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THE ASSOCIATION BETWEEN CORPORATE DIVIDENDS AND CURRENT COST DISCLOSURES

BALA G. DHARAN*

INTRODUCTION

Since 1979, large and medium-sized US firms meeting certain size requirements have been disclosing current cost earnings data in accordance with the requirements of Statement of Financial Accounting Standard No. 33 (FASB, 1979). This paper examines the extent to which SFAS-33 data explain firms' dividend decisions.

Many researchers and practitioners have argued that current cost earnings data would provide management with the necessary information to establish a dividend policy consistent with prudent capital maintenance. This view is also expressed by the FASB in Statement No. 33: 'The information on current cost income from continuing operations required by this Statement provides a basis for users' assessment of distributable income' (FASB, 1979, para. 124). The argument is that dividends based on historical cost earnings might not preserve capital and that dividends should be less than current cost earnings, which implies that changes in dividends should be explained by current cost earnings changes rather than historical cost earnings changes.

However, the Accounting Standards Committee in the UK explicitly proscribed such an interpretation of the current cost income. In Statement of Standard Accounting Practice No. 16, it said in determining dividend policy one must also consider 'factors such as capital expenditure plans, . . . funding requirements . . . , liquidity, and new financing arrangements. The current cost profit . . . should not be assumed to measure the amount that can be prudently distributed' (ASC, 1980, para. 23). This view is consistent with the investment opportunity model of dividends, viz., firms with good investment opportunities would pay less dividends. If current cost earnings proxy for expected future operating profits, an implication is that there may be a negative cross-sectional association between changes in dividends and changes in current cost earnings. On the other hand, the classic target payout and partial adjustment models of dividends postulate that firms try to maintain a stable long-term relationship between dividends and historical cost earnings. This view suggests that there should be no cross-sectional association between changes in dividends and changes in current cost earnings. Finally, management discussions in annual reports often suggest that no association exists. For example,

* The author is Associate Professor of Accounting at the Jones Graduate School of Administration, Rice University, Houston (Paper received February 1986, revised October 1986)

Tenneco, in its 1981 annual report, preceded the disclosure of current cost data with the remark 'the methods utilized inherently involve the use of assumptions, approximations, and subjective judgments' (p. 50).

Research in finance is divided on the determinants of dividend policy and on the relevance of dividend policy for firm value. Perhaps as a result, the above hypotheses in the accounting literature about the association between current cost data and dividends focus on management use of current cost data for specific managerial decisions (such as capital maintenance or investment decision), and are not generally based on rigorous models of value maximization. Such models are not attempted in this paper either. Instead, the competing hypotheses on the association between current cost data and dividend decisions are empirically examined.

To get robust results, this paper examines three years of current cost data for 325 US firms and reports the findings from four different, though somewhat related, research approaches. Firstly, an approach similar to Fama and Babiak (1968) is used to see whether the frequency of dividend changes is monotonically related to historical cost or current cost earnings changes.[1] The results (Table 1) show that changes in historical cost earnings, rather than current cost earnings, explain the *frequency* of dividend changes. Secondly, the percentage changes in dividends (rather than the frequency of dividend changes) is related to the signs of historical cost and current cost earnings changes, in a one-way analysis of variance format. The data (Table 2) indicate that dividend growth rates are explained by historical cost earnings changes, consistent with the target payout (or partial adjustment) model, and not by current cost earnings changes.

Thirdly, a regression of percentage changes in dividends with percentage changes in historical cost and current cost earnings indicates (Table 3) that the coefficient for historical cost earnings is positive and significant as predicted by the target payout model while the coefficient for current cost earnings is insignificant. Finally, a test of the partial adjustment model of dividends with the addition of a current cost earnings term shows (Table 4) that the model is strongly supported but the current cost earnings coefficient is generally insignificant.

The evidence strongly supports the partial adjustment model and the target payout hypothesis, and generally shows that current cost data appear to possess little explanatory power about dividend decisions. In particular, there seems little support for the capital maintenance hypothesis. To the extent that dividend decisions can affect security returns (Blume, 1980; and Litzenberger and Ramaswamy, 1982), the evidence of lack of association between current cost data and dividend decisions is consistent with Beaver and Landsman's (1983) finding that SFAS-33 data possess little explanatory power about security returns.

In the next section, the various alternative hypotheses offered by the capital maintenance, investment opportunity, and target payout models are discussed. Sample selection is described in the third section. In the fourth section, the tests are described and the results presented. Some concluding remarks are presented in the last section.

HYPOTHESES

Theoretical arguments for the use of current cost or similar data by management for dividend decisions have focused on the ability of the enterprise to maintain its operating capacity. For example, Revsine (1981) notes that historical cost-based income data create 'the illusion of prosperity', and warns that their use by management and governmental regulators may result in (physical) capital liquidation. Revsine (1973) develops the theory underlying this thinking. He argues that under the assumption of perfect competition, current cost operating income represents 'the maximum amount that the firm can distribute as a dividend and still maintain physical operations and future dividends at their existing levels' (p. 100). He also argues that the above relationship holds as an 'approximation' when the perfect competition assumption is relaxed. Grant (1983), sounding a similar theme, emphasizes that managements must start using the price-adjusted data for dividend decisions, or otherwise '[they] may be returning capital, not profits, to shareholders and letting the company drift toward liquidation'. As noted, in the 'Basis for Conclusion' section of SFAS-33, the FASB also cites similar arguments to support its current cost disclosure requirements.

Summary statistics reported in an FASB-sponsored study by Evans and Freeman (1983), based on SFAS-33 disclosures of over 500 firms, indicate that firms have indeed been paying dividends far in excess of the current cost operating earnings reported under SFAS-33. The above arguments recommending dividend reduction for such firms implicitly assume that firms were paying large dividends prior to SFAS-33 (and to SEC's ASR-190 rule) because managers and investors were unaware of inflation's effect on a firm's capital. If current cost data contain information sufficient to determine optimum capital maintenance requirements, then managers would consider this information in setting their dividend policies.[2] In particular, the capital maintenance argument says that firms would try to pay dividends that are less in amount than current cost operating income. Since such a change in dividend level is more likely to be implemented over a period of time rather than abruptly, an implication is that increases or decreases in year-to-year dividend payments would be governed by increases or decreases in current cost income rather than historical cost income. Hence the hypothesis suggested by the capital maintenance model is:

H_0: (Capital maintenance hypothesis) Changes in dividends are positively associated with changes in current cost earnings.

Some writers have cautioned against proposing, as the capital maintenance model does, that dividends should be less than current cost operating income. Rappaport (1981), for example, argues that a firm's 'maximum affordable' dividends, i.e., the amount a firm can pay and still not liquidate capital, depends not on its current cost earnings *per se*, but on its growth targets, investment opportunities, and financing constraints. As noted, this is also the view expressed by ASC in SSAP-16.

That investment opportunities and dividends may be related is supported by the fact that during 1979–83, steel and construction material industries in the US had the lowest sales growth rates and the highest dividend payout rates (dividends divided by income before nonrecurring items). By contrast, oil and gas and electronics industries had two of the highest sales growth rates and the lowest dividend payout rates.[3] While sales growth is not necessarily indicative of investment opportunities, these data do lend indirect support to the investment opportunity model.

If current cost earnings are a proxy for future investment returns, then the investment opportunity model suggests an alternative hypothesis about current cost data and dividends. If firms with increases in current cost earnings are more likely to have attractive investment opportunities than firms with decreases in current cost earnings, then the latter firms may increase their dividends and return more capital to investors for alternative uses. Note that the applicability of the investment opportunity model for the current cost-dividend relationship requires a model of how current cost earnings and future investment opportunities are related, and this is not attempted in this paper. In addition, historical cost earnings and current cost earnings are generally highly correlated, and hence the information about investment opportunities is not likely to be unique to current cost earnings. Nevertheless, it is worth noting that if the investment opportunity model is valid then one would expect a negative association between current cost earnings and dividend changes, rather than the positive association as in H_0.

A different association pattern is suggested by the work of Lintner (1956), Fama and Babiak (1968) and others who have reported evidence that firms' dividend decisions are consistent with a 'target' payout objective, i.e., a desire to maintain a stable long-term relationship between dividends and reported historical cost earnings. In addition, firms prefer to adjust their dividend levels to the desired level over a period of time rather than abruptly. In other words, year-to-year changes in dividends are governed by the desired target payout level *and* a speed-of-adjustment factor. This so-called partial adjustment model, which is described more fully below in the section headed Results, implies that dividend changes are positively associated with historical cost earnings and previous period's dividend level. Moreover, since the target dividend level is postulated to depend only on historical cost earnings and not on current cost data, these models predict no association between current cost earnings changes and dividend changes.

Finally, management discussions in annual reports of the importance of current cost data also suggest that a hypothesis of no association between current cost earnings and dividends may be valid. In its annual survey of corporate annual reports, Peat Marwick Mitchell (1984) found that a significant number of managements expressed doubts about the usefulness of current cost data and cautioned investors that the measurement methods were approximate. The zero incremental information content of current cost data found by Beaver and Landsman (1983) and Matolcsy (1984) also provides indirect support for this hypothesis, though their results do not necessarily rule out an association between current cost earnings and dividends since it is possible that changes in dividend policies may not affect firm value. Similar inconsistencies between managerial decision effects and firm value have been found for other accounting information — for example, accounting for foreign currency translation (Dukes, 1978; and Evans et al., 1978) and accounting for leases (Abdel-Khalik, 1981).

The above discussions suggest the following alternative hypothesis:

H_1: There is no positive association between current cost earnings changes and dividend changes.

The remaining sections describe empirical tests of the association between current cost earnings and dividends using current cost data from 1980 to 1983.[4] Sample selection is discussed next.

SAMPLE

Annually, *Business Week* publishes a survey of inflation accounting data for over three hundred US firms. The surveys published in 1981 through 1984 are used in this study to collect current cost accounting disclosures.[5] Additional financial data, including dividends, are obtained from the COMPUSTAT tape. A sample of 325 firms is obtained by including all companies listed in the 1981 *Business Week* survey and the July 1984 COMPUSTAT tape, except for six firms which changed their fiscal years between 1979 and 1983. The appendix provides the distribution of firms in the sample by industry. Forty-four industry groups based on 2 digit SIC codes are represented in the sample, with fifteen of them having more than five firms each.

RESULTS

In this section, the association between dividends and earnings is examined using four different approaches. The results are presented in four corresponding subsections. To facilitate the discussion, the following notations are used:

$E_{j,t}$: historical cost earnings (of firm j, year t),
$C_{j,t}$: current cost earnings,
$D_{j,t}$: dividend per share (or total dividends where indicated),

Δ: Change from previous period (i.e., $\Delta E_{j,t} = E_{j,t} - E_{j,t-1}$).
%Δ: Percentage change (i.e., $\%\Delta E_{j,t} = 100 \times \Delta E_{j,t}/E_{j,t-1}$).

Frequency of Dividend Changes

A simple way to examine whether dividends are associated with current cost earnings (as postulated by the capital maintenance and investment opportunity models) is to see whether the frequency of dividend increases (or dividend decreases) depends on the *sign* of current cost earnings change. This procedure is similar to the one used by Fama and Babiak (1968, Table 1) to examine the relationship between dividend changes and historical cost earnings. They placed their firms into eight groups based on the signs (+ or −) of $\Delta E_{j,t}$, $\Delta E_{j,t-1}$, and $\Delta E_{j,t-2}$, and found a strictly monotonic relationship between the ordering of the eight groups and the frequency of dividend increases.[6] For example, firms with three consecutive earnings increases had the most frequent dividend increases and the least frequent dividend decreases. Similarly, firms with three earnings decreases had the least frequent dividend increases and most frequent decreases. They concluded that dividend increases and decreases were affected by past and current earnings changes as predicted by the target payout and partial adjustment models.

Following their procedure, firms in the sample are placed into four groups based on the signs of $\Delta E_{j,t}$ and $\Delta C_{j,t}$, with group 1 having positive changes in both E and C, group 2 having $\Delta E > 0$ and $\Delta C < 0$, group 3 having $\Delta E < 0$ and $\Delta C > 0$, and group 4 having negative values of both ΔE and ΔC. For each group, the frequency of dividend increases and dividend decreases is calculated using dividend per share data.[7] If current cost earnings affect dividends, then the frequency of dividend increases (or decreases) should be different for groups 1 and 2 (both of which have $\Delta E > 0$ but have opposite signs of ΔC), and similarly for groups 3 and 4. Moreover, the capital maintenance hypothesis would predict a larger frequency of dividend increases for firms with $\Delta C > 0$ (groups 1 and 3) compared to firms with $\Delta C < 0$ (groups 2 and 4). The investment opportunity model would predict the opposite relationship.

Table 1 presents the frequencies of dividend changes for the four groups for each of the three years examined. It is seen that dividend increases are more frequent when historical cost earnings increase ($\Delta E > 0$) than when they decrease ($\Delta E < 0$).[8] In 1981, for example, about 80 percent of the firms with $\Delta E > 0$ increased their dividends, while only about 59 percent of the firms with $\Delta E < 0$ had dividend increases. While the overall frequency of dividend increases is smaller in 1982 and 1983, group 1 and 2 firms with $\Delta E > 0$ still have more dividend increases than group 3 and 4 firms with $\Delta E < 0$ in these years. These data are in line with Fama and Babiak's result that historical cost earnings increases are associated with dividend increases.

However, changes in current cost earnings do not explain the frequency of

Table 1

Test 1: Frequency of Dividend Changes

Note: ΔE stands for change in historical cost earnings, and ΔC stands for change in current cost earnings.

Panel A· 1981 Data

Group	Dividend Increases	Percent of Firms with Constant Dividends	Dividend Decreases	Total Firms
(1) $\Delta E > 0, \Delta C > 0$	80.5%	16.0%	3.5%	169
(2) $\Delta E > 0, \Delta C < 0$	82.5%	12.5%	5 0%	40
(3) $\Delta E < 0, \Delta C > 0$	58.6%	34.5%	6.9%	29
(4) $\Delta E < 0, \Delta C < 0$	59.3%	29.1%	11.6%	86

Panel B 1982 Data

Group	Dividend Increases	Percent of Firms with Constant Dividends	Dividend Decreases	Total Firms
(1) $\Delta E > 0, \Delta C > 0$	75.5%	20.5%	4.0%	102
(2) $\Delta E > 0, \Delta C < 0$	85 0%	10.0%	5.0%	20
(3) $\Delta E < 0, \Delta C > 0$	65.0%	25.0%	10.0%	20
(4) $\Delta E < 0, \Delta C < 0$	45.1%	34.6%	20.3%	182

Panel C 1983 Data

Group	Dividend Increases	Percent of Firms with Constant Dividends	Dividend Decreases	Total Firms
(1) $\Delta E > 0, \Delta C > 0$	49.7%	39.3%	11.0%	191
(2) $\Delta E > 0, \Delta C < 0$	54.2%	33.3%	12.5%	24
(3) $\Delta E < 0, \Delta C > 0$	38.5%	38.5%	23.0%	13
(4) $\Delta E < 0, \Delta C < 0$	36 0%	46.1%	17.9%	89

dividend changes. Groups 1 and 2, for example, have comparable frequencies of dividend increases and decreases in all three years despite differing signs of ΔC. Similarly, groups 3 and 4 have comparable frequencies of dividend increases in all three years. In fact, with respect to dividend increases, a result similar to Fama and Babiak's strict monotonicity result can be obtained by ordering the four groups as group 2, group 1, group 4, and group 3, i.e., firms with $\Delta C < 0$ generally have more dividend increases than firms with $\Delta C > 0$. The differences between $\Delta C > 0$ groups and $\Delta C < 0$ groups, however, are not significant and hence this ordering does not necessarily support the investment opportunity model. Overall, the results in Table 1 reject the null hypothesis and support the target payout and partial adjustment models.

Table 2

Test 2: Dividend Growth Rates Versus Earnings Changes

Note: Data in the cells are average dividend per share growth rates. The box within each cell contains the number of firms on which the average is based. For each year given below, earnings changes and dividend growth rates are calculated with respect to the previous year. ΔE stands for change in historical cost earnings, and ΔC stands for change in current cost earnings

Panel A 1981 Data

	$\Delta C > 0$	$\Delta C < 0$	
$\Delta E > 0$	11.99% (169)	11.56% (40)	
$\Delta E < 0$	5.15% (29)	5.73% (86)	F Ratio = 7.21 (sig. at 0 0001 level)

Panel B· 1982 Data

	$\Delta C > 0$	$\Delta C < 0$	
$\Delta E > 0$	6 54% (102)	8.23% (19)	
$\Delta E < 0$	6.16% (20)	−3.70% (181)	F Ratio = 6.11 (sig. at 0.0005 level)

Panel C 1983 Data

	$\Delta C > 0$	$\Delta C < 0$	
$\Delta E > 0$	0.18% (190)	−1.87% (24)	
$\Delta E < 0$	−7.22% (13)	−5.73% (89)	F Ratio = 1.73 (sig. at 0.1614 level)

Dividend Growth Rates

The above procedure of examining only the frequencies of dividend changes, while illustrative, ignores the possibility that dividend *growth rates* may be associated with current cost earnings. Moreover, a simple one-way analysis of variance test can be formulated if dividend growth rate rather than frequency is defined as the dependent variable. Hence in this test, the average dividend growth rates of firms in the four groups are calculated using the dividend per share data. Table 2 provides the average growth rates as well as the number of applicable firms in each group, for each of the three years.[9]

The growth rates in Table 2 are consistent with the frequency results in Table 1. Firms with an increase in historical cost earnings (row 1 in each 2×2 table) generally have higher dividend growth rates than firms with $\Delta E < 0$ (row 2). This is true regardless of the sign of current cost earnings change. Moreover, given the same sign of ΔE, firms with an increase in current cost earnings (column 1) do not seem to have different growth rates than firms with a decrease in ΔC (column 2). Growth rates in column 2 are smaller than column 1 data in three of the six cases and larger in the other three cases, indicating no definite pattern of influence by the current cost data.

The overall F ratio from a one-way analysis of variance is significant at the 0.001 level for 1981 and 1982 and at the 0.16 level for 1983. Hence the hypothesis that the four groups have equal growth rates can be rejected. In addition, the above analysis indicates that the grouping based on historical cost income rather than current cost income accounts for this differential behavior among the groups. These results support the partial adjustment and target payout models of dividend and do not lend support to the null hypothesis from the capital maintenance model.

Regression of Percentage Change in Dividends and Earnings

The analysis-of-variance test reported above considers the information about the magnitude of dividend changes but ignores the information about the magnitudes of earnings changes. Instead, only the sign changes are considered in forming the four groups. Though the two-by-two tables in Table 2 are effective in highlighting the relationship between dividend and earnings changes, a regression analysis of the variables can make better use of the information about earnings magnitude changes. Hence the following cross-sectional regression is estimated for the sample of firms for each of the three years to determine the relationship between percentage changes in dividends and earnings:

$$\%\Delta D_{j,t} = \alpha_1 + \beta_1 \%\Delta E_{j,t} + \beta_2 \%\Delta C_{j,t}, \qquad (1)$$

where the dependent variable is the percentage change in dividend per share. Let a_1, b_1, and b_2 be the estimated values of α_1, β_1, and β_2 respectively. (The year subscript for the coefficients has been omitted for convenience.) If current

Table 3

Test 3: Regression of Percentage Change in Dividends versus Earnings

Note: The estimated regression is: $\%\Delta D_{j,t} = a_1 + b_1\%\Delta E_{j,t} + b_2\%\Delta C_{j,t}$. The dependent variable is the percentage change in dividend per share. (Results are similar when total dividends are used.) $\%\Delta E$ is the percentage change in historical cost earnings. $\%\Delta C$ is the percentage change in current cost earnings.

Year	*Sample Size*	a_1 *(t-val)*	b_1 *(t-val)*	b_2 *(t-val)*	R^2
1981	256	11.380 (13 353)	0.113 (3.678)	0.001 (0.192)	0.085
1982	256	8.556 (10 176)	0.128 (5.408)	0.005 (0.401)	0.284
1983	199	5.510 (7.764)	0.034 (1.839)	0.003 (0 284)	0.054

cost data provide incremental explanatory power for dividend policy, then $b_2 > 0$ would support the capital maintenance hypothesis (H_0). $b_2 < 0$ or $b_2 = 0$ would support the alternative hypothesis (H_1) of investment opportunity model or target payout model respectively.

Regression results for this model are summarized in Table 3 for all three years. The coefficient of current cost earnings variable is insignificant in all three years. In none of the three years is it significant and positive as hypothesized by the capital maintenance model. In addition, the coefficient of historical cost earnings variable is positive and significant in all three years, consistent with the target payout model's prediction that an increase in historical cost earnings would result in an increase in dividends assuming that the target payout ratio is constant.

Bar-Yosef and Lev (1983) also studied the relationship between changes in dividends and changes in various SFAS-33 based earnings measures. Their objective was to examine the incremental information contained in current cost earnings rather than to test various dividend models as done here. They did not examine the 1981–3 data either. Nevertheless, some comparisons between the two studies can be made. In one of their tests, they ran cross-sectional regressions of dividends with either current cost earnings or historical cost earnings, but not both. Based on R^2 values, they concluded that 'historical cost earnings and dividend changes are more strongly correlated than price-adjusted earnings and dividend changes'. This result is consistent with the larger significance of b_1 compared to b_2 reported in Table 3. They next regressed 1980 dividends against 1979 dividends, 1980 and 1979 historical cost earnings, and 1980 and 1979 current cost earnings residuals – the last two obtained from regressing current cost earnings with contemporaneous historical cost earnings. They found that R^2 values of the regressions with current cost residuals included were little changed from R^2 values of regressions without these residuals, and hence the 'incremental contribution of the price-adjusted earnings in explaining cross-sectional differences in dividend changes is evidently negligible' (p. 46). While their regression model is ad hoc, their result is somewhat consistent with Table 3's insignificant b_2 in all three years.

Though the positive coefficient values of historical cost earnings variable in Table 3 strongly support the target payout hypothesis, the low R^2 values and the fact that both b_1 and b_2 have the same signs in all three years suggest that the insignificant values for b_2 may be due to multicollinearity. For example, the correlation between $\%\Delta E$ and $\%\Delta C$ is 0.632, 0.828, and 0.788 in the three years respectively. To test this possibility, the regression diagnostic procedure of Belsley, Kuh and Welsch (1980) can be used. Briefly, in this procedure the condition indexes of the regression data matrix are first computed.[10] Values of 5 to 10 or more for a condition index indicate a near dependency among the regression variables. For Table 3 regressions, the largest condition index is computed to be only 2.13 in 1981, 3.62 in 1982, and 2.91 for 1983, indicating some but not a major multicollinearity problem. Overall, the results in Table 3 confirm the finding from the first two tests that current cost earnings do not generally provide incremental explanatory power for dividend decisions.

Partial Adjustment Model

The regression relationship in equation (1) is written in a form to directly test the hypothesis being tested. However, the equation's form is not equivalent to the traditional partial adjustment model of dividends even when the current cost term is removed. In this test, the regression equation is restated to conform with the partial adjustment model, and the incremental explanatory power of current cost earnings is examined using the restated model.

Under the target payout hypothesis of Lintner (1956), total dividends paid in a year equal $kE_{j,t}$, where k is the target payout ratio. (The firm subscript is suppressed here from k because of the cross-sectional nature of the test reported below.) Hence the dividend change would be given by $\Delta D_{j,t} = kE_{j,t} - D_{j,t-1}$. However, firms generally prefer not to raise or lower dividends by the full desired difference and instead prefer a smoother transition to the desired levels. If s is the speed of adjustment to the desired level, then the partial adjustment model of dividend change gives the following equation: $\Delta D_{j,t} = s(kE_{j,t} - D_{j,t-1})$. Rewriting the terms, the following regression equation is suggested by the partial adjustment model:

$$\Delta D_{j,t} = \alpha_2 + \beta_3 E_{j,t} + \beta_4 D_{j,t-1}, \tag{2}$$

where $\beta_3 = sk$ and $\beta_4 = -s$. Inclusion of the constant term is recommended by Lintner to model the fact that firms prefer not to reduce dividends.

This equation differs considerably from equation (1). The dependent variable

Table 4

Test 4: Partial Adjustment Model of Dividends

Note: The estimated regression is $\Delta D_{j,t} = a_2 + b_3 E_{j,t} + b_4 D_{j,t-1} + b_5 C_{j,t}$, where the dependent variable is the difference between total dividends of period t and period $t-1$, E is historical cost earnings, D is total dividends, and C is current cost earnings.

Panel A. Total Sample

Year	*Sample Size*	a_2 *(t-val)*	b_3 *(t-val)*	b_4 *(t-val)*	b_5 *(t-val)*	R^2
1981	324	−1.715	0.093	−0.134	0.004	0.810
		(−2.124)	(22.407)	(−17.130)	(0.959)	
1982	324	0.951	0.049	−0.066	−0.005	0.370
		(1.146)	(8.044)	(−6.455)	(−1.248)	
1983	317	−0.252	0.026	−0.040	0.024	0.726
		(−0.369)	(5.814)	(−5.251)	(7.544)	

Panel B. Firms with Positive E and C Earnings in Period t Only

Year	*Sample Size*	a_2 *(t-val)*	b_3 *(t-val)*	b_4 *(t-val)*	b_5 *(t-val)*	R^2
1981	266	−1.792	0.088	−0.102	−0.007	0.793
		(−1.890)	(19.712)	(−8.540)	(−1.075)	
1982	212	1.589	0.047	−0.040	−0.014	0.412
		(1.850)	(6.481)	(−3.170)	(−2 191)	
1983	215	0.087	0.111	−0.020	0.035	0 820
		(0.128)	(2.074)	(−2.540)	(8.419)	

is the difference in total dividends rather than percentage change in dividends. Also, earnings level rather than percentage change in earnings is the independent variable. To test for the incremental explanatory power of dividends, the above partial adjustment model is expanded to include a current cost earnings term, $\beta_5 C_{j,t}$, as the independent variable, and the expanded model is estimated cross-sectionally for each of the three years. Let a_2, b_3, b_4, and b_5 be the estimated regression coefficients. (As before, the year subscript is omitted for convenience.) Then the partial adjustment model predicts b_3 (the coefficient of E) to be positive and b_4 (the coefficient of dividend level) to be negative. Moreover, if current cost has incremental influence over target dividends as suggested by the capital maintenance hypothesis, then b_5 should be positive.

Table 4 has the estimation results for 1981, 1982 and 1983 data in panel A. Though the R^2 values of Table 4 are not directly comparable to Table 3's values because the dependent variables are of different forms, the regression results indicate, consistent with the evidence in the literature, that the partial adjustment model is superior to a simple linear relationship such as equation (1). Examining the b_3 and b_4 coefficients first, it is clear that the partial adjustment and target payout models are strongly supported by the estimated coefficients. Both coefficients are significant and have the expected signs in all three years. For 1981, the estimated sample-wide average values of the speed of adjustment (s) is 0.134 and the target payout ratio (k) is 0.093/0.134 = 0.694. The coefficient of current cost earnings, however, is not significant in two of the three years examined, and has the wrong sign in one of these years. Only in 1983 is b_5 significant and positive. Thus the panel A data do not indicate a consistent positive relationship between current cost earnings and dividends. The evidence, though, is consistent with some learning effect about the relationship between current cost data and dividends. The coefficient of current cost earnings is most significant in 1983 and least significant in 1981.[11]

There is some reason to believe that the target payout model is valid only when earnings are positive. For example, firms with losses in a year would rarely have *negative* dividends (i.e., new stock issue) of k times the loss as predicted by the target payout model. Similarly, it is implausible that such negative dividends would be the target to which dividends would be adjusted as suggested by the partial adjustment model. More likely, the target dividend would be zero. Hence the equation (2), with the added current cost earnings term, is re-estimated by including only those firms for which both historical cost and current cost earnings are positive in period t. Results of this estimation are presented in panel B of Table 4. The results, however, are basically in agreement with the results in panel A, including evidence of some learning effect with respect to the use of current cost data.

CONCLUSION

The overall inference from the four test results is that current cost data possess no incremental explanatory power for dividend decisions. This is consistent with the rejection of the capital maintenance hypothesis. Moreover, since incremental explanatory power for dividend decision is *assumed* for the investment opportunity hypothesis (see section 2), the results are consistent with the rejection of the investment opportunity model as well. Overall, the results in Tables 1 to 4 strongly support the target payout and partial adjustment models, though there is some evidence of learning with respect to the use of current cost data for dividend decisions when 1983 results are compared to 1981 results. The following caveats, however, apply to the results.

For current cost data based on SFAS-33 to be potentially informative for management, they must be the most timely sources of such information. The tests here exclude the possibility that management may have many alternative sources of current cost data such as industry-wide performance and competitive measures, and more importantly exclude various possible sources in the financial statements themselves, such as the accounting methods used for inventory and depreciation, proportion of fixed assets to total assets, etc., which may provide the above information. The lack of significant relationship between current cost earnings and dividends reported here may be due to the possibility that these alternative sources of data proxy for current cost information and affect the dividend decision.

Secondly, the association predicted by the capital maintenance hypothesis between changes in dividends and changes in current cost earnings may not be linear in all ranges of current cost earnings values. For example, if current cost earnings exceeded dividends in the previous period, a decline in current cost earnings this period to a level still above previous period's dividends need not lead to a decline in dividends under this hypothesis. To the extent that the hypothesis is tested in the form of a linear model, the results may be biased against accepting the hypothesis. Future research might examine this issue by focusing on a subset of firms where current cost earnings are greater than dividends in the current year and decline below current dividend levels in the subsequent year.

Thirdly, the tests of frequency and rate of dividend changes and the tests of the descriptive models of dividend decision (viz., equations 1 and 2) assume that earnings changes are the only relevant factors for dividend decisions while in fact there may be many additional firm-specific factors that may explain dividend decisions. Identification of these factors has been a focus of research in the finance literature. Though a well-defined descriptive model of dividend decisions is not available in the literature, many firm-specific factors such as maturity, size, and financial structure have been suggested as relevant descriptive variables. The tests used here exclude such variables.

The positive association between historical cost earnings changes and dividends and the positive association between historical cost earnings and current cost earnings reported in this paper suggest that researchers examining security return effects of current cost earnings disclosures may have to control for dividend changes caused by contemporaneous changes in historical cost earnings. Otherwise, they may mistake the 'yield effect' resulting from the dividend changes for the security return effects of current cost disclosures.[12] Future studies on the relationship between current cost data and security returns should explicitly consider the potential related effect of changes in dividends.

APPENDIX

Distribution of Sample Firms by Industry

SIC Code	*Industry*	*Firms*
20	Food and Beverages	25
26	Paper products	15
27	Publishing	6
28	Chemicals	41
29	Oil and gas*	28
30	Rubber	6
32	Construction material	7
33	Steel	13
34	Metal products	7
35	Machinery	22
36	Electrical products	35
37	Vehicle manufacturing	20
38	Instruments	10
45	Air transportation	9
51	Wholesalers	10
	Others†	71
	Total	325

*Includes SIC group 13 (oil and gas production) firms.
†Includes 29 industry groups with five or fewer firms

NOTES

1 The study by Fama and Babiak (1968) is described in the section headed Results
2 This study does not, however, test whether such a change in dividend policy occurred after the first disclosures from ASR-190
3 Data were computed using August 1985 COMPUSTAT tape and by grouping firms according to their 2-digit SIC codes The Spearman rank correlation between sales growth and payout was −0 363, significant at the 0.08 level
4 1980 was chosen as the first year because, though SFAS-33 became effective in 1979, uniform computation and disclosure methods with respect to current cost data became widespread only from 1980.
5 The 1985 and 1986 surveys could not be used because of a major change in format
6 See Brealey and Myers (1984), p. 335, for an excellent summary of this paper.
7 Dividend per share rather than total dividends is used in this test and in the following one because total dividends depend on changes in the number of shares outstanding, even when dividend per share is constant
8 To keep the discussion simple, chi-square test statistics are not reported for this test. The statistics are generally in line with the reported findings Test statistics are reported for the next three tests
9 Growth rate is undefined if current year dividend is non-zero and preceding year dividend is zero This accounts for the slight difference in the frequency of firms reported in Tables 1 and 2 To control for outlier values, the maximum value of growth rates is set to 300 percent See Frecka and Hopwood (1983) and Deakin (1976) for the need to control ratio outliers.
10 Condition indexes are based on eigen values of the data matrix, and can be computed using the COLLIN option in the SAS regression procedure.
11 The constant term is least significant in 1983, consistent with the data in Table 1 indicating that firms were not reluctant to cut dividends in 1983.
12 See Blume (1980) and Litzenberger and Ramaswamy (1982) for evidence on positive yield effect, i e , a positive association between yield and risk-adjusted returns Black and Scholes (1974) and Miller and Scholes (1982) report a no-effect evidence.

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