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Dividend Yields, Stock Returns and Reputation

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Abstract

Problem/ Relevance – The relationship between dividend yields and stock returns is an unresolved issue in finance. Previous papers show mixed results on the relationship. To clarify the relationship, we consider dividend reputation. We investigate whether dividend reputation plays a role in explaining the relationship between dividend yields and stock returns.

Research Objective/ Questions – We hypothesize that firms with dividend reputation tend to have less risk compared to firms without dividend reputation, and the expected return of firms with dividend reputation will be lower given the dividend yield, which is called the “reputation effect.” A mix of firms with and without dividend reputation in a sample could distort the relationship between stock returns and dividend yields. We group stocks according to reputation and analyze the relationship between dividend yields and stock returns.

Methodology – We construct our sample from all firms listed on the NYSE, AMEX, and NASDAQ stock exchanges. In our analysis, reputation effects are included to analyze the relationship between dividend yields and stock returns. We divide our sample firms into three groups according to the track record of dividend payments to control for reputation effects: (1) reputation-established firms, (2) reputation-building initiation, and (3) no reputation firms. To test the hypotheses, we run the panel regression with reputation variables and the control variables.

Major Findings – We find that the reputation effect is strongest for reputation-established firms and a weaker reputation effect for reputation-building younger firms. After controlling the reputation effect and other relevant variables, we find that there does exist a significantly positive relationship between dividend yields and stock returns.

Implications – The empirical results show that the reputation effect is higher for established firms with a good track record of dividend payments than for firms with a short history of dividend payments or for firms with an unreliable history of dividend payments. After controlling the reputation effect and other relevant variables, we find there exists a significantly positive relationship between dividend yields and stock returns. We also find that one year is not enough time for firms to build a dividend reputation.

Keyword: dividend yield, stock return, reputation effect, reputation building

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Introduction

The relationship between dividend yields and stock returns is an unresolved issue in finance. Litzenberger & Ramaswamy (1979), Blume (1980), Hodrick (1992), Naranjo, Nimalendran, and Ryngaert (1998), and Lewellen (2004) report a strong positive relationship between expected returns and dividend yields. Furthermore, Kothari & Shanken (1997), Campbell & Yogo (2006), Chiquoine & Hjalmarsson (2009), Ferreira & Santa-Clara (2011), and Golez (2014) also find some evidence of the relationship. However, Miller & Scholes (1982) report no significant relationship between expected returns and dividend yields, as do Goetzmann & Jorion (1993), Wolf (2000), Lanne (2002), and Goyal & Welch (2003, 2008). Fama & French (1988) report that the power of dividend yields to forecast stock returns increases with the return horizon. On the contrary, Torous, Valkanov, and Yan (2004) and Ang & Bekaert (2007) find this relationship at short investment horizons and not at long horizons.

The mixed results may be because some of the analyses focus on tax effects, which lower the stock price due to taxes on dividend income compared to stocks with no dividend or lower dividends. Keim (1985) finds that much of the relationship between yields and stock returns is due to the relationship in January, and the results are weaker when the test controls for the market value of equity. He suggests that the tax effect may not be the sole factor in explaining the relationship between yields and stock returns, and some other factor like size may play a role. Maio & Santa-Clara (2015) report a positive relationship between dividend yield and stock returns for the aggregate stock market, but not for portfolios of small and value stocks. Furthermore, Chen, Grundy, and Stambaugh (1990) find that at least part of the relationship between stock returns and dividend yields can be attributed to dividend-related changes in risk measures. They point out that the dividend-yield measure is likely correlated with many other economic phenomena.

The research on dividends is different from that on other events in finance such that while in other events in finance such as stock splits or takeovers are not expected to happen regularly with a set interval, once dividends are initiated, they are expected to be paid regularly. That is, while other financial events can be just one-time events, dividend payments are expected to continue. This ongoing nature of dividends, the time aspect, is specific to dividends and should be included in the dividend research to better understand dividend phenomena. Kang (1997) introduces a reputation model of dividends in that firms with stable streams of dividends establish a reputation through time and their market prices are appreciated which is called "the reputation effect". If the reputation effect is included in the analysis of dividends, the relationship between dividends and stock returns could be clearer.

The importance of including the reputation effect in analyzing dividends is shown by numerous papers on dividends. The literature on dividend policy views reputation as a fundamental consideration in corporate decisions regarding the initiation and stability of dividend payments. La Porta et al. (2000) find that firms pay a high and steady dividend to build a favorable market reputation. Similarly, Brav et al. (2005) notice the reason for not initiating dividend is a belief among managers that paying cash dividend requires a long-term commitment and failing to honor that commitment, once made, would ruin firm's reputation. Also, Syed, Zainir, and Isa (2018) show that reputational effects are predominant in the determination of dividend smoothing, and argue that these findings help explain the dividend smoothing puzzle: why firms with lesser or no need for dividend smoothing still smooth high.

There is also a literature that studies the market reactions on the reputation built by dividend payout policy of firms. The models of Gillet, Lapointe, and Raimbourg (2008) suggest that firm managers who decide to signal the quality of their projects via a dividend policy establish a stable dividend policy when the information they hold is favorable. Furthermore, their models imply

that investors would respond favorably to the increase of dividend yields by the firms that have established a dividend reputation. Campbell & Turner (2011), Gan, Lemmon, and Wang (2013), and Flavin & O'Connor (2017) show that firms can build market reputation using dividend payout if disclosure standards or legal protection are weak.

Based on the above arguments, we claim that dividend reputation may be another factor that plays a role in explaining the relationship between dividend yields and stock returns. Dividend payment change by firms with dividend reputation will have a different effect on the stock price than that by firms without dividend reputation because stock market perceives the change differently depending on the dividend reputation of the firms that change dividend payments. Therefore, we hypothesize that firms with a dividend reputation tend to have less risk compared to firms without a dividend reputation, and the expected return of firms with dividend reputation will be lower given the dividend yield, as mentioned, the reputation effect.

A stock with a short history of dividend payments (young firms) has not yet established a reputation, so its signal, such as unexpected dividend increases, is not as reliable or as strong as a signal from a stock with a long history of consistent dividend payments (old firms). For an old firm, the stock price adjusts appropriately to a new signal due to its reputation. On the other hand, the stock price of a young firm does not change as expected to a new signal because there is some doubt about the credibility of the signal. Thus, young firms without dividend reputation in a sample mixed with old firms with dividend reputation could distort the relationship between stock returns and dividend yields.

We group stocks by dividend reputation and analyze the relationship between dividend yields and stock returns using quarterly data. As we expected, the reputation effect is strongest for reputation-established firms. We also find a weaker reputation effect for reputation-building younger firms. After controlling the reputation effect and other relevant variables, we find that there does exist a significantly positive relationship between dividend yields and stock returns. This study's major contribution is that it presents another factor, a dividend reputation, to explain the relationship between dividend yields and stock return, which has been an unresolved issue in finance.

Data and Methodology

We construct our sample from all firms listed on the NYSE, AMEX, and NASDAQ stock exchanges. We collect data for stock returns, dividends, and share information from the CRSP from 1971 to 2015; and compute data for the debt to equity ratio, sales growth rate, and age from COMPUSTAT. The sample includes only common stocks that pay quarterly regular normal taxable cash dividends. We exclude firms that pay annual, semiannual, or monthly regular dividends more than once during the sample period. We also exclude all foreign firms, and small size firms whose stock prices were ever less than \$2 during the sample period. In addition, we exclude firms whose dividend yields ever exceeded 0.24 (24%). Our final sample contains 3,767 firms and 651,651 firm-month observations.

Variables

Ret is the monthly return on common stocks and *Prc* is the closing price or bid/ask average of stocks for the last day in a month. *Div* is the US dollar value per share of distributions resulting from cash dividends. For firms' dividend yields, we use two proxies, *DY1* and *DY2*. As Naranjo et al. (1998) suggest, since the prior year's ex-post yield to proxy for anticipated, long-run dividend yields is stale, we use a more current measure of dividend yield and the last share price to measure

a firm’s annual dividend yield. If Div is the last declared quarterly dividend before the end of month $t - 1$ and P_{t-1} is the price at the end of month $t - 1$, $DY1_t$ is then

$$DY1_t = \frac{4Div}{P_{t-1}}$$

Since most researchers who examine the relationship between dividend yields and monthly stock returns use the prior year’s ex-post yield to proxy for anticipated long-run dividend yields, as in Keim (1985), we also use $DY2_t$ as a proxy for dividend yields, such that

$$DY2_t = \frac{\sum_{k=1}^{12} Div_{t-k}}{P_{t-13}}$$

where Div_t is the dividend paid in month t and P_{t-13} is the stock price at the end of month $t - 13$.

$Div12$ in Table 1 is $\sum_{k=1}^{12} Div_{t-k}$.

Table 1 shows that the summary statistics for the variables for our study. Since we regress the dividend yield with monthly risk factors, we report monthly dividend yields as $DY1(m)$ and $DY2(m)$ in Table 1. We divide our sample firms into three groups according to the track record of dividend payments to control for reputation effects: (1) reputation-established firms, (2) reputation-building initiation, and (3) no reputation firms.

Table 1. Summary Statistics

This table reports the summary statistics for the variables. Ret is the monthly returns on stocks and Prc is the closing price or bid/ask average of stocks for the last day in a month. Div is the US dollar value per share of distributions resulting from a cash dividend. $DY1_t$ is $4D/P_{t-1}$, where D is the last declared quarterly dividend before the end of month $t - 1$ and P_{t-1} is the price at the end of month $t - 1$. $DY2_t$ is $\frac{\sum_{k=1}^{12} Div_{t-k}}{P_{t-13}}$, where Div_t is the dividend paid in month t and P_{t-13} is the price at the end of month $t - 13$. $Div12$ is $\sum_{k=1}^{12} Div_{t-k}$. $DY1(m)$ and $DY2(m)$ are monthly dividend yields, that is, $DY1(m) = DY1/12$, and $DY2(m) = DY2/12$. The sample contains NYSE, AMEX, and NASDAQ firms from January 1970 to December 2015.

Variables	All Firms		RI=0 and RE=1		RI=1 and RE=0		RI=0 and RE=0	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<i>Ret</i>	0.015	0.105	0.015	0.089	0.014	0.105	0.015	0.115
<i>Prc</i>	28.780	23.917	34.350	28.023	22.735	18.664	25.884	20.511
<i>Div</i>	0.218	0.175	0.267	0.189	0.146	0.139	0.184	0.149
<i>DY1</i>	0.033	0.022	0.037	0.022	0.030	0.024	0.031	0.021
<i>Div12</i>	0.858	0.682	1.031	0.720	0.568	0.537	0.723	0.611
<i>DY2</i>	0.033	0.021	0.038	0.023	0.031	0.023	0.029	0.019
<i>DY1(m)</i>	0.003	0.002	0.003	0.002	0.003	0.002	0.003	0.002
<i>DY2(m)</i>	0.003	0.002	0.003	0.002	0.003	0.002	0.002	0.002
Firms	3,767		2,681		2,764		3,754	
Obs.	651,651		248,421		68,459		334,771	

Empirical Model

We include reputation effects to analyze the relationship between dividend yields and stock returns, and group firms according to the track record of dividend payments to control for reputation effects. We expect that the reputation effects will be higher for established firms with a good track record of dividend payments than for firms with a short history of dividend payments or for firms with an unreliable history of dividend payments.

If the dividend yield is a risk factor, we can expect a positive relationship between dividend yields and stock returns. If the reputation effect exists, the positive relationship will get weaker for established firms with a good track record of dividend payments because investors may consider these firms as less risky. However, the positive relationship will not be weaker for firms with a short history of dividend payments or for firms with an unreliable history of dividend payments because investors may consider such firms as risky in the sense that the firms cannot maintain the dividends.

To test the hypotheses, we divide our sample firms into three groups: (1) reputation-established (RE) firms that continue to pay non-decreasing dividends for at least three years and if that period is not the first period of dividend payments, (2) reputation-building initiation (RI) firms that initiate dividend payments and continue to pay non-decreasing dividends for less than three years, and (3) no reputation (NR) firms.¹ For example, if a firm makes a dividend payment for the first time in month $t - 1$ and maintains non-decreasing dividends for a year, then we assign $RI = 1$ to the firm from month t to month $t + 12$. If a firm makes a dividend payment for the first time in month $t - 1$ and maintains non-decreasing dividends for four years, then we assign $RI = 1$ to the firm for three years from month t , and $RE = 1$ at the beginning of the fourth year for one year because the firm will become an RE firm at that time.

We first run the following simple OLS regression for the whole sample and for each group to test whether a positive relationship exists between dividend yields and stock returns.

$$R_{it} = \alpha_i + \beta_i DY_{it} + \varepsilon_{it},$$

where DY_t can be either $DY1_t$ or $DY2_t$.

To control the variables that affect stock returns, we run the following panel regression with the Fama-French 3 factors, including a momentum factor, market capitalization, debt to equity ratio, growth rate, age, and two dummy variables, RE and RI.

¹ According to Kang (1997), it usually takes around three years for a firm to establish a reputation.

$$R_{it} - R_{ft} = \alpha_i + \beta_{i1}DY_{it} + \beta_{i2}RE_{it} + \beta_{i3}RI_{it} + \beta_{i4}DY_{it} * RE_{it} + \beta_{i5}DY_{it} * RI_{it} + \beta_{i6}MKT_R_F + \beta_{i7}SMB_t + \beta_{i8}HML_t + \beta_{i9}MOM_t + \beta_{i10}\log(MV)_t + \beta_{i11}(D/E)_t + \beta_{i12}SalesGr_t + \beta_{i13}\log(Age)_t + \varepsilon_{it},$$

where R_{it} = the stock return of firm i for month t ,

R_{ft} = the Treasury Bill rate at the beginning of month t ,

DY_{it} = the dividend yield of firm i for month t ($DY1$ or $DY2$),

RE_{it} = dummy variable for the reputation effect for firm i for month t (1 if firm i continues to pay non-decreasing dividends for at least three years from $t - 37$ months and if that period is not the first period of dividend payments, and 0 otherwise),

RI_{it} = dummy variable for the reputation-building effect for firm i for month t (1 if firm i initiates dividend payments from $t - 1$ and continues to pay non-decreasing dividends for less than three years after the initiation, and 0 otherwise),

MKT_R_F = the stock market return in excess of the risk-free rate on a CRSP value-weighted portfolio of NYSE, AMEX, and NASDAQ firms,

SMB_t = the Fama-French small minus big return for month t ,

HML_t = the Fama-French high minus low return for month t ,

MOM_t = the momentum risk factor for month t ,

$\log(MV)_t$ = log of market capitalization at the end of month t ,

D/E_t = debt to equity ratio (D and E are the last declared quarterly total liability and total equity before the end of month t),

$SalesGr_t$ = quarterly sales growth rate,

$\log(Age)_t$ = log of number of months after the IPO date.

Results

Table 1 presents the summary statistics. The average monthly returns and standard deviations of monthly returns of all firms in the sample are 1.5% and 10.5%, respectively. The average monthly return for RE firms is 1.5%, which is the same as that for NR firms, but higher than that for RI firms. RE firms have the lowest standard deviation of monthly returns, followed by RI firms, and NR firms with the highest value. The average annual dividend yield measured by $DY1$ of all firms is 3.3% with a standard deviation of 2.2%. The average annual dividend yield measured by $DY1$ is the highest (3.7%) for RE firms, the second highest (3.1%) for NR firms, and the lowest (3.0%) for RI firms. The average annual dividend yield measured by $DY2$ shows a different pattern from that of $DY1$. It is the highest (3.8%) for RE firms, followed by 3.1% for RI firms, and 2.9% for NR firms. Since the average dividend yield for RI firms is lower than that of RE firms, we may need to include age and market capitalization as control variables in the regressions.

Table 2 shows that dividend yields have a significantly positive relationship (1% significance) with stock returns. In panel B, when we use $DY2$ as a proxy variable for dividend yields, the beta coefficient is the lowest (2.157) for RE firms, the second lowest (2.304) for RI firms, and the highest (2.587) for NR firms. The result implies that dividend yields affect stock returns positively and that the reputation effect exists. In panel A, when we use $DY1$ as a proxy variable for dividend yields, the beta coefficient is lowest for RI firms, followed by RE firms, and NR firms in ascending order.

Table 2. Simple Regressions

This table reports the results of an ordinary least squares regression of four group firms' stock returns on their dividend yields: (1) all firms in the sample; (2) reputation-established (RE) firms, RE=1 and RI=0; (3) reputation-building initiation (RI) firms, RE=0 and RI=1; and (4) all other

(no reputation) firms, RE=0 and RI=0. The dependent variable in Panel A is $DY1$, which is $4D/P_{t-1}$, where D is the last declared quarterly dividend before the end of month $t-1$ and P_{t-1} is the price at the end of month $t-1$. The dependent variable in Panel B is $DY2$, which is $\frac{\sum_{k=1}^{12} Div_{t-k}}{P_{t-13}}$, where Div_t is the dividend paid in month t and P_{t-13} is the price at the end of month $t-13$. The sample contains NYSE, AMEX, and NASDAQ firms from January 1970 to December 2015. t -statistics are in parentheses.

	Panel A: Dividend yield=DY1			Panel B: Dividend yield=DY2		
	α	β	R^2	α	β	R^2
All	0.007 (28.06)	2.702 (38.08)	0.0026	0.008 (31.20)	2.270 (30.32)	0.0018
RE=1, RI=0	0.007 (20.82)	2.422 (25.13)	0.0025	0.008 (22.02)	2.157 (22.72)	0.0021
RE=0, RI=1	0.009 (14.62)	1.828 (9.09)	0.0012	0.009 (10.30)	2.304 (8.86)	0.0018
RE=0, RI=0	0.005 (13.11)	3.429 (28.14)	0.0034	0.007 (18.14)	2.587 (18.42)	0.0016

Table 3 shows that dividend yields have a significantly positive relationship (1% significance) with stock returns and that the reputation effect exists, regardless of the model specifications and dividend yield definitions. Panel A shows that $DY1$ has positive coefficients with values ranging from 2.193 to 3.460, and panel B shows that $DY2$ has positive coefficients ranging from 1.084 to 2.188, which are all statistically significant at the 1% level. Table 3 also shows that returns for RE firms are less than those of RI firms for all model specifications and dividend yield definitions.

Table 3. Panel Regressions

This table reports the results from panel regressions with two fixed effects (firm-month) of stocks' monthly excess returns over the one-month T-bill rate. DY is the dividend yield, and the two DY s are $DY1$ (Panel A) and $DY2$ (Panel B). RE is a dummy variable for the reputation effect and RI is a dummy variable for the reputation-building effect. RE* DY and RI* DY are interaction terms of two dummy variables and the dividend yield. MKT_R_F is the one-month return in excess of the one-month T-bill rate on a CRSP value-weighted portfolio. SMB is the difference between the average returns on small-stock and big-stock portfolios. HML is the difference between the average returns on high-book-to-market ratio and low-book-to-market ratio portfolios. MOM is the difference between the average returns on high-prior-return and low-prior-return portfolios. $\log(MV)$ is the log of market capitalization (close price times shares outstanding) for the end of month t . D/E is the debt to equity ratio, D and E are last declared quarterly total liability and total equity before the end of month $t-1$, respectively. $SalesGr$ is the quarterly growth rate in sales revenues before the end of month $t-1$. $\log(Age)$ is log of number of months from IPO date for month t . The sample contains NYSE, AMEX, and NASDAQ firms from January 1970 to December 2015. t -statistics are in parentheses.

	Panel A: Dividend yield=DY1					Panel B: Dividend yield=DY2				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Intercept	0.004 (13.56)	0.001 (4.15)	-0.001 (-4.41)	-0.028 (-14.57)	-0.003 (-2.99)	0.005 (17.37)	0.004 (9.92)	0.0005 (1.43)	-0.016 (-8.47)	0.002 (1.85)
DY	2.193 (30.59)	3.055 (26.50)	2.496 (23.90)	3.460 (23.62)	2.267 (18.69)	1.744 (22.74)	2.178 (16.36)	1.761 (14.63)	2.188 (13.35)	1.084 (7.91)
RE	-0.00001 (-0.03)	0.004 (7.06)	0.002 (4.10)	0.0008 (1.93)	0.002 (4.22)	0.00003 (0.10)	0.002 (3.72)	0.0005 (1.01)	-0.0008 (-1.30)	0.0009 (1.70)
RI	0.001 (1.64)	0.005 (6.85)	0.003 (5.32)	0.002 (1.82)	0.004 (5.42)	0.001 (2.01)	0.002 (1.82)	0.001 (1.35)	-0.002 (-1.74)	0.001 (0.97)
RE*DY		-1.340 (-8.59)	-0.966 (-6.84)	-1.119 (-5.98)	-1.206 (-7.46)		-0.724 (-4.31)	-0.422 (-2.78)	-0.347 (-1.75)	-0.514 (-2.99)
RI*DY		-1.614 (-7.34)	-0.930 (-4.67)	-0.326 (-0.98)	-0.874 (-3.18)		-0.242 (-0.88)	-0.118 (-0.48)	0.602 (1.50)	0.102 (0.30)
MKT _{R_F}			0.893 (346.59)	0.984 (281.28)	0.921 (285.71)			0.887 (335.54)	0.975 (275.01)	0.917 (279.80)
SMB					0.349 (78.90)					0.335 (74.18)
HML					0.445 (91.34)					0.444 (89.14)
MOM					(-0.052) (-16.56)					-0.053 (-16.60)
log(MV)				0.002 (17.52)					0.001 (13.71)	
D/E				0.00001 (1.26)	0.000004 (1.08)				0.00005 (1.39)	0.00001 (1.26)
SalesGr				0.000005 (0.15)					0.00005 (0.83)	
log(Age)				-0.002 (-8.34)	0.00002 (0.11)				-0.002 (-8.75)	-0.0003 (-1.77)
Adj R ²	0.0017	0.0019	0.1813	0.2032	0.2056	0.0011	0.0011	0.1833	0.2045	0.2067

Model (2) shows that if we add RE*DY and RI*DY, both interaction terms affect stock returns negatively when dividend yields increase for both RE and RI firms, which supports the reputation effect. Model (2) of panel B shows that the coefficient of dividend yields is the smallest 1.454(=2.178-0.724) for RE firms, followed by 1.936(=2.178-0.242) for RI firms and 2.178 for NR firms. This indicates that given dividend yields, the expected returns are lower for firms with a better reputation for dividend payments, implying that the reputation effect clearly exists. However, model (2) of panel A shows that RI firms have the smallest coefficient of dividend yields.

Dividend yields can be a risk factor that affects the expected stock returns after controlling beta risk, market capitalization, debt-to-equity ratio, sales growth, and firm age (model (4)), and after controlling beta risk, size, book-to-market, the momentum effect, debt-to-equity ratio, and firm age (model (5)). The positive relationship is stronger when we use DY1 than when we use DY2 as a proxy variable for dividend yields. When we use DY1 (panel A), models (4) and (5) show that RE firms have the smallest positive coefficients of (2.341 and 1.061, respectively) for dividend yields, much less than those of RI firms (3.134 and 1.393, respectively) and those of NR firms (3.460 and 2.267, respectively). The results indicate that dividend yield is a risk factor that affects stock returns and that the reputation effect clearly exists after controlling other risk factors. However, when we use DY2 (panel B), models (4) and (5) show that RE firms still have the

smallest positive coefficients, followed by NR and RI firms with the highest coefficients for dividend yields, suggesting that *DY1* may be a better proxy variable for dividend yields than *DY2*.

Robustness Tests

Table 4 reports the panel regression results with different reputation-building periods for *DY1* only. Panels A, B, and C show the results based on 1-, 2-, and 4-year reputation-building periods, respectively. Dividend yields still have a significantly positive relationship (1% significance) with stock returns for all reputation-building periods and for all model specifications. It also shows that returns for RE firms are less than those of RI firms for all model specifications and reputation-building periods, except in model (1) of panel B.

Panel A of Table 4 shows that RE firms have greater positive coefficients for dividend yields compared to RI firms for all models, which is different from our expectation. However, Panels B and C of Table 4 (reputation-building periods of 2 and 4 years, respectively) show that RE firms have smaller positive coefficients for dividend yields compared to RI firms for models (4) and (5), as we expected. The results imply that 1 year is not enough time to establish a dividend reputation.

Table 4. Robustness Check for Reputation-Building Periods

This table reports the results of robustness checks with different reputation-building periods using panel regressions. Panels A, B, and C show the results based on 1-, 2-, and 4-year reputation-building periods, respectively. The dependent variable is stocks' monthly excess returns over the one-month T-bill rate. All variables are defined in Table 4. The sample contains NYSE, AMEX, and NASDAQ firms from January 1970 to December 2015. *t*-statistics are in parentheses.

	Panel A: 1 year				Panel B: 2 years				Panel C: 4 years			
	(1)	(2)	(4)	(5)	(1)	(2)	(4)	(5)	(1)	(2)	(4)	(5)
Intercept	0.005 (14.46)	0.005 (12.06)	-0.026 (-13.86)	-0.001 (-1.55)	0.005 (17.05)	0.004 (13.09)	-0.027 (-14.51)	-0.003 (-2.89)	0.005 (18.32)	0.004 (13.23)	-0.028 (-14.60)	-0.003 (-2.92)
<i>DY1</i>	1.840 (28.84)	1.806 (16.87)	3.522 (18.68)	2.359 (14.89)	1.711 (27.58)	1.852 (19.83)	3.601 (22.08)	2.365 (17.42)	1.848 (28.91)	2.097 (23.93)	3.383 (24.77)	2.141 (19.07)
RE	0.0001 (0.46)	-0.0002 (-0.40)	-0.0006 (-0.90)	0.001 (2.58)	0.001 (2.74)	0.001 (1.69)	0.0006 (1.08)	0.002 (4.49)	-0.0001 (-0.17)	0.002 (3.21)	0.001 (1.94)	0.002 (3.98)
RI	0.001 (0.90)	0.003 (2.89)	0.004 (3.01)	0.006 (4.71)	-0.001 (-1.41)	0.003 (3.80)	0.003 (2.58)	0.004 (4.96)	0.001 (2.87)	0.002 (3.67)	0.0009 (1.08)	0.004 (5.00)
RE* <i>DY1</i>		0.120 (0.89)	-0.883 (-4.18)	-1.055 (-5.82)		-0.021 (-0.16)	-1.117 (-5.75)	-1.219 (-7.32)		-0.584 (-4.03)	-1.198 (-6.39)	-1.171 (-7.19)
RI* <i>DY1</i>		-1.094 (-3.09)	-1.920 (-3.21)	-1.539 (-3.04)		-1.418 (-6.31)	-0.938 (-2.36)	-0.808 (-2.44)		-0.435 (-2.40)	-0.059 (-0.19)	-0.641 (-2.58)
<i>MKT</i> _{<i>R_F</i>}			0.984 (281.30)	0.921 (285.74)			0.984 (281.29)	0.921 (285.76)			0.984 (281.24)	0.920 (285.68)
<i>SMB</i>				0.349 (78.89)				0.348 (78.88)				0.349 (78.91)
<i>HML</i>				0.445 (91.33)				0.446 (91.36)				0.445 (91.32)
<i>MOM</i>				-0.052 (-16.62)				-0.052 (-16.60)				-0.052 (-16.57)
<i>log(MV)</i>			0.002 (17.56)				0.002 (17.54)				0.002 (17.55)	
<i>D/E</i>			0.00001 (1.28)	0.000004 (1.08)			0.00001 (1.26)	0.000004 (1.09)			0.00001 (1.26)	0.000004 (1.08)
<i>salesGr</i>			0.00001 (0.17)				0.000005 (0.14)				0.00001 (0.16)	
<i>log(Age)</i>			-0.002 (-9.52)	-0.0002 (-1.21)			-0.002 (-8.78)	-0.00004 (-0.28)			-0.002 (-8.17)	0.00005 (0.29)
<i>Adj R</i> ²	0.0015	0.0015	0.2032	0.2056	0.0014	0.0015	0.2032	0.2056	0.0015	0.0015	0.2032	0.2056

Table 5 reports the results of the F-test for the differences in parameters of RE**DY* and RI**DY* dummies estimated from the panel regressions. We see that model (4), which uses beta risk, market capitalization, debt-to-equity ratio, sales growth, and firm age as control variables gives the most significantly different parameter estimates between RE**DY* and RI and *DY*.

Table 5. F-test for the Difference in Parameters between RE**DY* and RI**DY*

This table reports the results of the F-test for differences in parameters between RE**DY* and RI**DY* estimated from the panel regressions in Table 3. *DY* is the dividend yield and the two *DY*s are *DY*1 (Panel A) and *DY*2 (Panel B).

	Panel A: Dividend yield= <i>DY</i> 1				Panel B: Dividend yield= <i>DY</i> 2			
	(2)	(3)	(4)	(5)	(2)	(3)	(4)	(5)
<i>F</i> -value	1.63	0.04	5.90	1.53	3.45	1.69	6.04	3.60
Pr > <i>F</i>	0.2017	0.8511	0.0151	0.2161	0.0632	0.194	0.014	0.0579

Conclusion

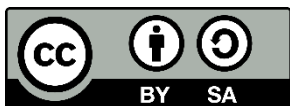
The relationship between dividend yields and stock returns is an unresolved issue in finance, as the empirical evidence has been mixed. We present a reputation model that sheds some light on the relationship between dividend yields and stock returns because the announcement effect of dividends varies according to whether a firm has a reputation or not. The reputation effect is specific to dividend analyses because unlike other financial events dividends are expected to continue with a set interval once it is initiated. Therefore it is imperative to include the reputation effect to analyze the dividend phenomena more fully. This study includes the reputation effect to analyze the relationship between dividend yields and stock returns, and we group the firms according to their track record of dividend payments to control the reputation effect.

We find supporting evidence consistent with the reputation model. The empirical results show that the reputation effect is higher for established firms with a good track record of dividend payments than for firms with a short history of dividend payments or for firms with an unreliable history of dividend payments. After controlling the reputation effect and other relevant variables, we find there exists a significantly positive relationship between dividend yields and stock returns. We also find that one year is not enough time for firms to build a dividend reputation.

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