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Why Do Restaurant Firms Initiate Dividends?

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Abstract

The U.S .restaurant industry has experienced strong growth since 1970 (National Restaurant Association, 2012). Publicly traded restaurant firms tend to initiate dividends soon after they go public, quite often even in the same year. This study tests hypotheses based upon four dividend initiation theories: signaling, life-cycle, agency costs and catering. The results reveal that only the signaling theory is significant. Since most restaurant firms initiate dividends at the growth stage, they tend to have little free cash, flow, high investment opportunities, and low dividend premiums (which are less favorable to investors).

Key words: dividend initiation, signaling, catering, restaurant

Why Do Restaurant Firms Initiate Dividends?

The purpose of this study is to examine why publicly traded restaurant firms in the U.S. initiate dividends. While Canina et al. (2001) and Sheel and Zhong (2005) examined dividend initiation, other hospitality research has focused on the firm characteristics of dividend changes. One of the reasons this topic is important is due to the strong growth of the restaurant industry. The U.S. restaurant industry has experienced a sales increase of more than 700% over the past thirty years. Food industry sales were $42.8 billion in 1970; by 2012, they had increased to an estimated $632 billion (National Restaurant Association, 2012). Between 1990 and 2007, the restaurant industry experienced sixteen years of consecutive growth (Hua & Templeton, 2010).

Findings in the general finance literature indicate that high-growth firms tend to have low dividend payout ratios because they need to reinvest internally generated funds (Palepu et al., 2000). The restaurant industry has a number of high-growth firms similar to other industries. However, the majority of restaurant firms initiate dividends within a few years of their initial public offering (IPO). This may because restaurant firms may be less likely to reinvest in fixed assets like hotel firms typically do and pay out more earnings as dividends (Dalbor & Upneja, 2007). Franchising is quite common in the restaurant industry as it requires fewer resources for rapid growth. There is also some evidence that restaurant firms that franchise produce better financial results than firms that maintain all company-owned outlets (Hsu & Jang, 2009).

This study investigates firm characteristics around the time of dividend initiation by U.S. restaurant firms and identifies the determinants of dividend initiation. While previous studies mainly compare dividend-paying firms with non-dividend-paying firms, this study examines the difference between dividend-initiating firms and non-initiating firms in the restaurant industry.

Therefore, this study makes a number of potential contributions to the literature. First, we address dividend initiation from both contemporaneous and expectation perspectives, offering a consistent view of determinants of dividend initiation. Second, we test four predominant alternative hypotheses in the restaurant industry and show consistently that signaling is uniquely supported. Third, we focus on the restaurant industry and provided industry specific findings of determinants of dividend initiation for the first time. And lastly, we find it appears that the clientele theory is likely a subset of the signaling theory and future research is needed to further understand dividend initiation.

This paper is organized in the following manner. The next section will discuss the relevant literature on dividend initiation and develop hypotheses to be tested. Then the methodology section spells out the testing frameworks, variables of interest and study sample. The next section will discuss the results, followed by a sensitivity test section. The paper then draws conclusions and provides recommendations for further research.

Literature Review

Dividend policies tend to differ across industries. While firms in the service industry with relatively stable cash flows tend to pay a constant amount per share, technology firms with uncertain cash flows prefer not to pay any dividends at all (Cohen & Yagil, 2010). Furthermore, when a large percentage of firms in an industry pay dividends, the industry's overall debt rating tends to be better and individual firms tend to be larger and less risky. For example, on average, 83% of firms in the finance industry pay dividends while only 57% of those in the service industry do (Cohen & Yagil, 2010). According to a survey on CFO dividend decisions, projected cash flows are the most important factor in dividend policy (Cohen & Yagil, 2010). In the lodging industry, the dividend payout ratio was 7.3% from 1976 to 1995 (Canina, et al.,

2001). This may be due to the high volatility of income, high levels of debt, cyclical market movements and the fixed asset intensity of the lodging business. Similarly, the dividend payout ratio in the restaurant industry averaged 4.4% for 2002 through 2004 (Dalbor & Upneja, 2007). Kim and Gu (2009) observe the dividend policies of all three hospitality industries (restaurants, hotels and casino hotels) in the year 2005. While 28 firms were in the dividend-paying group, the other 41 firms were classified as non-dividend-paying. Since the number of dividend payers declined in the late 1990s and the characteristics of firms came to more greatly resemble those of firms that never paid dividends (Fama & French, 2001), combined with the cash hoarding behavior of publicly traded firms recently (Bates et al. 2009), it appears that this trend may continue and that hospitality firms might be less likely to pay out dividends in the 21st century.

An understanding of the potential reasons for the decline in dividend payments is helpful before finding the motivation of dividend initiation. The dividend decline after 1978 was due to an explosion in the number of newly listed firms (hereafter, new lists) and the changing characteristics of firms. Before 1978, new lists tended to be more profitable than seasoned firms. While the earnings of new lists averaged 17.79% of book equity in 1973–77, the earnings of new lists averaged only 2.07% of book equity in 1993-98. As the profitability of new lists declined, the percentage of new lists that paid dividends also declined. Smaller firms tended to pay fewer dividends after 1978.

Baker and Wurgler (2002) test declining dividend theories and find that the catering theory explained the disappearance of dividends. The catering theory is based on the idea that investor demand can create a gap between the stock prices of payers and nonpayers in an inefficient stock market. Managers rationally cater to demand by paying dividends to dividend-paying shares at a premium and not paying to discounted dividend payers.

There is mixed evidence about measuring the information impact of dividend changes (Brealey et al., 2008). Some researchers have found that dividend changes have no power to predict future earnings (Bulan et al., 2007). However, Healy and Palepu (1988) show that at dividend initiation, earnings rose 43% in the year a dividend was paid, while an abnormal stock price jumped 4% at the dividend initiation announcement. The same positive impact of dividend initiation was observed in the hospitality industry. When lodging firms announced a cash dividend for the first time, their stock prices on average rose by 1–3% (Canina, 2001; Sheel & Zhong, 2005). Canina et al. (2001) explore the reasons for this price movement and suggested that the information asymmetry between managers and investors provided an opportunity for managers to use cash dividends as a signaling mechanism to transmit information to investors. Therefore, it is likely that dividend initiation in the lodging industry implies managerial confidence in future firm financial performance. In other words, managers are more likely to initiate dividends if they expect to generate more profits and enjoy greater financial flexibility in the future. However, Benartzi et al. (1997) finds that changes in dividends do not have information about future earning changes.

There are other reasons for dividend initiation as reported by Kale et al. (2011). They find that a firm initiated dividends when the supply of operating cash flows is greater than the cash needs. Firms like to attract better-informed institutional investors; thus, one potential signal of their higher quality is a dividend payment. Their results match the dividend signaling model which shows the negative relationship between the probability of dividend initiation and both the beta of firm assets and residual standard deviation of stock returns.

Dividend initiation announcements can negatively impact other firms within the same industry as found by (Kohers, 1999). Industry responses depend on industry homogeneity, the

announcing firm's abnormal return and its size. The volatility tends to increase around dividend announcements for a low information environment which has higher investor uncertainty surrounding firms (Mitra & Owers, 1995). When managers signal future performance with dividend increases (or initiation), they increase their firm's ownership (shareholders) because of the dividends. Otherwise the value of share will fall by more than the amount of dividend. Born (1988) reports that insider ownership positions are positively related to market responses of dividend initiation announcements. When there is no transaction cost for trading in shares in a perfect market, dividend policy becomes value irrelevant (Miller & Modigliani, 1961).

Taxation may have an impact on dividend changes. When Congress enacted the cuts in dividend and capital gain tax rates in 2003, only insiders among individual investors rebalanced their portfolios (Blouin, Raedy & Shackelford, 2011). When dividend and capital gain tax cuts are made permanent, dividend payments rise immediately. However, if those tax cuts are temporary, firms distribute large dividends right after the temporary dividend tax cut (Gourio & Miao, 2011; Brav et al., 2008). Since this study looks at dividend initiation, we won't test the impact of tax cut on dividend changes. Considering the inconsistent results from previous studies on dividend initiation and the yet-to-be tested signaling hypothesis in the restaurant industry, we offer the following research hypothesis:

H_{1A}: Dividend initiation is likely to be positively related to future profitability and liquidity.

Dividend initiations are dependent on a firm's life cycle. Dividend initiators are firms that have reached the mature stage of their life cycles. While dividends are paid by mature and established firms, young firms have abundant investment opportunities and limited resources (DeAngelo et al., 2006). When firms become mature and have diminished investment

opportunities, they tend to increase their cash payouts (Grullon et al., 2002). Firms change dividends through time according to their investment opportunity sets (Denis & Osobov, 2008). Bulan et al. (2007) find that the mature firm initiates dividends. In addition, initiators tend to be larger and more profitable, have greater cash reserves, and have fewer growth opportunities than non-initiators. High-growth firms are not likely to pay dividends due to costly external financing (Holder et al., 1998). Therefore, we have the following research hypothesis:

H_{2A}: Dividend initiation is likely to be negatively related to the growth rate and the investment opportunity; but positively related to firm size.

For those firms with a high rate of free cash flow but few profitable investment opportunities, stockholders prefer a dividend policy with high payouts to deter managers from spending free cash flows on value-decreasing projects or management perks (Palepu et al., 2000). Particularly after 2000, investors have preferred high payout growth firms because there appears to be fewer agency problems when these firms paid high dividends (Sung et al., 2006). Since U.S. casino firms have positive investment opportunities and high annual sales revenue growth rates, they are less likely to payout dividends (Kim & Gu, 2009). Therefore, we offer the following research hypothesis:

H_{3A}: Dividend initiation is likely to be positively related to free cash flow and negatively related to investment opportunities.

Finally, dividend initiation can rely on investor sentiment. Catering theory (Baker & Wurgler, 2004) suggests that managers make their dividend decisions based on whether they expect a dividend premium for dividend payers versus non-dividend payers. This dividend premium is the difference between the logs of the dividend payers' and nonpayers' average market-to-book ratios (Baker & Wurgler, 2004). In other words, these managers tend to pay

dividends when they expect a valuation premium on dividend payers; they will probably not pay dividends if such a valuation premium is not expected or does not exist. Bulan et al. (2007) find that the higher the dividend premium, the more likely a dividend payment will be initiated. When the dividend premium is higher, the abnormal returns around initiations are also higher. Ferris et al. (2009) also reported that the dividend premium is positively related to dividend payment in twenty-three countries. IPO firms prefer dividends to repurchases when investor demand for dividends is high as indicated by their willingness to offer higher dividend premiums (Jain, Shekhar & Torbey, 2009). However, while the dividend premium is largely positive in those countries, the number of dividend payers has dropped (Denis & Osobov 2008). This may be due to fewer dividend initiations by newly listed firms. Therefore, we offer a fourth research hypothesis:

H_{4A}: Dividend initiation is likely to be positively related to dividend premium.

However, rather than paying out dividends, companies can also buy back their outstanding shares to achieve the goal of returning cash to shareholders. Stock repurchases can be done in several different ways: 1) announcements in the open market; 2) use of a tender offer (20% above current market value); 3) employment of a Dutch auction; and/or 4) negotiation with major shareholders (Brealey, Myers & Allen, 2008). While dividend payouts are more likely to be continuous events with high future earnings, share repurchases tend to be one-time events due to present undervaluation (Dittmar, 2000) and often lack long-term commitment (Brealey, Myers & Allen, 2008). A dividend reduction can be balanced by share repurchases. In addition, when cash dividends are replaced by share repurchases, shareholder's wealth does not change (Brealey, Myers & Allen, 2008). In order to distribute cash from corporations to shareholders, a majority

of a firm's shareholders supports dividend payouts for small contributions and stock repurchases for large distribution (Brennan & Thakor, 1990).

Grinstein and Michaely (2005) report that institutions prefer dividend paying firms even after controlling size, risk, market-to-book ratio and a host of other variables. However, institutions do not have a preference for firms that pay a high dividend. Institutions tend to prefer low-dividend stocks to high dividend stocks.

Previous hospitality studies have explored other determinants of dividend policies. While total debt and dividend payout have been found to be negatively related, firm size and dividend payout are positively related in the restaurant industry (Dalbor & Upneja, 2007). In addition, more highly leveraged firms tend to pay lower dividends due to higher bankruptcy risk and the cost of debt capital (Mancinelli & Ozkan, 2006). Furthermore, firms with greater sales are likely to have lower bankruptcy risk and pay out higher dividends (Dickens et al., 2003). Finally, earnings variability has been found to be negatively related to dividend payout (Amidu & Abor, 2006). It appears that when firms have stable earnings, they pay a higher percentage of earnings as dividends.

Methodology

The literature suggests four alternative explanations for a firm's decision to initiate dividends within a financial framework: 1) Signaling; 2) Life cycle; 3) Agency costs; and 4) Catering. In this study, we examine which hypothesis explains dividend initiations for publicly traded restaurant firms. We start from logit regressions that relate dividend initiations to firm characteristics that proxy for the aforementioned alternative hypotheses within a contemporaneous framework. This approach attempts to identify whether there are embedded correlations between firm financial characteristics and dividend initiation. In other words, we

seek to answer the following question: What financial characteristics would we expect restaurant firms to exhibit while initiating dividends? Next, we employ an expectation framework to directly test which hypothesis explains the phenomenon of restaurant dividend initiation. We argue that our expectation framework takes a different and probably better perspective relative to the indirect tests employed by many prior studies, which infer from market reactions to dividend announcements whether new and positive information has been released (by estimating abnormal returns) and then examine whether these market reactions are consistent with after-dividend firm financial characteristics changes. Depending on whether changes in these financial characteristics are consistent with market reactions to dividend initiations or pre-dividend characteristics, these studies draw a conclusion about whether a certain hypothesis has been supported or not. However, this type of research design is questionable because, strictly speaking, it is intended to answer the question of whether management has correctly decided whether to initiate a dividend or not instead of which variables determine the managerial dividend initiation decision.

Based on the principal hypothesis and empirical evidence from Lintner (1956), management makes dividend initiation decisions based on expectations of their firms' future earnings, which are arguably determined by future changes in a firm's financial characteristics. Therefore, our explanatory variables, taking both contemporaneous and forward-looking forms, follow Baker and Wurgler (2004), Bulan et al. (2007), Grullon et al. (2002), Healy and Palepu (1988), and Kim and Gu (2009), and are motivated by the aforementioned four hypotheses.

The variables used (Variable abbreviations, relevant Compustat annual data items, and explanations in parentheses) are as follows:

1. Return on Assets (ROA = ni/at, net income divided by total assets), a profitability measure commonly employed in previous studies is motivated by signaling theory. If a firm considers itself more profitable both for now and in years to come, it is more likely the firm will pay out dividends to signal investors that the firm has more internal funds (Myers & Majluf, 1984), stable operating cash flows, and lower probability of business failure (Dickens et al., 2003). A significantly positive test result on ROA both in contemporaneous and expectation frameworks would suggest dividend initiation is consistent with signaling theory.
2. Investment Opportunity (InvestOpp = (csho*prcc_f)/seq, common shares outstanding*share price at the end of a fiscal year over book value of total equity). Governed by the pecking order theory (Myers & Majluf, 1984), firms that have more investment opportunities should retain more earnings to avoid costly external financing. Therefore, a negative relationship between investment opportunities and dividend initiation is consistent with the pecking order theory. However, the measure of investment opportunity also indicates possible strong future earnings power (Fama & French, 1993); thus, according to the signaling theory, a positive relationship can be observed between investment opportunity and dividend initiation.
3. Growth Rate (Growth rate = $(revt_t-revt_{t-1})/revt_{t-1}$, the relative change in total sales from time t-1 to t). Previous studies (e.g., Amidu & Abor, 2006; Rozeff, 1982) hypothesized a negative relationship between firm growth rate and dividend payouts because growing firms are more likely to use internal funds to finance growth, which is also consistent with the pecking order theory.

4. Liquidity (Liquidity = act/lct, current assets divided by current liabilities). Similar to free cash flow, liquidity is viewed as an indication of whether sufficient funds are available for dividend payouts and the firm is able to pay out (Amidu & Abor, 2006). In particular, if liquidity is found to be positively correlated to dividend initiation in an expectation framework, in other words, if liquidity in the year after dividend initiation is positively correlated with dividend initiation, then we find supports for signaling because those firms that form the right expectation about their stronger future financial position are more likely to initiate dividends.
5. Free Cash Flow (FCF = ch/at, cash divided by total assets). Inclusion of FCF is motivated by agency theory, considering that firms with large free cash flows can use dividend payouts to reduce agency costs associated with overinvestment and increase the firm's market value (Jensen, 1986). In addition, a positive correlation between free cash flow and dividend initiation is consistent with pecking order theory, because when a firm has more cash, it is more capable of paying out dividends from these internal funds.
6. Size (Size=ln(at), natural logarithm of total assets). Signaling and life cycle theories argue for the opposite direction in terms of the relationship between firm size and dividend payout. The signaling theory argues that firms that start to pay out dividends can be relatively smaller in the dividend-initiating year because smaller firms have a stronger incentive to initiate dividends. This sends a signal to investors of their potential financial success and managerial confidence, thus lowering their cost of capital. In the firm life cycle theory, more mature firms, which tend to be bigger in size, will have easier access to capital markets, thus reducing their needs for

internal financing and allowing for dividend payout (e.g., Fama & French, 2001; Zeng, 2003; Kim & Gu, 2009).

7. Debt Ratio (Debt ratio = lt/at, total liabilities divided by total assets). Due to higher external financing costs and default risk, heavily leveraged firms are more constrained financially and less likely to pay out dividends (e.g., Mancinelli & Ozkan, 2006; Jensen et al., 1992).
8. Capital Expenditure (Capex = capx/at, capital expenditure divided by total assets). If capital expenditure creates assets that can be used as collateral, capital expenditure could increase debt capacity and reduce demand for cash (Bates et al., 1999), thus equipping firms with internal funds needed to pay out dividends, likely motivated by pecking order theory. In addition, increases in capital expenditures also suggest that firms are catering to growing demand and signaling a stronger financial future. Consequently, we expect capital expenditures to be positively correlated with dividend initiation within the expectation framework and negatively associated with dividend initiation within the contemporaneous framework.
9. Earnings Coefficient of Variation (ECV = the standard deviation of niq/the mean of niq, coefficient of variation of quarterly net income). Previous empirical evidence suggests that ECV tends to be negatively associated with the likelihood of dividend payouts because of firms' precautionary motives when facing uncertain earning streams (Amidu & Abor, 2006; Jensen et al., 1992; Opler et al., 1999). Although dividend initiating firms do not subsequently increase their firm's earnings, earnings volatility becomes significantly lower after the dividend initiation announcement (Dyl & Weigand, 1998).

10. Stock Repurchase (Repurchase = 1, if there is an increase in treasury stock, 0, otherwise). Stock repurchase is generally considered to be an alternative to dividend payouts; thus, a negative correlation is expected.
11. Dividend Premium (DV Premium = the logs of the average market-to-book ratios of dividend payers and non-payers, following Baker and Wurgler [2004]). The catering theory of dividends proposed by Baker and Wurgler (2004) suggests that investor sentiment could be a reason for dividend initiation. It appears that investors prefer dividend-paying firms in certain periods of time to non-paying firms. When arbitrage fails to correct the "irrational" preference, certain firms in the preferred category may find it optimal to initiate dividends. Further, Bulan et al. (2007) showed a significantly positive relationship between the dividend premium and dividend initiation. When the dividend premium is high, mature firms tend to initiate dividends.
12. Fama-French's three factors (Market, SMB, HML beta, from the Fama-French data library website, referring to market premium, small-minus-big and high-minus-low, respectively). We control for the overall market condition by including Fama-French's three factors. Bulan et al. (2007) shows that dividend initiators tend to be similar to value firms such as high book-to-market firms rather than to growth firms. Our results are not sensitive to alternatively controlling for Fama-French's three-factor loadings (details are covered in the sensitivity test section) (Fama & French, 1993).
13. Dividend Initiation (DV Initiation = 1, if a firm initiates cash dividend payment after a firm's initial public offering in a given year; 0, otherwise). DV Initiation is used as

the dependent variable in this study and captures the observations from a firm's dividend initiation.

With variables of interest in hand, the two test frameworks are laid out below.

The contemporaneous framework:

$$DV\ Initiation_t = logit\left(\vec{x}_t \cdot \vec{\beta}\right)$$

Where logit(.) symbolizes the logit function form. $\vec{x}$ is a vector of relevant independent variables discussed above and $\vec{\beta}$ is the relevant parameter vector. The subscript t indicates year t.

And, the expectation framework:

$$DV\ Initiation_t = logit\left(\vec{x}_{t+1} \cdot \vec{\theta}\right)$$

Where logit(.) symbolizes the logit function form. $\vec{x}$ is a vector of relevant independent variables discussed above and $\vec{\theta}$ is the relevant parameter vector. The subscript t and t+1 indicate year t and year t+1, respectively.

We use the restaurant industry (SIC 5812) for data analysis. First, using CRSP tapes, we collect dividend initiation restaurant firms in the NYSE, AMEX and NASDAQ during the period 1971–2010. We then identify the dividend-initiating year. Based on this, we select the control sample of non-dividend initiators, which have never paid a cash dividend since their IPO. Under the contemporaneous framework, we consider the dividend-initiating year for data collection purposes. Under the expectation framework, we consider the year following the dividend-initiating year for forward financial data collection purposes and the dividend-initiating year for dependent variable data collection purposes. Our expectation framework is restricted to one year after dividend initiation because management is not likely to have accurate expectations about their firms' financial characteristics in a longer time window. In practice, publicly traded

companies most often provide managerial earnings guidance within a one-year-into-the-future time frame at most. Very rarely, if at all, will a company provide guidance in a longer timeframe due to likely reliability concerns. Therefore, establishing an expectation framework with a time window longer than one year would likely result in misleading statistical results. Our final samples consist of 157 unique cash dividend initiators and 153 unique non-initiators. Financial information for independent variables is collected from the Annual COMPUSTAT Industrials database.

Results

We identify 157 unique cash dividend initiations in the restaurant industry between 1971 and 2010 (Figure 1). Echoing Fama and French (2001), the restaurant industry does also appear to exhibit a disappearing cash dividend trend. However, the pattern observed in Figure 1 also shows quite some correlation with the overall economic environment. For example, we observe the relatively lower levels of dividend initiations in 1972–1974, 1980–1981, 1984–1986, 1989, 1992, 2001 and 2008–2010, which correspond to the well-known economic downturns. Moreover, we observe the relatively higher levels of dividend initiations in 1976, 1983, 1988, 1995, and 2004, which correspond to economic upswing periods. Note the peak levels of dividend-initiating years preceding the peak years of the macro economy, indicating that restaurant firms might be able to foresee, at least to some degree, future economic evolvement, thus making their dividend decisions accordingly. This likely predictability might stem from direct and frequent customer contact, which provides opportunities for perceiving, sometimes even sensitive, changes in consumer spending behavior.

Please insert Figure 1 here

Sample summary statistics are reported in Table 1 based on the dividend-initiating year. Panel A includes both dividend initiators and non-initiators. It appears that the restaurant industry is at high risk, as indicated by wide dispersions in almost every variable. In particular, the mean profitability measure of ROA of -19% and its associated standard deviation of 162% offer a strong sign of risk flavor. Panels B and C provide summary information for non-initiators and initiators, respectively. Overall, dividend-initiating firms appear financially stronger than non-initiating firms, consistent with prior studies. Specifically, dividend initiators are more profitable, as suggested by a higher average ROA of 5% versus that of -21% for the non-initiators. They are also better investment opportunities, as indicated by the average InvestOpp of 4.31 versus that of 2.25 for the non-initiators. Dividend initiators are also bigger and more liquid when both the mean and standard deviations are considered. Furthermore, these firms are relatively less leveraged with less volatile earnings. The much narrower spans of minimum and maximum values for initiators offer another piece of evidence that they are relatively less risky than non-initiators. Consequently, Panel A results are largely driven by non-initiators because they appear to produce extreme numbers.

Insert Table 1 here

Table 2(a) and 2(b) produce Pearson correlation analysis results for independent variables tested within the contemporaneous and expectation frameworks, respectively. All variables show consistent relationships across both frameworks, indicating that the final samples are clean and free of significant impacts from missing values. In addition, there is no sign of significant multicollinearity.

Insert Table 2(a) and 2(b) here

Table 3(a) reports logit regression results under the contemporaneous framework. We test four models to ensure that our results are robust to alternative model specifications. Overall, the signaling hypothesis appears consistent with our test results. We start with the base model (1) that incorporates fundamental financial characteristics of a firm. The test results indicate that ROA and investment opportunity (InvestOpp) positively and significantly impact the likelihood of dividend initiation. Based on the signaling hypothesis, firms would be more likely to initiate dividends when they are more profitable and see signs of stronger earnings power. Model (2) controls for the impact of share repurchase and, consistent with theory, as an alternative to dividend share repurchase is found to be negatively correlated with dividend initiation. Model (3) introduces DV Premium as the proxy to test for the catering hypothesis. Results did not indicate significant impact on dividend initiation. And lastly, further incorporating controls for the macro-economic environment, the Fama-French three factors, Model (4) produces similar results that show ROA and InvestOpp significantly and positively influence dividend initiation likelihood. The dividend premium proxy (DV Premium) also shows a significant and negative impact on initiation, indicating that the impact direction is contrary to that posited in the catering hypothesis. Overall, our results are consistent and robust. ROA and InvestOpp are significantly and positively correlated with the likelihood of dividend initiation within our contemporaneous framework, suggesting the most prominent financial characteristics exhibited for dividend-initiating restaurant firms.

However, we are not ready to draw the conclusion that signaling appears to explain dividend initiation in the restaurant industry unless we also directly test and show that relevant relationships persist under our expectation framework. We also report results from four logit models consistent with those under the contemporaneous framework in Table 3(b). Overall, our

results are also consistent with those from the contemporaneous framework in support of the signaling hypothesis, with one extra piece of significant information – forward looking, liquidity significantly and positively influences the likelihood of dividend initiation. All four models show positive and significant coefficients associated with ROA, InvestOpp, and Liquidity in year t+1. Consequently, it appears that management makes its dividend initiation decision based on its expectation of future financial characteristic evolvements, echoing Cohen and Yagil (2010). When profitability and investment opportunities are expected to continue to be strong into the future, combined with liquidity increases, it is more likely to initiate dividends. Dividend premiums do not appear to significantly affect dividend initiation under our expectation framework.

Insert Table 3(a) and 3(b) here

Sensitivity Tests

Two potential issues may influence our test results. 1). Our main test frameworks employed Fama and French (1993) three factors to control for overall macro-economic impacts; however, firm specific Fama and French (1993) three factor betas may be preferred because they are generally considered as direct measures of firm risks. 2). It appears that the clientele theory (Allen et al., 2000) may also play a role in driving restaurant firms' dividend initiation. Allen et al. (2000) postulate that institutional investors are more capable of assessing firm quality; consequently, higher-quality firms are willing to initiate dividend to attract these better informed investors. Lower-quality firms, on the other hand, are unwilling to imitate this action because they do not want to reveal their true type under the scrutiny of intuitional owners. The net result is that high quality firms are more likely to pay dividend to attract better informed institutional investors.

To address 1), we use a firm's daily returns from the CRSP and daily Fama-French factors from the Fama-French database on Wharton Research Data Services (WRDS) to estimate the three-factor model of Fama and French (1993) on an annual basis. The factor loadings are the Market Beta, HML Beta, and SMB Beta for individual firms in a given year. Then we merge the factor loadings data set with our final sample previously used to test the frameworks to arrive at our sensitivity test sample. Merging causes our sensitivity test sample to shrink to 588 observations for the contemporaneous framework and 563 observations for the expectation framework. Results are reported in Table 4 with the contemporaneous framework in column Sensitivity 1 and the expectation framework in column Sensitivity 2. Overall, our results are robust.

To address 2), we estimate the deficit level of institutional ownership (DLIO) based on Kale et al., (2011); then we include DLIO in both of our test frameworks to see if our results are robust. The rationale behind lies in the assumption that institutions are informed investors, empirically, if a firm has a lower level of institutional ownership than it should be given the characteristics of the firm, it is more likely to initiate dividends (Allen et al., 2000). In other words, Allen et al. (2000) predicts that the greater this deficit, the more likely is the firm to initiate dividends. We collect the institutional holdings data from Thomson Reuters Institutional (13f) Holdings - Type 3: Stock Holdings and the relevant financial data from COMPUSTAT and CRSP. Then we merge this dataset with our final sample previously used to test both our frameworks. Merging causes the final sensitivity sample to shrink significantly for both frameworks—the contemporaneous framework sample drops to 223 observations and the expectation framework sample drops to 288 observations. We estimated an OLS model following Kale et al., (2011) to obtain an estimate of DLIO. Then we include DLIO in both our

test frameworks—we also use Fama French three factors and factor betas separately—to test whether DLIO is significant. Our test results show that including DLIO in our test frameworks introduces high levels of multicollinearity, suggesting our existing frameworks have sufficiently accounted for the impact of DLIO (Test results are not reported due to space constraints). While acknowledging our data constraints, we argue that it appears when firms signal investors, the information in DLIO is embedded in the financial characteristics considered in our test frameworks. In addition, we acknowledge our limitation in testing the tax theory due to data constraints and would like to suggest it as a future research direction in the restaurant industry. We did not find support for the residual and agency theories of dividends because our results show growth rates and ROA are positively related to dividend initiation, while capital expenditure is not.

Discussion

Among four hypotheses, hypothesis 1A is accepted. The signaling hypothesis explains that dividend initiation is related to present and future profitability. The life cycle hypothesis is not accepted because dividend initiation is positively related to present and future investment opportunities. Free cash flow (hypothesis 3A) is not significant. The dividend premium for catering theory (hypothesis 4A) is not accepted since it is negatively significant.

The result can be interpreted as follows. Most restaurant IPO firms begin to initiate dividends within two years after their IPOs like other industries (Kale et al. 2011). Public offerings tell possible and current investors about a corporation's growth stages, signaling opportunities for financing investment (Jain & Kini 1999). This may be due to the larger number of franchising expansion opportunities in the restaurant industry rather than investments in fixed assets. The growth stage is the time in which restaurant firms pay dividends. Thus, restaurant

firms do not have much free cash flow (fewer agency problems) when restaurant firms initiate dividends. Dividend initiation occurs when mature firms have positive market sentiment or dividend premiums (Bulan et al., 2007). However, since most of our sample involves restaurants in the growth stage, it is possible that market sentiment may not impact dividend initiation. For the expectation framework, dividend premium is insignificant. For the contemporaneous model, it is negative.

Conclusions and potential topics for future research

Dividend initiation in the restaurant industry appears to be explained by the signaling hypothesis, which is consistent with previous hospitality studies. Our other proposed research hypotheses (agency cost and life cycle) are not supported. Our results do not support the catering theory explanation. In the contemporaneous framework, financial characteristics of dividend initiators are high profitability, high investment opportunity, low stock repurchase, and low dividend premium. For the expectation framework, variables such as ROA, investment opportunity, liquidity, and repurchase are significant. While future repurchase is negatively related to present dividend initiation, other future variables are positively related to present dividend initiators.

Although this study compared dividend initiation with stock repurchase in the restaurant industry, researchers have not looked at stock repurchase in the hospitality industry. Some technology firms such as Cisco and Dell use large share repurchases without paying dividends (Skinner, 2008). A firm's motivation to engage in share repurchases is the amount of cash that they have on hand rather than potential investment or attempts to raise debt levels. It would be worthwhile to research hospitality share repurchases.

This study's focus was on dividend initiation. It is clear that additional research on dividend omission and reduction would be interesting. An international hospitality study on dividend policy would have a significant impact on the literature because more and more hospitality firms are becoming internationalized. In this study, catering theory showed a relationship between dividend premium and shareholder sentiment. Behavioral study on hospitality finance has not been popular, yet research on investor psychology would contribute to an understanding of some phenomena not explained by traditional finance. This research found that the majority of restaurant IPOs became dividend initiators within a few years. Since restaurant IPOs behave differently than other industry IPOs, another possible research topic would be a look at the life cycle of restaurant IPOs and ownership structures of restaurant IPOs.

Limitations

This study, constrained by data, did not address the lifecycle hypothesis. Ideally, we would also like to include the number of years after a restaurant has gone public before it begins dividend initiation. However, the majority of our sampled initiators paid dividends within the first three years after their IPOs, which suggests that the life cycle hypothesis may not be the reason that restaurant firms initiate dividends. Yet it is still necessary to test the life cycle hypothesis because restaurant firms could consider themselves mature once they go public and, therefore, initiate dividends.

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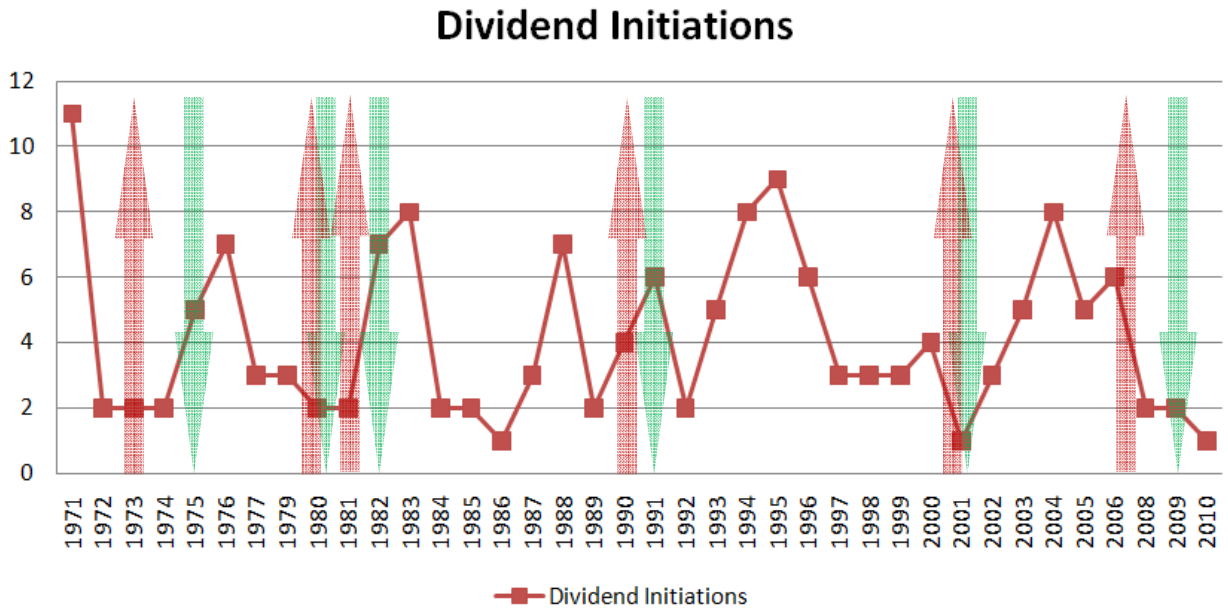
Figure 1**: Dividend-initiating Years and Firm Numbers.**



Note:

The final sample includes a total of 157 dividend initiations.

Up and down arrows indicate peaks and troughs, respectively, of US business cycle determined by the Business Cycle Dating Committee of the National Bureau of Economic Research (http://www.nber.org/cycles.html).

Table 1: Dividend Initiators and Control Firms – Descriptive Statistics.

Variable	Mean	Std. Dev.	Min	Max
Panel A: Full Sample				
ROA	-0.19	1.62	-47.23	1.65
InvestOpp	2.42	17.53	-314.59	348.73
Growth rate	0.63	7.44	-1.00	242.48
Liquidity	1.44	3.52	0.00	82.83
FCF	0.09	0.13	-0.08	1.00
Size	3.34	1.95	-5.30	8.89
Debt ratio	0.75	2.32	0.00	85.60
Capex	0.15	0.15	-0.08	1.21
ECV	1.26	31.89	-76.85	1,086.16
Repurchase	0.10	0.30	0.00	1.00
DV Premium	0.35	0.97	-1.74	2.54
Market	7.95	16.96	-39.94	32.12
SMB	2.26	11.69	-25.62	27.73
HML	5.90	14.83	-33.92	40.43
Panel B: Non-initiating firms				
ROA	-0.21	1.71	-47.23	1.65
InvestOpp	2.25	18.05	-314.59	348.73
Growth rate	0.66	7.72	-1.00	242.48
Liquidity	1.46	3.68	0.00	82.83
FCF	0.09	0.13	-0.08	1.00
Size	3.30	1.95	-5.30	8.82
Debt ratio	0.77	2.44	0.00	85.60
Capex	0.16	0.15	-0.08	1.21
ECV	1.31	33.21	-76.85	1086.16
Repurchase	0.10	0.30	0.00	1.00
DV Premium	0.35	0.98	-1.74	2.54
Market	7.76	17.01	-39.94	32.12
SMB	2.09	11.74	-25.62	27.73
HML	5.88	14.94	-33.92	40.43
Panel C: Initiating firms				
ROA	0.05	0.15	-0.45	0.55
InvestOpp	4.31	9.75	-2.49	84.42
Growth rate	0.21	0.61	-0.80	4.89
Liquidity	1.27	1.44	0.06	14.68
FCF	0.08	0.09	0.00	0.66
Size	3.75	1.90	-0.05	8.89
Debt ratio	0.61	0.30	0.00	2.60
Capex	0.15	0.13	0.00	0.77
ECV	0.75	6.98	-18.68	69.19
Repurchase	0.06	0.24	0.00	1.00
DV Premium	0.35	0.93	-1.74	2.54

Market	10.06	16.26	-39.94	32.12
SMB	4.11	11.00	-25.62	27.73
HML	6.13	13.69	-33.92	40.43

Note:

The summary statistics is based on the dividend-initiating year to provide an overview of financial characteristics of dividend initiators and non-initiators. Return on Assets (ROA) = ni/at, net income divided by total assets; Investment Opportunity (InvestOpp) = (csho*prcc_f)/seq, common shares outstanding*share price at the end of a fiscal year over book value of total equity; Growth Rate (Growth rate) = (revtt-revtt-1)/revtt-1, the relative change of total sales from time t-1 to t). Liquidity (Liquidity) = act/lct, current assets divided by current liabilities; Free Cash Flow (FCF) = ch/at, cash divided by total assets; Size (Size)=ln(at), natural logarithm of total assets; Debt Ratio (Debt ratio) = lt/at, total liabilities divided by total assets; Capital Expenditure (Capex) = capx/at, capital expenditure divided by total assets; Earnings Coefficient of Variation (ECV) = the standard deviation of niq/the mean of niq, coefficient of variation of quarterly net income; Stock Repurchase (Repurchase) = 1, if there is an increase in treasury stock, 0, otherwise; Dividend Premium (DV Premium) = the logs of the average market-to-book ratios of dividend payers and non-payers, following Baker and Wurgler (2004); Fama-French three factors (Market, SMB, HML beta) are from the Fama-Frech data library website; Dividend Initiation (DV Initiation) = 1, if a firm initiates cash dividend payment after a firm's initial public offering in a given year, 0, otherwise.

Table 2(a): Pearson Correlation Analysis for Independent Variables within the Contemporary Framework.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
DV Initiation (1)	1														
ROA (2)	0.0532	1													
	(.0432)														
InvestOpp (3)	0.0475	0.0011	1												
	(.1171)	(.9723)													
Growth rate (4)	-0.0169	-0.0462	-0.0097	1											
	(.5577)	(.1079)	(.7573)												
Liquidity (5)	-0.0154	0.0255	0.0157	0.0077	1										
	(.5625)	(.3377)	(.6062)	(.7925)											
FCF (6)	-0.014	-0.0589	0.0306	0.0099	0.2566	1									
	(.6080)	(.0311)	(.3322)	(.7402)	(.0000)										
Size (7)	0.0846	0.2405	-0.056	-0.0405	-0.0561	-0.2261	1								
	(.0013)	(.0000)	(.0645)	(.1590)	(.0345)	(.0000)									
Debt ratio (8)	-0.0231	-0.2113	-0.0242	0.0087	-0.0561	0.1925	-0.2019	1							
	(.3800)	(.0000)	(.4244)	(.7611)	(.0347)	(.0000)	(.0000)								
Capex (9)	-0.0195	0.0178	0.086	0.0199	-0.0138	-0.0312	-0.0996	-0.082	1						
	(.4618)	(.5029)	(.0046)	(.4924)	(.6070)	(.2565)	(.0002)	(.0020)							
ECV (10)	-0.0059	0.0104	0.0014	-0.0047	-0.006	-0.0102	-0.0031	0.0037	-0.0083	1					
	(.8287)	(.7137)	(.9642)	(.8755)	(.8326)	(.7283)	(.9113)	(.8956)	(.7710)						
Repurchase (11)	-0.0366	0.0421	-0.031	-0.0025	-0.0308	-0.0355	0.2083	-0.0322	0.0098	0.0015	1				
	(.1282)	(.1098)	(.3063)	(.9307)	(.2467)	(.1922)	(.0000)	(.2212)	(.7126)	(.9562)					
DV Premium (12)	-0.0012	0.0161	-0.0173	-0.0076	0.0042	0.0318	0.1142	0.0241	-0.1012	-0.0217	0.046	1			
	(.9641)	(.5706)	(.5969)	(.8063)	(.8831)	(.2755)	(.0000)	(.3931)	(.0004)	(.4522)	(.0752)				
Mkt_rf (13)	0.0412	-0.0253	0.0198	-0.0605	0.0014	-0.0026	0.01	-0.0427	0.0024	0.0129	0.0154	0.0587	1		
	(.0863)	(.3367)	(.5126)	(.0351)	(.9574)	(.9231)	(.7046)	(.1043)	(.9292)	(.6352)	(.5230)	(.0231)			
SMB (14)	0.0483	-0.0133	-0.0224	-0.0027	-0.0161	0.0041	-0.0302	0.0425	-0.0418	0.0046	-0.0564	0.0757	0.1064	1	
	(.0443)	(.6127)	(.4604)	(.9239)	(.5449)	(.8805)	(.2506)	(.1058)	(.1150)	(.8662)	(.0189)	(.0034)	(.0000)		
HML (15)	0.0063	0.0601	-0.0533	0.0211	0.0381	0.0289	-0.0231	0.0207	0.0006	0.0324	-0.048	0.1704	-0.3674	0.0661	1
	(.7946)	(.0224)	(.0781)	(.4635)	(.1515)	(.2888)	(.3793)	(.4317)	(.9818)	(.2316)	(.0457)	(.0000)	(.0000)	(.0059)	

Notes:

P-values appear in the parentheses. DV Initiation = 1, if a firm initiates cash dividend payment after a firm's initial public offering in a given year; 0, otherwise. Return on Assets (ROA) = ni/at, net income divided by total assets; Investment Opportunity (InvestOpp) = (csho*prcc_f)/seq, common shares outstanding*share price at the end of a fiscal year over book value of total equity; Growth Rate (Growth rate) = (revtt-revtt-1)/revtt-1, the relative change of total sales from time t-1

to t). Liquidity (Liquidity) = act/lct, current assets divided by current liabilities; Free Cash Flow (FCF) = ch/at, cash divided by total assets; Size (Size)=ln(at), natural logarithm of total assets; Debt Ratio (Debt ratio) = lt/at, total liabilities divided by total assets; Capital Expenditure (Capex) = capx/at, capital expenditure divided by total assets; Earnings Coefficient of Variation (ECV) = the standard deviation of niq/the mean of niq, coefficient of variation of quarterly net income; Stock Repurchase (Repurchase) = 1, if there is an increase in treasury stock, 0, otherwise; Dividend Premium (DV Premium) = the logs of the average market-to-book ratios of dividend payers and non-payers, following Baker and Wurgler (2004); Fama-French three factor betas (Market, SMB, HML) are from the Fama-Frech data library website; Dividend Initiation (DV Initiation) = 1, if a firm initiates cash dividend payment after a firm's initial public offering in a given year, 0, otherwise.

Table 2(b): Pearson Correlation Analysis for Independent Variables within the Expectation Framework

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
DV Initiation (1)	1														
ROA_{t+1} (2)	0.0471	1													
	(.0847)														
$InvestOpp_{t+1}$ (3)	0.0743	0.023	1												
	(.0141)	(.4485)													
$Growth\ rate_{t+1}$ (4)	-0.0119	-0.0463	-0.0056	1											
	(.6733)	(.1006)	(.8570)												
$Liquidity_{t+1}$ (5)	0.0221	0.0324	0.0082	0.0225	1										
	(.4219)	(.2400)	(.7872)	(.4304)											
FCF_{t+1} (6)	0.0284	-0.0527	0.0156	0.0118	0.1749	1									
	(.3155)	(.0625)	(.6215)	(.6874)	(.0000)										
$Size_{t+1}$ (7)	0.1071	0.2544	-0.0288	-0.043	-0.0459	-0.2014	1								
	(.0001)	(.0000)	(.3412)	(.1277)	(.0958)	(.0000)									
$Debt\ ratio_{t+1}$ (8)	-0.0311	-0.2184	-0.0191	0.0075	-0.0595	0.2075	-0.2197	1							
	(.2545)	(.0000)	(.5290)	(.7899)	(.0306)	(.0000)	(.0000)								
$Capex_{t+1}$ (9)	0.0159	0.0416	0.0461	0.017	-0.0007	-0.0174	-0.055	-0.0872	1						
	(.5633)	(.1299)	(.1296)	(.5504)	(.9805)	(.5430)	(.0454)	(.0015)							
ECV_{t+1} (10)	-0.0118	0.0099	-0.0009	-0.0046	-0.0065	-0.0108	-0.0042	0.0038	-0.009	1					
	(.6695)	(.7313)	(.9772)	(.8762)	(.8231)	(.7184)	(.8839)	(.8942)	(.7582)						
$Repurchase_{t+1}$ (11)	-0.0274	0.0461	-0.0266	-0.0029	-0.0278	-0.0254	0.2151	-0.0336	0.0185	0.0022	1				
	(.2776)	(.0911)	(.3796)	(.9190)	(.3132)	(.3684)	(.0000)	(.2178)	(.5001)	(.9376)					
$DV\ Premium_{t+1}$ (12)	-0.0217	0.0063	-0.0243	-0.0093	0.0021	0.0309	0.0899	0.0241	-0.1168	-0.0256	0.0257	1			
	(.4235)	(.8314)	(.4588)	(.7585)	(.9442)	(.3095)	(.0021)	(.4106)	(.0001)	(.3842)	(.3434)				
Mkt_rf_{t+1} (13)	0.0245	-0.0232	0.0323	-0.0558	0.0115	0.0254	-0.0361	-0.0476	0.0106	0.0124	0.0049	0.0239	1		
	(.3304)	(.3953)	(.2862)	(.0478)	(.6762)	(.3691)	(.1854)	(.0808)	(.7010)	(.6530)	(.8459)	(.3785)			
SMB_{t+1} (14)	-0.0123	-0.0081	-0.0329	-0.0021	-0.0444	-0.0063	-0.053	0.0445	-0.0542	0.0056	-0.0662	0.0724	0.0701	1	
	(.6269)	(.7681)	(.2774)	(.9412)	(.1065)	(.8251)	(.0518)	(.1028)	(.0485)	(.8395)	(.0086)	(.0075)	(.0053)		
HML_{t+1} (15)	0.0218	0.0466	-0.0258	0.0216	0.0173	0.0204	-0.0415	0.0235	-0.0077	0.0296	-0.0468	0.1763	-0.372	0.0841	1
	(.3877)	(.0878)	(.3949)	(.4447)	(.5294)	(.4715)	(.1274)	(.3896)	(.7807)	(.2841)	(.0631)	(.0000)	(.0000)	(.0008)	

Note:
Variables are defined as in Table 2(a) except that in the expectation framework they are from the year following the dividend initiating year.

Table 3(a): Logit Regression Results in the Contemporary Framework.

	(1) DV Initiation	(2) DV Initiation	(3) DV Initiation	(4) DV Initiation
ROA	1.865*	1.878*	1.887*	1.804*
	(0.746)	(0.749)	(0.772)	(0.762)
InvestOpp	0.0427**	0.0415**	0.0430**	0.0461**
	(0.0133)	(0.0133)	(0.0155)	(0.0153)
Growth rate	-0.0702	-0.0723	-0.0486	-0.0418
	(0.155)	(0.179)	(0.137)	(0.127)
Liquidity	0.136+	0.123	0.120	0.102
	(0.0820)	(0.0835)	(0.0848)	(0.0858)
FCF	-0.529	-0.419	-0.864	-0.753
	(1.422)	(1.422)	(1.568)	(1.545)
Size	0.0891	0.120	0.127	0.118
	(0.0836)	(0.0865)	(0.0890)	(0.0903)
Debt ratio	0.109	0.106	-0.0389	-0.0800
	(0.377)	(0.378)	(0.465)	(0.476)
Capex	-1.480	-1.320	-1.350	-1.249
	(1.279)	(1.297)	(1.328)	(1.330)
ECV	-0.000939	-0.00105	-0.00141	-0.00180
	(0.00476)	(0.00482)	(0.00514)	(0.00501)
Repurchase		-0.804+	-0.896+	-0.856+
		(0.450)	(0.488)	(0.491)
DV Premium			-0.213	-0.325*
			(0.140)	(0.155)
Market				0.00597
				(0.0101)
SMB				0.0209+
				(0.0124)
HML				0.0157
				(0.0113)
_cons	-2.901***	-2.926***	-2.659***	-2.787***
	(0.542)	(0.546)	(0.589)	(0.617)
N	874	874	753	753
[1]LR Chi²	26.13	29.93	30.74	35.74
Prob. > LR Chi²	.00	.00	.00	.00

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[1]: degrees of freedom for the LR chi² of the model (1), (2), (3), and (4) are 9, 10, 11, and 14, respectively.

We use the dividend-initiating year to estimate the logit regressions with DV Initiation as the dependent variable, coded as one if a firm initiates the dividend in a given year or zero otherwise. Independent variables are described in Tables 1 and 2 and discussed in detail in the methodology section.

Table 3(b): Logit Regression Results in the Expectation Framework.

	(1) DV Initiation	(2) DV Initiation	(3) DV Initiation	(4) DV Initiation
ROA_{t+1}	1.778**	1.821**	1.934**	1.984**
	(0.646)	(0.651)	(0.699)	(0.707)
$InvestOpp_{t+1}$	0.0306*	0.0302*	0.0393*	0.0386*
	(0.0144)	(0.0145)	(0.0176)	(0.0178)
Growth rate $_{t+1}$	-0.00519	-0.00380	-0.00261	-0.00230
	(0.0292)	(0.0264)	(0.0241)	(0.0242)
$Liquidity_{t+1}$	0.192**	0.182**	0.186**	0.190**
	(0.0628)	(0.0630)	(0.0648)	(0.0656)
FCF $_{t+1}$	0.470	0.555	0.402	0.392
	(1.009)	(1.008)	(1.098)	(1.103)
Size $_{t+1}$	0.0760	0.0968	0.0873	0.0880
	(0.0751)	(0.0771)	(0.0826)	(0.0824)
Debt ratio $_{t+1}$	0.273	0.277	0.302	0.312
	(0.252)	(0.252)	(0.253)	(0.256)
Capex $_{t+1}$	0.948	1.026	1.179	1.169
	(0.889)	(0.895)	(0.933)	(0.940)
ECV $_{t+1}$	-0.00419	-0.00441	-0.0104	-0.0107
	(0.0104)	(0.0106)	(0.0141)	(0.0143)
Repurchase $_{t+1}$		-0.524	-0.722+	-0.740+
		(0.346)	(0.395)	(0.396)
DV $Premium_{t+1}$			-0.00648	0.0268
			(0.122)	(0.128)
$Market_{t+1}$				0.00102
				(0.00897)
SMB_{t+1}				-0.00759
				(0.0103)
HML_{t+1}				-0.00482
				(0.0105)
_cons	-3.111***	-3.119***	-3.082***	-3.089***
	(0.462)	(0.465)	(0.496)	(0.511)
N	900	900	773	773
[1]LR Chi²	37.07	39.60	40.03	40.88
Prob. > LR Chi²	.00	.00	.00	.00

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[1]: degrees of freedom for the LR chi^2 of the model (1), (2), (3), (4), and (5) are 9, 10, 11, and 14, respectively.

We include the dividend-initiating year and the year following to estimate the logit regressions with DV Initiator as the dependent variable, coded as one if a firm initiates the dividend in a given year or zero otherwise. Independent variables are described in Tables 2 and 3 and discussed in detail in the methodology section. But in an expectation framework, we take advantage of ex post data available in COMPUSTAT and assume parties of interest will have reasonably accurate expectation about what will happen one year ahead. In other words, for example, ROA_{t+1} indicates that return on assets in the year following the dividend-initiating year is reasonably well expected and known in the year of dividend initiation. Our results are not sensitive to excluding the dividend-initiating firm year observations from the year after the dividend-initiating year.

Table 4: Sensitivity Test Results

	(Sensitivity 1) DV Initiation		(Sensitivity 2) DV Initiation
ROA	2.066	ROA_{t+1}	5.257***
	(1.608)		(1.498)
InvestOpp	0.126*	$InvestOpp_{t+1}$	0.130**
	(0.0645)		(0.0457)
Growth rate	-0.505	Growth rate $_{t+1}$	0.0349
	(0.479)		(0.0505)
Liquidity	0.190+	$Liquidity_{t+1}$	0.271**
	(0.103)		(0.0891)
FCF	3.348	FCF_{t+1}	0.527
	(2.381)		(1.458)
Size	0.193	Size $_{t+1}$	-0.196
	(0.154)		(0.125)
Debt ratio	-0.183	Debt ratio $_{t+1}$	1.328*
	(0.911)		(0.650)
Capex	-3.410	Capex $_{t+1}$	0.335
	(2.325)		(1.327)
ECV	0.0146	ECV $_{t+1}$	-0.0174
	(0.0173)		(0.0189)
Repurchase	-0.520	Repurchase $_{t+1}$	-0.842+
	(0.577)		(0.506)
DV Premium	0.0620	$DV\ Premium_{t+1}$	0.0973
	(0.224)		(0.170)
Market Beta	-0.0294	$Market\ Beta_{t+1}$	-0.0634
	(0.263)		(0.219)
SMB Beta	-0.359+	$SMB\ Beta_{t+1}$	0.276+
	(0.194)		(0.161)
HML Beta	0.333**	$HML\ Beta_{t+1}$	-0.0347
	(0.128)		(0.137)
_cons	-3.501***	_cons	-3.247***
	(0.877)		(0.725)
N	588		563
LR Chi^2(14)	23.29		50.15
Prob. > LR Chi^2	.05		.00

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Degrees of freedom for the LR chi^2 are reported in parentheses as (14).

Variables are described in Tables 1 and 2 except that Fama French three factor loadings are Market Beta, SMB Beta and HML Beta, respectively. We use a firm's daily returns from the CRSP and daily Fama-French factors from the Fama-French database on Wharton Research Data Services (WRDS) to estimate the three-factor model of Fama and French (1993) on an annual basis. The factor loadings are the Market Beta, HML Beta, and SMB Beta for individual firms in a given year.