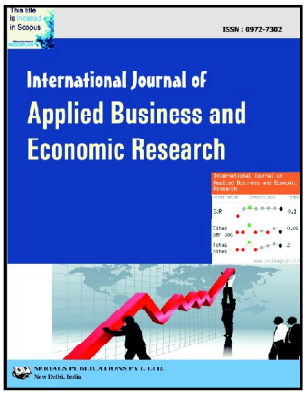

International Journal of Applied Business and Economic Research

ISSN : 0972-7302

available at http: www.serialsjournal.com

Volume 15 • Number 20 • 2017

Externality in Dividend Signaling and Firms' Strategic Behavior in Dividend Announcements

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Abstract: We examine whether firms are strategic in their timing of dividend announcements when factors exist that commonly affect the values of firms in the same industry. We find significant and positive stock market reactions for other firms in the same industry when the first dividend announcement is made public. We also find that firms with lower profitability and smaller firm size tend to announce their dividends late.

Keywords: Dividend timing; spillover effect; dividend signaling; dividend announcement; stock market reaction.

1. INTRODUCTION

If private information is revealed in a dividend announcement and there are common factors that affect firms in the same industry, the timing of the dividend announcement is likely to be an important strategic decision for corporate managers. This article attempts to improve the literature on the pros and cons of choosing an early or late dividend announcement date in an industry by elaborating the measurement of stock market reactions.

The premise of dividend signaling theory is that, because information asymmetries exist between managers and the market, announcing dividends is an alternative source of informative mechanism (Miller and Rock, 1985; Ohlson, 1991; Kalay and Lowenstein, 1986) for revealing insiders' asymmetric information. However, firms would weigh the pros and cons of early or late dividend announcements as well as dividend levels. In an extreme case, where only common factors exist to affect firm values, managers may wait for other firms in the same industry to announce dividends, and expect their own stock values to increase with such earlier dividend announcements. Of course, individual factors exist for each firm, and dividend timing becomes a strategic decision, since there are pros and cons of different dividend announcement orders.

Firms may consider announcing late as a strategic option only if minimizing the immediate impact of negative information from announcing late is large enough to outweigh the lower value effects.

Studies have examined the prediction of dividend announcement timing (Kalay and Loewenstein, 1985) and information contents on dividend timing (Brown, Choi, and Kim, 1994), but the market reaction to dividend announcement timing have not been examined in detail. Our findings suggest that late announcers are likely to enjoy spillover effects. We also determine what corporate factors induce firms to be late announcers. Our empirical analyses show that a firm's propensity to announce dividends late is closely related to lower profitability and smaller firm size. Overall, the results suggest that dividend timing is an important strategic tool for complementing the decision on dividend levels.

2. HYPOTHESES ADN METHODOLOGY

Because firms in the same industry are subject to common macro factors and market situations, their performance shows some commonalities. Moreover, if any of the common factors are private to managers, they may wait for other firms in the same industry to announce dividends and expect their own stock values to increase with other firms' dividend announcements. Of course, because they announce late, the spillover effect may not be as large for late announcers as it is for the first announcers because this spillover effect reflects only the factors that are common among firms in the same industry. Therefore, we hypothesize that the market reactions to late dividend announcers on the first dividend announcement date are positive but smaller than are those to first announcers.

We also hypothesize that late announcers are not able to achieve significant increases in returns on their own dividend announcement dates because less information is revealed than with prior announcers. Moreover, these firms decided to announce late because they want to reduce the impact of the nature of the information to be delivered. Fama and French (2001) find that profitability, investment opportunities, and size are main characteristics affecting the decision to pay dividends. We expect that late announcers tend to have lower payout ratios, lower profitability, smaller firm sizes, lower market-to-book ratios, and lower cash flow.

To examine the stock reaction, we employ the market-adjusted model to measure cumulative abnormal returns (CARs). CARs are measured over three days from $t-1$ to $t+1$ as follows:

$$CAR_i = \sum_{t=-1}^{1} (r_{i,t} - r_{m,t}) \quad (1)$$

where $r_{i,t}$ represents the return on security i at date t and $r_{m,t}$ represents the return on the market indices m at date t.

To examine the relationship between firm characteristics of late announcers and the timing of dividend announcements, we employ logit regressions using the following model.

$$Y = \alpha_1 + \beta_1 \text{Pay}R \text{ (or } \beta_1 \Delta\text{Pay}R) + \beta_2 \text{ROA} + \beta_3 \text{SIZE} + \beta_4 \text{FCF} + \beta_5 \text{INV} + \beta_6 \text{LEV} + \beta_7 \text{MTB} + \text{IND} + \text{YR} + \varepsilon \quad (2)$$

where Y is a dummy variable with the value of 1 if the dividend announcer is a late announcer, and 0 otherwise. We use YR and IND variables to control for year and industry effects.

3. DATA

We obtain our sample from Compustat and stock data from the CRSP daily files from January 1998 to December 2007. The announcement date information is obtained from the declaration date (DCLRDT), on which the board of directors declares a dividend, of the CRSP files. We define the first announcer as the first firm that announces its dividends within an industry in a given quarter, and the rest of the firms in the same industry in the same quarter as late announcers. We exclude non-December fiscal year firms, which allows us to avoid dividend-quarter overlap (*i.e.*, firm *i*'s quarter *t* can be firm *j*'s quarter $t-1$ or $t+1$). We exclude special dividends, dividends paid at other frequencies, and other events that may affect stock prices, firms in the public service or utility industry, firms in public administration, closed-end funds, stock certificates, REITs, and ADRs.

Table 1
Number of industries and firms, and trading day differences, 1998-2007

					Trading Day Diff		
Year	*Industries*	*Firms [Always First]*	*First announcers*	*Late announcers [Always Late]*	*Mean*	*Medain*	*First-Last*
1998-2007	183	3,803	909 [40]	2,894 [1,815]	25.5	22	29.7

Table 1 presents the number of industries, announcing firms, trading day differences between the first announcers and late announcers, and average trading day differences between the first and the last announcers from 1998 to 2007.

Table 2
Summary statistics

		PayR	*ΔPayR*	*ROA*	*Size*	*FCF*	*INV*	*LEV*	*MTB*
1st	Mean	0.410	0.009	0.045	7.519	0.000	0.012	0.590	3.422
	StDev	11.029	6.047	0.270	1.854	0.085	0.014	0.227	29.256
	N	5348	5149	5227	5237	4910	4808	5256	5228
Late	Mean	0.308	–0.173	0.027	7.458	–0.002	0.009	0.704	2.636
	StDev	9.666	36.251	0.215	1.846	0.057	0.018	0.234	19.391
	N	44458	42604	43109	43166	32971	31776	43417	43086
	t-value	–0.707	0.938	–5.344***	–2.267**	–2.052**	–11.500***	33.261***	–2.594***

Table 2 provides summary statistics for the characteristics of the explanatory variables. Late announcers are significantly less profitable and smaller, have lower free cash flow, and invest less than first announcers, and are highly leveraged. Late announcers seem to pay a lower level of dividends (or decrease payout ratio) than first announcers do, but insignificantly so.

4. STOCK PRICE REACTION AND REGRESSION ALALYSES

Table 3 presents the market reactions to the first dividend announcers and of late announcers on the first dividend announcement dates. When the first dividend announcement is made public in an industry, price

reactions are 0.40% for first announcers compared with 0.15% for late announcers. The market significantly and positively reacts to the first dividend announcement for not only the announcing firms but also the other firms in the same industry. We also examine how the market reacts to dividend changes: payout ratio increase and decrease firms. When the first announcement is made public in an industry, the market reacts at 0.39% for first announcers that increase dividends. The results from the market reaction analysis confirm our hypotheses that late announcers enjoy a favorable market reaction to other firms' dividend announcement dates and indicate the existence of spillover effects between the first and late announcers.

Table 3
The market reactions on the first dividend announcement dates

	CAR	*(–1+1)*	*Increase*	*Decrease*
1st	Avg	0.0040	0.0039	0.0035
	N	5309	1712	3334
	t	5.841***	64.547***	84.205***
Late	Avg	0.0015	–0.0005	0.0023
	N	44458	13307	28466
	t	8.258***	–41.199***	277.181***
t-value (1st-Late)		4.289***	3.525***	1.298

We also examine the market reactions on their own announcement dates in Table 4. We find that the market reacts positively at a 0.32% level to late announcers, significantly 0.08% lower than for the first announcer. These results indicate that the market reacts positively but less so to the dividend announcements of late announcers than to those of the first announcer, implying that late announcers enjoy not only the spillover effect from the first dividend announcement, but also their own announcement effect. When firms announce dividend changes, the market still reacts positively but less so for late announcers. The results also imply that firms that decrease dividends have incentives to choose their dividend announcement timing strategically.

Table 4
The market reactions on their own announcement dates

	CAR	*(–1+1)*	*Increase*	*Decrease*
1st	Avg	0.0040	0.0034	0.0033
	N	5309	1320	3413
	t	5.841***	2.606**	3.848***
Late	Avg	0.0032	0.0031	0.0027
	N	44458	10076	29157
	t	15.876***	7.571***	11.300***
t-value (1st-Late)		2.287**	0.172	0.655

Table 5 shows the results of the empirical estimation of the logit model (2). The regression results show that the coefficients of ROA and SIZE are negative and significant. As we hypothesize, the results

confirm that late announcers tend to have lower profits and smaller firm sizes. The results suggest that level or changes in dividends do not affect the decision to announce dividends late, and that firms with unpleasant performance tend to announce late.

Table 5
Estimated Logit Regressions

	(1)	*(2)*
Const	0.969 (0.092)	0.965 (0.093)
PayR	–0.001 (0.444)	
DPayR		0.000 (0.695)
ROA	–1.295*** (0.000)	–1.424*** (0.000)
Size	–0.112*** (0.000)	–0.115*** (0.000)
FCF	1.153** (0.018)	1.146** (0.022)
Inv	2.001 (0.166)	1.767 (0.232)
Lev	–0.013 (0.901)	0.019 (0.856)
MTB	0.000 (0.631)	0.000 (0.655)
R_sq	0.266	0.273
Yr, Industry Dummies	*Y*	*Y*

5. CONCLUSION

This paper addresses the strategic timing of dividend announcements in an industry. We attempt to confirm whether a spillover effect and an externality exists in the signaling effect when firms in the same industry announce dividends and how such an externality affect firms' timing of dividend announcements.

We find that late announcers enjoy favorable market reactions when the first dividend announcement is made public in the industry. We observe a greater price effect for early dividend announcers. This result confirms that some industry factors exist that commonly affect the value of firms and that information on these common factors are signaled through the early dividend announcements in the industry. We also find that a firm's decision to announce dividends late is closely related to lower profitability and smaller firm size. These results suggest that less-profitable firms tend to announce dividends later than other competing firms to avoid attracting too much attention from investors.

VARIABLES

$$PayR = \frac{\text{Cash Dividends}}{\text{Net Income}}$$

$$DPayR = PayR_{t0} - PayR_{t-1}$$

$$ROA = \frac{\text{Income Before Extraordinary Items}}{\text{Total Assets}}$$

$$\text{Size} = \text{Natural log (TotalAssets)}$$

$$FCF = \frac{\text{Operating Income Before Depreciation} - (\text{Interest expense, Taxes, Preferred dividends, Capital expenditures})}{\text{Total Assets}}$$

$$INV = \frac{\text{Capital Expenditures}}{\text{Total Assets}}$$

$$LEV = \frac{\text{Total Liability}}{\text{Total Assets}}$$

$$MTB = \frac{\text{Common Shares Outstanding} \times \text{Stock Price}}{\text{Shareholders' Equity}}$$

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