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Financial Flexibility, Performance, and the Corporate Payout Choice*

This study examines the effect of financial flexibility and the level and certainty of operating performance on the choice to change dividends, pay special dividends, and repurchase shares. Firms that increase payouts have excess financial flexibility and exhibit positive concurrent income shocks and decreases in income volatility, but there is limited evidence of subsequent performance improvements. The results are opposite for firms that cut dividends. Thus, the decision to alter payout levels appears to convey information about contemporaneous income and changes in operating risk.

I. Introduction

Theoretical models suggest that payouts convey information about future prospects (Bhattacharya 1979 and Miller and Rock 1985). Firms pay out funds only if managers expect future funds to be abundant. Otherwise, the firms might face future fund shortages and have to forego valuable investment opportunities or raise costly external funds. Thus, payouts convey information because the uses of funds are constrained by the sources of funds, regardless of whether managers deliberately use payouts as signaling mechanisms (see Allen and Michaely 2001 for further discussion).

Firms are more likely to incur future shortages of funds if (1) the current accumulated funds are low, (2) the current debt level is high, (3) the future operating cash flow is low, or (4) the future operating cash flow is uncertain. Assuming that managers use their foresight when making payout decisions, a decision to increase payouts conveys that the firm currently has accumulated excessive financial flexibility (i.e., high cash levels or low debt ratios) or that managers perceive operating cash flow to become stronger or more certain, and vice versa for a decision to decrease payouts. Thus, to the extent that payout changes convey information about future prospects, it must be about changes in the level or certainty of future operating cash flow.

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However, the empirical evidence on whether payout changes convey information about future operating performance is mixed and inconclusive. For example, some studies find that payout increases convey positive information about future performance (e.g., Ofer and Siegel 1987; Jagannathan, Stephens, and Weisbach 2000; and Nissim and Ziv 2001), while others find that payout increases convey negative or no information about future performance (e.g., Healy and Palepu 1988; Benartzi, Michaely, and Thaler 1997; Benartzi et al. 2001; and Grullon, Michaely, and Swaminathan 2002).

In this study, I examine how the choice to increase or decrease regular dividends, pay special dividends, or repurchase shares relates to changes in operating income levels and certainty. I adopt the empirical research framework used by Jagannathan et al. (2000), which implicitly assumes that managers base their payout decisions on both current financial variables and their expectations for the future. Its key advantage is that it allows simultaneous consideration of multiple determinants of the payout decisions. My approach differs from those in previous papers along several critical dimensions. First, I control for the effect of current financial flexibility, including debt and cash ratios, on the payout choice. In contrast, no past study of performance changes around payouts considers prior financial flexibility as an alternate motive for the payouts. Second, I disentangle the effect of concurrent performance shocks. In comparison, Jagannathan et al. (2000) incorporate the concurrent performance shock into their measure of future performance, which could explain why they document an apparent positive relation between future performance and payout increases. Third, I examine whether changes in operating income risk affect the payout decision. Jagannathan et al. (2000) examine whether past operating income risk affects the decision to increase dividends or repurchase shares, but they do not examine whether dividend changes or repurchases convey information about future risk, as signaling models might predict. Grullon et al. (2002) examine changes in risk around dividend changes, but they focus on systematic risk based on equity returns.[1]

My analysis reveals that firms that increased payouts (i.e., increased regular dividends, paid special dividends, or repurchased shares) concurrently experience a positive shock to operating income, and vice versa for firms that decrease regular dividends. There is scant evidence,

1. Although it is unclear how systematic risk relates to traditional signaling models, both measures of risk might affect corporate value, and changes in these risk measures could therefore explain the announcement effect of payout decisions. Systematic risk adversely affects the cost of capital and, thus, the discounted value of future cash flow. Meanwhile, the higher volatility of operating income increases the probability that a firm will face a shortage of funds, which could result in costs arising from financial distress, underinvestment, or trips to external capital markets.

however, that firms that increase payouts experience subsequent performance increases or that firms that decrease dividends experience subsequent performance decreases. An exception is that firms that combine two or more types of payout increases experience a subsequent performance improvement, but this is still much more modest than the concurrent performance improvement. Overall, it appears that, to the extent that payout increases (decreases) convey positive (negative) information about operating income, the information pertains primarily to contemporaneous income.

I further find that firms that increase payouts have lower past volatility of operating income than other firms, consistent with Jagannathan et al. (2000). More important, I find that the volatility decreases even further afterward. Thus, managers appear to increase the firms' payouts when they believe that the probability of sustaining the current income level is high; that is, when the past volatility is low and perceived to be decreasing. Conversely, firms that decrease dividends have higher past volatility than other firms, and this volatility is on the rise. These results are interesting for two reasons. First, they suggest that managers carefully assess the current and future risk of firms' operations when making the decision to change the payout level. Second, to the extent that managers possess information about the firms' future risk that is not available to the public, a decision to change the payout level could be perceived by the capital market as a signal of a change in operating risk, and, thus, elicit a change in the market value of the firm.

My results are qualitatively robust across the different types of payout increases. That is, dividend increases, special dividends, and share repurchases are all associated with a concurrent income improvement and a low and declining income volatility. There are some quantitative differences, however. The concurrent income improvement is greater for firms that increase dividends than for those that repurchase shares, while the past volatility levels are lower and subsequent volatility declines more pronounced for firms that increase dividends or pay special dividends than for those that repurchase shares. Hence, the evidence can be interpreted as firms choosing to repurchase shares instead of increasing regular dividends when they experience a smaller and less certain income improvement. I also find that firms that use debt to finance the repurchase have lower volatility of operating income than firms that use cash. Thus, debt-financed repurchases are similar to regular dividend increases in that both are undertaken by firms with low operating risk, probably because both events effectively commit future cash flows to be paid out to stakeholders.

The remainder of the paper proceeds as follows. The next section reviews related literature on payouts. Section III describes the sample. Section IV presents empirical results. Finally, Section V summarizes and concludes.

II. Related Literature on Payouts

Numerous studies examine whether payout increases (decreases) convey favorable (unfavorable) information about future cash flow, as predicted by signaling models (e.g., Bhattacharya 1979 and Miller and Rock 1985).[2] Collectively, the evidence suggests that firms that increase regular dividends or repurchase shares experience contemporaneous performance increases, and vice versa for firms that decrease regular dividends, but there is mixed evidence that subsequent performance changes in the expected direction. For example, while DeAngelo et al. (1996), Benartzi et al. (1997), Benartzi et al. (2001), and Grullon et al. (2002) find no evidence in support of signaling models for dividend changes, Nissim and Ziv (2001) and Jagannathan et al. (2000) do. A few studies also examine whether the performance changes differ across payout mechanisms. Brickley (1983) finds that, unlike firms that pay special dividends, firms that increase regular dividends experience a subsequent performance increase. Guay and Harford (2000) find that both firms that increase dividends and firms that repurchase shares exhibit a concurrent positive cash flow shock, but it is more permanent for firms that increase dividends. Last, Jagannathan et al. (2000) find that, after controlling for pre-event performance, the postevent performance is better for firms that increase regular dividends than for firms that repurchase shares. However, most of these studies do not control for the concurrent performance shock documented by Guay and Harford (2000), and none controls for the possibility that firms use payouts to adjust their financial flexibility.

Signaling models generally predict that payouts convey information about future cash flow, but the information might pertain to the stability rather than the average level of such flow. If managers expect the firm's future performance to either improve or become more certain, they can comfortably raise payouts without fearing a shortage of future funds. Jagannathan et al. (2000) find that firms that increase regular dividends exhibit lower prior volatility of operating income than firms that repurchase shares, and both sets of firms have lower volatility than firms that do not increase their payouts. However, they do not control for cash and debt levels, both of which are related to volatility of operating income (Bradley, Jarrell, and Kim 1984; Kim and Sorensen 1986; and Opler et al. 1999), such that their models might be misspecified. Further, they do not examine whether changes in payouts convey information about future

2. Studies on dividend changes include Brickley (1983), Ofer and Siegel (1987), Healy and Palepu (1988), Benartzi et al. (1997), DeAngelo, DeAngelo, and Skinner (1996), Guay and Harford (2000), Jagannathan et al. (2000), Benartzi et al. (2001), Nissim and Ziv (2001), and Grullon et al. (2002), and studies on repurchases include Vermaelen (1981), Dann, Masulis, and Mayers (1991), Lie and McConnell (1998), Grullon and Michaely (2000), Guay and Harford (2000), Jagannathan and Stephens (2000), and Jagannathan et al. (2000).

volatility. Grullon et al. (2002) find that firms that increase (decrease) regular dividends experience declines (increases) in systematic risk. The two types of risk might very well be related, but theoretically they affect value adversely in different ways. Volatility of operating income affects the expected cash flow. In particular, it affects the probability that a firm will face a shortage of funds, which, in turn, could give rise to costs from financial distress, underinvestment, or accessing the external capital markets. Indeed, this is why risk management might enhance value (Smith and Stulz 1985 and Froot, Scharfstein, and Stein 1993). Conversely, systematic risk affects the discount rate used to estimate the present value of future expected cash flow. My study complements Jagannathan et al. (2000) and Grullon et al. (2002) by examining the relation between payout decisions and changes in volatility of operating income.

III. Sample

The sample consists of firms with available data on both Compustat and the Center for Research in Security Prices (CRSP). Like Jagannathan et al. (2000), I exclude utilities and financial firms. I examine payout decisions during the period between 1980 and 1997. Information on share repurchases is taken from Compustat. While Jagannathan et al. argue that Compustat overstates repurchases, they nevertheless believe that share repurchase measures based on information from Compustat are more accurate than measures based on information from CRSP. A firm is defined to repurchase shares in a given fiscal year if its total repurchases represent more than 1% of the market value at the beginning of the fiscal year (consistent with Dittmar 2000). Information on regular dividends and special dividends is taken from CRSP. A firm is defined to increase (decrease) regular dividends in a given fiscal year if the split-adjusted regular dividends per share increase (decrease) by at least 10% (1%) relative to the prior fiscal year. A firm is defined to pay a special dividend in a given fiscal year if it pays any special dividend during the year. If a firm combines a share repurchase or special dividend with a dividend decrease, the firm is defined to repurchase shares or pay a special dividend.[3]

Table 1 presents the fraction of sample firms that either (1) increased regular dividends; (2) decreased regular dividends; (3) paid special dividends; (4) repurchased shares; (5) used a combination of dividend increases, special dividends, and share repurchases; or (6) did none of these during each of the years from 1980 through 1997.[4] In any year, 10–22%

3. To mitigate the effect of outliers, I remove observations with assets less than $1 million. If I instead remove observations with assets less than $10 million, the results are similar.

4. Within the sample of firms that used a combination of dividend increases, special dividends, and share repurchases, 77.2% are combinations of dividend increases and share repurchases, 10.2% are combinations of dividend increases and special dividends, 9.5% are combinations of share repurchases and special dividends, and the remaining 3.1% are combinations of all three.

TABLE 1 Corporate Payout Behavior by Year

Year	Dividend Decreases	Dividend Increases (DI)	Special Dividends (SD)	Share Repurchases (SR)	Combinations of DI, SD, and SR	Others
1980	.132	.214	.020	.106	.057	.470
1981	.178	.131	.018	.115	.045	.514
1982	.165	.109	.015	.143	.044	.524
1983	.182	.080	.014	.123	.023	.578
1984	.156	.081	.012	.152	.052	.546
1985	.110	.093	.017	.166	.042	.572
1986	.131	.074	.014	.172	.023	.586
1987	.103	.065	.009	.216	.055	.552
1988	.083	.093	.012	.182	.069	.561
1989	.067	.104	.013	.150	.077	.588
1990	.071	.085	.013	.180	.068	.584
1991	.093	.063	.013	.133	.030	.668
1992	.098	.063	.014	.128	.023	.674
1993	.106	.066	.012	.118	.030	.668
1994	.074	.081	.008	.132	.032	.673
1995	.059	.091	.006	.144	.039	.662
1996	.065	.066	.006	.174	.038	.651
1997	.062	.048	.006	.201	.035	.649

NOTE.—Fractions of sample firms with available data that (1) decreased regular dividends; (2) increased regular dividends; (3) paid special dividends; (4) repurchased shares; (5) used a combination of dividend increases, special dividends, and share repurchases; or (6) did none of the above during each of the years from 1980 through 1997.

of the sample firms repurchased shares, 5–21% increased dividends, 6–18% decreased regular dividends, and about 1–2% paid special dividends. All these fractions exhibit a tendency to decrease during the sample period.

My study focuses on a set of core variables. OI shock is the difference between the average ratio of operating income to total assets during years −1 and 0 (where year 0 is the event year) and the average ratio during years −3 and −2. This should capture any contemporaneous income shock that might trigger the payout decision. OI reversion is the difference between the average ratio of operating income to total assets during the 3 years after the event year (years +1 through +3) and the average ratio during years −1 and 0. In later analysis, I expect that this variable will reveal the extent to which payouts convey information about future performance changes.[5] Following Jagannathan et al. (2000), prior OI volatility is the standard deviation of the ratio of operating income to total assets measured from 4 years prior to the event year through the event year. Change in OI volatility is the difference between the standard deviation of the ratio of operating income to total assets measured during the 5 years after the event year and prior OI volatility, and it

5. In the appendix, I adopt the income definitions of Jagannathan et al. (2000) to see whether I get results similar to theirs.

should indicate whether payout changes convey information about risk changes.

I also include a host of control variables. As a measure of firm size, I use the book value of assets at the end of the fiscal year prior to the event year in billions of dollars (assets). Cash and debt should capture the financial flexibility of the firms and are measured as cash and cash equivalents scaled by the book value of total assets and long-term debt plus debt in current liabilities scaled by the book value of total assets at the end of the fiscal year prior to the event year, respectively. Asset sales is asset sales during the event year scaled by book value of total assets at the beginning of the year, included because it could proxy for cash recently received or to be received that is not included in the cash balance at the end of the prior fiscal year. M/B is the market value of equity plus the book value of debt scaled by book value of total assets at the end of the fiscal year prior to the event year. Capital expenditures are capital expenditures scaled by the book value of total assets at the end of the fiscal year prior to the event year. Prior OI is the average ratio of operating income to total assets during years -3 and -2 relative to the event year. Prior NOI is the average ratio of nonoperating income to total assets during years -3 and -2 relative to the event year. NOI shock is the difference between the average ratio of nonoperating income to total assets during the year before the event year (-1) and the event year (0) and prior NOI. NOI reversion is the difference between the average ratio of nonoperating income to total assets during the 3 years after the event year (years +1 through +3) and the average ratio of nonoperating income to total assets during the year before the event year (-1) and the event year (0). Prior beta is the equity beta estimated using daily returns from CRSP during the fiscal year prior to the event year. Beta change is the difference between the equity beta estimated using daily returns during the fiscal year after the event year and prior beta. The beta measures are included to ensure that any documented changes in income volatility are not merely due to changes in systematic risk.

Following Jagannathan et al., payout ratio is the total dividends scaled by net income available to common shareholders for the fiscal year prior to the event year. (If the dividends exceed the net income, the payout ratio is set to 1.) Dividend yield is the split-adjusted regular dividends per share during the year prior to the event year scaled by the price at the end of the same year. Dividend dummy is an indicator variable that equals 1 if dividend yield is positive and 0 otherwise. I include both dividend yield and dividend dummy because I conjecture that the relation between past dividend policy and incremental payout choices is nonlinear. For example, firms that are likely to increase dividends probably already have a dividend in place because a dividend initiation is a less common event than other dividend increases (Michaely, Thaler, and Womack 1995 Benartzi et al. 1997), but their dividend yield is likely to be relatively

small for the firms to be able to sustain an increase. Finally, current return and prior return are the stock returns from CRSP for the event year and the prior year, respectively.[6]

Table 2 presents descriptive statistics for the sample firms. Firms that disburse funds are generally larger than other firms, and firms that increase or decrease dividends are larger than firms that pay special dividends or repurchase shares. Firms that decrease dividends face a tight financial position, as indicated by lower cash levels than other firms. On the other hand, payout-increasing firms have larger financial flexibility than firms that keep their dividend policy intact and do not repurchase shares, as indicated by lower debt ratios. There is some evidence that firms that increase (decrease) dividends experience a more favorable (unfavorable) shock to income during years −1 and 0 relative to the event year than other firms.[7] The univariate statistics likely understate the favorable income shock for payout-increasing firms, however, because these firms exhibit higher prior income and therefore are expected to experience a subsequent decrease due to mean reversion (Barber and Lyon 1996).

The past volatility of operating income is substantially lower for both dividend-decreasing firms and all groups of payout-increasing firms than for other firms. It might be surprising at first that firms that decrease dividends have a low volatility. However, these firms also have the highest dividend yield. To the extent that past dividend decisions reflect past income volatility, I would therefore expect dividend-decreasing firms to have a low volatility.

Table 3 shows the correlation coefficients between firm characteristics prior to the event year. Of particular interest in this table are the relations between income volatility and the other variables. The relation between income volatility and dividend yield is negative, suggesting that firms with low volatility have adopted high dividend policies. The relation between volatility and debt levels is negative, consistent with Bradley et al. (1984), who find that debt ratios decrease with earnings volatility. In addition, the relation between volatility and cash levels is positive, consistent with Opler et al. (1999), who find some evidence that cash holdings increase with industry volatility of cash flow. Thus, firms appear to base both capital structure and cash holding decisions on operating risk in predicted manners. Moreover, the two measures of risk, income volatility and beta, are positively related. It is also interesting to note that the correlation coefficients involving dividend yield are consistent with

6. One might argue that the stock returns could capture the expected changes in future income or risk around payout changes, thus masking actual changes in income or risk. The results are similar, however, if I exclude the stock returns from my analysis.

7. The negative income shock for firms that do not change their dividends and do not repurchase shares is consistent with the negative income trend during the sample period as documented by Barber and Lyon (1996).

TABLE 2 Descriptive Statistics

	Dividend Decreases (n = 4,425)		Dividend Increases (DI) (n = 3,753)		Special Dividends (SD) (n = 507)		Share Repurchases (SR) (n = 6,533)		Combinations of DI, SD, and SR (n = 1,850)		Others (n = 25,832)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Assets	2.286	.221	2.469	.240	1.006	.109	1.776	.152	2.672	.258	.770	.059
Cash	.096	.055	.118	.074	.159	.106	.135	.075	.131	.081	.138	.066
Debt	.243	.231	.205	.194	.170	.130	.219	.195	.186	.170	.248	.225
M/B	1.589	1.291	1.657	1.375	1.414	1.136	1.484	1.222	1.603	1.303	1.788	1.287
Capital expenditures	.082	.065	.080	.066	.062	.052	.069	.054	.071	.057	.075	.053
Asset sales	.008	.000	.006	.000	.008	.000	.008	.000	.008	.000	.008	.000
Prior OI	.169	.161	.176	.169	.171	.155	.145	.147	.178	.166	.088	.116
OI shock	−.024	−.012	.005	.002	−.008	−.007	−.004	−.003	.008	.006	−.005	−.006
OI reversion	−.007	−.005	−.024	−.015	−.019	−.010	−.012	−.005	−.020	−.013	−.008	−.003
Prior NOI	.015	.011	.014	.010	.018	.014	.015	.011	.015	.011	.015	.010
NOI shock	−.002	−.001	.001	.000	.001	.000	.000	.000	.001	.000	−.001	.000
NOI reversion	−.001	.000	−.002	−.001	−.003	−.001	−.002	−.001	−.002	−.001	−.001	.000
Prior OI volatility	.044	.033	.037	.028	.044	.034	.049	.036	.038	.030	.075	.049
OI volatility change	.000	−.001	.002	.000	−.001	−.001	.002	−.001	.002	.000	.004	−.001
Prior beta	1.029	.984	1.054	1.031	.809	.751	1.043	.987	1.012	.961	1.191	1.123
Beta change	.045	.054	−.101	−.075	−.011	.005	−.033	−.033	−.095	−.097	−.056	−.046
Payout ratio	.477	.345	.261	.215	.384	.317	.232	.077	.281	.237	.133	.000
Dividend yield	.030	.023	.021	.017	.026	.023	.016	.004	.021	.019	.008	.000
Dividend dummy	1.000	1.000	.867	1.000	.781	1.000	.508	1.000	.870	1.000	.261	.000

TABLE 2 (*Continued*)

	Dividend Decreases (n = 4,425)		Dividend Increases (DI) (n = 3,753)		Special Dividends (SD) (n = 507)		Share Repurchases (SR) (n = 6,533)		Combinations of DI, SD, and SR (n = 1,850)		Others (n = 25,832)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Prior return	.248	.158	.293	.203	.249	.181	.166	.095	.248	.161	.216	.059
Current return	.163	.089	.270	.187	.257	.159	.201	.109	.246	.155	.210	.068

NOTE.—Descriptive statistics for firm-years with (1) dividend decreases; (2) dividend increases; (3) special dividends; (4) share repurchases; (5) combinations of dividend increases, special dividends, and share repurchases; and (6) none of these. A firm is defined to decrease dividends in a given fiscal year if the split-adjusted regular dividends decrease by at least 1% relative to the prior fiscal year. A firm is defined to increase dividends in a given fiscal year if the split-adjusted regular dividends increase by at least 10% relative to the prior fiscal year. A firm is defined to repurchase shares in a given fiscal year if its total repurchases represent more than 1% of the market value of equity at the beginning of the fiscal year. A firm is defined to pay a special dividend in a given fiscal year if it pays any special dividend during the year. If a firm combines a shares repurchase/special dividend with a dividend decrease, the firm is defined to repurchase shares/pay special dividend. Assets is the book value of assets at the end of the fiscal year prior to the event year in billions of dollars. Cash is cash and cash equivalents scaled by the book value of the total assets at the end of the fiscal year prior to the event year. Debt is long-term debt plus debt in current liabilities scaled by the book value of total assets at the end of the fiscal year prior to the event year. *M*/*B* is the market value of equity plus the book value of debt scaled by the book value of total assets at the end of the fiscal year prior to the event year. Capital expenditures is capital expenditures scaled by the book value of total assets at the end of the fiscal year prior to the event year. Asset sales is asset sales during the event year scaled by the book value of the total assets at the beginning of the year. Prior OI is the average ratio of operating income to total assets during years −3 and −2 relative to the event year. OI shock is the difference between the average ratio of operating income to total assets during the year before the event year (−1) and the event year (0) and prior OI. OI reversion is the difference between the average ratio of operating income to total assets during the 3 years after the event year (+1 through +3) and the average ratio of operating income to total assets during the year before the event year (−1) and the event year (0). Prior NOI is the average ratio of non-operating income to total assets during years −3 and −2 relative to the event year. NOI shock is the difference between the average ratio of non-operating income to total assets during the year before the event year (−1) and the event year (0) and prior NOI. NOI reversion is the difference between the average ratio of non-operating income to total assets during the 3 years after the event year (+1 through +3) and the average ratio of non-operating income to total assets during the year before the event year (−1) and the event year (0). Prior OI volatility is the standard deviation of the ratio of operating income to total assets measured from 4 years prior to the event year through the event year. Change in OI volatility is the difference between the standard deviation of the ratio of operating income to total assets measured during the 5 years after the event year and prior OI volatility. Prior beta is the equity beta estimated using daily returns during the fiscal year prior to the event year. Beta change is the difference between the equity beta estimated using daily returns during the fiscal year after the event year and prior beta. Payout ratio is the total dividends scaled by net income available to common shareholders for the fiscal year prior to the event year. (If the dividends exceed the net income, the payout ratio is set to 1.) Dividend yield is the split-adjusted regular dividends per share during the year prior to the event year scaled by the price at the end of the same year. Dividend dummy is an indicator variable that equals 1 if the dividend yield is positive and 0 otherwise. Prior return is the stock return for the fiscal year prior to the event year. Current return is the stock return for the event year.

TABLE 3 Correlation Coefficients

	Cash	Debt	*M/B*	Capital Expenditures	Prior OI	Prior NOI	Prior OI Volatility	Prior Beta	Dividend Yield	Payout Ratio
Assets	−.061	.050	−.041	.007	.033	.014	−.098	−.028	.161	.163
	.000	.000	.000	.127	.000	.004	.000	.000	.000	.000
Cash		−.402	.347	−.135	−.229	.281	.231	.156	−.151	−.151
		.000	.000	.000	.000	.000	.000	.000	.000	.000
Debt			−.208	.068	−.068	−.118	−.055	−.038	−.044	−.002
			.000	.000	.000	.000	.000	.000	.000	.718
M/B				.067	−.173	.106	.303	.248	−.179	−.151
				.000	.000	.000	.000	.000	.000	.000
Capital expenditures					.197	.015	−0.031	.050	−.015	−.022
					.000	.001	.000	.000	.002	.000
Prior OI						−.150	−.496	−.067	.222	.185
						.000	.000	.000	.000	.000
Prior NOI							.081	.023	.003	.003
							.000	.000	.530	.537
Prior OI volatility								.126	−.225	−.202
								.000	.000	.000
Prior beta									−.185	−.180
									.000	.000
Dividend yield										.673
										.000

NOTE.—The table shows pairwise Pearson correlation coefficients between firm characteristics prior to the event year (i.e., the year during which repurchases, special dividends, or dividend changes take place). Correlation coefficients are given with *p*-values below. The variables are described in table 2.

Fama and French (2001), who document that the probability of paying dividends increases with firm size and profitability and decreases with market-to-book ratios. In combination, the correlation coefficients demonstrate the need to control for past dividend, capital structure, and cash holding decisions when examining the effect of income volatility and other dimensions of financial flexibility on the payout choice.

IV. Empirical Results

A. Comparing Dividend-Decreasing and Payout-Increasing Firms to Other Firms

To examine the choice to decrease regular dividends, increase regular dividends, pay special dividends, repurchase shares, or none of these, I estimate a multinomial logistic regression. The results are reported in table 4.[8] Both the dividend yield and the dividend dummy are important explanatory variables, and there is strong nonlinearity between past dividend policy and incremental payout choices. All dividend-decreasing firms naturally have a positive past dividend yield, and this dividend yield tends to be large. All categories of payout-increasing firms generally have a nonzero but low past dividend yield.

The reported results further suggest that firms that increase regular dividends, pay special dividends, or repurchase shares have higher cash levels and lower debt ratios than other firms, while firms that decrease regular dividends have higher debt ratios than other firms. The results for dividend increases and decreases corroborate the univariate results of Grullon et al. (2002), while the results for repurchases support the multivariate results of Dittmar (2000) and Lie (2001). Moreover, the market-to-book ratios and capital expenditures are lower for all categories of payout-increasing firms than for other firms. These results are consistent with Grullon et al.'s (2002) conjecture that firms that increase their payouts have reached or are reaching a more mature phase of their life cycle. They also suggest that firms are more inclined to increase payouts when they face poor investment opportunities.

Both operating income and nonoperating income are higher for payout-increasing firms and lower for dividend-decreasing firms than for other firms prior to the event year (i.e., the average for years -3 and -2 relative to the event year). In addition, payout-increasing firms experience a positive operating and nonoperating income shock during years -1 and 0, while dividend−decreasing firms experience a negative income shock. However, as indicated by the coefficients on the income reversion variable, there is limited evidence of income changes after either payout

8. To mitigate the potential problem of serial correlation in the residuals of a time-series cross-sectional regression, I estimate cross-sectional regressions separately for each year, then compute the mean coefficients across the yearly models, as in Fama and MacBeth (1973). The tables report the mean coefficients along with *p*-values for these means.

TABLE 4 Multinomial Logistic Regression of the Payout Choice

	Dividend Decrease			Dividend Increase (DI)			Special Dividend (SD)			Share Repurchase (SR)			Combination of DI, SD, and SR		
	Coeffic.	*p*-Value	Marg.	Coeffic.	*p*-Value	Marg.	Coeffic.	*p*-Value	Marg.	Coeffic.	*p*-Value	Marg.	Coeffic.	*p*-Value	Marg.
Intercept	−22.511	.000		−3.590	.000		−3.592	.000		−1.185	.000		−3.855	.000	
Assets	.001	.838	−.011	.027	.001	.007	−.232	.018	−.004	.016	.002	.015	.014	.047	.001
Cash	.282	.206	−.004	.846	.001	.005	1.438	.013	.000	.880	.000	.018	.915	.005	.003
Debt	.785	.000	.041	−.371	.038	−.003	−2.014	.002	−.001	−.481	.018	−.011	−1.190	.000	−.003
M/*B*	.292	.000	.126	−.155		−.004	−1.087	.000	−.004	−.463	.000	−.078	−.807	.000	−.017
Capital expenditures	.107	.743	.021	−2.172	.000	−.005	−4.567	.000	−.001	−2.846	.000	−.026	−5.633	.000	−.005
Asset sales	.214	.849	.003	−2.598	.035	−.005	−16.405	.083	−.001	.851	.242	.005	1.454	.318	.001
Prior OI	−1.552	.022	−.137	5.702	.000	.032	9.448	.000	.004	5.076	.000	.092	11.175	.000	.023
OI shock	−3.061	.000	−.141	7.419	.000	.038	8.004	.000	.001	4.056	.000	.050	12.929	.000	.020
OI reversion	.560	.279	.007	−.065	.923	−.002	−.853	.373	−.001	.670	.042	.010	2.125	.004	.004
Prior NOI	−1.550	.411	−.033	9.404	.000	.007	8.002	.206	.001	8.496	.000	.026	15.084	.000	.006
NOI shock	−6.425	.001	−.055	9.168	.001	.010	6.567	.229	.001	5.877	.000	.017	14.332	.000	.006
NOI reversion	.752	.604	−.003	2.264	.274	.002	−.889	.715	.000	.859	.385	.002	3.392	.142	.002
Prior OI volatility	4.350	.000	.108	−8.655	.000	−.030	−16.291	.000	−.003	−2.816	.000	−.020	−8.238	.000	−.008
OI volatility change	1.462	.040	.047	−4.406	.000	−.019	−9.562	.003	−.002	−1.309	.007	−.010	−2.727	.006	−.004
Prior beta	.061	.408	.026	−.213	.003	−.005	−.676	.000	−.002	−.174	.002	−.017	−.333	.001	−.003
Beta change	.190	.006	.048	−.208	.001	−.006	−.284	.023	−.001	−.097	.048	−.009	−.392	.000	−.005
Payout ratio	.208	.344	.031	−1.154	0.000	−.016	1.289	.000	.002	−.083	.265	.000	−.751	.001	−.003
Dividend yield	−3.875	.233	.020	−30.096	.000	−.026	−18.585	.014	−.001	−3.197	.051	−.001	−29.971	.000	−.008
Dividend dummy	21.342	.000	.296	3.644	.000	.143	1.942	.000	.003	.793	.000	−.004	3.469	.000	.044
Prior return	.453	.000	.058	.208	.000	.005	.423	.002	.001	−.024	.651	−.005	.179	.043	.003
Current return	.020	.774	−.003	.275	.000	.008	−.013	.937	.000	−.071	.187	−.009	.036	.670	.002

NOTE.—The table shows the multinomial logistic regression of the payout choice, with no special dividend, repurchase, or change in regular dividends as the default. The reported coefficients are the means of the time series of coefficients from 18 yearly regressions (see Fama and MacBeth 1973). The reported marginal effects are the means of the time series of marginal effects times a one standard deviation change in the explanatory variable (except for the dividend dummy, which is measured for a discrete change from 0 to 1). The marginal effects are evaluated at the means, except that the dividend dummy is set to 1 for dividend decreases. Because all firms that decrease dividends paid prior dividends, the marginal effects are evaluated at the dividend dummy equal to 1 for this set of firms. Definitions of payout categories and descriptions of independent variables are provided in table 2. The total number of observations for this analysis is 42,262.

increases or dividend decreases. There is some evidence that repurchases are associated with positive future income changes, but the *p*-value is only 0.04 and the effect is much smaller than that for contemporaneous income changes. Further, combinations of one or more payouts (primarily dividend increases combined with repurchases) are associated with statistically significant positive future income changes, but even these changes pale compared to the contemporaneous income changes. Overall, my results suggest that payout increases (decreases) convey positive (negative) information about contemporaneous income (which may or may not have been announced to the capital market yet) but little information about future income when we control for the contemporaneous income shock.

My results support those of Benartzi et al. (1997) and Grullon et al. (2002), who examine the performance of firms that change their dividends relative to control firms based on an array of characteristics. But my results seem at odds with Jagannathan et al. (2000), who use a similar methodology to this study, and Nissim and Ziv (2001), who use a different methodology, both of which document that operating income improves following dividend increases. However, Jagannathan et al. do not control for the income shock, and the documented improvement probably partially reflects the income shock.[9] To ensure that major differences in results are not merely an artifact of differences in the underlying samples, I replicate their analysis in the appendix. The coefficients for the various income variables (including the income volatility) are qualitatively similar to those reported in Jagannathan et al. The only differences pertain to the variable for the subsequent nonoperating income. Thus, it appears that the greater subsequent operating income in Jagannathan et al. following dividend increases is attributable to the greater contemporaneous income shock. Further, unlike this study, Guay and Harford (2000) find that firms that increase regular dividends have a positive reversion when compared to control firms with similar income shocks, while firms that repurchase shares do not. However, in contrast to Jagannathan et al. and this study, they do not control for variables such as prior income levels, which Barber and Lyon (1996) argue is important. Moreover, while Jagannathan et al. and this study focus on operating income, Guay and Harford focus on cash flow, defined as operating income less interest, taxes, and increases in working capital.[10]

9. Jagannathan et al. (2000) define pre-event income as the average during years −3 through −1 and post-event income as the average during years 0 through +2. Thus, if the majority of the income shock occurs in year 0, this will be included in postevent income, giving the impression that income improves. In comparison, I define the pre-event income as the average during years −3 and −2, the income on which the income shock is estimated as the average during years −1 and 0 (following Guay and Harford 2000), and the postevent income on which the income reversion is estimated as the average during years +1 through +3.

10. My results are similar if I use cash flow in place of operating income in the analysis.

Past volatility of operating income is lower for payout-increasing firms and higher for dividend-decreasing firms than for firms that do not change dividends, pay special dividends, or repurchase shares. The relations for the categories of payout-increasing firms are consistent with Jagannathan et al. (2000). The relation for dividend-decreasing firms is inconsistent with the univariate statistics in table 2, and this inconsistency is likely attributable to controlling for past dividend policy in the multivariate framework. Even though payout-increasing firms already have experienced a low volatility in the past, the volatility generally decreases even further, while the opposite occurs for dividend-decreasing firms. Also note that the results are robust to the inclusion of past betas and beta changes and the results for the beta variables are similar (albeit statistically weaker) to those for the income volatility variables. Thus, payouts are related to income volatility levels and changes, even when controlling for their relations to systematic risk levels and changes.

My results on income volatility are consistent with the joint hypothesis that managers can partially predict the direction of future operating risk changes and that they consider these predictions when making payout choices. To the extent that managers make predictions based on information not generally available to the public, payout choices contain valuable information regarding future operating risk. Because operating risk can adversely affect firm value even if it is nonsystematic (Smith and Stulz 1985; Froot et al. 1993), my results contribute to the literature that seeks to explain the information content of payout announcements. In particular, the capital market might respond positively to payout-increase announcements, because it interprets such announcements as favorable information about future operating risk, and vice versa for dividend-decrease announcements.[11]

B. The Choice between Dividend Increases, Special Dividends, and Share Repurchases

I next examine the choice between regular dividend increases, special dividends, and share repurchases, all of which have the effect of increasing the total payout levels. In particular, I estimate pairwise logistic regressions of the choice between regular dividend increases and special dividends, between regular dividend increases and repurchases, and between repurchases and special dividends. The objective is to determine

11. In an attempt to directly link the change in operating volatility to corporate value, I also regress the 3-day abnormal stock returns around dividend-increase announcements to changes in income volatility and control variables. The relation between the announcement returns and volatility changes is not statistically significant. A potential explanation for this is that, while the market expects the volatility to drop on average when firms increase dividends, it is unable to accurately predict at the time of the dividend announcement which firms will experience the greatest drop in volatility. Thus, while the stock price increases upon the dividend increase announcement, the increase is not related to the volatility change.

TABLE 5 Pairwise Binomial Logistic Regressions of the Payout Choice

	Dividend increases (1) vs. special dividends (0)		Dividend increases (1) vs. repurchases (0)		Repurchases (1) vs. special dividends (0)	
	Coeffic.	*p*-Value	Coeffic.	*p*-Value	Coeffic.	*p*-Value
Intercept	−3.238	.087	−2.641	.000	1.807	.005
Assets	1.844	.144	.034	.000	.704	.007
Cash	−.409	.832	.301	.449	−1.075	.213
Debt	3.791	.006	.055	.823	2.679	.001
M/*B*	2.775	.048	.325	.001	.838	.021
Capital expenditures	1.131	.580	1.072	.134	.623	.737
Asset sales	42.925	.059	−3.706	.047	30.057	.106
Prior OI	−5.318	.203	1.819	.039	−3.003	.169
OI shock	−1.079	.845	3.632	.003	−2.195	.313
OI reversion	2.130	.534	−.821	.331	3.785	.124
Prior NOI	3.361	.831	−.584	.843	10.044	.307
NOI shock	−18.534	.427	3.458	.346	7.780	.398
NOI reversion	.267	.992	1.924	.562	2.003	.797
Prior OI volatility	44.070	.116	−5.680	.000	23.200	.007
OI volatility change	22.076	.043	−2.623	.009	18.096	.004
Prior beta	.452	.500	−.202	.030	.871	.003
Beta change	.022	.964	−.195	.045	.584	.040
Payout ratio	−4.733	.000	−1.316	.000	−2.118	.000
Dividend yield	22.391	.600	−34.766	.000	28.218	.101
Dividend dummy	2.485	.003	3.593	.000	−1.409	.000
Prior return	.942	.092	.608	.000	−.977	.001
Current return	.136	.690	.574	.000	−.519	.018
Number of observations	4,016		9,000		5,727	

NOTE.—The table shows the pairwise binomial logistic regressions of the payout choice. The first model compares firms that increase regular dividends with those that pay special dividends. The second model compares firms that increase regular dividends with those that repurchase shares. The third model compares firms that repurchase shares with those that pay special dividends. The reported coefficients are the averages of the time series of coefficients from 18 yearly regressions (see Fama and MacBeth 1973). Definitions of payout categories and descriptions of independent variables are provided in table 2.

whether firms' type of financial flexibility and performance predict the type of payout increase in a multivariate setting.

Table 5 presents the results of the regressions. Firms that increase regular dividends have more significant operating income shocks than firms that repurchase shares. The larger income shock might make managers comfortable that they can sustain a larger regular dividend in the future. Because there are no significant differences in subsequent income changes, firms that increase regular dividends appear to exhibit larger income increases than firms that repurchase shares from before the event (the average of years −3 and −2) to after the event (the average of years +1 through +3). Consequently, the evidence can be interpreted as consistent with the conjecture that firms are more likely to increase regular dividends than repurchase shares when they experience a large income increase.

Firms that increase regular dividends or pay special dividends have lower past income volatility than firms that repurchase shares. Furthermore, these firms experience a further decrease in volatility relative to repurchasing firms. The results suggest that managers consider past operating risk as well as their expectations about future changes in operating risk when choosing between dividend increases, special dividends, and share repurchases. In particular, when the firm is expected to face relatively high operating risk and, therefore, a relatively high probability that operating income will deteriorate substantially, managers choose repurchases over regular dividend increases and special dividends. This is consistent with the notion that managers prefer repurchases when faced with a volatile income because repurchases, unlike regular dividend increases, do not commit further payouts in the future. In other words, the imbedded flexibility associated with share repurchases likely makes them the favored disbursement mechanism when future profitability is uncertain. One might argue that special dividends also provide more flexibility than regular dividends, in which case the income volatility should be greater for firms that pay special dividends than for firms that increase regular dividends. Perhaps special dividends are more likely to be used as part of a recapitalization than other transactions, in which case the debt payments impose future commitments just like regular dividends. I discuss the implication of financing further in the next section.

C. The Financing Choice in Repurchases

So far I have assumed that share repurchases are more flexible than regular dividend increases, because repurchases do not commit the firm to make further disbursements in the future, and prior studies have made the same assumption (Jagannathan et al. 2000 and Guay and Harford 2000). In support of this assumption, Stephens and Weisbach (1998) report that a large fraction of firms that announce open-market repurchase programs end up repurchasing no or very few shares, suggesting that, even when firms hint that they will repurchase shares in the future, they may not do it. However, while a share repurchase does not require further payouts to equity holders, if they are financed with debt, they obligate incremental future payments to debt holders in the form of principal and interest. Indeed, the evidence in Masulis (1980), Vermaelen (1981), and Lie (2001) suggests that self-tender offers are often financed with debt. The debt payments are likely to be even less flexible than regular dividends, because only a debt restructuring with the approval of debt holders can reduce or eliminate these debt obligations. Consistent with this notion, Grullon and Michaely (2001) state that "debt is a stronger commitment device than dividends." Gilson (1997) describes the obstacles to restructuring debt outside of court. He reports that, even after attempts to restructure out of court, firms are left with high leverage compared to industry

peers, while Lie, Lie, and McConnell (2001) report that 25% of firms that attempt to reduce debt through exchange offers nevertheless file for bankruptcy within 3 years.

When considering the financing choice in repurchases, we should recognize that payout and capital structure decisions are related, because payouts might affect the firm's capital structure. In particular, unless payouts are financed with a proportion of debt and equity that corresponds to a firm's capital structure, they alter the capital structure. Therefore, the choice of financing in payouts is likely related to the choice of debt versus equity when a firm needs external funds. As such, this section is related to studies such as Hovakimian, Opler, and Titman (2001). It is beyond the scope of this paper to attempt to disentangle the payout and capital structure decisions. Instead, I recognize that payout decisions might be motivated by a desire to alter capital structure.

One might argue that the financing choice is irrelevant, because the postevent net debt (debt less cash) is the same. However, suppose that firms finance repurchases with cash primarily when they have excess cash and debt otherwise. Then a cash-financed repurchase merely removes the excess cash, such that it is now close to its optimal level. Meanwhile, a debt-financed repurchase leaves the cash level intact (presumably at its optimal level), but increases the debt level. Thus, both transactions leave the firm with optimal cash levels, while only the latter transaction imposes incremental future cash obligations for the firm, much like a regular dividend increase. As noted later, this conjecture is supported by the data.

To examine the financing choice more closely, I identify the large repurchases (i.e., those that constitute at least 10% of prior equity value) in the sample, because a portion of the payout associated with these transactions is likely to be financed with debt. Next, I estimate the change in the debt level during the fiscal year of the repurchase and divide this change by the value of the repurchase. I define this ratio to be the fraction of debt used to finance the repurchase. In those cases where the ratio is less than 0 or greater than 1, I set the ratio to 0 or 1, respectively. The remainder of the repurchase is assumed to be financed with cash. The mean (median) fraction of debt used is 0.39 (0.43). I conjecture that firms that primarily use debt to finance repurchases have smaller income volatility than firms that primarily use cash.

Table 6 reports the results from a double-censored Tobit regression of the fraction of debt against the same explanatory variables as in earlier tables. As expected, firms use more debt financing when their cash levels are low, consistent with the earlier conjecture that, unlike debt-financed repurchases, cash-financed repurchases merely remove excess cash. Further, the fraction of debt used decreases with income volatility, suggesting that firms use more debt when they have low operating risk. In this sense, debt-financed repurchases resemble regular dividend increases.

TABLE 6 Regressions of the Financing Choice

	Tobit Regression of Fraction of Debt Used to Finance Large Repurchases		Tobit Regressions of Debt Issues	
	Coeffic.	*p*-Value	Coeffic.	*p*-Value
Intercept	.576	.067	−.182	.000
Assets	−.129	.127	.002	.020
Cash	−2.428	.000	−.567	.000
Debt	−.348	.426	.495	.000
M/*B*	.313	.125	.014	.057
Capital expenditures	2.984	.020	.674	.000
Asset sales	−1.892	.598	.249	.287
Prior OI	−1.888	.025	−.383	.000
OI shock	−4.840	.027	−.357	.000
OI reversion	−4.829	.000	−.113	.005
Prior NOI	−12.507	.026	−.317	.359
NOI shock	−12.661	.073	−.419	.333
NOI reversion	−6.392	.148	−.418	.184
Prior OI volatility	−9.363	.002	−.544	.000
OI volatility change	−3.561	.117	−.522	.031
Prior beta	.170	.232	.035	.007
Beta change	.080	.454	.036	.015
Payout ratio	−.682	.282	−.051	.000
Dividend yield	3.192	.691	−.503	.001
Dividend dummy	−.086	.673	.035	.001
Prior return	.005	.981	.070	.007
Current return	.027	.787	.039	.000
Number of observations	1,254		42,262	

NOTE.—The first model is a regression of fraction of debt used to finance share repurchases that represent at least 10% of the market value of equity. The fraction of debt financing is estimated as the change in debt from the beginning to the end of the fiscal year scaled by the dollar volume of repurchases during the fiscal year; it is set to 0 if the change in debt is negative and 1 if the change in debt exceeds the repurchase in dollars. Because the fraction of debt is censored at 0 and 1, a double-censored Tobit regression is used. The second model is a regression of debt issues scaled by the book value of assets for the universe of firms. Because debt issues are constrained to be nonnegative, a left-censored Tobit regression is used. The reported coefficients are the averages of the time series of coefficients from 18 yearly regressions (see Fama and MacBeth 1973). Descriptions of the independent variables are provided in table 2.

The results also show that firms that use debt to finance share repurchases exhibit a decrease in operating income subsequent to the event year relative to firms that use cash. The reason for this is not clear, but one potential reason is that firms raise external funds when future earnings are expected to be insufficient as a source of funds.

One might argue that the low income volatility around debt-financed share repurchases is not attributable to the repurchase per se but rather to the accompanying debt issue. To examine this possibility, I run a separate regression for the entire sample in which the dependent variable is the debt issues scaled by the book value. The results for this regression, which are also reported in table 6, are qualitatively similar to the results for the earlier regression. Therefore, the debt issues might drive the results for the financing choice in repurchases.

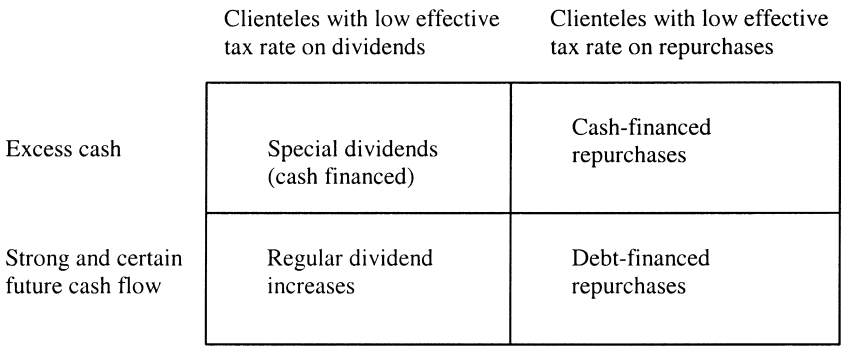

FIG. 1.—Payout decision matrix. The figure shows a matrix of payout choices available to corporations.

Overall, the evidence in this section shows that the financing decision in large repurchases depends not only on the cash level but also on income volatility. In particular, the willingness of managers to take on debt when repurchasing shares is negatively related to the firms' volatility of operating income. My results also shed light on the empirical relation between volatility and capital structure and are consistent with the model and empirical results of Bradley et al. (1984).

Recognizing that debt-financed repurchases impose future cash obligations just like regular dividend increases and both transactions convey information about the certainty of future income allows us to fill a void in firms' payout consideration set. I illustrate this in the payout decision matrix in figure 1. The matrix assumes that managers make payout decisions based on two broad dimensions. First, the payout choice depends on the type of financial flexibility that the firm faces, that is, current cash levels and future cash flow. Second, the choice between dividends (regular and special) and repurchases (regardless of financing) depends on the tax clientele of its equity holders (Lie and Lie 1999). The matrix shows that debt-financed repurchases are the ideal transactions for firms whose future operating cash flow is expected to be strong and certain and whose equity holders prefer share repurchases to dividends for tax reasons.

V. Summary and Conclusion

This study examines the various choices that managers make with regard to payouts, including whether to increase or decrease the payout level, how to increase the payout level, and how to finance a large repurchase. I find that firms increase payouts (i.e., increase regular dividends, pay special dividends, or repurchase shares) when they have large cash levels, low debt ratios, low capital expenditures, and poor growth opportunities, as measured by the market-to-book ratio, whereas the characteristics of dividend-decreasing firms are roughly the opposite.

The most interesting results pertain to current and future operating income. Firms that increase payouts concurrently exhibit a positive shock to operating income, and this shock is greatest if the payout takes the form of a regular dividend. The income shock appears to be permanent, but any subsequent improvements in income are much more limited. Thus, the evidence suggests that the decision to increase payout levels conveys primarily positive information about concurrent income. Moreover, firms that increase payouts have low past volatility of operating income, and this volatility decreases even further afterward, especially for firms that increase regular dividends or pay special dividends. While these results are qualitatively similar across the types of payout increases, they are quantitatively stronger for regular dividend increases than for share repurchases. Further, the results are the opposite for dividend-decreasing firms.

While the results are helpful in understanding the payout choice, they also offer a potential explanation for the positive average stock price effects around announcements of payout increases and the negative average stock price effects around announcements of dividend decreases. In particular, the capital market might interpret these announcements as valuable information about future operating risk assuming that operating risk adversely affects firm value, as suggested by the risk management literature.

Appendix

Multinomial Logistic Regression of Choice to Increase Dividends and/or Repurchase Shares

	Dividend Increases (DI)		Share Repurchase (SI)		Combination of DI and SR	
	Coeffic.	*p*-Value	Coeffic.	*p*-Value	Coeffic.	*p*-Value
Intercept	−2.758	.000	−1.834	.000	−3.818	.000
Assets (coefficient $\times 10^3$)	.026	.000	.013	.000	.030	.000
Prior OI (3-year average)	5.161	.000	1.872	.000	3.226	.000
Prior NOI (3-year average)	4.667	.000	4.904	.000	3.771	.043
Payout ratio	.310	.000	.012	.222	.567	.000
Prior OI volatility	−14.938	.000	−3.810	.000	−16.124	.000
Post OI (3-year average)	3.358	.000	1.804	.000	6.457	.000
Post NOI (3-year average)	8.419	.000	4.881	.000	7.875	.000
Prior return	.148	.000	−.255	.000	.016	.750
Current return	.019	.002	−.086	.001	−.111	.048

NOTE.—The table shows a multinomial logistic regression of the choice between dividend increases, share repurchases, both, or neither (the default). Definitions of payout categories and descriptions of independent variables are provided in table 2. Unlike in other tables, the prior (post) operating and nonoperating income measures use data from years −3 through −1 (years 0 through 2) as in Jagannathan et al. (2000). The total number of observations for this analysis is 35,832.

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