Does the Market React Less Negatively to Dividend Payers' Seasoned Equity Offerings?

Bin Chang*
University of Toronto
December 2006

Abstract: A negative price effect on SEO announcement dates is normally associated with information asymmetries. Using US data from 1975 to 2002, I find that prior to SEO announcement dates, dividend payers have less information asymmetries than non-dividend payers. In addition, the difference between the two groups has increased over the past two decades. This finding, together with the disappearing dividends puzzle documented in Fama and French (2001), suggests that a firm's dividend status was not an important signal for SEOs prior to the mid-1980s. However, it has become more important since then, and managers and the market both understand a dividend's signalling role. On one hand, firms time SEO announcements right after dividend declarations instead of before them. On the other hand, the market reacts less negatively to dividend payers' SEO announcements.
Key Words: Dividend, Seasoned Equity Offering, Information Asymmetry

* Address for correspondence: Joseph L. Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, Ontario, Canada M5S 3E6. Phone: 647-291-7811. Fax: 416-978-5433. Email: bin.chang02@rotman.utoronto.ca.

Current empirical research documents a significant decline in equity prices around the announcement of a new equity issue.[1] These studies average the announcement period returns across all primary SEOs and find that the decline in stock prices of American industrial firms is around 2-3%. Among all attempts to explain this price drop, the theory of information asymmetry, i.e., that managers have superior information about the true value of a firm's assets-in-place and its future growth opportunities than that of outside investors, has gained the most support. For instance, Myers and Majluf (1984) contend that managers only issue equities when a firm's equity is overpriced, resulting in a wealth transfer from new to current shareholders. Consequently, a rational market anticipates the opportunistic behaviour by managers, and discounts the price of an issuing firm accordingly. Many empirical studies have supported the information asymmetry theory in explaining the price drop to SEO announcement dates. [2]

Prior to an SEO announcement, the information asymmetry can be reduced by a firm's actions. John and Williams (1985), Miller and Rock (1985), Ambarish, John and Williams(1987) all suggest that firms coordinate dividend declarations and SEO announcements to reduce any information asymmetry. All three papers argue that, in equilibrium, a good firm must pay a level of dividends that is unattractive for bad firms to mimic; thus, the market can distinguish good firms from bad ones. In other words, they assert that a dividend payment reduces a firm's information asymmetry. These ideas have been supported by the empirical research summarized in Allen and Michaely (2003). Therefore, we would expect that a firm's prior dividend paying status should positively affect the SEO announcement day return, since the dividend payment reduces the information asymmetry.

Surprisingly, there has been only limited research on the interaction of dividend status and SEO announcement returns. The only paper that addresses this issue is Loderer and Mauer (1992); however, using the US data from 1973 to 1984, they do not find any empirical evidence which is a puzzle. One possible explanation is that Loderer and Mauer (1992)'s data covers 1973 and 1974, when dividend payments were frozen by law under the Nixon administration. However, since the period covers only approximately 4% of the total sample, it can not adequately solve the puzzle. Another possible explanation is that Fama and French (2001) show that the propensity to pay a dividend declined significantly from 1978 to 1999. So there may be structural changes that have occurred in the way the market reacts to declining dividends.

This paper investigates these issues and looks at the relationship between SEO announcement returns and a firm's prior dividend status in the period from 1975 to 2002. This period includes the Loderer and Mauer sample period and updates their data to include the declining dividend period documented by Fama and French (2001). It looks at three questions. First, are stock issues more likely after a dividend declaration than before it? Second, do dividend payers have less information asymmetries than non-dividend payers? Third and most importantly, does the market react less negatively to a dividend payer's SEO announcement? In particular, I examine the impact of the dividend status,

[1] A partial list includes Asquith and Mullins (1986), Masulis and Korwar (1986), Mikkelson and Partch (1986), Barckay and Litzenberger (1988), Hanson and Crutchley (1990), Eckbo and Masulis (1992).

[2] See Korajczyk, Lucas and McDonald (1991, 1992), D'mello and Tawatnuntachai and Yaman (2003), Asquith and Mullins (1986), Dierkens (1991), Bayless and Chaplinsky (1996), Billett and Xue (2004).

the time since the last dividend declaration, dividend changes and the magnitude of a dividend on the market's reaction to SEO announcements.

I conduct four robustness checks. First, I compare a dividend's signalling role in a firm's first SEO versus subsequent SEOs. D'Mello, Tawatnuntachai and Yaman (2003) find that the information asymmetry declines in successive equity issues. That finding suggests that a dividend should be more valuable in the first SEO when the uncertainty is highest. Second, I sort SEOs by earnings and examine a dividend's signalling role in each earnings quartile, since DeAngelo, DeAngelo and Skinner (2003) find that the majority of dividends are paid by firms with the largest earnings. Third, I compare the market reaction to the SEO of a firm initiating dividends with those of a firm with a long dividend history. Finally, I examine the effect of dividend status for utilities which are regulated and usually pay significant dividends. Utilities are normally excluded from such studies, but the combination of light-handed regulation and the disappearance of pure utilities into holding companies may have changed the signalling role of their dividends.

The paper is organized as follows. Section I reviews the literature and the relevant testable hypotheses. Section III explains the selection criteria and sample characteristics. Section III analyzes the results. Section IV presents the robustness checks and conclusions appear in the last section.

I. Information Asymmetries and Dividends

A. Literature Review

Miller and Modigliani's (1958, 1961) irrelevance theorems form the foundation of modern corporate finance theory. Two critical conclusions are commonly drawn from the MM theorems (see, e.g., Allen and Michaely (2003, p. 339), DeAngelo, DeAngelo and Skinner (2005)). One is that the only determinant of the value of a firm is its current and future expected free cash flow. The other is that the level of dividends is irrelevant in affecting firm value. The reason for the second conclusion is that, given that investment has already been chosen to maximize firm value, the difference between a firm's payout and net equity issue must be equal to its free cash flow. As a result, in a perfect market, dividend policy can not affect firm value.

However, as Miller and Modigliani (1961) note, a dividend may have a signaling role. It is highly plausible, for example, that insiders have more information about a firm's value than the market. In the presence of these types of information asymmetries, dividends might convey information not previously known to the market, or equivalently they may be used to change market perceptions concerning the firm's future earnings. Both Miller and Rock (1985) and John and Williams (1985) discuss the signalling role of dividends, but assume different dissipative costs. In Miller and Rock (1985), the dissipative cost is the firm's investment decision. A good firm must pay a level of dividends that is sufficiently high to make it unattractive for bad firms to mimic. In contrast, John and Williams (1985) present a model in which taxes are the dissipative cost. If the taxes on dividends are costly enough, only good firms can afford to pay dividends. Either way if outside investors take the payment of a dividend as a good signal, then share prices will rise. Subsequent to Miller and Rock (1985) and John and Williams (1985), multiple signalling models have been developed, for example, Ambarish, John

and Williams (1987) construct a single-period model with both dividends and equity offerings. However, in all these papers, dividends signal firm value.

Empirical research largely supports the signalling effect of dividends. As summarized in Allen and Michaely (2003), there seems to be general agreement that: (1) dividend changes are associated with changes in stock price of the same sign around the dividend change announcement; (2) the immediate price reaction is related to the magnitude of the dividend; (3) the price reaction is not symmetric for increases and reductions of dividends. Announcements of dividend reductions per se have a larger price impact than announcements of dividend increase. [3] However, the literature has not found evidence that dividend changes and future earnings move in the same direction. [4] Grullon, Michaely and Swaminathan (2002) find evidence that dividend changes convey information about a change in discount rates, but in the opposite direction. Evidence thus still supports the proposition that the change of dividends signals the fundamental news.

A prediction directly linking dividend payment with subsequent SEO announcements has been advanced by Myers and Majluf (1984). They assume asymmetric information between corporate insiders and the market for both assets-in-place and growth opportunities. As a result, firms issue new equities only when their stock is overpriced, causing the market to react negatively on the SEO announcement date. One way to solve this problem is for the firm to only issue equity when there is no asymmetric information and to maintain a payout policy which closely correlates dividend changes with value changes for the assets-in-place which alleviates the problem. Consequently, Myers and Majluf (1984) suggest that the SEO abnormal return for dividend payers should be less severe than for non-dividend payers.

The theoretical models depend on the institutional structure of the financial market and thus the value of the dividend payment changes. There is evidence of recent changes. Fama and French (2001) show that the propensity to pay dividends has declined significantly from 1978 to 1999, a result which has come to be known as the "disappearing dividends" puzzle. However, DeAngelo, DeAngelo and Skinner (2003) find that aggregate real dividends paid by industrial firms increased over the past two decades, despite the declining numbers of dividend payers. These two trends reflect high and increasing concentration in the supply of dividends which, in turn, reflects high and increasing earnings concentration. Another structural change has been the increase in idiosyncratic risk in the1990s, as found by Campbell, Letter, Milkier, and Xu (2001).

The dividend trends and the change in idiosyncratic risk are related by Hoberg and Probabhala (2005). They find that firms with higher idiosyncratic risk are less likely to pay a dividend. More specifically, idiosyncratic risk, significantly explains the propensity to pay a dividend, and accounts for 40% of the disappearing dividends puzzle. They also find that the propensity to pay a dividend is positive from 1963 to 1984 and negative from 1985 to 2002, similar to Fama and French (2001). In fact, firm-level idiosyncratic risk, is used as a measure of information asymmetry in Dierkens (1991), Krishnaswami and Subramaniam (1999) and D'Mello and Tawatnuntachai and Yaman (2003). Hoberg and Probabhala (2005)'s evidence indicates that it is only the firms with

[3] For example, Pettit (1972), Aharony and Swary (1980), Grullon, Michaely, and Swaminathan (2002), Asquity and Mullins (1983), Healy and Palepu (1988), and Michaely, Thaler and Womack (1995).
[4] See Benartzi, Michaely, and Thaler (1997), Deangelo, Deangelo and Skinner (1996), and Benartzi, Grullon, Michaely, and Thaler.

low levels of information asymmetry that pay dividends during the last two decades. The above two trends, combined with the prior theory, suggests that the market has reacted less negatively to dividend payers' SEO announcements during the most recent two decades.

The above trends also explain the counter-intuitive findings of Loderer and Mauer (1992) since their sample covers the 1973-1984 period when the propensity to pay dividends was positive and there were smaller information asymmetries as measured by idiosyncratic risk. Therefore, it is not surprising that in their data dividend payments neither reduce information asymmetries, nor positively affect SEO announcement returns. However, given the above trends, I would expect the market to react less negatively to dividend payers' SEO announcements during the most recent two decades.

B Testable Propositions

B.1 Frequency Test

Myers and Majluf (1984) suggest that firms issue equity when information asymmetries are low, a proposition formally modeled by Korajczyk, Lucas and McDonald (1991, 1992). With time-varying information asymmetries, a firm will prefer to issue equity when the market is most informed about the quality of the firm. Since the information asymmetry between the firm and the market increases with the time since the last information release, their model predicts that equity issues would tend to follow credible information releases. Consistent with this prediction, the authors find a clustering of equity issues immediately following earnings announcements. If dividend increases convey information, I should observe more SEO announcements after rather than prior to a dividend declaration.

B.2 Test of Information asymmetries Prior to SEO Announcement

I test whether dividend payers face smaller information asymmetries than non-dividend payers prior to SEO announcements. From Loderer and Maure (1992), dividend signalling was not significant in the 1970s and the mid-1980s since at that time more firms paid dividends. Since then, dividends have played a more important signalling role since fewer firms now pay dividends, and dividend payers are more concentrated among firms with large earnings and low information asymmetries.

B.3 the Market's Reaction to SEO Announcements

I test whether a dividend announcement has a positive effect on the market's reaction to subsequent SEO announcements. The recent structural trends suggest that the market reacts less negatively to dividend payers' SEO announcements since the mid-1980s than it did prior to this. I also test whether this is more negative the longer the time since the last dividend declaration, in the spirit of Korajczyk, Lucas and McDonald (1991, 1992).

The correlation between the SEO price reaction and a prior dividend announcement depends critically on the type of information conveyed. For example, Myers and Majluf (1984) could indicate a positive correlation between a dividend increase and an SEO announcement. A dividend increase would then signal a higher firm value and alleviate the negative market reaction to the SEO announcement. Moreover, agency theory would indicate that the market could react more negatively to an SEO

announcement after the declaration of a dividend increase. The inference is that the equity issue is used to finance the dividend increase. Allen and Michaely (2003) conclude that the overall empirical evidence does not support the claim that dividend changes convey information about future earnings.[5] Instead, dividends convey information about past and current earnings rather than signalling future earnings, as suggested by Miller (1987) and Miller and Rock (1985). It is also possible that neither the dividend nor the equity issue are information events. Consequently, I examine the correlation between the SEO price drop and the dividend announcement.

The final test examines whether the amount of the dividend has a positive impact on the abnormal SEO-announcement return. As Miller and Rock, John and Williams (1985), and Ambarish, John and Williams (1987) conclude, in equilibrium, good firms issue dividends that are too great for bad firms to mimic. Consequently, investors are concerned with the magnitude as well as the dividend status itself. Therefore, I expect the magnitude of the dividend to affect the SEO-announcement return in a cross-sectional regression.

II Data Sources and Sample Characteristics

The data includes all primary and combined seasoned equity offerings by US companies between January 1975 and December 2002. The data from January 1975 to December 1983 came from Spiess and Affleck-Graves (1995)[6] with announcement dates obtained from the Wall Street Journal. Moreover, since 1984, the Wall Street Journal stopped regularly reporting SEO announcements, so that since the announcement dates are identified by the Securities Data Company (SDC). The sample excludes equity offerings by closed-end funds, real estate investment trusts (REITS), unit investment trusts, and ADRs. It also excludes secondary offerings, simultaneous offerings, rights offerings and shelter offerings. In each of these cases, the information asymmetries differ from those discussed above. I exclude SEOs without filling or issue dates or when issue date precedes the filling date. Also, following the literature, I exclude financial firms and utilities firms.

The original data set is further reduced by the following data requirements. First, I require sufficient CRSP price data to calculate the market-model abnormal returns around the SEO announcements. Next, I require that firms have the necessary accounting items in the CRSP/Compustat merged database for the prior fiscal year end. Third, the final sample only includes firms with positive book equity value, positive equity market value, and positive total assets for the prior fiscal year end. I split the overall sample period into two sub-periods, one from 1975 to 1984 and the other from 1985 to 2002. This is to compare the results with those of Loderer and Mauer (1992) whose data is from 1973 to 1984. The data from 1985 to 2002 is also used to test whether the impact of dividend paying status on the SEO announcement returns is consistent with the recent capital market trends.

---

[5] See Watts (1973), Gonedes (1978), Penman (1983), Deangelo, Deangelo and Skinner (1996), Bernartzi, Michaely and Thaler (1997), Benartzi, Grullon, Michaely and Thaler (2002).

[6] Thank Spiess and Affleck-Graves (1995) for supporting the data.

To mitigate the problem of multicolinearity, I adopt a matched sample approach. Similar to Billet and Xue (2004), I match each dividend payer with a similar non-dividend payer based on time, earnings and market-to-book ratios, Dividend payers are defined as firms that announce a dividend in the 250 trading days prior to their SEO announcement. For simplicity, I name them dividend-SEOs and the others non-dividend-SEOs respectively. In the matching, I require that the non-dividend-SEOs occur within three months of the dividend-SEOs' announcement dates. For each dividend payer, I compute the absolute percentage deviation in earnings and market-to-book ratios between it and all potential matching firms. For each dividend payer, I then divide its potential matching non-dividend payers into five quintiles based on the absolute percentage deviations in earnings and market-to-book ratios. The best match is then selected from firms in both the lowest quintile of earnings deviations and market-to-book deviations, ensuring that the matching non-dividend-SEOs' earnings and market-to-book ratios are as close to their counterpart dividend-SEOs as possible. The matched sample includes 665 dividend payers and 1066 non-dividend payers. This sample of 1,731 SEOs is used in the following analysis.[7]

Table 1 provides descriptive statistics. Panel A reports the number of SEOs in each year; Panel B displays the number of SEOs by industry and Panel C presents the frequency of offerings. As can be seen, there is a clustering of SEOs in certain periods. Also, clustering in industries exists, with firms in communication and electronic equipment industries being by far the most frequent issuers. Finally, 1,161 firms have only 1 offering in this period, 200 firms have 2 offerings, 36 firms have 3 offerings, 9 firms have 4 offerings, 4 firms have 5 offerings and only 1 firm have made 6 offerings.

Table 2 compares the firm characteristics of the dividend-SEOs and the matched non-dividend-SEOs. Consistent with Fama and French (2001), dividend-SEOs are larger and have less investment. They also have much larger operating income, confirming the finding of DeAngelo, DeAngelo and Skinner (2003). Finally, dividend-SEOs have lower market-to-book ratios, supporting the idea that dividend payers in general tend to be "value firms" rather than "growth firms".

III. Results

A. Frequency Test

Korajczyk, Lucas and McDonald (1991) suggest that there would be more dividend declarations immediately prior to than after the SEO announcement. Figure I shows the number of firms declaring a dividend before and after an equity announcement. The scale is the event time with the offering announcement, defined as day 0. Figure I indicates that within 45 calendar day window on either side of the offering announcement, dividend declarations are more frequent before than after the announcement, with the peak of dividend declarations occurring on the SEO announcement date. This indicates that dividend declarations are "bunched" closer to the offering announcement in the pre-announcement period.

Table 3 tests the hypothesis that the number of dividend declarations is significantly larger in the pre-announcement period than after. More specifically, by assuming n is the actual number of dividend payers in the pre-SEO period, I compute the probability of observing n or more dividend announcements before the offering

[7] The original data without matching produce similar results.

disclosure to test whether the probability is too low to be consistent with a random drawing. The methodology is that described in Loderer and Mauer (1992). [8]As seen in Panel A, in the 1975-1984 period, 76 firms announce a dividend in the 15 days before the offering announcement, while 39 do so in the 15 days afterwards. The probability of observing a larger number of dividend announcements before the offering announcement by chance is close to 0. For a 30-day window, 127 firms declare dividends before announcing stock offerings, while only 67 do so after. Again, the probability of observing higher frequencies by chance is essentially zero. Similar Results hold for a 45-day window around the issue announcement. Also, Panel B observes similar pattern from 1985 to 2002. Interestingly, not a firm omits a dividend payment in the 45 days prior to a SEO announcement.

These findings support the proposition that issuing firms are significantly more likely to declare a dividend before, rather than after, the SEO announcement. These descriptive statistics support the view that managers do rely on dividends to obtain higher prices in stock offerings. Korajczyk, Lucas and McDonald (1991) find that equity issues cluster in the first half of the period between two quarterly earnings releases. The clustering of SEOs right after information releases, for example, dividend declarations and earnings announcements, supports the view that firms time equity issues in periods with low information asymmetry, or at least they make sure that their information asymmetries are not increased by cutting the dividend.

B. Tests of Information Asymmetry

To test whether dividend-SEOs have less information asymmetry than non-dividend-SEOs, I use three different measures. Following Dierkens (1991), Krishnaswami and Subramaniam (1999) and D'Mello and Tawatnuntachai and Yaman (2003), the first measure is the standard deviations of the value-weighted market-adjusted return residuals from day -250 to -2 relative to the SEO announcements. The implicit assumption is that the residual volatility captures the uncertainty of firm-specific information and that volatility is high when managers have relevant private information. The second measure, following D'Mello and Ferris (2000), is the number of analysts following the company in the month proceeding to the SEO announcement. The third measure, following Krishnaswami and Subramaniam (1999) and D'Mello and Ferris (2000), is the earnings forecast dispersion, calculated as the standard deviation of the 1-year-ahead earnings-per-share foresting made in the prior month divided by current price. The forecast data is taken from I/B/E/S.

A problem with using analyst forecast data is availability. The data base was not widely available prior to the 1990s, and even after that date it has been only readily available for large capitalization stocks of interest to institutional investors. For these

[8] As in Loderer and Mauer (1992), I define n as the number of dividend declarations during a period of T days before the stock-offering announcement, and m as the number of dividend declarations during a period of T days thereafter. In a sample of K issuers, there can be a maximum of k dividend declarations during the first T days and a maximum of k dividend declarations during the second T days. since there are a total of (n+m) dividend declarations during the entire time interval (-T, T), drawing a sample of k issuers to examine how many declare a dividend during the T days preceding the offering announcements is identical to drawing, without replacement, a random sample of k items from a population of 2k items ((n+m) of which are defective) to check the number of defective items. Observing n or less dividend declarations before SEOs is therefore hyper geometrically distributed with parameters (m+n, 2k-n-m, k).

reasons, I only use residual standard deviations as an information asymmetry measure between 1975 and 1984. For 1985-2002, the number of analyst following and forecast dispersion are also used.

Figure 2 reports the mean difference between dividend-SEOs' information asymmetries and non-dividend-SEOs' information asymmetries from 1975 to 2002. This number can not be obtained in 1975, 1977 and 1978 because all 7 SEOs in 1975 are dividend payers and only one firm issued equity in each year of 1977 and 1978. In this figure, information asymmetry is measured by the residual standard deviation and the mean difference is always negative and time varying. From the mid-1970s to the mid 1980s, the mean difference is close to 0. After that period, the magnitude of the difference is much larger, supporting the conjecture of an increasing role for dividend signaling. This finding also explains Loderer and Mauer (1992)'s result since using data from 1973 to 1984, there is no evidence that dividend-SEOs have less information asymmetry than non-dividend-SEOs.

Table 4 compares the three information asymmetry measures of dividend-SEOs and non-dividend-SEOs: Panel A for 1975-1984 and Panel B for 1985-2004. Table 4 reveals that, from 1975 to 1984, dividend payers have less residual standard deviations, but the difference is small. From 1985 to 2002, the difference in residual standard deviations is much larger. In addition, dividend payers have more analysts following them, and less forecast dispersions in the month prior to SEO announcements. These results support the argument that dividend status signals firm value in the 1985-2002 period.

C. The Market's Reaction to SEO Announcements

C 1. Impact of Dividend Status on SEO-Announcement Abnormal Returns

Following Asquith and Mullins (1986), I use the period from -68 days to -21 days prior to the announcement period as the estimation period, and calculate the cumulative return on the day prior to and the day of the announcement date, i.e., CAR (-1, 0). Table 5 compares the SEO-announcement abnormal returns of dividend-SEOs and non-dividend-SEOs. In the 1975-1984 period, the difference between the CARs of dividend-SEOs and non-dividend-SEOs are not significant. However, in the 1985-2002 period, the mean CAR (-1, 0) is -0.025 for non-dividend-SEOs and -0.013 for dividend-SEOs. The difference in mean CAR is 0.013, which is significant at the 1% level. Similarly, the median CAR of dividend-SEOs is 0.010 higher than the median CAR of dividend-SEOs, and significant at the 1% level. What is striking is that the dividend payers' price drop is only approximately half that of non-dividend payers.

Table 6 reports the Pearson correlation coefficients for the announcement day abnormal return, a dividend payer dummy (1 for dividend-SEOs and 0 otherwise) and other information measures. For the 1975-1984 period, the Pearson correlation coefficient between the abnormal return and the dividend payer dummy is insignificant; in contrast, for the 1985-2002 period, the correlation is positively significant at the 1% level. This result supports the prior conjecture of structural changes in the capital market that a firm's dividend status has a different impact on SEO announcement-period abnormal returns since the mid-1980s. Also from Table 6, in the 1985-2002 period, the dividend payer dummy is significantly correlated with other measures of information asymmetry.

Dividend-SEOs, have less residual standard deviation, higher numbers of analysts following the firm and less forecast dispersions. This confirms the finding in Table 4.

Table 7 reports multivariate tests to examine whether dividend payers have higher SEO abnormal returns: Panel A for 1975-1984 and Panel B for 1985-2002. The first tests do not include control variables and are reported in Columns (1) and (4) respectively for each sub-period. I find that the coefficient of the dividend payer dummy is negative and insignificant for1975-1984, confirming the findings in Table IV of Loderer and Mauer (1992). In contrast, the coefficient estimate is positive at 0.013 and significant at the 1% level for the 1985-2002 period.

The additional multivariate regression models include control variables including the prior-year cumulative market return, the prior-year cumulative stock return, the debt ratio, operating income, expenditures, issue proceeds, total assets, a Hot dummy and a Cold dummy. The Hot dummy equals 1 if the issue is in a HOT market using the Bayless and Chaplinsky (1996)'s methodology, and 0 otherwise. Similarly, the Cold dummy is 1 in the cold market and 0 otherwise. Columns (2) and (5) in Table 7 report the regression results for 1975-1984 and 1985-2002 respectively. Again, the coefficient of dividend payer is insignificant for 1975-1984, but it is 0.013 and significant at the 1% level for 1985-2002. Consistent with Asquith and Mullins (1986), the firm's accumulated return prior to the SEO announcement contributes to the price drop on announcement date. However, the Hot dummy and the Cold dummy, which can also catch the degree of information asymmetry as in Bayless and Chaplinsky, are not significant. It is likely that the dividend payer dummy captures information asymmetries better than these variables. Also, since dividend and non-dividend payers are matched based on time across my sample, the hot and cold new issue market dummy is moderated.

Finally, I examine the impact of dividend status on the SEO announcement abnormal returns after controlling for other measures of information asymmetry. Since paying a dividend is a costly signal, a dividend payment should have more information content than other measures of information asymmetry. Thus, I expect the dividend payer dummy to be positive and significant after controlling for other information measures. The information asymmetry measure is the residual standard deviation in Columns (3) and (6), the natural log of the number of analysts following the firm in Column (7), and the forecast dispersion in Column (8). As can be seen in Column (3), from 1975 to 1984, the coefficient of the dividend payer dummy is insignificant. In contrast, the coefficient in Column (6) to (8) is positive and significant even after controlling for other measures of information asymmetry. Again, these findings confirm the importance of a firm's dividend status on the SEO announcement return.

C 2. The Impact of the Time Interval between Dividend Declaration and SEO Announcement on SEO-Announcement Abnormal Returns

I test Korajczyk, Lucas and McDonald's (1991 and 1992)'s argument in Table 8. Since a dividend declaration is an informative event only for the 1985-2002 period, Table 8 reports the multivariate tests only for this sub-period. As can be seen in Column (1), the coefficient estimate of the time interval between the last dividend declaration and the SEO announcement period is negative, but insignificant. Similarly, the results are unchanged when control variables are included in Column (2). Consequently, the

evidence supporting Korajczyk, Lucas and McDonald's (1991 and 1992) argument is weak.

C 3. The Impact of Dividends Change on SEO-Announcement Abnormal Returns

In Table 9, I investigate whether firms rely on a dividend payment to obtain a higher price in their SEO. Again, since there is no evidence that the dividend payment has a positive impact on SEO announcement returns in the earlier period, this test only reports results for 1985-2002. DIVPLUS, DIVZERO, DIVNEG, DIVINN are dummy variables equal to 1 if the firm increases the dividend, does not change the dividend, decreases the dividends, or initiates a dividend on the last declaration date prior to an SEO announcement, respectively. As Table 9 indicates, DIVPLUS, DIVZERO and DIVINN are positive and significant, while DIVNEG is negative and insignificant. Given that a dividend increase, a constant dividend and a dividend initiation favourably signal firm value, they all alleviate the negative market reaction to an SEO announcement. Since dividend payments and their amounts are sticky, the decrease of dividend amount signals decreasing value. Thus, it is not surprising that the market reacts more negatively to subsequent SEO announcements.

C 4.The Impact of the Magnitude of Dividend Payment on SEO-Announcement Abnormal Returns

Table 10 tests the impact of the magnitude of the dividend impact on the abnormal SEO announcement return. Table 10 indicates the coefficient on the dividend per share is positive and significant when the dividend dummy is absent, but it is insignificant when the dividend dummy is included. The results confirm prior conjecture that although the magnitude of the dividend matters, it is mainly dividend status that affects SEO announcement returns.

IV Robustness Check

Four robustness checks are performed. First, I test whether a dividend payment affects the SEO announcement returns differently in the initial SEO versus subsequent offerings. Dierkens (1991) finds that the level of information asymmetry decreases after every equity issuance. D'Mello, Tawatnuntachai and Yaman (2003) take Dierkens (1991) one step further by finding that investors react less negatively to later equity issues than when equity is issued earlier, and the announcement period abnormal returns for the fourth and subsequent issues are insignificant. The value of a dividend-paying stock should be highest in those states of the world where communicating information has the most value, i.e., in the initial offerings when there is more uncertainty about the firm value. In other words, dividend status should have greater impact in initial SEO announcements and than in subsequent announcements.

Table 11 reports the regression results of SEO announcement-period abnormal returns on the dividend payer dummy in each sequence of equity issues. For the initial SEO, the dividend payer dummy is 0.013 and significant at 1%. However, the coefficient of the dividend payer dummy is insignificant in subsequent SEO announcements. The main statistical problem is the dramatically smaller sample size for subsequent issues, but these results support the proposition that the dividend payment is an important signal of firm value when the information asymmetry is greatest.

In the second robustness check, I examine whether dividends have a signalling role beyond that of the firm's earnings. DeAngelo, DeAngelo, and Skinner (2003) find that industrial firms exhibit a two-tier structure in which a smaller number of firms with very high earnings collectively generate the majority of earnings and dominate the supply of dividends, while the vast majority of firms have at best a modest collective impact on aggregate earnings and dividends. To test this, I split firms into four quartiles according to earnings, and Table 12 reports the multivariate tests. The coefficient estimate of a firm's dividend payer dummy is still positive and significant in the highest three earnings quartiles, confirming the argument that a dividend has a signalling role beyond earnings. The insignificance of the dividend payer dummy in the lowest earnings quartiles suggests that a dividend itself may not be a credible signal when a firm's earnings can not support this dividend commitment.

Table 13 reports the third robustness check which compares the impact of a long history of dividend payments on SEO announcement returns with that of a dividend initiation. Different from previous tests, this test only includes dividend payers. I regress the SEO abnormal return on the DIVINN dummy and the control variables. Table 13 shows that the DIVINN dummy is insignificant. A dividend initiation is a strong commitment because once a firm initiates a dividend, there is a tendency to maintain it. Otherwise, the market reacts negatively to a dividend decrease or a dividend omission. The data in Table 13 indicates that the market does not react any differently to an SEO announcement of a firm which just initiated a dividend and a firm with a long history of dividend payments.

The final robustness test checks the impact of dividend status on utility SEOs. Usually, research on dividends or SEOs excludes utilities since as a regulated industry, they tend to have a high dividend payout. Moreover, even the deregulation in the 1990s did not change this pattern. In our sample, utilities made 283 SEOs while only 65 were not preceded with a dividend. In addition, the payout ratio does not exhibit a downward trend over time. Not paying a dividend for a utility signals extremely bad firm value, so that the impact of dividend status must be larger for utilities than other firms. Nevertheless, there are only 20 SEOs between 1975 and 1984, so I do not split the sample into sub-period. Table 14 compares the SEO-announcement abnormal return for dividend-SEOs and non-dividend-SEOs for utilities. As can be seen, the negative abnormal return of a non-dividend paying utility is 6 times that of a dividend paying utility, and the difference in median returns is even greater. Table 15 reports the results of a regression model to test the effect of dividend status for utilities. The coefficient of the dividend payer dummy is 0.023, and is significantly different from 0 at the 5% level. Its magnitude is much greater than in the equivalent regression for industrial firms (0.013 in Table 6). These findings support the view that the impact of dividend status is stronger for utilities than industrials.

V. Conclusion

This paper investigates whether the market reacts less negatively to a dividend payer's SEO announcements than to non-dividend payers. Compelling evidence is found to support this conjecture. The main findings can be summarized as follows:

(1) Firms appear to time equity issue announcements after rather than before dividend declarations.

(2) A dividend payer faces less information asymmetry prior to a SEO announcement. The magnitude of the difference in information asymmetry between dividend and non-dividend payers was small in the 1970s through the early 1980s, but has subsequently become larger.

(3) The market reacted less negatively to dividend payer SEO announcements as compared to non-dividend payers from 1984 to 2002. Further, there is only weak evidence that a shorter time interval between the last dividend declaration and the SEO announcement date leads to a higher SEO- announcement abnormal return. Moreover, a dividend increase, keeping the dividend unchanged, and a dividend initiation positively affects subsequent SEO-announcement abnormal returns. Finally, dividend status, rather than the magnitude of a dividend, affects SEO-announcement returns.

(4) Robustness checks reveal that the impact of dividend status only occurs in the first SEO, and not in subsequent SEOs. Second, the impact of dividend status occurs even in firms with the largest earnings. Third, the market's reaction to SEO announcements the same for a firm which has just initiated dividends as compared to a firm with a long history of dividends. Finally, the impact of the dividend is stronger for utilities than for the industrials.

In summary, the signalling role of a dividend payment was not as important in the 1970s through the early 1980s as it was important in the period from 1985 to 2002. This pattern explains the difference between these results and those of Loderer and Mauer (1992) which uses the period from 1973 to 1984. From 1985 to 2002, dividends signalled firm values, and reduced the information asymmetry between corporate insiders and the market. Also, both corporate insiders and the market understood this signal. On the one hand, firms timed equity issues right after dividend announcements; on the other hand, the market reacted less negatively to dividend payers' SEO announcements.

Bibliography

Aharony, Joseph and Itzhak Swary, 1980, "Quarterly Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis," *Journal of Finance, 35* (1), 1-12.

Allen, F., A. E. Bernardo and I. Ilch, 2000, "A theory of dividends based on tax clienteles, "Journal of Finance 55, 2499-2536.

Allen, F. and R. Michaely, 2003. Payout policy, in Handbook of the Economics of Finance, G. Constantinides, M. Harris, and R. Stulz, eds., Elsevier Science B.V.

Ambarish, Ramasastry, Kose John and Joseph Williams, 1987, "Efficient Signaling with Dividends and Investments," *Journal of Finance, 42* (2), 321-343.

Asquith, P. and D.W. Mullins, Jr., 1986, "Equity Issues and Offering Dilution," Journal of Financial Economics 15, 61-89.

Barclay, M., and R. Litzenberger, 1988, " Announcement Effects of New Equity Issues and the Use of Intraday Price Data," Journal of Financial Economics 21, 71-100.

Benartzi, Shlomo, Roni Michaely and Richard Thaler, 1997, "Do changes in dividends signal the future or the past?," Journal of Finance 52 (3), 1007-1043.

Bayless, M. and S. Chaplinsky, 1996, "Is There a Window of Opportunity for Seasoned Equity Issuance?" Journal of Finance 51, 253-278.

Billett and Xue, 2004, "Share Repurchases and the Need for External Finance", working paper, University of Iowa.

Bhattacharya, S., 1979, "Imperfect Information, Dividend Policy, and the 'Bird in the Hand Fallacy", Bell Journal of Economics, Spring 1979, 259-270.

Campbell, J., M. Lettau, B. Malkiel, Y. Xu, 2001. Have Individual Stocks Become More Volatile? An Empirical Exploration of Idiosyncratic Risk. The Journal of Finance 56(1).

Clarke, J. and K. Shastri, 2000, "On Information Asymmetry Metrics", Katz Graduate School of Business, University of Pittsburgh, working paper.

Dierkens, N., 1991, "Information Asymmetry and Equity Issues," Journal of Financial and Quantitative Analysis 26, 181-199.

DeAngelo, Harry, Linda DeAngelo, and Douglas Skinner, 1996, "Reversal of fortune, dividend signaling and the disappearance of sustained earnings growth," *Journal of Financial Economics, 40*, 341-371.

DeAngelo, Harry, Linda DeAngelo, and Douglas Skinner, 2003, "Reversal of fortune, dividend signaling and the disappearance of sustained earnings growth," *Journal of Financial Economics, 40*, 341-371.

Dierkens, N., 1991, "Information Asymmetry and Equity Issues," Journal of Financial and Quantitative Analysis 26, 181-99.

D'Mello, P. and S. P. Ferris, 2000, "The Information Effects of Analyst Activity at the announcement of New Equity Issues," Financial Management, 78-95.

D'mello, P., O. Tawatnuntachai and D. Yaman, 2003, "Does the sequence of seasoned equity offerings matter?", Financial Management, 59-86.

Eckbo, B.E., and R. W. Masulis. " Adverse Selection and the Rights Offer Paradox," Journal of Financial Economics 32, 293-332.

Fama, Eugene, and Kenneth French, 2001, Disappearing dividends: Changing firm characteristics or loIr propensity to pay?, Journal of Financial Economics 60, 3-43.

Gonedes, Nicholas J., 1978, :Corporate Signaling, External Accounting, and Capital Market Equilibrium: Evidence on Dividends, Income, and Extraordinary Items" Journal of Accounting Research, 16 (1), 26-79.

Grullon, Gustavo, Roni Michaely and Bhaskaran Swaminathan, 2002, "Are dividend changes a sign of firm maturity?," *The Journal of Business*, 387-424.

Hansen, R., and Crutchley, C. 1990, "Corporate Earnings and Financings: An Empirical Analysis," Journal of Business 63 (July): 347-71.

Healy, Paul M. and Krishna G. Palepu, 1988, "Earnings Information Conveyed by Dividend Initiations and Omissions," *Journal of Financial Economics, 21* (2), 149-176.

Hoberg, Gerard, and Nagpurnanand R. Probhala, "Disappearing Dividends: The Importance of Idiosyncratic Risk and the Irrelevance of Catering", working paper, University of Maryland.

Jung, K., Y.Kim and R. Stulz , 1996, "Timing, investment opportunities, Managerial Discretion, and the Security Issue Decision,' Journal of Financial Economics 42, 159-185.

John, K. and Williams, J, 1985, "Dividends, dilution and taxes: a signalling equilibrium," Journal of Finance 40, 1053-1070.

Korajczyk, R.A., D.J. Lucas, and R.L. McDonald, 1992, "Equity Issues with Time-Varying Asymmetric Information," Journal of Financial and Quantitative Analysis 27, 397-417.

Krishnaswami, S. and V. Subramaniam, 1999, "Information Asymmetry, Valuation, and the Corporate Spinoff Decision," Journal of Financial Economics 53, 73-112.

Loderer, C and D. C. Mauer, 1992, " Corporate Dividends and Seasoned Equity Issues: An Empirical Investigation," Journal of Finance 47, 201-225.

Loughran, T. and J. R. Ritter, 1995, "The New Issues Puzzle," Journal of Finance 50, 23-51.

Masulis, Ronald W., and Ashok N. Korwar, 1986, "Seasoned Equity Offerings: An Empirical Investigation," Journal of Financial Economics 15, 91-118.

Michaely, Roni, Richard H. Thaler and Kent Womack, 1995, "Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift?," Journal of Finance 50 (2), 573-608.

Miller, Merton and Franco Modigliani, 1961, "Dividend Policy, Growth and the Valuation of Shares," Journal of Business, 34, 411-433.

Miller, M. and K. Rock, 1985, "Dividend Policy Under Asymmetric Information," Journal of Finance 40, 1031-1051.

Mikkelson, Wl, and M. Partch, 1986, "Valuation Effects of Security Offerings and the issuance Process," Journal of Financial Economics 15, 31-60.

Myers, S. and N. Majluf, 1984, "Corporate Financing and Investment Decision When Firms Have Information Investors Do Not Have," Journal of Financial Economics 13, 187-221.

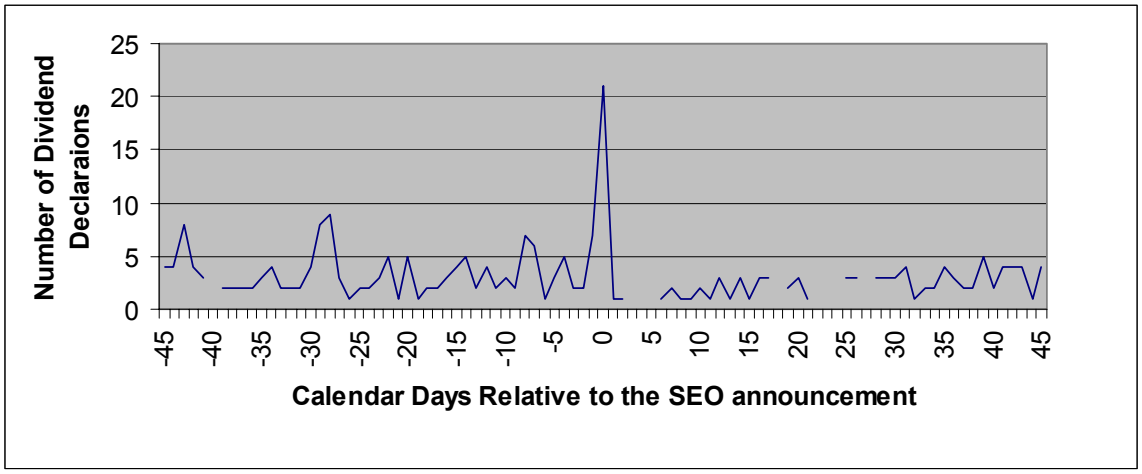
Penman, Stephen H., 1983, " The Predictive Content of Earnings Forecasts and Dividends," Journal of Finance 38, 1191-1199.

Pettit, R. Richardson, 1972, "Dividend Announcements, Security Performance, and Capital Market Efficiency," *Journal of Finance, 27* (5), 993-1007.

Spiess, D.K. and J. Affleck-Graves, 1995, "Underperformance in Long-Run Stock Returns Following Seasoned Equity Offerings," Journal of Financial Economics 38, 243-267.

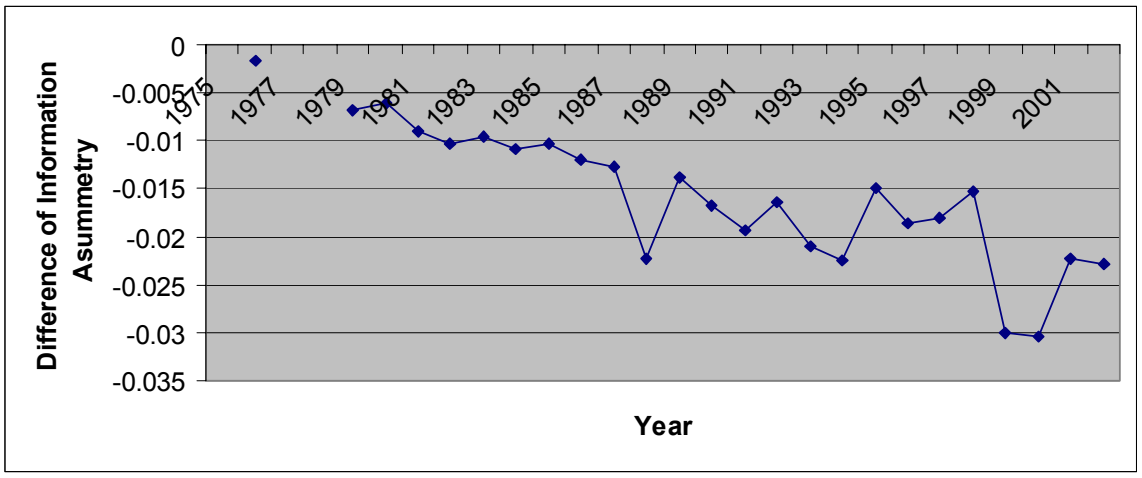
Watts, Ross, 1973, "The information Content of Dividends," Journal of Business 46, 191-211.

Figure 1: Cross-Sectional Frequency of Dividend Declarations by Issuing Firms before and after Stock Offering Announcements



This sample includes all dividend declarations in the 90 days around industrial firms' SEO announcements in the US market from 1975 to 2002. This sample includes 665 SEOs which announce dividends in the last dividend declaration date prior to SEO announcements. Time is measured in calendar days from the offering announcement day, defined as day 0.

Figure 2: The Difference between the Information Asymmetry of Dividend-SEOs and Non-dividend-SEOs



This sample includes all SEO announcements of industrial firms in the US market from 1975 to 2002. Difference of information asymmetry is measured as the average of dividends payers' information asymmetries minus non-payers' information asymmetries. Information asymmetry is measured as the standard deviations of the market –adjusted residuals over the one year prior to the SEO announcements.

Table 1 Number of Seasoned Equity Offerings (SEOs)

Panel A: Number of SEOs by Calendar Year

Year	Number of Sample SEOs	Percentage of Sample
1975	7	0.40%
1976	2	0.12%
1977	1	0.06%
1978	1	0.06%
1979	26	1.50%
1980	111	6.41%
1981	93	5.37%
1982	80	4.62%
1983	172	9.94%
1984	55	3.18%
1985	92	5.31%
1986	109	6.30%
1987	63	3.64%
1988	24	1.39%
1989	46	2.66%
1990	25	1.44%
1991	124	7.16%
1992	97	5.60%
1993	142	8.20%
1994	47	2.72%
1995	95	5.49%
1996	99	5.72%
1997	94	5.43%
1998	37	2.14%
1999	19	1.10%
2000	18	1.04%
2001	21	1.21%
2002	31	1.79%
Total	1731	100.00%

Panel B: Number of SEOs by Industry

Industry	SIC code	Number of Offerings	Percentage of Sample
Communication and electronic equipment	36	207	11.96%
Office and computer equipment	35	166	9.59%
Computer and data processing services	73	131	7.57%
Chemicals, phamaceuticals, and biotechnology	28	104	6.01%
Oil and gas	13	101	5.83%
Other		1023	59.10%
Total		1731	100.00%

Panel C: Frequency of SEOs

Number of SEOs	Numer of Firms	Percentage of Sample
1	1161	82.28%
2	200	14.17%
3	36	2.55%
4	9	0.64%
5	4	0.28%
6	1	0.07%
Total Number of Firms	1411	100.00%

This sample includes the matching firms which announced SEOs from 1975 to 2002. Only the primary offerings and combined offerings of industrial firms are included. Industrial firms are defined as firms not in the financial industry or utilities industry. The industries (defined by CRSP 2-digit Standard Industrial Classification (SIC) codes) listed in Panel B have 101 or more SEOs. These 1,731 SEOs are offered by 1,411 firms.

Table 2 Descriptive Statistics of Firm Characteristics

Panel A 1975-1984 Period

	non-dividend-SEOs		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)			
Variable	Mean	Median	Mean	Median	Mean		Median	
Mktrunup	0.254	0.237	0.283	0.274	0.029		0.037	
Rawrunup	1.088	0.761	0.985	0.794	-0.103		0.033	
Qratio	2.758	1.976	1.277	1.032	-1.481	*	-0.944	*
MB	10.691	3.847	2.568	1.802	-8.123		-2.045	*
Perform	0.075	0.072	0.157	0.146	0.082	*	0.074	*
Capex	0.156	0.119	0.113	0.086	-0.043	*	-0.034	*
Asset	94.023	17.022	299.755	87.314	205.732	*	70.292	*
Offersize	0.214	0.188	0.186	0.123	0.137	*	-0.066	*
Days	33.621	28.000	23.672	17.000	-9.949	*	-11.000	*

Panel B 1975-1984 Period

	non-dividend-SEOs		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)			
Variable	Mean	Median	Mean	Median	Mean		Median	
Mktrunup	0.197	0.203	0.194	0.204	-0.003		0.001	
Rawrunup	1.106	0.784	0.757	0.481	-0.349	*	-0.303	*
Qratio	1.986	1.476	1.368	1.133	-0.618	*	-0.343	*
MB	3.494	2.671	3.406	2.276	-0.088		-0.395	*
Perform	0.115	0.099	0.133	0.127	0.019		0.028	*
Capex	0.102	0.062	0.102	0.064	0.000		0.002	
Asset	273.516	76.440	1127.570	237.527	854.054	*	161.087	*
Offersize	0.263	0.220	0.175	0.144	-0.088	*	-0.076	*
Days	37.853	29.000	45.323	26.000	7.470		-3.000	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

Dividend-SEOs are firms which announce dividend payment in the last dividend declaration date prior to SEO announcements. Non-dividend-SEOS are firms which do not announce dividend payments in the last dividend declaration date prior to SEO announcement. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Days is the calendar days between the SEO announcement date and issue date. The difference in mean is tested using a t-test and the difference in median is tested using a Wilcoxon test.

Table 3 Frequency of Dividend Announcement Before and After Stock Offerings

	Calendar Days Around the Stock Offering Announcement Date					
	-45, 0	-30,0	-15,0	0,15	0,30	0,45
Full Sample	171	127	76	39	67	111
Probability Value	2.03E-05	9.12E-07	9.30E-05			
Offerings By Dividend Change						
Dividend Increase Before AD	23	19	15	5	10	17
Probability Value	0.130	0.029	0.006			
No Change Before AD	121	91	52	28	47	77
Probability Value	2.52E-04	2.27E-05	0.002			
Dividend Decrease Before AD	24	14	8	5	9	16
Probability Value	0.074	0.103	0.132			
Dividend Innitiation Before AD	3	3	1	1	1	1
Probability Value	0.062	0.062	0.250			
Dividend Ommission Before AD				2	2	2

Panel B: Period 1985-2002

	Calendar Days Around the Stock Offering Announcement Date					
	-45, 0	-30,0	-15,0	0,15	0,30	0,45
Full Sample	205	141	73	53	98	150
Probability Value	2.54E-04	8.18E-04	0.024			
Offerings By Dividend Change						
Dividend Increase Before AD	29	13	4	3	6	13
Probability Value	0.003	0.031	0.226			
No Change Before AD	132	94	56	36	70	107
Probability Value	0.032	0.018	0.011			
Dividend Decrease Before AD	31	25	10	6	12	14
Probability Value	0.085	0.009	0.104			
Dividend Innitiation Before AD	13	9	3	4	6	11
Probability Value	0.269	0.149	0.500			
Dividend Ommission Before AD				3	3	3

Time is measured in calendar days from the offering announcement day, defined as day 0. Following Lorderer and Mauer (1992), the probability value is the probability of observing more than n dividend declarations in the interval [-T, 0]. The probability of observing n or less dividend declarations in the interval [-T, 0] is hypergeometrically distributed as (n+m, 2k-n-m, k), where k is the number of dividend payers in the sample and m is the number of dividend declarations in the [0, T]. T can be 15, 30, 45 calendar days.

Table 4 Descriptive Statistics of Information Asymmetry Measures

Panel A: 1975-1984 Period

	Non-dividend-SEOS		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)			
Variable	Mean	Median	Mean	Median	Mean		Median	
Residual Std	0.032	0.030	0.024	0.022	-0.008	*	-0.008	*

Panel B:1985-2002 Period

	Non-dividend-SEOS		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)			
Variable	Mean	Median	Mean	Median	Mean		Median	
Residual Std	0.040	0.036	0.021	0.019	-0.019	*	-0.017	*
Number of Analyst	1.142	1.099	1.768	1.792	0.626	*	0.693	*
Forecast Dispersion	0.027	0.002	0.005	0.002	-0.021	*	3.531E-04	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

Dividend-SEOs are firms which announce dividend payments in the last dividend declaration date prior to SEO announcements. Non-dividend-SEOS are firms which do not announce dividend payments in the last dividend declaration date prior to SEO announcement. Residual Std is the standard deviation of value-weighted market-adjusted return residuals from day -250 to -2 relative to the announcement day. Number of Analysts is the natural log of the number of analyst following the firms in the month prior to the SEO announcements. Forecast dispersion is the standard deviation of the 1-year ahead EPS foresting made in the prior month divided by current price. The difference in mean is tested using a t-test and the difference in median is tested using a Wilcoxon test.

Table 5 SEO Announcement Returns

Panel A: 1975-1984 Period

	Non-dividend-SEOS		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)	
Variable	Mean	Median	Mean	Median	Mean	Median
CAR	-0.028	-0.024	-0.025	-0.027	0.003	-0.004

Panel B: 1985-2002 Period

	Non-dividend-SEOS		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)			
Variable	Mean	Median	Mean	Median	Mean		Median	
CAR	-0.025	-0.022	-0.013	-0.012	0.013	*	0.010	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

Dividend-SEOs are firms which announce dividend payments in the last dividend declaration date prior to SEO announcements. Non-dividend-SEOS are firms which do not announce dividend payments in the last dividend declaration date prior to SEO announcement. CAR is the cumulative abnormal return on the day prior to the SEO announcement date and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. The difference in mean is tested using a t-test and the difference in median is tested using a Wilcoxon test.

Table 6: Pearson Correlation Coefficient Among SEO Returns and Information Asymmetry Measures

Panel A 1975-1984 Period

	CAR	Dividend Payer	Residul std	Number of Analysts	Forecast Dispersion
CAR	1	0.032	-0.091		
Dividend Payer		1	-0.441 *		
Residual std			1		

Panel B:1985-2002 Period

	CAR	Dividend Payer	Residul std	Number of Analysts	Forecast Dispersion
CAR	1	0.122 *	-0.194 *	0.101 **	0.041
Dividend Payer		1	-0.432 *	0.347 *	-0.048
Residual std			1	-0.369 *	0.002
Number of Analysts				1	-0.043
Forecast Dispersion					1

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

CAR is the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO announcement. Residual std is the standard deviation of value-weighted market-adjusted return residuals from day -250 to -2 relative to the announcement day. Number of Analysts is the natural log of the number of analyst following in the month prior to the SEO announcements. Forecast dispersion is the standard deviation of the 1-year ahead foresting made in the prior month divided by current price.

Table 7 **Regression Analysis of SEO Announcement Returns on Dividend Payer Dummy**

	Panel A: 1975-1984 Peirod						Panel B: 1985-2002 Period					
	(1)	(2)		(3)			(4)	(5)		(6)		(7)		(8)	
Intercept	0.048 *	-0.022	*	-0.009			-0.025 *	-0.024	*	-0.003		-0.026	*	-0.018	*
	(0.000)	(0.076)		(0.6699)			(0.000)	(0.000)		(0.627)		(0.003)		(0.045)	
Dividend Payer	-0.027	0.002		-0.001			0.013 *	0.013	*	0.007	**	0.007	***	0.009	**
	(0.4482)	(0.768)		(0.8445)			(0.000)	(0.000)		(0.019)		(0.071)		(0.022)	
IA				-0.528	***					-0.674	*	0.003		0.009	**
				(0.0838)						(0.000)		(0.276)		(0.033)	
Mktrunup		0.012		0.012				0.009		0.002		0.014		0.005	
		(0.291)		(0.269)				(0.362)		(0.838)		(0.307)		(0.767)	
Rawrunup		-0.005		-0.003				-0.004	*	-0.002		-0.008	*	-0.008	*
		(0.010)		(0.114)				(0.001)		(0.180)		(0.001)		(0.022)	
Qratio		0.000		0.001				0.001		0.001		0.001		0.002	
		(0.875)		(0.741)				-0.562		(0.323)		(0.567)		(0.294)	
Perform		-0.017		-0.026				0.001		0.001		0.014		0.003	
		(0.485)		(0.314)				-0.739		(0.721)		(0.542)		(0.892)	
Capex		-0.033		-0.029				-0.003		-0.002		-0.032		-0.025	
		(0.128)		(0.165)				(0.809)		(0.882)		(0.122)		(0.246)	
Offersize		-0.020		-0.013				0.005		0.014	*	0.011		0.006	
		(0.286)		(0.475)				(0.3074)		(0.003)		(0.404)		(0.665)	
Asset		-1.56E-06		-2.57E-06				-9.80E-09		-8.69E-08		4.16E-07		3.51E-07	
		(0.7811)		(0.602)				(0.981)		(0.828)		(0.330)		(0.331)	
Hot		0.006		0.006				-0.001		-0.002		0.001		-0.002	
		(0.589)		(0.477)				(0.886)		(0.539)		(0.850)		(0.795)	
Cold		0.037	*	0.041	*			-0.007		-0.007		-0.007		-0.009	
		(0.0013)		(0.001)				(0.158)		(0.165)		(0.261)		(0.217)	
adj.R square	-0.08%	1.83%		2.30%			1.40%	2.50%		4.87%		3.25%		2.78%	
F-stat	0.57	2	**	2.15	**		17.73 *	3.9		6.27	*	2.83	**	2.33	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO announcement. IA is residual std in Column (3) and (6), Number of analyst in Column (7), and Forecast dispersion in Column (8). Residual std, Number of analysts and Forecast dispersion are defined in Table 6.P-values (in parentheses) are based on the White-adjusted standard errors. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the

cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars Asset is the inflation-adjusted total assets (in 2002 dollars).Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996).

Regression Analysis of SEO Announcement Returns on the Time Interval Between the Last Dividend Declaration Date and SEO Announcement Date from 1985 to 2002

Table 8

	(1)		(2)	
Intercept	-0.012	*	-0.013	**
	(0.000)		(0.046)	
Time	-0.024		-0.011	
	(0.404)		(0.681)	
Mktrunup			0.019	
			(0.145)	
Rawrunup			-0.010	*
			(0.000)	
Qratio			-0.001	
			(0.731)	
Perform			0.050	**
			(0.036)	
Capex			0.015	
			(0.418)	
Offersize			-0.009	
			(0.409)	
Asset			1.20E-07	
			(0.760)	
Hot			-0.003	
			(0.457)	
Cold			0.000	
			(0.980)	
adj.R square	0.08%		4.66%	
F-stat	1.31		2.85	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Time is the interval between the last dividend declaration date and SEO announcement date scaled by 0.001. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Days is the calendar days between the SEO announcement date and issue date. Asset is the inflation-adjusted total assets (in 2002 dollars).Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996). P-values (in parentheses) are based on the White-adjusted standard errors.

Table 9	Regression Analysis of SEO Announcement Returns on Dividend Changes From 1985 to 2002							
	(1)		(2)		(3)		(4)	
Intercept	-0.019	*	-0.023	*	-0.017	*	-0.018	*
	(0.000)		(0.000)		(0.000)		(0.000)	
Divplus	0.008	***						
	(0.081)							
Divzero			0.014	*				
			(0.000)					
Divneg					-0.007			
					(0.111)			
Divinn							-0.013	
							(0.042)	**
Mktrunup	0.010		0.008		0.010		0.010	
	(0.319)		(0.427)		(0.358)		(0.325)	
Rawrunup	-0.005	*	-0.004	*	-0.005	*	-0.005	*
	(0.003)		(0.007)		(0.002)		(0.002)	
Qratio	0.000		0.001		0.000		0.000	
	(0.970)		(0.640)		(0.956)		(0.996)	
Perform	0.001		0.001		0.001		0.002	
	(0.690)		(0.767)		(0.699)		(0.667)	
Capex	-0.004		-0.002		-0.004		-0.005	
	(0.760)		(0.859)		(0.755)		(0.735)	
Offersize	3.30E-04		0.004		0.000		0.000	
	(0.937)		(0.437)		(0.936)		(0.976)	
Asset	3.16E-07		-8.92E-08		2.70E-07		3.11E-07	
	(0.506)		(0.836)		(0.570)		(0.513)	
Hot	1.91E-05		-1.97E-04		4.65E-05		1.71E-04	
	(0.995)		(0.957)		(0.990)		(0.963)	
Cold	-0.006		-0.007		-0.006		-0.006	
	(0.216)		(0.147)		(0.191)		(0.214)	
adj.R square	1.18%		2.31%		1.22%		1.17%	
F-stat	2.35	**	3.68	**	2.38	**	2.34	**

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Divplus, Divzero and Divneg are dummy variables which equals 1 if firm increase dividends, does not change dividends, or decrease dividend, or decreases dividends on the last dividend declaration date prior to the offering announcement, respectively. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Asset is the inflation-adjusted total assets (in 2002 dollars).Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996). P-values (in parentheses) are based on the White-adjusted standard errors.

Table 10 Regression Analysis of SEO Announcement Returns on Dividend Amount From 1985 to 2002

	(1)		(2)	
Intercept	-0.018	*	-0.024	*
	(0.000)		(0.000)	
Dividend Payer			0.013	*
			(0.000)	
Divamt	(0.026)	**	0.017	
			(0.356)	
Mktrunup	0.010		0.009	
	(0.353)		(0.364)	
Rawrunup	-0.005	*	-0.004	*
	(0.002)		(0.005)	
Qratio	0.000		0.001	
	(0.975)		(0.561)	
Perform	0.002		0.001	
	(0.676)		(0.741)	
Capex	-0.004		-0.003	
	(0.747)		(0.811)	
Offersize	-6.83E-05		0.005	
	(0.987)		(0.308)	
Asset	2.77E-07		-1.54E-08	
	(0.561)		(0.971)	
Hot	8.47E-05		-4.96E-04	
	(0.981)		(0.893)	
Cold	-0.006		-0.007	
	(0.199)		(0.160)	
adj.R squa	1.02%		2.41%	
F-stat	2.17	**	3.55	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO announcement. Divamt is the dividend per share announced in the last dividend declaration date prior to the SEO offering. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996). P-values (in parentheses) are based on the White-adjusted standard errors.

Table 11	Regression Analysis of SEO Announcement Returns in Different SEO Frequencies From 1985 to 2002					
	First SEOs		Second SEOs		Third and Subsequent SEOs	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-0.026 *	-0.023 *	-0.019 *	-0.022	-0.029 *	-0.071
	(0.000)	(0.000)	(0.000)	(0.253)	(0.000)	(0.641)
Dividend Payer	0.013 *	0.013 *	0.010	0.011	0.015	0.011
	(0.000)	(0.000)	(0.119)	(0.088)	(0.114)	(0.714)
Mktrunup		0.006		0.049		-0.025
		(0.617)		(0.140)		(0.627)
Rawrunup		-0.004 **		-0.007 *		0.000
		(0.004)		(0.002)		(0.947)
Qratio		0.001		0.002		0.004
		(0.551)		(0.516)		(0.542)
Perform		0.004		-0.017		0.278
		(0.462)		(0.781)		(0.108)
Capex		-0.013		-0.011		0.073
		(0.408)		(0.740)		(0.192)
Offersize		0.005		-0.009		0.026
		(0.406)		(0.816)		(0.662)
Asset		1.84E-07		-2.52E-06		-1.95E-06
		(0.774)		(0.504)		(0.509)
Hot		-0.001		0.001		0.002
		(0.786)		(0.916)		(0.789)
Cold		-0.011 **		0.010		0.008
		(0.030)		(0.437)		(0.580)
adj.R square	1.30%	2.64%	0.53%	0.49%	2.45%	6.95%
F-stat	13.46 *	3.45 *	1.95	1.09	2.35	1.4

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

Frequency measures the number of offerings a firm has in the 1985-2002 period. The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO

announcement. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Asset is the inflation-adjusted total assets (in 2002 dollars).Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996). IA is residual std in Column (3) and (6), Number of analyst in Column (7), and Forecast dispersion in Column (8). Residual std, Number of analysts and Forecast dispersion are defined in Table 6.P-values (in parentheses) are based on the White-adjusted standard errors.

Table 12 **Regression Analysis of SEO Announcement Returns in the All Earnings Quartiles From 1985 to 2002**

	Quartile 1	Quartile 2	Quartile 3	Quatile 4
Intercept	-0.016	-0.035 *	-0.032 **	-0.020 *
	(0.102)	(0.010)	(0.017)	(0.075)
Dividend Payer	0.009	0.013 **	0.010 **	0.013 **
	(0.175)	(0.024)	(0.048)	(0.022)
Mktrunup	-0.012	0.004	-0.002	0.027 ***
	(0.627)	(0.877)	(0.909)	(0.097)
Rawrunup	-0.004 ***	-0.006	-0.002	-0.011 *
	(0.080)	(0.140)	(0.283)	(0.004)
Qratio	-0.002 **	0.007 **	0.002	0.003
	(0.043)	(0.035)	(0.308)	(0.265)
Perform	0.008	0.008	-0.051	0.077
	(0.153)	(0.808)	(0.275)	(0.116)
Capex	-0.030	-0.004	0.051	-0.018
	(0.130)	(0.883)	(0.119)	(0.455)
Offersize	-4.46E-04	0.047 ***	0.022	-0.052 **
	(0.907)	(0.092)	(0.221)	(0.011)
Asset	-1.11E-06	-6.51E-05 **	3.93E-06	0.000
	(0.123)	(0.022)	(0.576)	(0.922)
Hot	0.007	-0.003	0.006	-0.009
	(0.358)	(0.659)	(0.411)	(0.168)
Cold	-0.016	-0.010	0.007	-0.014 ***
	(0.149)	(0.296)	(0.449)	(0.078)
adj.R square	1.76%	5.96%	-0.17%	8.72%
F-stat	1.5	2.83 *	0.95	3.66 *

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

Firms are sorted into four quartiles according to the fiscal-year-end earnings prior to SEO announcements. The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO announcement. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Asset is the inflation-adjusted total assets (in 2002 dollars).Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996).P-values (in parentheses) are based on the White-adjusted standard errors.

Table 13: Regression Analysis of SEO Announcement Returns on Dividend Innitiations Among Dividend Payers from 1985 to 2002

Intercept	-0.020	*
	(0.000)	
Divinn	0.008	
	(0.292)	
Mktrunup	0.001	
	(0.936)	
Rawrunup	-0.005	**
	(0.018)	
Qratio	0.001	
	(0.555)	
Perform	-0.002	
	(0.909)	
Capex	0.002	
	(0.920)	
Offersize	-0.005	
	(0.613)	
Asset	4.57E-07	
	(0.148)	
Hot	0.005	
	(0.139)	
Cold	0.016	*
	(0.005)	
adj.R square	1.89%	
F-stat	2.17	**

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

The sample only includes all SEOs of dividend payers from 1985 to 2002. The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO announcement. Divamt is the dividend per share announced in the last dividend declaration date prior to the SEO offering. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets; Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise., based on the methodology of Bayless and Chaplinsky (1996). P-values (in parentheses) are based on the White-adjusted standard errors.

Table 14	Descriptive Statistics of Utilities' SEO Announcement Returns from 1975 to 2002							
	Non-dividend-SEOS		Dividend-SEOs		Difference (Dividend-SEOs -Non-dividendSEOs)			
Variable	Mean	Median	Mean	Median	Mean		Median	
CAR (-1, 0)	-0.030	-0.031	-0.005	-0.002	0.026	*	0.028	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

This sample only includes utilities' SEOs from 1975 to 2002. Dividend-SEOs are firms which announce dividend payments in the last dividend declaration date prior to SEO announcement. Non-dividend-SEOS are firms which do not announce dividend payment in the last dividend declaration date prior to SEO announcement. CAR is the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. The difference in mean is tested using a t-test and the difference in median is tested using a Wilcoxon test.

Table 15	Regression Analysis of SEO Announcement Returns in Utilities Firms From 1975 to 2002	
Intercept	-0.028	***
	(0.058)	
Dividend Player	0.023	**
	(0.038)	
Mktrunup	-0.010	
	(0.342)	
Rawrunup	-0.004	
	(0.569)	
Qratio	3.41E-04	
	(0.934)	
Perform	0.056	
	(0.334)	
Capex	-0.003	
	(0.925)	
Offersize	-0.020	*
	(0.002)	
Asset	-7.26E-07	**
	(0.031)	
Hot	-0.003	
	(0.562)	
Cold	0.001	
	(0.861)	
adj.R square	15.13%	
F-stat	5.28	*

*Significant at 1%, ** Significant at 5%, *** Significant at 10%

The sample only includes utilities' SEOs from 1975 to 2002. The dependent variable is CAR, the cumulative abnormal return on the day prior to SEO announcement and the announcement date, calculated from the market model. The estimation period is (-68, -21) days relative to the SEO announcement date. Dividend Payer is a dummy whish equals 1 if the firm announces dividend in the last dividend declaration date prior to the SEO announcement. Divamt is the dividend per share announced in the last dividend declaration date prior to the SEO offering. Mktrunup is the cumulative return on CRSP Value-weighted index in the year prior to SEO announcements. Rawrunup is the cumulative firm return in the year prior to SEO announcements. Qratio is the sum of prior-year-end market value of equity and book value of total debt, divided by total assets. Perform is the operating income before depreciation, divided by the sum of prior-year-end market value of equity and book value of total debt. Capex is capital expenditures, scaled by total assets. Offersize is the dollar value of equity issued scaled by pre-announcement market capitalization. Asset is the inflation-adjusted total assets (in 2002 dollars). Hot and Cold are dummy variables equal to 1 if the issue is in HOT and COLD periods, respectively, and 0 otherwise, based on the methodology of Bayless and Chaplinsky (1996). P-values (in parentheses) are based on the White-adjusted standard errors.