

Dividend Policy Issues in Regulated and Unregulated Firms: A Managerial Perspective

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Abstract

This study compares the views of 170 senior managers of regulated (utilities) and unregulated (manufacturing) US corporations listed on the New York Stock Exchange about several dividend policy issues. Specifically, the study examines respondents' views about four explanations for paying dividends and 20 factors influencing dividend policy. The results suggest that all four explanations for paying dividends (signaling, bird-in-the-hand, tax preference, and agency costs) receive some support, but the signaling explanation received more support than the other explanations. The evidence also suggests that the most important determinants of a company's dividend policy were the level of current and expected future earnings and the pattern or continuity of past dividends. These factors have remained remarkably similar over time. Finally, regulated and unregulated companies rank factors influencing dividend policy more similarly today than in the past. This finding may reflect the changing economic environment for utilities.

1. Introduction

Much controversy surrounds dividend policy. More than two decades ago, Black (1976) observed that "the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together." Since then, the amount of theoretical and empirical research on dividend policy has increased dramatically. Today, many reasons exist for why companies should or should not pay dividends. Yet, figuring out why companies pay dividends and investors pay attention to dividends - that is the "dividend puzzle" - is still problematic. For example, Bernstein (1996) recently revisited the dividend puzzle and noted that some important questions remain unanswered. Thus, setting corporate dividend policy remains controversial and involves judgment by decision makers.

This study compares the views of 170 senior managers of regulated (utilities) and unregulated (manufacturing) US corporations listed on the New York Stock Exchange (NYSE) about several dividend policy issues. Specifically, the study examines respondents' views about four explanations for paying dividends and 20 factors influencing dividend policy. Another issue is whether the rankings of various determinants of corporate dividend policies are correlated over time.

The study also examines the issue of whether the factors influencing dividend policy of regulated and unregulated firms are more similar today than in the past. The rationale for this belief is that the distinction between regulated and unregulated firms has narrowed over time.



More than a decade ago, Edelman, Farrelly, and Baker (1985) noted that utilities were undergoing a radical transformation. The utility industry was no longer a collection of companies with a similar risk level. Thus, they recommended that utilities moving into the arena of competition should reevaluate their dividend policy. Soter, Brigham, and Evanson (1996) also noted that the economic environment for utilities has been changing over time. Due to regulatory actions, the utility industry has become a riskier place in which to operate and invest. Today, utilities find themselves increasingly subject to competition.

The current study is important for two reasons. First, the study updates and expands past survey research on dividend policy. In fact, more than a decade has passed since the most recent US survey on dividend policy.¹ Understanding the beliefs of managers who are involved in setting dividend policy can contribute to our understanding of why companies pay cash dividends. Second, the study provides new insights from managers about various explanations for and determinants of dividend policy. Investigating these issues can provide information about the extent to which corporate managers agree with the various messages that the academic literature is sending about dividends.

This paper has the following organization. The next section provides a review of four major explanations for paying dividends, followed by a discussion of factors that might influence dividend payments in section 3. The survey methodology and sample are reviewed in section 4. The survey results are discussed in section 5 and some conclusions are drawn in the final section.

2. Explanations for Paying Dividends

Much theoretical and empirical work exists on dividend policy. In their classic paper, Miller and Modigliani (1961) proved the irrelevance of dividend policy in a world of no taxes or transaction costs and where all investors are fully informed about the distribution of the company's uncertain future cash flows. Thus, one dividend policy is as good as another. For a world in which these restrictive assumptions do not hold, dividend policy may matter. In fact, Miller and Modigliani recognized a role for the information content of dividend payments, but excluded this possibility from their model. Researchers have developed various explanations for dividend relevance including the signaling, bird-in-the-hand, tax preference, and agency explanations.²

2.1 The Signaling Explanation

Several theoretical papers have emphasized the role of information signaling on dividend policy. Ross (1977) developed the first theoretical analysis of dividends as a signaling device followed by various other models by Bhattacharya (1979, 1980), John and Williams (1985), Miller and Rock (1985), and Ofer and Thakor (1987). Such models posit a positive relationship among dividend policy changes, equity values, and subsequent performance.

Signaling models emphasize the role of dividend policy under asymmetric information. These models suggest that the company's dividend announcements convey valuable information about management's assessment of its future prospects that other means cannot fully communicate. Because changes in dividends reduce the information asymmetry between managers and outside investors, investors may use dividend announcements as information to assess a firm's stock price. This explanation suggests that dividend changes should lead, rather than lag, earnings changes.



On balance, the empirical evidence seems to suggest that dividend payments do impart information.³ For example, research shows that stock prices react quickly to announcements of unexpected dividend change and move in the same direction as the revised payment. Yet, some uncertainty exists about whether dividends simply corroborate earnings changes or whether they independently transmit information.

2.2 The Bird-in-the-Hand Explanation

According to the bird-in-the-hand explanation, investors prefer a certain dividend stream to an uncertain price appreciation. Therefore, a company should set a high dividend payout ratio and offer a high dividend yield to maximize stock price. Both Miller and Modigliani (1961) and Bhattacharya (1979) assert that the reasoning underlying the bird-in-the-hand explanation for dividend relevance is fallacious. They argue that the riskiness of a company's cash flows determines its risk. An increase in dividend payout today should result in an equivalent drop in the stock's ex-dividend price. Thus, increasing the dividend today should not increase a firm's value by reducing the riskiness of future cash flows.

2.3 The Tax-Preference Explanation

Brennan (1970), Stapleton (1972), and others, have developed an optimal dividend policy based on the tax differential between capital gains and dividends. The tax-preference explanation of dividends states that investors favor retention of funds over the payment of dividends because of tax-related reasons. This approach suggests that companies should keep dividend payments low if they want to maximize prices.

The empirical evidence on the tax-preference explanation of dividends is inconclusive. For example, some studies, such as Litzenberger and Ramaswamy (1982), show that stocks with large dividend yields have lower prices and offer higher returns. Other studies, such as Black and Scholes (1974) and Miller and Scholes (1982) report that a firm's value is independent of dividend policy.

2.4 The Agency Costs Explanation

Jensen and Meckling (1976) advanced the agency theory to explain dividend relevance. They show that agency costs could arise if management serves its own interests and not those of outside shareholders. Others such as Rozeff (1982) and Easterbrook (1984) extended agency theory as applied to dividend policy. Born and Rimbey (1993) examine the relation between prior financing activity and the market response to initial dividends and find evidence consistent with the Easterbrook agency cost model.

According to the agency costs explanation of dividends, paying dividends forces a company to seek more external financing for its investments. This subjects the company to the scrutiny of the capital market for new funds, thus reducing the possibility of suboptimal investment. Monitoring by outside suppliers of capital also helps to ensure that managers act in the best interest of outside shareholders. Thus, dividend payments may serve as a means of monitoring or bonding management performance. The agency costs explanation of dividends suggests that increases in dividends lag increases in profits and are uncorrelated with future profits. Several researchers including Kalay (1981), Crutchley and Hansen (1989), and Moh'd, Perry and Rimbey (1995) provide evidence that is consistent with the agency costs explanation of dividends.

3. Factors Influencing Dividend Policy

Several studies in the US have identified various determinants of dividend policy. Lintner (1956) undertook the first field survey in which he interviewed 28 carefully selected companies to investigate their views on the determinants of dividend policy. He found that major changes in earnings "out of line" with existing dividend rates were the most important determinants of a firm's dividend decisions. He also concluded that most managements sought to avoid making changes in their dividend rates that might have to be reversed within a year or so.

Based on his findings, Lintner developed a partial-adjustment model of dividend policy. This behavioral model suggests that the change in dividends is a function of the target dividend payout less the last period's dividend payout multiplied by the speed of an adjustments factor. Several empirical studies have successfully used this model including Fama and Babiak (1968) in the US, Ryan (1974) in the UK, and Shevlin (1982) in Australia. In fact, Benartzi, Michaely, and Thaler (1997) conclude that Lintner's model of dividends remains the best description of the dividend setting process available. Support for Lintner's model also comes from several surveys such as including Baker, Farrelly, and Edelman (1985) and Pruitt and Gitman (1991) in the US and Allen (1992) in Australia and the UK.

Based on survey responses from 318 NYSE-listed firms, Baker, Farrelly, and Edelman (1985) and Farrelly, Baker, and Edelman (1986) report that the major determinants of dividend payments were the anticipated level of future earnings and the pattern of past dividends. Managers were highly concerned with dividend continuity and believed that dividend policy affects share value. Based on their evidence, they conducted that utilities view dividend policy differently from manufacturing and wholesale/retail firms.

Pruitt and Gitman (1991) survey financial managers of the 1,000 largest US firms about the interactions among investment, financing, and dividend decisions. Based on 114 responses, they report that important factors influencing dividend payments are the current and past years' profits, the year-to-year variability of earnings, and the growth of earnings. They also found that the prior years' dividends are an important influence on current dividends.

Allen (1992) studied the dividend policies of 67 of the larger UK firms listed on the London International Stock Exchange and focused on the usage of target payout ratios by the sample firms. He based his findings on a survey of company finance executives in Australia during 1987 and 1988 and in the UK in 1989. According to his evidence, the most important influence on the target payout ratio was the desire to maintain stable dividends followed by the company's recent dividend history. The third most important factor was to signal the management's views of potential future company performance to the market. Allen concluded that the survey results, on balance, were consistent with an emphasis on using dividend payments as a signaling device.

4. The Survey

COMPUSTAT was used to identify the sample, which consisted of all US corporations that were listed on the New York Stock Exchange (NYSE) and paid a cash dividend in at least one year during the 1994-1995 period. The company's primary business had to be classified, based on its Standard Industrial Classification (SIC) code, as utility (SIC 49) or manu-

facturing (SIC 20-39). The sample contained 505 NYSE companies, of which 113 were regulated companies (utilities) and 392 were in unregulated companies (manufacturing).

Part of the current survey was modeled after a 1983 survey conducted by Baker, Farrelly, and Edelman (1985) to see whether the determinants of dividend policy have changed over time. The survey contained three parts. One part asked respondents to give their opinion about fourteen statements relating to four explanations of dividend policy. Table 1 reports the views of the respondents to these statements. Another part of the survey focused on finding out the importance of 20 factors used to set each company's dividend policy. Table 2 summarizes the responses on the 20 dividend factors. The final part included several questions about the respondents, which are presented in this section.

An initial mail survey was sent to the company's chief financial officer (CFO) in mid-April 1997 and a follow-up survey was sent to nonrespondents a month later. The survey resulted in 170 usable responses, which represented an overall response rate of 33.7% (46.9% for the regulated and 29.8% for the unregulated companies).⁴

Survey recipients not actively involved in the dividend policy decision were asked to give the survey to someone who was involved in the dividend decision. Not surprisingly, corporate managers who were actively involved in determining their company's dividend policy completed most of these surveys (92.5% for the regulated and 95.6% for the unregulated companies). The most common position or title of respondents was CFO (56.9% for regulated and 64.3% for unregulated companies), followed by vice president or chief executive officer (19.6% for regulated and 14.8% for unregulated companies). The fact that senior-level executives, who were actively involved in their company's dividend decisions, answered the survey enhances the credibility of the responses.

5. The Results

5.1 Explanations for Paying Dividends

The first issue addressed in this study was to determine the views of managers about various explanations of dividend policy. The survey included 14 statements about four popular explanations for paying dividends - the signaling, bird-in-the-hand, tax preference, and agency costs explanations. Respondents were asked to give their opinions about each statement relating to the four explanations of dividend policy on a five-point Likert scale. The ratings ranged from a value of -2, which represented "definitely don't agree," up to +2, which represented "definitely agree." Chi-square tests were conducted to test whether the views differed between managers of regulated and unregulated companies. Significant differences exist between the two groups on eight of the 14 statements.

The results show some support for each of the four explanations of dividend policy. Based on the overall mean responses, however, more support generally appears to exist for statements relating to the signaling explanation than for statements representing the other three explanations.

The Signaling Explanation: Panel A of Table 1 presents the responses to six statements about the signaling explanation (A1 through A6). The respondents show a high level of agreement with the notion that a company should adequately disclose to investors its reasons for changing dividend policy (A1). They also agreed, on average, that investors regard dividend changes as signals about a firm's future prospects (A2) and investors use dividend

announcements as information to assess a firm's stock value (A5). The respondents typically agree that dividend changes convey some unanticipated information to the market (A3 and A4).

An unexpected change in dividends could produce an announcement or signaling effect on a company's share price. Researchers have studied the effect of the announcement of an unexpected change in dividends. Most of the results strongly support the conclusion that the market interprets unexpected changes in dividends as signals about a company's future prospects.⁵ The percentage of responses is similar between agreement and disagreement on whether dividend increases are ambiguous (A6). Taken as a whole, however, the evidence suggests general agreement that changes in dividends have signaling effects.

Based on the chi-square tests, the respondents from regulated and unregulated companies differ significantly in their views about three of the six statements (A2, A4, and A5). As shown by the means, managers of the regulated companies express a higher level of agreement with each of these statements than their counterparts from the unregulated companies.

The Bird-in-the-Hand Explanation: As Panel B of Table 1 shows, respondents from regulated companies express a much higher percentage of agreement than their counterparts from the unregulated companies with the statement that "investors prefer certain, current dividends to possibly higher but riskier future dividends" (B1), 60.4% versus 39.0%, respectively. As shown by the means, respondents from both regulated and unregulated companies generally disagreed with the notion that investors prefer a certain dividend stream to an uncertain price appreciation (B2). Yet, roughly a third of the respondents neither agreed nor disagreed with either statement.

The chi-square tests show that significant differences exist between the regulated and unregulated companies about the relative frequency of their agreement to statements B1 and B2. Compared with the respondents from the unregulated companies, those from the regulated companies show a higher level of agreement to both statements.

The Tax-Preference Explanation: Panel C of Table 1 contains four statements representing the tax-preference explanation of dividends (C1 through C4). More than 65% of the respondents agreed that a company should be responsive to the dividend preferences of its shareholders (C1). About half also agreed that investors are attracted to firms that have dividend policies appropriate for their investors' particular tax circumstances (C2). Yet, the most common response was neutral (neither agree nor disagree) about whether stock that pay high (low) dividends attract investors in low (high) tax brackets (C3), and investors prefer that a firm retains funds over paying dividends because of the way capital gains are taxed as compared with dividends (C4). An inference of these latter results is that companies face a difficult task of knowing and meeting the dividend preferences of shareholders with differing tax preferences. The chi-square tests show significant differences between the regulated and unregulated companies for statement C2 and C4.

The Agency Costs Explanation: Panel D of Table 1 contains the responses to two statements about the agency costs explanation for paying dividends (D1 and D2). More than 90% of the respondents agreed with the statement that the payment of dividends forces a firm to seek more external financing, which subjects the firm to scrutiny of investors (D1). Yet, the respondents generally disagreed that the payment of dividends serves as a bonding mechanism to encourage managers to act in the interest of outside shareholders (D2). These mixed

Table 1. Explanations for Paying Dividends

The descriptive statistics reflect the respondents' opinions about statements relating to four explanations of dividend policy in general - the signaling, bird-in-the-hand, tax-preference (cliente), and agency explanations. To perform the chi-square tests, the cells for the level of agreement are collapsed from five categories to three - definitely don't agree and probably don't agree (-2 and -1), neither agree nor disagree (0), and probably agree and definitely agree (+1) and (+2). The chi-square tests are used to determine the significance of the differences in the level of agreement between regulated (utilities) and unregulated (manufacturing) companies.

Issue	Disagree	Neutral	Agree	Mean	X ²	Type
	(-2 & -1) %	0 %	(+1 & +2) %			
A. The Signaling Explanation						
A1.	A firm should adequately disclose to investors its reasons for changing dividend policy.	3.8 5.3	5.7 7.1	90.6 87.6	1.51 1.34	<u>0.322</u> R UR
A2.	Investors regard dividend changes as signals about a firm's future prospects.	0.0 10.8	9.4 2.7	90.6 86.6	1.38 0.97	<u>9.129**</u> R UR
A3.	A firm's stock price usually falls when a firm unexpectedly cuts or omits its dividend.	16.9 20.4	5.7 8.8	77.4 70.8	1.13 0.72	0.895 R UR
A4.	A firm's stock price usually rises when a firm unexpectedly increases its dividends or pays a dividend for the first time.	1.9 13.2	9.4 19.5	88.7 67.3	1.15 0.63	9.322** R UR
A5.	Investors use dividend announcements as information to assess a firm's stock value.	7.6 18.6	9.4 20.4	83.0 61.0	0.91 0.46	8.024** R UR
A6.	Dividend increases are ambiguous because they can suggest future growth or a lack of investment opportunities.	44.2 30.1	15.4 22.1	40.4 47.8	-0.06 0.23	3.300 R UR
B. The Bird-in-the-Hand Explanation						
B1.	Investors prefer certain, current dividends to possibly higher but riskier future dividends.	11.3 27.5	28.3 33.6	60.4 39.0	0.51 0.06	8.145** R UR
B2.	Investors prefer a certain dividend stream to an uncertain price appreciation.	28.3 43.3	39.6 38.9	32.1 17.7	-0.04 -0.38	5.472* R UR

Table 1. Explanations for Paying Dividends (continued)

Issue	Disagree	Neutral	Agree	Mean	X ²	Type
	(-2 & -1) %	0 %	(+1 & +2) %			
C. The Tax-Preference (Clientele) Explanation						
C1.	A firm should be responsive to the dividend preferences of its shareholders.	7.6 13.2	24.5 20.4	68.0 66.5	0.79 0.68	1.337 R UR
C2.	Investors are attracted to firms that have dividend policies appropriate to the investors' particular tax circumstances.	5.7 14.1	45.3 31.0	49.1 54.8	0.60 0.47	4.575* R UR
C3.	Stocks that pay high (low) dividends attract investors in low (high) tax brackets.	32.2 26.5	34.0 46.0	33.9 27.4	0.04 -0.05	2.154 R UR
C4.	Investors prefer that a firm retains funds over paying dividends because of the way capital gains are taxed as compared with dividends.	43.3 27.4	39.6 43.4	17.0 29.3	-0.32 0.04	5.076* R UR
D. The Agency Costs Explanation						
D1.	The payment of dividend forces a firm to seek more external financing, which subjects the firm to scrutiny of investors.	3.8 0.9	0.0 7.2	96.3 91.9	1.57 1.41	<u>4.041*</u> R UR
D2.	The payment of dividends serves as a bonding mechanism to encourage managers to act in the interest of outside shareholders.	58.5 56.7	30.2 31.5	11.3 11.7	-0.70 -0.77	0.044 R UR

*Significant at the 0.05 level; **significant at the 0.01 level.

The percentages may not add up to 100% due to rounding.

Underlining shows that at least 20% of the cells have expected counts less than 5. Chi-square may not be a valid test.

R = Regulated firms (utilities) where n=53, except A6 where n=52.

UR = Unregulated firms (manufacturing) where n=113, except D2 where n=111.



results may reflect a misinterpretation of the term "bonding mechanism" to mean something other than a simple economic incentive. The chi-square tests show a significant difference in the frequency of responses between the regulated and the unregulated companies on D2.

5.2 Factors Influencing Dividend Policy

The second issue involves identifying the factors that managers consider most important when making dividend payment decisions. Respondents were asked to indicate the level of importance of each factor in setting their company's dividend policy (that is, the time pattern of dividend payout) on a four-point Likert scale, which ranged from 0, which represented "none," to 3, which corresponding to "high." Table 2 provides details of the responses to these 20 questions about the factors influencing dividend policy. The factors are listed based on the weighted means of the regulated and unregulated companies. Because of the large number of factors, the following discussion focuses only on the five most important determinants of dividend policy.

Based on its mean, the most highly ranked factor for both the regulated and unregulated companies was the level of current and expected future earnings (F1).⁶ Only a single respondent ranked the importance of this factor as "none." Another highly ranked factor, which is ranked third and second in importance by the regulated and unregulated companies, respectively, was the pattern or continuity of past dividends (F2).⁷ The importance of this determinant may imply that a company's past dividend decisions constrain its current decisions. These two factors are consistent with Lintner's classic behavioral model of dividend policy.

Another important factor influencing a company's dividend policy is the concern about maintaining or increasing stock price (F3). Since Miller and Modigliani (1961) developed their "dividend irrelevance" proposition, many have argued that dividends do not matter. Although differences exist in dividend theories and empirics about the relationship between dividend policy and firm value, most respondents to this survey believe that a company's dividend policy affects its stock price.

The fourth most important dividend determinant was the concern that a dividend change may provide a false signal to investors (F4). Although managers can use dividend actions to convey useful information, dividend changes are not perfect signals. Dividend increases may be an ambiguous signal unless the market can distinguish between growing companies and disinvesting companies, i.e. those with a lack of investment opportunities.⁸ Perhaps the concern about providing a false signal by changing dividends helps to explain why most respondents believe that a company should adequately disclose to investors its reasons for changing dividend policy (A1 in Table 1).

The fifth most highly ranked factor influencing dividend policy was the stability of cash flows (F5). Cash flows are important because they provide the basis for paying dividends. Management can have more confidence in maintaining a stable dividend payment or avoiding the potential of having unexpected changes in dividends by having stable cash flows.

The responses to the remaining 15 factors (F6 through F20) suggest that each of these factors influences a company's dividend policy to some extent. Not surprisingly, respon-

Table 2. Factors Influencing Dividend Policy for Regulated and Unregulated Firms

The descriptive statistics show the level of importance of various factors considered by managers in setting their firms' dividend policy. Utilities represented regulated firms (R) and manufacturing firms represent unregulated firms (UR). To perform the chi-square tests for the regulated and unregulated groups, the cells for the level of importance are collapsed from four categories - none and low (0 and 1) and moderate and high (2 and 3).

Factor	Level of Importance				Mean	Rank		X ²	Type
	None 0 %	Low 1 %	Moderate 2 %	High 3 %		1997	1983		
F1. Level of current and expected future earnings	0.0 0.9	3.8 5.1	5.7 17.9	90.6 76.1	2.87 2.69	1 1	1 1	0.355	R UR
F2. Pattern or continuity of past dividends	0.0 4.3	17.0 7.8	45.3 42.2	37.7 45.7	2.21 2.29	3 2	3 2	0.747	R UR
F3. Concern about maintaining or increasing stock price	0.0 6.8	7.5 13.7	41.5 42.7	40.9 36.8	2.43 2.09	2 3	2 4	4.457*	R UR
F4. Concern that a dividend change may provide a false signal to investors	0.0 10.3	22.6 20.7	41.5 37.1	35.8 31.9	2.13 1.91	4 4	9 6	1.260	R UR
F5. Stability of cash flows	3.8 8.5	24.5 17.1	39.6 46.2	32.1 28.2	2.00 1.94			0.133	R UR
F6. Investment considerations such as the availability of profitable investment opportunities	0.0 11.1	35.8 21.4	49.1 41.0	15.1 26.5	1.79 1.83	7 5	14 5	0.186	R UR



Table 2. Factors Influencing Dividend Policy for Regulated and Unregulated Firms (continued)

Factor	Level of Importance			Mean	Rank		X ²	Type
	None 0 %	Low 1 %	Moderate 2 %		High 3 %	1997		
F.7 Liquidity constraints such as the availability of cash	9.4 20.5	34.0 25.6	34.0 26.5	1.70 1.61	8 6	4 3	0.112	R UR
F8. Desire to pay out, in the long run, a given fraction of earnings	9.4 22.2	15.1 29.1	49.1 27.4	1.92 1.48			10.656**	R UR
F9. Needs of current shareholders such as the desire for current income	3.8 20.5	20.8 30.8	52.8 35.9	1.94 1.41	5 7	8 10	10.656**	R UR
F10. Concern about maintaining a target capital structure	1.9 19.7	26.4 31.6	58.5 38.5	1.83 1.39	6 8	5 8	7.813**	R UR
F11. Financing considerations such as the cost of raising external funds	1.9 18.8	45.3 35.9	47.2 35.0	1.57 1.38	10 9	7 9	0.829	R UR
F12. Expected rate of return on assets	9.4 21.4	35.8 31.6	46.2 39.3	1.53 1.33			0.867	R UR
F13 Desire to conform to industry dividend practice	7.5 27.4	30.2 33.3	49.1 29.9	1.68 1.21	9 10	6 14	7.722**	R UR
F14. Legal rules and constraints such as paying dividends that would impair capital	20.8 42.9	39.6 25.0	11.3 14.3	1.47 1.07	12 11	13 11	3.396	R UR

Table 2. Factors Influencing Dividend Policy for Regulated and Unregulated Firms (continued)

Factor	Level of Importance				Mean	Rank		X ²	Type
	None 0 %	Low 1 %	Moderate 2 %	High 3 %		1997	1983		
F15. Contractual constraints such as restrictors in debt contracts	24.5 44.4	37.7 25.6	13.2 12.0	24.5 17.9	1.38 1.03	11.0 12.5	11.0 12.0	1.020	R UR
F16. Characteristics of current shareholders such as their tax positions	28.3 35.9	35.8 35.0	32.1 18.8	3.8 10.3	1.11 1.03	15.0 12.5	15.0 15.0	0.784	R UR
F17. Projections about the future state of the economy	18.9 29.1	41.5 49.6	37.7 18.2	1.9 5.1	1.23 0.97	13.0 14.0	10.0 7.0	6.159**	R UR
F18. Preference to pay dividends instead of undertaking risky reinvestment	15.1 43.6	50.9 41.0	32.1 12.0	1.9 3.4	1.21 0.75	14.0 15.0	12.0 13.0	7.542**	R UR
F19. Prestige associated with paying dividend	35.8 37.6	47.2 41.0	13.2 26.2	3.8 5.1	0.85 0.89			0.439	R UR
F20. Control issues such as the firm's ownership structure	54.7 47.9	24.5 29.9	18.9 15.4	1.9 6.8	0.68 0.82			0.046	R UR

*Significant at the 0.05 level; **significant at the 0.01 level. The percentages may not add up to 100% due to rounding. Underlining shows that at least 20% of the cells have expected counts less than 5. Chi-square may not be a valid test. R = Regulated firms (utilities) where n=53. UR = Unregulated firms (manufacturing) where n=117, except F10 and F11 where n=116



dents consider F20 (control issues such as the firm's ownership structure) the least important influence because the sample typically contained large, widely-held companies.

As measured by their means, the same five factors (F1, F2, F3, F4 and F5) appear most important in influencing the dividend policies for both the regulated and unregulated companies. Chi-square tests were conducted among all combinations of F1 through F5 to see if a statistically significant difference exists between the distributions (level of importance) of each pair of factors. This process was done separately for the regulated and unregulated companies. Table 3 shows the results of the chi-square tests.

For the regulated companies, the importance that respondents attached to F1 (level of current and expected future earnings) differs significantly from F2 at the 0.05 level and from F4 and F5 at the 0.01 level. The chi-square test could not distinguish between the importance of F1 and F3. However, the results of the chi-square test show that F2 was not significantly greater than the other top-rated factors (F2, F4, and F5). Therefore, F1 dominated the other top-rated factors as the most important factor influencing dividend policy for the regulated companies.

For the unregulated companies, the importance that the respondents attached to F1 (level of current and expected future earnings) differs significantly from F3, F4, and F5 at the 0.01 level, but not from F2 (pattern or continuity of past dividends). However, F2 differs from F4 and F5 at the 0.01 level but is equivalent to F3 at normal levels. The results of the chi-square tests suggest that both F1 and F2 are more important than the other top-rated factors.

5.3 Differences Between Regulated and Unregulated Companies

Chi-square tests were used to determine whether the respondents from the regulated and unregulated companies differ in the level of importance that they place on each of the 20 factors influencing dividend policy. Statistically significant differences exist for seven of the 20 factors. As Table 2 shows, the importance attached to these factors differs significantly at the 0.05 level for F3 and at the 0.01 level for six other factors (F8, F9, F10, F13, F17, and F18). Respondents from the regulated companies placed a higher level of importance on each of these factors compared with those from the unregulated companies.

Only one of these factors (F3) was among the five top-rated factors. The evidence suggests that the regulated companies are more concerned about how dividend policy may affect their ability to maintain or increase stock price than their counterparts from the unregulated companies. This concern may reflect the historical practice by utilities of having high dividend payouts. Given this inclination, finding that regulated companies view the following factors as more important than unregulated companies is not surprising: the desire to pay out, in the long run, a given fraction of earnings (F8); the needs of current shareholders such as the desire for current income (F9); and the desire to conform to industry dividend practice (F13).

The concern about maintaining a target capital structure (F10) may also reflect the historical practice of paying high dividend payouts by utilities. Dividend payments reduce the amount of funds available for capital investment and may force managers to seek outside capital. Paying high dividends could intensify the importance that the regulated companies place on projections about the future state of the economy (F17) if future prospects are not promising. A slowdown in the economy could affect a company's ability to maintain high

Table 3. Difference in Importance Between the Top Ranked Factors Influencing Dividend Policy

This table shows the results of the chi-square tests, which are used to determine if a statistically significant difference exists between the distributions (level of importance) of each pair of factors. To perform the chi-square tests, the cells for the level of importance are collapsed from four categories to two categories - none and low (0 and 1) and moderate and high (2 and 3) to avoid problems of small cell size. Utilities represent regulated firms (R) and manufacturing firms represent unregulated firms (UR).

Factors		X ²					Type
		F1	F2	F3	F4	F5	
F1.	Level of current and expected future earnings		4.970*	0.707	8.230**	11.840**	R
			2.631	10.746**	24.291**	16.983**	UR
F2.	Pattern or continuity of past dividends			2.192	0.534	1.939	R
				3.043	12.339**	7.004**	UR
F3.	Concern about maintaining or increasing stock price				4.7111*	7.759**	R
					3.373	0.867	UR
F4.	Concern that a dividend change may provide a false signal to investors					0.447	R
						0.835	UR
F5.	Stability of cash flows						

*Significant at the 0.05 level; **significant at the 0.01 level.

dividends payments, which could in turn affect its stock price. Finally, respondents from regulated companies express a greater preference to pay dividends instead of undertaking risky reinvestment (F18). This latter finding suggests that management risk preferences may influence their decisions about dividend policy.

5.4 Importance of Factors Over Time

Another issue is whether the rankings of various determinants of corporate dividend policies are correlated over time. Table 2 presents the rankings of the same 15 dividend policy factors contained in this study and in the 1983 study by Farrelly, Baker, and Edelman (1986). Examination of the rankings suggests that a high correlation exists between the two periods. In fact, Spearman's rank correlation coefficients between the rankings of the same 15 factors in 1983 and 1997 are 0.76 for the regulated companies and 0.82 for the unregulated companies. Both coefficients are statistically significant at the 0.001 level.

The change in most factor rankings between 1983 and 1997 was small. For both the regulated and unregulated companies, 86.7% of the changes in factor rankings was within three ranks. The largest change in ranks between the two periods was seven, which occurred twice. In one case, the importance that regulated companies gave to "investment considerations such as the availability of profitable investment opportunities" (F6) increased from 14



in 1983 to seven in 1997. In the other case, the importance that unregulated companies gave to "projections about the future state of the economy" (F7) decreased from seven in 1983 to 14 in 1997.

These changes may reflect differences in the state of the economy and the market between the two periods. In 1983 the economy was undergoing a recessionary period, which was characterized by higher inflation, tighter credit, and less robust growth in equity markets than the growth-oriented economy and market in 1997. Regulated companies may have had fewer profitable investment opportunities in 1983 than in 1997. Therefore, the alternative of using earnings for investment purposes was less important in influencing dividend policy than in 1983. On the other hand, the importance that unregulated companies attached to projections about the future state of the economy decreased between the two periods. Because economic forecasts appeared more favorable in 1997 compared with 1983, unregulated companies may have been less concerned about their ability to pay dividends.

A final issue is whether factors influencing dividend policy of regulated and unregulated firms are more similar today than in the past. Spearman rank correlation coefficients between the rankings of the regulated and unregulated companies on the 15 factors increased from 0.66 in 1983 (significant at the 0.01 level) to 0.94 in 1997 (significant at the 0.001 level). This evidence suggests that regulated and unregulated companies risk factors influencing dividend policy more closely today than in the past.

6. Conclusions

Several potential limitations of the study may temper the conclusions. First, generalizing the findings to companies whose characteristics differ from those of the sample requires caution. This is because the sample included only large, mature, dividend-paying, NYSE-listed US corporations. Second, the sample included only utility and manufacturing companies, not all regulated and unregulated companies listed on the NYSE. Finally, nonresponse bias could potentially affect the findings.

Given these warnings, the results suggest that although all four explanations for paying dividends (signaling, bird-in-the-hand, tax preference, and agency costs) receive some support, the signaling explanation received more support than the other explanations. Managers seem concerned about the signals that dividend changes may provide to investors. Such concerns appear warranted given the extensive empirical research supporting the information content of dividends.

The evidence also suggests that the most important determinants of a company's dividend policy were the level of current and expected future earnings and the pattern or continuity of past dividends. The importance of these two factors is consistent with prior survey research by Farrelly, Baker, and Edelman (1986) in the UK and Allen (1992) in Australia and the UK. Both factors are similar to those identified by Lintner (1956) in his partial-adjustment model of dividend behavior more than four decades ago. Because much support exists for Lintner's model, these results are not surprising.

A high correlation exists between the rankings of the factors influencing dividend policy decisions in this study and those reported in a similar study conducted in 1983. Therefore, the factors that companies consider in setting dividend policy appear remarkably similar over time.

Finally, regulated and unregulated companies rank factors influencing dividend policy more similarly today than in the past. This finding may reflect the changing economic environment for utilities. Because utilities find themselves increasingly subject to competition, this change may have blurred the distinction between regulated and unregulated companies over time.

Endnotes

1. For example, prior studies on corporate dividend policy that use survey methods include the seminal study by Lintner (1956) and studies by Baker, Farrelly, and Edelman (1985), Farrelly, Baker, and Edelman (1986), and Pruitt and Gitman (1991), in the US, by Allen (1992) in Australia and the UK.
2. Ang (1987) provides a review of corporate dividend theories and evidence.
3. Classic studies on dividend announcement effects include those by Aharony and Swary (1980), Woolridge (1982, 1983) and Asquith and Mullins (1983). More recent evidence on signaling effects are studies by Bajaj and Vijh (1990), Christie (1994), Michaely, Thaler, and Womack (1995), and Impson (1997).
4. Using data obtained from COMPUSTAT, t-tests were conducted between the means of the responding and nonresponding regulated companies on five characteristics - total assets, sales in millions of dollars, market value of equity, dividend payout, and dividend yield. The same tests were conducted for the responding and nonresponding unregulated companies. None of the t-tests was statistically significant at the 0.05 level. Therefore, the responding companies were similar to those of the nonresponding companies on each of these five characteristics. This evidence lessens the concern about potential non-response bias. These findings are available from the authors upon request.
5. Bajaj and Vijh (1990) and Michaely, Thaler, and Womack (1995), for example, provide recent evidence of positive (negative) announcements effects around dividend increases (decreases).
6. Benartzi, Michaely, and Thaler (1997) find a strong past and concurrent link between earnings and dividend changes. They are unable to find any evidence to support the view that changes in dividends have information content about future earnings changes.
7. Dobson, Tawarangkoon, and Dufrene (1996) report that financial markets do not price dividend consistency, except in the case of dividend resumpions. This result may be counter-intuitive for financial managers because companies often devote resources to a stable dividend payment pattern over time.
8. Soter, Brigham, and Evanson (1996) provide an example of how the market may initially misinterpret the rationale for a dividend change. FPL Group, the parent company of Florida Power & Light Company, announced a 32 percent reduction in its quarterly dividend on May 9, 1994, for strategic reasons, not problems in cash flow. The stock market's initial reaction to FPL's announcement was negative, with an initial drop of about 20 percent in value. After carefully reviewing the reasons for the reduction, analysts concluded that the action was not a signal of financial distress. Instead, the dividend decrease was a strategic decision designed by management to improve the company's long-term financial flexibility and growth prospects. After the financial community adopted this view, FPL's stock began to recover.

References

Aharony, J. and L. Swary, "Quarterly Dividend and Earnings Announcements and Stockholder Returns," *Journal of Finance*, 35, No. 1 (March 1980), pp.1-12.

Allen, D.A., "Target Payout Ratios and Dividend Policy: British Evidence," *Managerial Finance*, 18, No. 1 (1992), pp.9-21.

Ang, J.S., *Do Dividends Matter? A Review of Corporate Dividend Theories and Evidence*, (New York, Salomon Brothers Center for the Study of Financial Institutions, New York University, 1987).

Asquith, P., and D.W. Mullins, "The Impact of Initiating Dividend Payments on Shareholder Wealth," *Journal of Business*, 56, No. 1 (January 1983), pp.77-96.

Bajaj, M., and A. Vijh, "Dividend Clienteles and the Information Content of Dividend Changes," *Journal of Financial Economics*, 26, No. 2 (August 1990), pp.193-219.

Baker, H.K., G.E. Farrelly, and R.B. Edelman, "A Survey of Management Views on Dividend Policy," *Financial Management*, 14, No. 3 (Autumn 1985), pp.78-84.

Benartzi, S., R. Michaely, and R. Thaler, "Do Changes in Dividends Signal the Future or the Past?" *Journal of Finance*, 52, No. 3 (July 1997), pp.1007-1034.

Bernstein, P.L., "Dividends: The Puzzle," *Journal of Applied Corporate Finance*, 9, No. 1 (Spring 1996), pp.4-15.

Bhattacharya, S., "Imperfect Information, Dividend Policy, and 'The Bird in the Hand' Fallacy," *Bell Journal of Economics*, 10, No. 1 (Spring 1979), pp.259-270.

Bhattacharya, S., "Nondissipative Signaling Structures and Dividend Policy," *Quarterly Journal of Economics*, 95 (August 1980), pp.1-14.

Black, F., "The Dividend Puzzle," *Journal of Portfolio Management*, 2, No. 2 (Winter 1976), pp.5-8.

Black, F., and M. Scholes, "The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns," *Journal of Financial Economics*, 1, No. 1 (May 1974), pp.1-22.

Born, J.A., and J.N. Rimbey, "A Test of the Easterbrook Hypothesis Regarding Dividend Payments and Agency Costs," *Journal of Financial Research*, 16, No. 3 (Fall 1993), pp.251-260.

Brennan, M., "Tax Reform and the Stock Market: An Asset Price Approach," *American Economic Review*, 23, No. 4 (December 1970), pp.417-427.

Christie, W.G., "Are Dividend Omissions Truly the Cruellest Cut of All?" *Journal of Financial and Quantitative Analysis*, 29, No. 3 (September 1994), pp.459-480.

Crutchley, C.E., and R.S. Hansen, "A Test of the Agency Theory of Managerial Ownership, Corporate Leverage, and Corporate Dividends," *Financial Management*, 18, No. 4 (Winter 1989), pp.36-46.

Dobson, J., W. Tawarangkoon, and U. Dufrene, "The Pricing of Dividend Consistency," *Journal of Economics and Finance*, 20, No. 2 (Summer 1996), pp.47-61.

Easterbrook, F.H., "Two Agency-Cost Explanations of Dividends," *American Economic Review*, 74, No. 3 (September 1984), pp.650-658.

Edelman, R.E., G.E. Farrelly, and H.K. Baker, "Public Utility Dividend Policy: Time for a Change?" *Public Utility Fortnightly* (February 21, 1985), pp.26-31.

Fama, E.F., and H. Babiak, "Dividend Policy: An Empirical Analysis," *Journal of the American Statistical Association*, 63, No. 324 (December 1968), pp.1132-1161.

Farrelly, G.E., H.K. Baker, and R.B. Edelman, "Corporate Dividends: Views of the Policy-makers," *Akron Business and Economic Review*, 17, No. 4 (Winter 1986), pp.62-74.

Impson, M., "Market Reaction to Dividend-Decrease Announcements: Public Utilities vs. Unregulated Industrial Firms," *Journal of Financial Research*, 20, No. 3 (Fall 1997), pp.407-422.

Kalay, A., "Stockholder-Bondholder Conflict and Dividend Constraints," *Journal of Financial Economics*, 10, No. 2, (July 1982), pp.211-233.

Jensen, M.C., and W.H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Capital Structure," *Journal of Financial Economics*, 3, No. 4 (October 1976), pp.305-360.

John, K., and J. Williams, "Dividends, Dilution, and Taxes: A Signaling Equilibrium," *Journal of Finance*, 40, No. 4 (September 1985), pp.1053-1070.

Lintner, J., "Distribution of Incomes of Corporations Among Dividends, Retained Earnings and Taxes," *American Economics Review*, 46, No. 2 (May 1956), pp.97-113.

Litzenberger, R.H., and K. Ramaswamy, "The Effects of Dividends on Common Stock Prices: Tax Effects or Information Effects," *Journal of Finance*, 37, No. 2 (May 1982), pp.429-443.

Michaely, R., R.H. Thaler, and K.L. Womack, "Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift?" *Journal of Finance*, 50, No. 2 (June 1995), pp.573-608.

Miller, M., and F. Modigliani, "Dividend Policy, Growth, and the Valuation of Shares," *Journal of Business*, No. 4 (October 1961), pp.411-433.

Miller, M., and K. Rock, "Dividend Policy Under Asymmetric Information," *Journal of Finance*, 40, No. 4 (September 1985), pp.1031-1051.

Miller, M., and M.S. Scholes, "Dividends and Taxes: Some Empirical Evidence," *Journal of Political Economy*, 90 (1982), pp.1118-1141.

Moh'd, M.A., L.G. Perry, and J.N. Rimbey, "An Investigation of the Dynamic Relationship Between Agency Theory and Dividend Policy," *Financial Review*, 30, No. 2 (May 1995), pp.367-385.

Ofer, A., and A. Thakor, "A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends," *Journal of Finance*, 42, No. 2 (June 1987), pp.365-394.

Pruitt, S.W., and L.J. Gitman, "The Interactions Between the Investment, Financing, and Dividend Decisions of Major US Firms," *Financial Review*, 26, No. 3 (August 1991), pp.409-430.

Ross, S., "The Determination of Financial Structures: The Incentive Signaling Approach," *Bell Journal of Economics*, 8 (1977), pp.23-40.

Rozeff, M.S., "Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios," *Journal of Financial Research*, 5, No. 3 (Fall 1982), pp.249-258.

Ryan, T.M., "Dividend Policy and Market Valuation in British Industry," *Journal of Business Finance and Accounting* (1974), pp.415-428.

Shevlin, T., "Australian Corporate Dividend Policy: Empirical Evidence," *Accounting and Finance* (1982), pp.1-22.

Soter, D., E. Brigham, and P. Evanson, "The Dividend Cut 'Heard' Round the World: The Case of FPL," *Journal of Applied Corporate Finance*, 9, No. 1 (Spring 1996), pp.4-15.

Stapleton, R.C., "Taxes, the Cost of Capital and the Theory of Investment Value," *Economic Journal*, 82 (December 1972), pp.1273-1292.

Woolridge, J.R., "The Information Content of Dividend Changes," *Journal of Financial Research*, 5, No. 3 (Fall 1982), pp.237-247.

Woolridge, J.R., "Dividend Changes and Security Prices," *Journal of Finance*, 38, No. 5 (December 1983), pp.1607-1615.