DO DIVIDEND CLIENTELES EXPLAIN PRICE REACTIONS TO DIVIDEND CHANGES?

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ABSTRACT

Previous studies find that stock price reactions to dividend announcements are positively related to dividend yield, consistent with the dividend-clientele hypothesis. In this paper, we argue that this yield-related clientele effect can be attributed to estimation biases in using preannouncement dividends as a proxy for market's anticipated dividends. Based on our samples constructed to mitigate the dividend estimation biases, we find that dividend yield has no additional power beyond the standardized dividend change in explaining the announcement-period excess returns. Our results are consistent with the information/signaling hypothesis, but inconsistent with the dividend-clientele hypothesis. In addition, we find that firm size remains negatively related to the price reactions to dividend changes.

JEL: G14, G35

INTRODUCTION

This study reexamines the dividend-clientele hypothesis presented in previous studies. Bajaj and Vijh (1990) suggest that the existence of dividend clienteles may partially explain price reactions to dividend change announcements. They argue that if marginal investors in different stocks value dividends differently, anticipated dividend yield should be associated with the price reactions to dividend change announcements.

We argue that this hypothesis has no solid theoretic base and is an empirical issue. If there is sufficient adjustment of investors in response to dividend yield changes, with some leaving a clientele replaced by others entering it, dividend yield should play little role in explaining the stock price reaction to dividend changes. As shown in this paper, their founding of a positive relationship between stock price reactions to dividend changes and dividend yield may be attributed to improper estimation of anticipated dividends in previous studies that use preannouncement dividends as a proxy for market's anticipated dividends. If markets partially anticipate a dividend increase, for example, the abnormal stock price reaction will be relatively small and reflect only the unexpected portion in the dividend change. Using preannouncement dividends as the proxy for the market's expected dividends may cause two kinds of estimation biases. First, it underestimates anticipated dividend yield by markets and therefore associates low dividend yields with small excess returns. Second, it exaggerates the unexpected dividend increases (or dividend surprises) and thus underestimates the information effect of dividend changes, making the above spurious dividend yield effect more conspicuous. The dividend expectation is less a problem in the case of dividend decreases. Since firms seldom cut dividends, dividend decreases should contain a greater unexpected component.

In this paper, we construct two subsamples of dividend increase announcements which largely mitigate the dividend estimation problem. The first subsample is obtained by excluding those announcements with no or negative stock price reactions. We believe these dividend increases are largely anticipated by the market. If the realized dividend increase is less than what the market expects, the dividend increase announcement in fact represents a negative dividend surprise and causes stock price to decrease. Our second subsample consists of only the announcements with unusually large dividend increases, say, at least 50 percent. We conjecture that these large dividend changes contain greater unexpected components than small dividend increases. This idea is similar to the view of Asquith and Mullins (1983) that unusual dividend policy changes such as dividend initiations are more likely to be unexpected.

Our sample closely resembles those in the previous studies. There are 7715 dividend increase and 849 dividend decrease announcements over the period 1970-2001. We find that announcement period excess returns are positively related to the magnitude of standardized dividend changes and to dividend yield for the dividend increase sample. But the excess returns are unrelated to dividend yield in the dividend decrease sample. This evidence supports our dividend expectation argument and is inconsistent with the dividend-clientele hypothesis.

Our main evidence against the dividend-clientele hypothesis comes from the two subsamples. Within each subsample, when there is no control for dividend change, the higher the yield, the greater the announcement period excess return. However, no such pattern is observed after controlling for dividend change. The results from cross-sectional regressions provide further support for our argument. Although the coefficient of dividend yield is highly significant and positive in univariate regressions, it becomes insignificant and positive in the multivariate regressions with the inclusion of standardized dividend change. In addition, consistent with prior studies, firm size is found to be negatively related to excess returns. Stock price, however, is no longer associated with excess returns after controlling for the dividend change.

The rest of the paper is organized as follows. In the following section, we discuss the relevant literature. Next, we describe the data and methodology and provide summary statistics of the samples. The empirical results are reported and discussed in the following section. In addition, findings of previous studies are also replicated for comparison. The paper closes with some concluding comments.

LITERATURE REVIEW

In their seminal work, Miller and Modigliani (1961) demonstrate that, absent imperfections, a firm's dividend policy does not affect its value. Since then, challenges to this dividend irrelevance proposition have focused on imperfections. In particular, subsequent research has extensively explored the effects of tax-induced clienteles on capital asset prices and the stock price reactions to dividend announcements.

Before the implementation of the 1986 Tax Reform Act, the dividend income was taxed at a higher rate than capital gains, and this suggests a negative price impact of dividends. This idea is supported by the CAPM-based studies including Litzenberger and Ramaswamy (1979, 1980), Rosenberg and Marathe (1979), and Blume (1980). Using capital asset pricing models incorporating taxes, these studies find that, if risk is held constant, before-tax returns are an increasing function of dividend yield.

Black and Scholes (1974) and Miller and Scholes (1978) demonstrate that dividend irrelevance may hold even if there is differential taxation of dividends and capital gains. Miller and Scholes (1978) argue that the dividend receipts can be made tax exempt by laundering them with personal borrowing. Black and Scholes (1974) extend the concept of investor clienteles proposed by Miller and Modigliani (1961), i.e., low (high) yielding stocks being held by investors in high (low) marginal tax brackets if tax rates vary across investors. They emphasize the ability of firms to adjust dividends to appeal to tax-induced investor clienteles and argue that this supply effect may account for their finding of no significant relationship between dividend yields and stock returns.

An alternative viewpoint, set forth by Litzenberger and Ramaswamy (1980) suggests that firms may make incomplete supply adjustments and individuals' portfolios may be limited by shortsale and margin restrictions. In equilibrium, therefore, the relative prices of dividends and capital gains will reflect the tax situation of the marginal investor in the stock. Miller and Scholes (1982) criticize that the dividend yield effect found in Litzenberger and Ramaswamy (1979, 1980) may be attributed to the information biases. In response, Litzenberger and Ramaswamy (1982) use an "information free" sample and still find the yield coefficient to be positive and significant in their after-tax CAPM model.

As debate goes on, Kalay and Michaely (1983) argue that while the after-tax CAPM predicts cross-sectional return variation as a function of dividend yield, the Litzenberger and Ramaswamy test is inadvertently designed to discover whether the ex-dividend period offers unusually large risk adjusted returns. Separating the time series from the cross-sectional return variation, Kalay and Michaely cannot detect any return variation across stocks with different yields. Chen, Grundy, and Stambaugh (1990) show that the positive association between yields and returns can be explained by a time-varying risk premium correlated with yield. When they allow the risk measures to vary, the yield coefficient was found positive but insignificant.

While the evidence about the tax-induced dividend yield effect is far from conclusive, there seems to be an overall agreement that the market perceives that dividend changes convey new information about the value of firm. In their original article, Miller and Modigliani (1961) suggest that dividends may provide a vehicle for communicating management's superior information concerning their assessment of the firm's prospect. This view of "information content of dividends" is supported by the empirical evidence in numerous studies examining the price reactions to dividend changes. For example, Pettit (1972) shows that announcements of dividend increases are followed by a significant price increase and announcements of dividend decreases are followed by a significant price drop. Aharony and Swary (1980) find that these relationships hold even after controlling for contemporaneous earnings announcements. Focusing on extreme changes in dividend policy, Asquith and Mullins (1983), Healy and Palepu (1988), and Michaely, Thaler, and Womack (1995)) show that the market reacts quite severely to dividend initiations or omissions announcements.

Recently, Nissim and Ziv (2001) find that dividend changes provide information about the level of profitability in subsequent years, incremental to market and accounting data. They also find that dividend changes are positively related to earnings changes in each of the two years after the dividend change. Koch and Sun (2004) present results suggesting that changes in dividends cause investors to revise their expectations about the persistence of past earnings changes. Docking and Koch (2005) document that dividend change announcements elicit a greater change in stock price when the nature of the news (good or bad) goes against the grain of the recent market direction during volatile times

Extending the previous studies, as noted earlier, Bajaj and Vijh (1990) suggest that the existence of dividend clienteles may partially explain price reactions to dividend change announcements. They argue that if marginal investors in different stocks value dividends differently, anticipated dividend yield should be associated with the price reactions to dividend change announcements. For an investor with a relatively high aversion to dividends, for example, the positive information in a dividend increase is accompanied by the negative effect of higher-than-anticipated yield. In contrast, the two effects act in the same direction for an investor with a preference for dividends. If investors with preference for dividends are marginal investors in high-yield stocks, the price reaction to dividend change should be larger, the higher the anticipated yield of the stock. This dividend-clientele hypothesis is supported by the evidence in Bajaj and Vijh (1990) and Denis, Denis, and Sarin (1994). Both studies use preannouncement dividend yield as a proxy for anticipated yield and find that the magnitude of stock price reaction to a dividend change announcement is positively related to dividend yield. In addition, Bajaj and Vijh (1990) find that stock price changes are negatively related to firm size and stock price.

Several approaches have been proposed in the literature to capture the unexpected component of dividend changes, including Lintner (1956) model, the Box-Jenkins model, and the Value Line dividend forecasts. However, according to a study by Bar-Yosef and Sarig (1992), the measures of dividend surprises based on these methods are not significantly correlated with the market reactions to dividend change announcements in a sample of large firms traded in the NYSE.

DATA AND METHODOLOGY

In our sample, information on dividend declarations is obtained from the CRSP NYSE/AMEX Monthly Master Files and daily rates of returns are from the CRSP Daily Master File. The time period covers from July 1970 to December 2001, excluding the latter half of 1987 to avoid the period affected by the market crash in the October of that year. In addition, we use the following criteria to select firms:

(1) Absolute changes in consecutive regular quarterly dividends per share are greater than 10%. We require that no other type of distribution is made over the period between the two quarterly dividend announcements. Thus, firms that pay stock dividends or special dividends and firms that split their shares during the quarter in question are not included in the sample.

(2) The dividend initiations and omissions are excluded from the sample. This is due to the difficulty involved in calculating the anticipated yield and much larger price responses to these events than those to regular dividend changes (See Asquith and Mullins (1983), Healy and Palepu (1988), and Michael, Thaler, and Womack (1995)).

(3) We choose only dividend announcements for which the announcement date precedes the ex-dividend day by at least eight trading days. The eight-day window is chosen because the ex-day effect is observed up to five days before the ex-day, as documented by Eades, Hess, and Kim (1984)).

Out sample consists of 8664 dividend announcements that satisfy the above criteria. Of these, 7715 are dividend increases and 849 are dividend decreases. Most of the reduction in the sample (45.2% of the cases) occurs as a result of criterion that the announcement day and the ex-dividend day must be separated by at least 8 trading days. The sample is representative of the CRSP population. In particular, there is no significant difference between the in-sample and out-of-sample firms in the concentration of announcements in any calendar year, calendar month, or particular industry group.

We categorize stocks into low-, medium-, and high-yield groups of equal size. Dividend yield, used as proxy for anticipated yield in previous studies, is measured as the most recent ordinary cash dividend preceding the sample announcement divided by the stock price of the firm as of two days prior to the sample announcement. Bajaj and Vijh (1990) measure anticipated yield by using the dividends over the prior 12-month period and the stock price at the beginning of the period. They also rank yields by calendar quarters, rather than over the aggregate data for the entire-sample period. We checked that our results are not sensitive to their yield measure and ranking procedure.

Table 1 shows the distribution of annualized dividend yield for each of the dividend yield groups in dividend increase and decrease samples. Overall, the mean annual yield is 3.09% for the dividend increase sample and 8.30% for the dividend decrease sample, with corresponding standard deviations of 1.71% and 5.68%, respectively. For the dividend increase sample, the low-yield group has a sample mean of 1.42% with a standard deviation of 0.51%. The medium- and high-yield groups have sample means of 2.85% and 4.99%, with corresponding standard deviations of 0.39% and 1.38%, respectively. These statistics are also reported for the dividend decrease sample.

The standard event study methodology is employed to examine the stock price reactions to dividend change announcements. We define the event period affected by the dividend announcement as the day before to the day after the CRSP announcement date. Daily abnormal returns are measured as unadjusted returns subtracting the returns on the CRSP value-weighted index. We also used the equally-weighted index returns and the market model to measure abnormal returns. Since similar results are obtained, we report only those from using value-weighted index adjusted returns.

Table 1: Summary Statistics of Dividend Yields

		Dividend Increases		Dividend Decreases	
Yield Category	Variables	Mean	Std. dev.	Mean	Std. dev.
Low	YLD	1.42	0.51	3.97	.27
	Obs.	2573		282	
Medium	YLD	2.85	0.39	7.15	0.86
	Obs.	2569		284	
High	YLD	4.99	1.38	13.70	6.69
	Obs.	2573		283	
Total	YLD	3.09	1.71	8.30	5.68
	Obs.	7715		849	

The sample of 8664 dividend announcements consists of all NYSE/AMEX stocks from CRSP tape that satisfy the following criteria: (1) Absolute changes in consecutive regular quarterly dividends are greater than 10%; (2) The announcement does not represent dividend initiation or omission; and (3) The announcement date precedes the ex-dividend day by at least 8 trading days. The sample is partitioned on the basis of preannouncement dividend yield (YLD) into low-yield, medium-yield and high-yield groups for both dividend increase and dividend decrease samples. YLD is measured as the firm's most recent preannouncement dividends divided by the firm's stock price 2 days prior to the announcement.

RESULTS

We begin by replicating the basic results of previous empirical studies using our sample. Panel A of Table 2 presents excess returns during the 3-day announcement period for dividend increase sample. Overall, announcements of dividend increases are associated with an average excess return of 1.46%, significant at 0.01 level. In addition, we divide the sample on the basis of the absolute value of the standardized dividend change. Consistent with the information/signaling hypothesis, each row indicates that the magnitude of the stock price reaction increases with size of dividend changes.

Each column in Panel A of Table 2 shows that the magnitude of the average abnormal stock price response to dividend increase announcement increases with dividend yield, with or without controlling for the dividend change. Panel B of Table 2 reports the results of cross sectional regression tests of excess returns surrounding the dividend change announcement. The coefficient of the yield is very significant and positive despite the inclusion of the proxies for dividend change. These results replicate the findings of Bajaj and Vijh (1990) and are consistent with the dividend-clientele hypothesis.

The results obtained from the dividend decrease sample, as shown in Table 3, are also consistent with the information/signaling hypothesis, however, they do not support the clientele hypothesis. The magnitude of stock price reaction increases with the absolute value of the size of the dividend change. But there is no such monotonic relationship between the stock price reactions and dividend yield, with or without controlling for dividend change.

In the cross-sectional regressions, presented in Panel B of Table 3, although the coefficient of dividend yield is significant and negative in the univariate regression, it becomes positive and insignificant after the inclusion of the absolute value of dividend change. The similar result from cross-sectional regressions is found in Denis, Denis, and Sarin (1994). However, this evidence is ignored in their study.

Table 2: Excess Returns and Cross-Sectional Regressions for Dividend Increases

Panel A: Announcement Period Excess Returns (Numbers in parentheses are standard errors of the mean)

Yield Category	Dividend Change Category			
	Low	**Medium**	**High**	**All**
Low	0.46	0.96	1.70	0.71
	(0.09)	(0.19)	(0.33)	(0.08)
Medium	0.78	1.01	2.28	1.30
	(0.12)	(0.11)	(0.17)	(0.08)
High	0.76	1.29	3.14	2.37
	(0.41)	(0.11)	(0.16)	(0.08)
All	0.57	1.11	2.72	1.46
	(0.07)	(0.07)	(0.09)	(0.05)

Panel B: Estimated Coefficients of Cross-Sectional Regressions (numbers in parentheses are t-statistics)

	INTCP	**CHGN**	**YLD**	**MVAL**	**PRC**	**R^2-adjusted**
1	0.43	160				0.0584
	(6.5)***	(21.9)***				
2	0.03		46.3			0.0363
	(0.33)		(17.1)***			
3	5.77			-0.36		0.0234
	(18.01)***			(-13.6) ***		
4	1.91				-0.01	0.0067
	(24.6)***				(-7.30) ***	
5	-0.19	129	26.4			0.0680
	(-2.02)**	(16.2)***	(8.98)***			
6	3.01	120	26.1	-0.28	-0.01	0.0782
	(8.38)***	(14.8)***	(8.79) ***	(-9.29) ***	(-3.87) ***	

*The sample of 7715 dividend increase announcements consist of all NYSE/AMEX stocks from CRSP tape that satisfy the following criteria: (1) Changes in consecutive regular quarterly dividends are greater than 10%; (2) The announcement does not represent dividend initiation; and (3) The announcement date proceeds the ex-dividend day by at least 8 trading days. The sample is partitioned on the basis of the preannouncement dividend yield (YLD) and the value of the standardized dividend change (CHNG). Three-day announcement period excess returns (CARs) are calculated as unadjusted returns minus the returns on the CRSP value-weighted index. The dependent variable in the regressions is CAR. MVAL is the natural log of the market value of the firm's equity at the end of year prior to the announcement; PRC is the stock price as of two days prior to the announcement. ***, **, and * indicate significance at 1, 5, 10 percent levels respectively.*

Table 3: Excess Returns and Cross-Sectional Regressions for Dividend Decreases

Panel A: Announcement Period Excess Returns (numbers in parentheses are standard deviations of the mean)

Yield Category	Dividend Change Category			
	Low	**Medium**	**High**	**All**
Low	-1.89	-5.37	-8.97	-3.14
	(0.43)	(0.77)	(3.12)	(0.40)
Medium	-3.58	-6.38	-7.18	-5.89
	(0.69)	(0.64)	(0.97)	(0.45)
High	-1.89	-2.94	-5.43	-4.61
	(0.90)	(0.97)	(0.65)	(0.51)
All	-2.32	-5.34	-5.99	-4.55
	(0.35)	(0.44)	(0.53)	(0.26)

Panel B: Estimated Coefficients of Cross-Sectional Regressions (numbers in parentheses are t-statistics)

	INTCP	CHGN	YLD	MVAL	PRC	R^2-adjusted
1	-3.28	-33.7				0.0268
	(-8.88) ***	(-4.92) ***				
2	-3.12		-17.5			0.0157
	(-6.72) ***		(-3.80) ***			
3	-5.59			0.09		-0.0008
	(-3.11) ***			(0.57)		
4	-4.52				-0.00	-0.0012
	(-9.93) ***				(-0.15)	
5	-3.53	-42.9	7.14			0.0263
	(-7.37) ***	(-3.20) ***	(0.80)			
6	-5.30	-43.4	4.70	0.24	-0.04	0.0282
	(-2.91) ***	(-3.25) ***	(0.52)	(1.43) *	(-1.72) **	

*The sample of 849 dividend decrease announcements consist of all NYSE/AMEX stocks from CRSP tape that satisfy the following criteria: (1) Absolute changes in consecutive regular quarterly dividends are greater than 10%; (2) The announcement does not represent dividend omission; and (3) The announcement date proceeds the ex-dividend day by at least 8 trading days. The sample is partitioned on the basis of the preannouncement dividend yield (YLD) and the absolute value of the standardized dividend change (CHNG). Three-day announcement period excess return (CAR) is calculated as unadjusted returns minus the returns on the CRSP value-weighted index. The dependent variable in the regressions is CAR. MVAL is the natural log of the market value of the firm's equity at the end of year prior to the announcement; PRC is the stock price as of two days before the announcement. ***, **, and * indicate significance at 1, 5, 10 percent levels respectively.*

Main Empirical Results

As we argued in Section I, using preannouncement dividends as a proxy for market's anticipated dividends may cause a spurious dividend yield effect in stock price reactions to dividend increase announcements. Since firms seldom reduce the level of dividends, dividend decreases more likely represent dividend surprises than dividend increases. Therefore, the dividend estimation is less a problem in the case of dividend decreases. In the following, we utilize the two subsamples of dividend increases which we believe largely reduce the dividend estimation problem.

We construct our first subsample by selecting stocks which have positive price reactions to dividend increase announcements, i.e., by choosing the firms with CAR>0 in the announcement period. Those firms with CAR≤0 are excluded from the sample because their dividend increase announcements may contain relatively small or even negative dividend surprises. If realized dividend increases are below the market expectation, the dividend increase announcements in effect are negative dividend surprises, and therefore may cause stock prices to decline. The firms selected with CAR>0 should contain greater unexpected component of dividend increases in the announcement.

The second subsample is selected in a relatively straightforward way. Specifically, we construct our second subsample by choosing the firms with dividend increase of at least 50%. We conjecture that unusually large dividend increases contain greater unexpected component than small dividend increases, and that smaller dividend increases are more likely anticipated by the market. This idea is consistent with the evidence that price change is positively associated with the magnitude of dividend change.

Our primary concern in building these two subsamples is that they may be concentrated in a certain yield range, thus possibly causing selection biases. Table 4 summarizes the statistics of the two subsamples, along with the total sample of dividend increase for comparison. The two subsamples consist of 4934 and 643 observations respectively.

The first subsample CAR>0 eliminates more firms in the low dividend yield range than in high dividend yield range. This is not surprising because there is positive correlation between standardized dividend change and dividend yield. By imposing the restriction of CAR>0, we are eliminating more firms that have small standardized dividend changes, and hence also firms that have small dividend yields. Table 4 reports summary statistics for all three yield categories. For each of the three categories, the standardized dividend change and dividend yield are larger in the subsample CAR>0 than in the total sample. But the differences are small. The average dividend yields are 3.09% for the total dividend increase sample and 3.29% for the subsample CAR>0. The second subsample (ΔD/D≥50%) has relatively large standardized dividend changes by construction. Since firms in this subsample on average has lower dividend level before the dividend increase, the average yield for each yield category is smaller in this subsample than in the total sample.

Table 4: Summary Statistics on the Subsamples of Dividend Increases

Yield Category		Dividend Increases	CAR>0	ΔD/D≥50%
Low	CHNG	0.40	0.43	0.74
	YLD	1.42	1.52	0.80
	PRC	38	38	37
	MVAL	12.4	12.4	12.0
	N	2573	1644	213
Medium	CHNG	0.63	0.69	1.33
	YLD	2.85	3.06	1.85
	PRC	31	32	22
	MVAL	12.1	12.0	11.2
	N	2569	1645	216
High	CHNG	0.91	0.99	2.64
	YLD	4.99	5.27	3.79
	PRC	25	24	17
	MVAL	11.7	11.6	10.7
	N	2573	1645	214
All	CHNG	0.65	0.70	1.57
	YLD	3.09	3.29	2.15
	PRC	31	31	25
	MVAL	12.1	12.0	11.3
	N	7715	4934	643

Of the sample of 7715 dividend increase announcements, two subsamples are created. The first subsample CAR>0 consists of only the firms with positive announcement period abnormal returns. The subsample ΔD/D≥50% consists of only the firms with at least 50% increase in dividends. The two samples are partitioned on the basis of the preannouncement dividend yield (YLD). CHNG is the standardized dividend change, calculated as the dividend increase divided by the stock price two days prior to the announcement. MVAL is the natural log of the market value of the firm's equity at the end of year prior to the announcement; PRC is the stock price as of two days before the announcement; N is the number of observations in each subcategory.

Panel A of Table 5 presents excess returns for the first subsample consisting of only firms that have positive excess returns. Within each yield category, the magnitude of average excess return increases monotonically with standardized dividend changes. This is consistent with the information/signaling hypothesis. However, controlling standardized dividend change, the announcement period return does not show an increasing pattern as dividend yield increases.

Panel B reports same statistics for the second subsample, composed of firms that increase their dividends by at least 50%. Controlling standardized dividend changes, the excess returns do not show an increasing pattern from low-dividend yield category to high-dividend category. Instead, the figures indicate a U-shaped pattern between excess return and dividend yield. The evidence in Table 5 is consistent with the signaling hypothesis but does not support the dividend-clientele hypothesis.

Table 5: Announcement Period Excess Returns for the Subsamples of Dividend Increase

Panel A: Subsample CAR>0

Yield Category	Dividend Change Category			
	Low	**Medium**	**High**	**All**
Low	2.92	3.58	4.79	3.27
	(0.08)	(0.19)	(0.34)	(0.08)
Medium	2.73	3.02	4.46	3.36
	(0.12)	(0.10)	(0.19)	(0.08)
High	2.51	3.16	4.73	4.07
	(0.28)	(0.11)	(0.13)	(0.09)
All	2.85	3.19	4.66	3.57
	(0.07)	(0.07)	(0.10)	(0.05)

Panel B: Subsample ΔD/D≥50%

Yield Category	Dividend Change Category			
	Low	**Medium**	**High**	**All**
Low	0.90	2.60	7.44	1.48
	(0.36)	(0.76)	(3.48)	(0.36)
Medium	0.73	1.70	3.32	1.81
	(0.75)	(0.54)	(0.74)	(0.39)
High	N/A	3.16	5.27	4.77
		(0.86)	(0.49)	(0.43)
All	0.86	2.19	4.99	2.69
	(0.33)	(0.41)	(0.43)	(0.24)

Of the sample of 7715 dividend increase announcements, two subsamples are created. The first subsample CAR>0 consists of only the firms with positive announcement period abnormal returns. The subsample ΔD/D≥50% consists of only the firms with at least 50% increase in dividends. The two samples are partitioned on the basis of the preannouncement dividend yield (YLD). Three-day announcement period excess return (CAR) is calculated as unadjusted returns minus the returns on the CRSP value-weighted index. CHNG is the standardized dividend change, calculated as the dividend increase divided by the stock price two days prior to the announcement. MVAL is the natural log of the market value of the firm's equity at the end of year prior to the announcement; PRC is the stock price as of two days before the announcement; N is the number of observations in each subcategory. Numbers in Parentheses are standard errors of the mean.

The regression results in Table 6 reinforce the evidence in Table 5. Panel A of Table 6 summarizes the regression results for the subsample CAR>0. The dividend yield is significant only in the univariate model not controlling the information content of the announcement. When the standardized dividend change is included in the regression, the "yield effect" disappears. Panel B shows similar results for the second subsample.

Table 6: Estimated Coefficients of Cross-Sectional Regressions

Panel A: Subsample CAR>0

	INTCP	**CHNG**	**YLD**	**MVAL**	**PRC**	**R^2-adjusted**
1	2.64	131				0.0710
	(39.6) ***	(19.4) ***				
2	2.77		23.99			0.0159
	(27.6) ***		(8.97) ***			
3	9.29			-0.48		0.0637
	(29.4) ***			(-18.3) ***		
4	4.29				-0.02	0.0289
	(55.9) ***				(-12.2) ***	
5	2.55	127	3.57			0.0711
	(25.9) ***	(17.1) ***	(1.25)			
6	7.28	107	0.00	-0.37	-0.00	0.1088
	(20.3) ***	(14.5) ***	(0.00)	(-12.1) ***	(-0.78)	

Panel B: Subsample ΔD/D≥50%

	INTCP	CHNG	YLD	MVAL	PRC	R^2-adjusted
1	1.21	94.5				0.0597
	(3.72) ***	(6.46) ***				
2	0.98		79.8			0.0438
	(2.53) ***		(5.51) ***			
3	10.30			-0.67		0.0362
	(6.70) ***			(-5.01) ***		
4	3.19				-0.02	0.0063
	(9.87) ***				(-2.25) **	
5	0.91	73.9	328.7			0.0612
	(2.38) ***	(3.59) ***	(1.42) *			
6	8.35	83.5	13.0	-0.67	-0.01	0.0882
	(5.00) ***	(4.09) ***	(0.63)	(-4.53) ***	(-1.29) *	

*Of the sample of 7715 dividend increase announcements, two subsamples are created. The first subsample CAR>0 consists of only the firms with positive announcement period abnormal returns. The subsample ΔD/D≥50% consists of only the firms with at least 50% increase in dividends. The two samples are partitioned on the basis of the preannouncement dividend yield (YLD). Three-day announcement period excess return (CAR) is calculated as unadjusted returns minus the returns on the CRSP value-weighted index. CHNG is the standardized dividend change, calculated as the dividend increase divided by the stock price two days prior to the announcement. MVAL is the natural log of the market value of the firm's equity at the end of year prior to the announcement; PRC is the stock price as of two days before the announcement; N is the number of observations in each subcategory. Numbers in parentheses are t-statistics. ***, **, and * indicate significance at 1, 5, 10 percent levels respectively.*

CONCLUSIONS

Bajaj and Vijh (1990) propose that investors' preference for dividends should be reflected in the stock price reaction to dividend change announcements. Their study and Denis, Denis, and Sarin (1994) find that the magnitude of price change in response to dividend announcements is positively related to dividend yield, supporting this dividend-clientele hypothesis. In this study, we argue that the dividend yield effect found in the previous studies may result from the estimation biases in using preannouncement dividends as a proxy for market's anticipated dividends. Based on our samples which we believe effectively mitigate the estimation biases, we find that dividend yield effect is insignificant and dominated by the information effect. The evidence presented in this study raises serious doubts about the existence of yield-related dividend clientele effect in the price reactions to dividend change announcements. We are inclined to believe that the yield-related clientele effect does not show in the stock price reactions to dividend change announcements. However, the paper does not address the estimation biases in dividend yield-related effect in capital assets pricing. Further research should explore this important issue.

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