock performance.

Poor firm performance not only leads to a replacement of top executives as earlier studies have found, but also reflects upon the entire management team. The increased probability of an external hire in a poor performing firm is an admission by the board of its lack of confidence in the current team. Future research may investigate whether top executives make accounting changes in order to "manage" earnings before the boards' actions and whether outside or inside replacements are more likely to take an earnings bath after being appointed to the top posts.

ENDNOTES

- Coughlan and Schmidt (1985) and Warner, Watts, and Wruck (1988) use logit equations to estimate the probability of a top management change following poor stock performance. Coughlan and Schmidt report a 21.3% probability of a management change for the group of firms in the lowest 1% of their sample versus 3.1% in the highest 1% firms. Warner et al report a probability of 12.8% for the bottom decile of their sample versus 8.6% in the best decile firms.
- 2. James and Soref (1981) in a study of dismissals of presidents in the year 1964, reported 16 firings in a sample of 286 firms, or a rate of 5.6%. Furtado and Rozeff (1987) also found only 62 instances of dismissals compared to 1406 announcements of appointments in the period 1975-1982, a rate of only 4.41%. Another major force that seems to cause turnover of top management is change in ownership (Barclay and Holderness, 1989; DeAngelo and DeAngelo, 1989; Martin and McConnell, 1989). We exclude turnover caused by change in ownership and, instead, focus on the relationship between turnover and poor firm performance.
- 3. Succession in an organization and the board's choice of an internal or an external appointment may be affected not only by rational organizational needs but also by hidden political and psychological factors (Dalton and Kesner, 1985; Kets DeVries, 1988).
- 4. Antle and Smith (1986), using Holmstrom's (1982) model, argue that the efficiency of a contract with an agent can be improved by incorporating the performance of agents exposed to similar business risk. This filters out common uncertainty revealed by competitors' performance and allows evaluation to be directly related to the resources and results controllable by the manager. Such manager-specific evaluation increases the efficiency of contracts.

- 5. See Furtado and Rozeff (1987) pp. 149-150 for details. Management change was determined by looking at the headline announcements in the WSJ from 1975-1982 and temporary appointments and multiple changes are excluded. The firms selected had no restructure activity such as mergers, etc., within the past six months. If a firm has two successive management changes in a twenty-five day period, only the first announcement entered the sample. The firms also had common stock publicly traded on the New York Stock Exchange or the American Stock Exchange with daily rates of return on the University of Chicago's Center for Research in Security Prices daily return file. In order to obtain a sample of unexpected announcements, firms that had economic news around days -20 to +3 mentioned in the WSJ were excluded. Such news included events like earnings, change in dividends, forecasts, stock splits, capital expenditure plans, and 'heard on the street' stories.
- 6. Status of the outgoing manager is also likely to be related to firm performance and thus the status of the predecessor may be an important predictor of internal versus external replacement. However, as discussed above it is difficult to differentiate between voluntary and involuntary departures (see Endnote 3) and therefore not included here. The 139 appointments that we study were made to: 39 vacant posts; 2 newly created posts; 89 replacements of managers who stay in the firm in some other capacity; and 5 where the manager plans to retire. No information of the predecessor is available for 4 appointments.
- 7. For example, the time-span could be one day if the appointment is made on April 2 (since March 31 is the preceding quarter) or three months (if the appointment is made on June 30). Given that an appointment is several days in the making, we use the preceding quarter for consistency with the accounting analysis. Our average calendar days from the prior quarter is 56 days for the 139 firms.
- 8. The chi-square value indicates the significance of the differences between the full model and a model with only the intercept (a naive model). It is calculated as -2 times the difference between the log likelihood functions of the full and the naive models. The model R statistic is also reported, which measures the predictive ability of the model and has a value of 0 if the model is of no value and 1 if the model predicts perfectly.
- 9. The greater power that the CEO post has within the firm is also said to be reflected in larger positive significant returns around the announcement of a change in the CEO position. (Bonnier and Bruner, 1989).
- 10. The excess returns measure, *ER*, used here is different from that calculated in event studies. The use of market model residuals for excess returns, and the use of stock performance as an independent variable would lead to spurious results (see Weisbach, 1988, footnote 27, page 458).
- 11. Of the 246 firms that had *EBIT* in year 0, 15 firms were dropped because stock return data was not available in the current *CRSP* tapes.
- 12. However, the effects of these variables are contingent upon their interactions. Interaction of size and origin, and the two- and three-way interaction of stock returns with the other variables are all significant at the .05 level or less. For example, the negative main effect of STK_0 is offset by its two-way interaction with firm-size and origin of the appointee.

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APPENDIX 1 Relative Performance Measures

Industry-Adjusted Performance Measures

The general equation is:

Relative Performance Measure_{j,k,t} = Unadjusted Measure_{j,k,t} -Industry Average_{i,k,t} for firm *j* in industry *k* for year t(t=0,-1,-2,-3).

The three measures are:

1)
$$ROA_{j,k,t} = (NI / TA)_{j,k,t} - (\sum_{k,i=1}^{W} (NI / TA)_{i,k,t}) / N$$

2) $EBIT_{j,k,t} = (E\hat{B}IT / TA)_{j,k,t} - (\sum_{k,i=1}^{W} (E\hat{B}IT / TA)_{i,k,t}) / N$
3) $ROE_{j,k,t} = (NI / MVE)_{j,k,t} - (\sum_{k,i=1}^{W} (NI / MVE)_{i,k,t}) / N$

where:

ROA is the relative Return on Total Assets *EBIT* is the relative Earnings before Interest and Taxes *ROE* is the relative Return on Equity

TA is total assets, NI is net income, MVE is the market value of equity and the ^'s are the unadjusted measures.

Market-Adjusted Performance Measure

$$STKRET_{j,t} = \sum_{t,k=1}^{4} (ST\hat{K}RET_{j,k} - MKTRET_k)$$

where $STKRET_{j,t}$ is the relative Stock Return for firm *j*, in year t(t=-0, -1, -2, -3), ^ is the unadjusted measure, *MKTRET* is the value-weighted market return, and *k* is four quarters, for each year *t*, beginning with the quarter immediately preceding the announcement date.