Firm Characteristics Over Time by Dividend Payment Pattern and Firm Size

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Abstract

This paper examines relationships between four dividend payment patterns and firm size using seven relevant financial variables from prior studies. Growth rates on the means of these variables are obtained from CRSP using large sample (quarterly) data in the time span 2000 to 2012.

The four dividend payment pattern groups represent traditional dividend theory, dividend irrelevance theory, dividend initiators, and a residual/catering theory approach. Results indicate that small firms following a traditional or a residual/catering payment pattern have been most attractive for investment purposes. Surprisingly, both small and large dividend initiators are not being rewarded by the market. Recommendations for future research are discussed.

I. Introduction

The purpose of this descriptive study is to classify cash dividend paying firms from 2000 to 2012 into one of four groups, based upon payment patterns. The four groups are divided into small and large size firms. Seven key variables are collected and growth rates among five points in time are calculated for each variable. Intensive data analyses are used to investigate mean percentage change, the average of these growth rates, on those variables between dividend paying groups.

Quarterly data are used for dividends per share, beta, market/book ratio, liquidity current ratio, debt ratio, net income, and common shares outstanding. These variables have been chosen based upon results from four prior studies (Fama and Fama, 2001; Consler and Lepak, 2007; Havranek et al., 2009; and Consler et al., 2013).

Group 1 firms pay dividends sometime during the first year of study and each subsequent year throughout the study period. This group represents firms that follow traditional dividend theory, described by Brigham and Houston (2012), a popular finance textbook, as proposed by Gordon and Lintner. Investors prefer to receive current income in the form of predictable, stable dividends rather than the uncertain potential future income through capital gains on the stock. Such a constant dividend payment pattern will raise market value of the firm and decrease cost of capital. Dividends do matter.

Group 2 firms pay dividends during the first year of study and stop before the final study year. By definition, there are no observations in the final study year. For some reason these firms decide not to continue cash dividends or are unable to continue. They may not feel dividends are important. Brigham and Houston (2012) report on dividend irrelevance theory as

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espoused by Miller and Modigliani, the direct opposite of the traditional viewpoint. Dividends do not matter. Market value of stock and cost of capital are unrelated to dividend policy. There is no optimum dividend policy. Instead of paying cash dividends, firms should re-invest net income into the company, causing stock capital gains growth. Investors decide when to sell their stock to capture income. There are tax advantages to this approach, as it is best to delay taxes in an inflationary environment.

These two classic dividend theories are at opposite ends of a spectrum. In the real world, investor sentiment moves back and forth between the two extreme positions. During the late 1990's stock market bubble, dividends were irrelevant to a great extent. In 2003, a reduction in taxes on dividends combined with a weaker stock market, made dividends more important to investors.

Group 3 firms do not pay dividends in year one, however they initiated dividends during a subsequent time period and continued with at least one payment per year. By definition, there are no observations in the initial study year. After dividend initiation, payment pattern is the same as Group 1 firms. These Group 3 firms appear to be following traditional dividend theory. Under the concept of the information content (signaling) theory, investors regard dividend changes as signals of management's earnings forecasts (Brigham and Houston, 2012). Dividend initiation may indicate good future earnings and more certain future dividends. Investors may react positively to this situation.

Group 4 includes all other dividend paying firms in the study. For example, firms that initiated a dividend during the study period (could be in first year or not) and missed at least one year after initiation. This payment approach seems to be some type of residual or perhaps catering theory.

Residual theory is favored by academics. Brigham and Houston (2012) explain. Under pecking order theory, internal equity from net income should be used for capital requirements before selling more expensive new common stock. Under residual theory, net income is subject to two constraints: the optimal capital structure and the optimal capital budget. Whatever income remains (residual) is left over for common stock dividends. Because both net income and capital budgeting needs will vary from year to year, the residual will also vary. Traditional theory argues that investors will not favor this uncertain dividend payment pattern. However, the residual approach would maximize the efficient use of net income, perhaps resulting in a higher stock price in the long run.

Catering theory is a demand driven approach to dividend payments. Investors' preference for dividends is believed to vary over time, and firms will adapt their dividend policy to cater to the current investor desires (Brigham and Houston, 2012).

With four groups established for use in this study, firm size and dividend pattern relationships to growth rates of seven key firm characteristics are to be investigated.

II. Literature Review

Fama and French (2001) provide the best study of firm characteristics relevant to dividends. These characteristics have changed over time (1978 to 1999), resulting in more small firms with low profitability and strong growth opportunities which are not likely to pay dividends. They also find, regardless of characteristics, firms have become less likely to pay dividends. Relevant variables for dividends proved to be profitability, investment opportunities, size, market value to book value, and share repurchase. This helps to determine which variables should be included in the current study.

Baker et al. (2001) find based on managers' responses the most important causes of dividend decisions are the pattern of past dividends, stability of earnings, and the level of current and expected future earnings. These factors are relevant for firms listed on both NASDAQ and the New York Stock Exchange. They also find great differences between financial versus non-financial firms. This study is followed by work on dividend stability by Consler et al. (2013) which placed dividend paying firms into three different payment pattern groups. The current study divides the firms into four groups.

Baker and Wurgler (2004) propose dividend decisions are driven by prevailing investor demand. Investor demand for dividends changes over time and firms react. They find non-payers tend to initiate dividends when demand is high. Payers tend to omit dividends when demand is low. Demand is based upon the relative stock price on dividend payers. Both past capital gains and future returns are part of the dividend model used. This is one of the reasons why the study here is limited to a period of time (12 years), when it is believed dividends vary in importance due to variable stock market conditions and tax law changes in 2003.

Group 4 in the current study is meant to include firms attracted to this catering theory pattern of dividend payments.

DeAngelo et al. (2004) build upon the work of Fama and French (2001). They find a concentration of dividends has occurred. Aggregate real dividends from industrial firms increased over the past 20 years, even though the number of dividend payers has decreased by over 50%. Increased dividends from top payers overwhelm the slight dividend reduction from the loss of many small payers. The largest aggregate dividend payers in 2000 account for over 50% of all dividends paid by industrial firms. When looking at a sample for future work, it had best include these large, dominant, dividend payers to be relevant.

Consler and Lepak (2007) build upon Fama and French's (2001) earlier work. Different characteristics such as price, size, debt level, shares outstanding, and profits are found to vary by risk and dividend level for firms paying dividends. Appropriate variables are shown to be key characteristics necessary for use in this current study.

Havranek et al. (2009) demonstrate market/book value, size of assets, number of shares outstanding and debt ratio are all significant variables related to dividends per share in both periods of the study. Net profit is only significant after 2000. These results helped determine the relevant variables for the current work.

The current study differentiates between small and large firms. Early studies use different size variables. Ben-Zion and Shalit (1975) use sales for the size variable. Gambola and Liu (1993) use total market value as do Mitra and Rashid (1997).

More recently Folkinshteyn and Meric (2014) used total assets as the size variable in their work. The current study follows their practice of dividing the sample into two groups, small versus large. Both studies investigate if changes in variables were different between small and large firms. They use a short study period of recession years 2007-2009, while the period for the current work is 2000-2012.

Folkinshteyn and Meric (2014) find firms with higher debt ratios lost more value in the crash compared with those with low debt ratios. The current study will focus attention on firms with low liquidity ratios and high debt ratios looking for similar results.

Payne (2009) establishes a unique financial profile for dividend initiating firms during the most recent recession. A surprise was the ratio of market value to book value was not a characteristic of dividend initiating firms. In the current study will this group be rewarded by a higher growth rate in this ratio or not as Payne finds? The authors will investigate this relationship.

The current study will include relevant variables from past works and look for established relationships among these variables with small and large dividend paying firms over a 12-year time period. The time period includes the recent recession and recovery. Four groups representing different dividend payment patterns are developed to continue refinement of prior studies.

III. Data for Study

Firms that paid cash dividends, excluding liquidations, acquisitions and reorganizations, during the period of 1/1/2000 and 12/31/2012 were identified in CRSP. Firms with SIC codes for trusts (6726, 6798) were deleted from the sample. In addition, firms that identified as trusts or funds in the firm name or made monthly dividend payments were excluded from the sample. Trusts and funds were excluded because they use different methods of accounting and tend to use greater leverage than non-investment based entities. Firms with monthly payments were excluded due to the difficulty of matching the quarterly earnings with the dividend payments.

All fiscal year end and quarter end dates were retained in the sample. Time identifications are assigned based on the calendar quarter the fiscal quarter end falls in.

Distribution codes for cash dividends were retained from CRSP. Information about special and non-recurring dividend payments was retained. In cases where CRSP reported the dividend frequency as unknown or unspecified, the dividend frequency information reported by Compustat was used. If Compustat provided no additional information about the dividend frequency the dividend payments were treated as an ordinary quarterly dividend for the purpose of linking the dividend payments to the earnings quarter.

Firm's daily returns and daily NYSE equal-weighted market index returns from CRSP were used to calculate a quarterly beta over the earnings fiscal quarter. Monthly high and low stock prices, quarterly balance sheet and income statement values and outstanding share data were collected from Compustat. Missing data for high and low stock prices, outstanding shares, and balance sheet amounts were hand collected where possible; otherwise the observations were deleted.

IV. Analysis and Results

Quarterly data were obtained on important financial variables for a total sample of 2394 firms at all measurement occasions for which a dividend was paid for the first quarter of 2000 through the fourth quarter of 2012, a total of 52 time periods. This is an inherently unbalanced data set where the number of measurements and measurement occasions depend on the firm. The financial variables of interest in this study are dividends per share, beta, market/book ratio, liquidity current ratio, debt ratio, net income, common shares outstanding, and total assets (firm size variable).

For purposes of analysis, dividend paying firms are separated into four groups based upon cash dividend pattern. The entire study period was used to define groups with different payment patterns. It was deemed appropriate to use a fairly long time period for this purpose. Group 1 contains firms that consistently pay a dividend at least once a year throughout the study period. Group 2 comprises firms that start off by paying a dividend at least once a year, but stop paying before the final year of the study. Group 3 consists of firms did not pay dividends in the first year, initiated a dividend during a subsequent time period, and continued with at least one dividend payment per year. Group 4 includes all other dividend paying firms--those that appear to be following an intermittent payment pattern.

Since each financial variable varies over time, we decided to restrict our analysis to five cross-sectional time periods: first quarter of 2000 (951 firms; beginning time period), second quarter of 2004 (868 firms; about *33.33 percentile* time period), third quarter of 2006 (957 firms; about median time period), third quarter of 2008 (924 firms; about *66.66 percentile* time period), and fourth quarter of 2012 (1019 firms; ending time period). Information in those time periods may be useful for detecting temporal patterns when studying the relations among financial variables and dividend payment patterns. We also investigate the importance of firm size in our analyses. In each period, the four groups are divided into small and large firms using the median of total assets variable.

Tables 1 and 2 present the main results of the study. Each table has five time periods, seven variables, mean, standard error of the mean, sample size, and percentage period change in mean for four groups of different dividend patterns. Table 1 is small firms and Table 2 is large firms. The interpretation of results is organized by variable.

Total Assets

Group 2 has the highest mean % change regardless of firm size. This supports the dividend irrelevance theory. Large firms do have a higher mean (42.99%) than small firms (25.33%). Group 3 has the lowest % change regardless of firm size, small firms at 17.90%

versus large firms at 9.43%. Particularly, large firms did not grow much over the 5 time periods, when they initiate dividends. Growth of total assets is one possible measure of success. Clearly here, large firms are growing faster if they ignore dividends.

Table 1. Mean ± Standard Error of the Mean and (Percentage Period Change in Mean) of Financial Variables for Small Dividend Paying Firms by Dividend Group and Time Period

VARIABLE		2000Q1	2004Q2	2006Q3	2008Q3	2012Q4	Mean % Change*
TOTAL	GROUP 1	427.0 ± 22.4	538.1 ± 28.0	667.9 ± 36.2	850.1 ± 46.1	898.6 ± 50.2	
ASSETS		n=175	n=168	n=163	n=168	n=156	
(MILLIONS		(NA)	(26.00%)	(24.13%)	(27.27%)	(5.71%)	(20.78%)
DOLLARS)	GROUP 2	346.5 ± 18.2	456.9 ± 33.2	615.2 ± 51.9	673.7 ± 90.7		
		n=244	n=109	n=75	n=39		
		(NA)	(31.86%)	(34.63%)	(9.51%)		(25.33%)
	GROUP 3		463.9 ± 55.1	507.7 ± 40.3	687.6 ± 45.7	748.4 ± 36.4	
			n=57	n=99	n=145	n=278	
			(NA)	(9.43%)	(35.45%)	(8.83%)	(17.90%)
	GROUP 4	308.3 ± 37.5	386.2 ± 37.2	523.1 ± 37.4	655.5 ± 54.6	662.3 ± 74.9	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(25.25%)	(35.45%)	(25.31%)	(1.05%)	(21.76%)
	ALL	371.7 ± 13.4	473.0 ± 17.9	583.7 ± 20.4	737.9 ± 26.9	781.7 ± 27.6	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(27.25%)	(23.42%)	(26.41%)	(5.95%)	
DIVIDENDS	GROUP 1	.15 ± .01	.18 ± .02	.17 ± .02	.20 ± .03	.39 ± .08	
PER SHARE		n=175	n=168	n=163	n=168	n=156	
(DOLLARS)		(NA)	(16.29%)	(-6.23%)	(22.30%)	(88.86%)	(30.31%)
	GROUP 2	.13 ± .01	.21 ± .08	.13 ± .03	.10 ± .01		
		n=244	n=109	n=75	n=39		
		(NA)	(64.18%)	(-36.17%)	(-29.29%)		(-0.43%)
	GROUP 3		.22 ± .03	.23 ± .04	.22 ± .02	.43 ± .12	
			n=57	n=99	n=145	n=278	
			(NA)	(3.71%)	(-2.39%)	(92.61%)	(31.31%)
	GROUP 4	.33 ± .17	.13 ± .02	.20 ± .03	.25 ± .04	.75 ± .37	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(-58.78%)	(50.06%)	(22.98%)	(204.75%)	(54.75%)
	ALL	.16 ± .02	.18 ± .02	.18 ± .01	.21 ± .01	.46 ± .09	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(13.07%)	(1.66%)	(14.35%)	(119.68%)	
BETA	GROUP 1	.58 ± .05	.93 ± .05	1.14 ± .06	1.21 ± .05	1.19 ± .05	
		n=175	n=168	n=163	n=168	n=156	
		(NA)	(60.08%)	(22.72%)	(6.12%)	(-1.49%)	(21.86%)
	GROUP 2	.66 ± .05	.92 ± .07	1.06 ± .08	1.18 ± .13		
		n=244	n=109	n=75	n=39		
		(NA)	(38.13%)	(15.12%)	(11.79%)		(21.68%)
	GROUP 3		.86 ± .10	.94 ± .07	1.03 ± .07	1.02 ± .04	
			n=57	n=99	n=145	n=278	
			(NA)	(8.91%)	(9.86%)	(-0.76%)	(6.00%)
	GROUP 4	.30 ± .08	.84 ± .08	1.07 ± .07	1.03 ± .08	1.21 ± .10	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(183.87%)	(27.34%)	(-3.47%)	(16.75%)	(56.12%)
	ALL	.59 ± .03	.90 ± .03	1.06 ± .03	1.11 ± .04	1.10 ± .03	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(52.06%)	(18.73%)	(4.18%)	(-0.65%)	

MARKET/ BOOK RATIO	GROUP 1	1.33 ± .10	1.52 ± .09	1.65 ± .11	1.51 ± .12	1.38 ± .12	
		n=175	n=168	n=163	n=168	n=156	
		(NA)	(14.64%)	(8.45%)	(-8.54%)	(-8.69%)	(1.46%)
	GROUP 2	1.07 ± .08	1.22 ± .08	1.21 ± .09	.83 ± .14		
		n=244	n=109	n=75	n=39		
		(NA)	(14.04%)	(-0.25%)	(-31.39%)		(-5.87%)
	GROUP 3		2.39 ± .25	2.48 ± .25	1.81 ± .12	1.60 ± .09	
			n=57	n=99	n=145	n=278	
			(NA)	(3.78%)	(-27.18%)	(-11.74%)	(-11.72%)
	GROUP 4	.95 ± .12	1.30 ± .11	1.54 ± .17	1.17 ± .13	1.02 ± .08	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(37.24%)	(18.22%)	(-23.80%)	(-13.29%)	(4.59%)
	ALL	1.15 ± .06	1.51 ± .06	1.72 ± .08	1.47 ± .07	1.44 ± .06	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(31.31%)	(14.09%)	(-14.85%)	(-1.50%)	
LIQUIDITY CURRENT RATIO	GROUP 1	2.30 ± .10	2.50 ± .13	2.52 ± .18	2.64 ± .18	2.85 ± .19	
		n=175	n=168	n=163	n=168	n=156	
		(NA)	(8.30%)	(1.01%)	(4.85%)	(7.73%)	(5.47%)
	GROUP 2	2.47 ± .15	2.93 ± .26	2.81 ± .27	2.82 ± .38		
		n=244	n=109	n=75	n=39		
		(NA)	(18.57%)	(-4.13%)	(0.43%)		(4.96%)
	GROUP 3		3.46 ± .54	3.34 ± .40	3.20 ± .44	3.13 ± .26	
			n=57	n=99	n=145	n=278	
			(NA)	(-3.49%)	(-4.06%)	(-2.20%)	(-3.25%)
	GROUP 4	2.87 ± .29	3.04 ± .24	2.55 ± .16	2.98 ± .39	2.80 ± .21	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(5.90%)	(-16.14%)	(16.87%)	(-6.00%)	(0.16%)
	ALL	2.46 ± .09	2.86 ± .12	2.74 ± .12	2.91 ± .18	3.00 ± .15	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(16.26%)	(-3.96%)	(6.20%)	(2.83%)	
DEBT RATIO	GROUP 1	.48 ± .02	.45 ± .02	.46 ± .02	.47 ± .02	.46 ± .02	
		n=175	n=168	n=163	n=168	n=156	
		(NA)	(-5.54%)	(1.61%)	(2.25%)	(-2.56%)	(-1.06%)
	GROUP 2	.50 ± .01	.45 ± .02	.49 ± 02	.51 ± .03		
		n=244	n=109	n=75	n=39		
		(NA)	(-9.09%)	(7.80%)	(3.58%)		(0.76%)
	GROUP 3		.39 ± .04	.44 ± .03	.49 ± .03	.45 ± .02	
			n=57	n=99	n=145	n=278	
			(NA)	(14.33%)	(11.73%)	(-8.46%)	(5.86%)
	GROUP 4	.45 ± .03	.41 ± .02	.48 ± .02	.52 ±. 03	.44 ± .02	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(-8.63%)	(15.90%)	(9.32%)	(-14.69%)	(0.48%)
	ALL	.49 ± .01	.43 ± .01	.47 ± .01	.49 ± .01	.45 ± .01	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(-10.54%)	(7.14%)	(5.85%)	(-8.06%)	

NET INCOME (MILLIONS DOLLARS)	GROUP 1	8.27 ± .74	9.98 ± .99	12.03 ± 1.47	16.50 ± 1.63	17.22 ± 1.86	
		n=175	n=168	n=163	n=168	n=156	
		(NA)	(20.70%)	(20.45%)	(37.19%)	(4.36%)	(20.67%)
	GROUP 2	5.01 ± .82	5.86 ± .95	12.50 ± 3.53	4.71 ± 2.47		
		n=244	n=109	n=75	n=39		
		(NA)	(16.96%)	(113.23%)	(-62.32%)		(22.62%)
	GROUP 3		9.94 ± 1.97	15.69 ± 2.30	9.00 ± 3.76	14.32 ± 1.85	
			n=57	n=99	n=145	n=278	
			(NA)	(57.79%)	(-42.61%)	(59.09%)	(24.76%)
	GROUP 4	5.54 ± 2.20	8.60 ± 2.24	12.45 ± 1.76	4.63 ± 3.28	7.15 ± 1.59	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(55.08%)	(44.85%)	(-62.81%)	(54.50%)	(22.91%)
	ALL	6.28 ± .57	8.62 ± .74	12.98 ± 1.03	10.32 ± 1.56	14.15 ± 1.19	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(37.42%)	(50.57%)	(-20.48%)	(37.09%)	
COMMON SHARES OUTSTAND (MILLIONS SHARES)	GROUP 1	21.77 ± 1.59	26.41 ± 1.92	31.70 ± 2.25	35.43 ± 2.64	37.63 ± 3.36	
		n=175	n=168	n=163	n=168	n=156	
		(NA)	(21.30%)	(20.01%)	(11.77%)	(6.20%)	(14.82%)
	GROUP 2	16.10 ± .95	20.93 ± 1.62	28.06 ± 2.88	28.04 ± 4.09		
		n=244	n=109	n=75	n=39		
		(NA)	(30.05%)	(34.04%)	(-0.08%)		(21.34%)
	GROUP 3		27.60 ± 3.58	35.80 ± 4.14	40.78 ± 3.55	44.20 ± 2.68	
			n=57	n=99	n=145	n=278	
			(NA)	(29.73%)	(13.92%)	(8.38%)	(17.35%)
	GROUP 4	19.03 ± 3.47	21.34 ± 2.09	30.87 ± 2.47	34.06 ± 3.36	32.78 ± 3.44	
		n=56	n=100	n=141	n=110	n=75	
		(NA)	(12.14%)	(44.67%)	(10.33%)	(-3.76%)	(15.85%)
	ALL	18.53 ± .87	24.02 ± 1.09	31.73 ± 1.44	36.16 ± 1.71	40.50 ± 1.87	
		n=475	n=434	n=478	n=462	n=509	
		(NA)	(29.61%)	(32.09%)	(13.95%)	(12.01%)	

*Simple average of percentage period changes in each row.

Note: Percentage period change is calculated using actual mean versus table-rounded mean.

Table 2. Mean ± Standard Error of the Mean and (Percentage Period Change in Mean) of Financial Variables for Large Dividend Paying Firms by Dividend Group and Time Period

VARIABLE		2000Q1	2004Q2	2006Q3	2008Q3	2012Q4	Mean % Change*
TOTAL	GROUP 1	10241.3 ± 1037.9	15434.0 ± 1583.9	18561.2 ± 1941.0	22677.3 ± 2488.8	25247.8 ± 2674.4	
ASSETS		n=228	n=237	n=246	n=235	n=250	
(MILLIONS		(NA)	(50.70%)	(20.26%)	(22.18%)	(11.33%)	(26.12%)
DOLLARS)	GROUP 2	7879.9 ± 1115.3	10453.5 ± 1889.2	14826.0 ± 4869.7	22903.9 ± 9444.1		
		n=188	n=83	n=54	n=35		
		(NA)	(32.66%)	(41.83%)	(54.48%)		(42.99%)
	GROUP 3		12642.7 ± 2736.3	8687.6 ± 1203.7	12307.2 ± 1691.6	14512.8 ± 1684.9	
			n=44	n=74	n=100	n=197	
			(NA)	(-31.28%)	(41.66%)	(17.92%)	(9.43%)
	GROUP 4	8254.4 ± 1409.0	10118.8 ± 2633.9	16615.4 ± 3574.5	21121.1 ± 5307.5	19336.7 ± 4953.0	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(22.59%)	(64.20%)	(27.12%)	(-8.45.00%)	(26.37%)
	ALL	9058.2 ± 688.3	13341.2 ± 1069.0	16188.2 ± 1398.7	20140.0 ± 1837.2	20370.9 ± 1598.7	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(47.28%)	(21.34%)	(24.41%)	(1.15%)	
DIVIDENDS	GROUP 1	.24 ± .01	.24 ± .01	.26 ± .02	.29 ± .02	.35 ± .02	
PER SHARE		n=228	n=237	n=246	n=235	n=250	
(DOLLARS)		(NA)	(1.41%)	(8.41%)	(11.68%)	(22.36%)	(10.96%)
	GROUP 2	.19 ± .01	.28 ± .04	.28 ± .05	.41 ± .12		
		n=188	n=83	n=54	n=35		
		(NA)	(44.20%)	(1.94%)	(44.63%)		(30.25%)
	GROUP 3		.19 ± .04	.19 ± .02	.25 ± .02	.41 ± .07	
			n=44	n=74	n=100	n=197	
			(NA)	(-2.72%)	(34.50%)	(65.57%)	(32.45%)
	GROUP 4	.27 ± .09	.43 ± .09	.34 ± .05	.38 ± .07	.87 ± .43	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(56.01%)	(-20.75%)	(11.64%)	(130.54%)	(44.36%)
	ALL	.22 ± .01	.27 ± .02	.27 ± .01	.31 ± .02	.44 ± .06	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(21.76%)	(-1.43%)	(14.82%)	(43.46%)	
BETA	GROUP 1	.84 ± .05	.78 ± .03	.98 ± .04	1.03 ± .03	.98 ± .04	
		n=228	n=237	n=246	n=235	n=250	
		(NA)	(-6.95%)	(25.07%)	(5.27%)	(-5.07%)	(4.58%)
	GROUP 2	.90 ± .05	.90 ± .06	1.01 ± .09	1.10 ± .12		
		n=188	n=83	n=54	n=35		
		(NA)	(0.51%)	(12.08%)	(8.51%)		(7.03%)
	GROUP 3		1.15 ± .07	1.18 ± .09	1.01 ± .06	1.11 ± .04	
			n=44	n=74	n=100	n=197	
			(NA)	(2.74%)	(-14.59%)	(9.72%)	(-0.71%)
	GROUP 4	1.08 ± .12	1.10 ± .08	1.33 ± .07	1.18 ± .06	1.39 ± .09	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(1.15%)	(21.20%)	(-11.23%)	(17.65%)	(7.19%)
	ALL	.90 ± .03	.89 ± .02	1.09 ± .03	1.06 ± .03	1.08 ± .03	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(-0.04%)	(22.08%)	(-2.73%)	(1.72%)	

MARKET/ BOOK RATIO	GROUP 1	1.44 ± .10	1.23 ± .06	1.24 ± .05	1.16 ± .05	1.07 ± .05	
		n=228	n=237	n=246	n=235	n=250	
		(NA)	(-14.45%)	(0.84%)	(-6.53%)	(-7.87%)	(-7.00%)
	GROUP 2	1.11 ± .10	1.04 ± .11	1.12 ± .09	.90 ± .13		
		n=188	n=83	n=54	n=35		
		(NA)	(-5.84%)	(7.25%)	(-18.97%)		(-5.85%)
	GROUP 3		1.32 ± .15	1.40 ± .10	1.26 ± .10	1.13 ± .07	
			n=44	n=74	n=100	n=197	
			(NA)	(5.95%)	(-9.85%)	(-10.21%)	(-4.70%)
	GROUP 4	1.11 ± .15	1.21 ± .12	1.12 ± .09	.99 ± .08	.84 ± .08	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(9.23%)	(-6.80%)	(-11.83%)	(-15.15%)	(-6.14%)
	ALL	1.26 ± .06	1.20 ± .05	1.22 ± .04	1.13 ± .04	1.06 ± .04	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(-5.19%)	(2.18%)	(-7.91%)	(-5.68%)	
LIQUIDITY CURRENT RATIO	GROUP 1	1.40 ± .06	1.60 ± .06	1.55 ± .06	1.46 ± .05	1.70 ± .09	
		n=228	n=237	n=246	n=235	n=250	
		(NA)	(14.33%)	(-3.21%)	(-5.36%)	(15.82%)	(5.40%)
	GROUP 2	1.43 ± .06	1.69 ± .13	1.69 ± .15	1.74 ± .17		
		n=188	n=83	n=54	n=35		
		(NA)	(17.76%)	(0.34%)	(2.82%)		(6.97%)
	GROUP 3		1.82 ± .19	1.69 ± .13	1.55 ± .10	1.97 ± .12	
			n=44	n=74	n=100	n=197	
			(NA)	(-7.15%)	(-8.40%)	(26.67%)	(3.70%)
	GROUP 4	1.27 ± .07	1.75 ± .11	1.87 ± .21	1.69 ± .09	1.77 ± .14	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(37.33%)	(6.92%)	(-9.55%)	(4.82%)	(9.88%)
	ALL	1.40 ± .04	1.66 ± .05	1.66 .± 06	1.55 ± .04	1.81 ± .07	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(19.08%)	(-0.34%)	(-6.50%)	(16.80%)	
DEBT RATIO	GROUP 1	.53 ± .01	.60 ± .01	.59 ± .01	.60 ± .01	.60 ± .01	
		n=228	n=237	n=246	n=235	n=250	
		(NA)	(-0.26%)	(-2.46%)	(2.25%)	(-0.69%)	(-0.29%)
	GROUP 2	.66 ± .01	.61 ± .02	.56 ± 02	.61 ± .03		
		n=188	n=83	n=54	n=35		
		(NA)	(-7.83%)	(-6.79%)	(8.53%)		(-2.03%)
	GROUP 3		.53 ± .03	.53 ± .02	.59 ± .02	.58 ± .01	
			n=44	n=74	n=100	n=197	
			(NA)	(0.47%)	(12.38%)	(-2.62%)	(3.41%)
	GROUP 4	.63 ± .02	.57 ± .02	.55 ± .02	.58 ±. 02	.63 ± .03	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(-8.86%)	(-3.92%)	(5.88%)	(8.33%)	(0.36%)
	ALL	.63 ± .01	.59 ± .01	.57 ± .01	.60 ± .01	.59 ± .01	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(-5.97%)	(-3.87%)	(5.11%)	(-0.43%)	

NET	GROUP 1	173.94 ± 28.16	273.80 ± 37.89	410.87 ± 58.94	470.07 ± 71.64	384.46 ± 69.87	
INCOME		n=228	n=237	n=246	n=235	n=250	
(MILLIONS		(NA)	(57.41%)	(50.06%)	(14.41%)	(-18.21%)	(25.92%)
DOLLARS)	GROUP 2	102.62 ± 17.53	153.26 ± 47.74	246.55 ± 68.77	305.49 ± 115.25		
		n=188	n=83	n=54	n=35		
		(NA)	(49.36%)	(60.87%)	(23.90%)		(44.71%)
	GROUP 3		190.71 ± 48.06	206.67 ± 39.62	192.36 ± 57.50	224.48 ± 56.90	
			n=44	n=74	n=100	n=197	
			(NA)	(8.37%)	(-6.92%)	(16.70%)	(6.05%)
	GROUP 4	101.07 ± 35.39	198.87 ± 71.45	364.15 ± 104.99	439.30 ± 164.77	253.46 ± 86.79	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(96.76%)	(83.11%)	(20.64%)	(-42.30%)	(39.55%)
	ALL	136.58 ± 15.86	230.24 ± 25.89	350.56 ± 39.36	391.37 ± 51.46	306.48 ± 42.16	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(68.57%)	(52.26%)	(11.64%)	(-21.69%)	
COMMON	GROUP 1	342.33 ± 42.07	467.32 ± 62.72	503.68 ± 59.25	520.65 ± 60.38	509.53 ± 56.86	
SHARES		n=228	n=237	n=246	n=235	n=250	
OUTSTAND		(NA)	(36.51%)	(7.78%)	(3.37%)	(-2.14%)	(11.38%)
(MILLIONS	GROUP 2	232.90 ± 32.21	267.85 ± 45.02	317.35 ± 59.16	330.11 ± 75.24		
SHARES)		n=188	n=83	n=54	n=35		
		(NA)	(15.00%)	(18.48%)	(4.02%)		(12.50%)
	GROUP 3		358.82 ± 75.35	339.64 ± 77.90	444.22 ± 109.17	381.83 ± 60.26	
			n=44	n=74	n=100	n=197	
			(NA)	(-5.35%)	(30.79%)	(-14.04%)	(3.80%)
	GROUP 4	208.48 ± 32.18	406.77 ± 98.18	505.01 ± 89.92	479.69 ± 82.16	329.96 ± 56.19	
		n=60	n=70	n=105	n=92	n=63	
		(NA)	(95.11%)	(24.15%)	(-5.01%)	(-31.21%)	(20.76%)
	ALL	282.24 ± 24.29	408.41 ± 39.53	457.62 ± 38.85	481.52 ± 42.41	438.02± 37.06	
		n=476	n=434	n=479	n=462	n=510	
		(NA)	(44.70%)	(12.05%)	(5.22%)	(-9.03%)	

*Simple average of percentage period changes in each row.

Note: Percentage period change is calculated using actual mean versus table-rounded mean.

Dividends Per Share

For small firms Group 2 has lowest mean % change (-0.43%). This makes sense as these firms all discontinued dividends per share. The large firm Group 2 results of mean % change (30.25%) are unexpected. If they were increasing dividends so strongly, why discontinue them? Perhaps further analysis will shed light here.

The largest mean % change (54.75%) for small firms is with Group 4, even though it is intermittent payment pattern. The largest mean % change (44.36%) for large firms is also Group 4. This provides some support for residual or catering theory being used by both large and small firms.

Beta

All small groups have much larger mean % change than large groups. Small firms are increasing risk much faster than large firms. The highest mean % change (56.12%) is for small firm Group 4. This makes sense, as intermittent dividend per share pattern sometimes results from fluctuating income, which has an impact on beta risk.

Contra wise, the smallest mean % change (-0.71%) Group 3, large firms, shows the only decrease in risk. This group initiated dividends per share. According to traditional dividend theory, a firm only initiates dividends per share if it believes it can sustain such payments into the foreseeable future. Such certainty signals positive news for investors and decreases risk.

Market/Book Value Ratio

All four groups for large size firms show negative mean % change. No dividend approach results in a positive mean for these firms. This is a surprise. The means vary from a low of -7.00% for Group 1 to a high of -4.70% for Group 3. We did not capture a control group of non-dividend paying firms for comparison purposes.

Two of the groups for small size firms did have positive results. Mean % change for Group 1 (1.46%) and Group 4 (4.59%) indicate some growth in the ratio over the 5 time periods. Group 4 results provide some support for residual or catering theory for small firms, while Group 1 results provide weak support for traditional theory. Apparently, investors react more positively to small firms than large firms when following a traditional approach or residual/catering approach. Since more than one group has a positive mean % change, some support exists for a type of clientele effect for these small firms.

Group 3 mean % change is negative for both groups. This is at first a surprise. These firms are initiating dividends and are not rewarded by investors. Further analysis will help to explain this result.

Current Liquidity

For small size firms the mean % change for 3 of the groups is low positive with only Group 3 results (-3.25%) negative. All groups for large size firms have positive results, but once again Group 3 has the lowest results (3.70%). These weak Group 3 results, regardless of size, in mean % change may partially explain the weak results in mean % change for market/book ratio above. Investors perceive increasing risk of insolvency for this group, particularly if the firm is of small size. Variables are not expected to be independent of each other.

Debt Ratio

Group 1 mean % change is negative for both size firms. This group is decreasing their debt ratio as they pursue their dividend payment approach. However, Group 3 mean % change for both size firms is positive, small Group 3 mean % change (5.86%) versus large Group 3 (3.41%). These relatively large results show Group 3, dividend initiators, are increasing debt with small firms leading the way. This increases default risk. Here is a partial explanation for weak Group 3 mean % change in previous market/book ratio results for both size groups, but particularly small firms. Group 3 does not reflect particularly high beta mean % change in previous results. It had the lowest mean % change for both size groups and was even slightly negative mean % change (-0.71%) for large firms. The beta mean % change does not capture this increasing debt ratio mean % change for Group 3.

Net Income

Both small and large size firm groups have positive mean % change results. Group 1 for both size firms have similar mean results. Size does not seem to affect net income growth for this group. Group 2 results are more varied. Small size Group 2 (22.62%) versus large size Group 2 (44.71%) is a large contrast. Large firms that stop paying dividends have a growth rate in net income double that of small firms. This is the highest mean % change of any group.

Small size Group 3 (24.76%) mean % change versus large size Group 3 (6.05%), shows the opposite result. Dividend initiators that are small have a growth rate in net income four times that of large firms. The small size Group 3 mean % change of 24.76% is the highest of the 4 small groups, while the large Group 3 mean of 6.05% is the smallest for the 4 large groups. The strong growth rate in net income is a strong incentive to initiate dividends in small firms.

Small size firm Group 4 has the highest market/book ratio mean % change of any other group, regardless of size. Group 4, residual/catering theory approach to dividend payments, is appreciated more by investors in small firms. Perhaps this is evidence of a clientele effect present.

Shares Outstanding

As expected, all four groups show positive mean % change for both small and large firms. Small Groups 1, 2, and 3 had larger results than large corresponding groups. Large Group 4 (20.76%) is the only group to beat the small group (15.85%). What stands out in the mean % change results is the large size Group 3 (3.80%) low growth rate in shares outstanding. These large dividend initiating firms may have a higher rate of stock repurchases than other groups. This seems somewhat unlikely as this group had the lowest net income growth (6.05%). Where would the money come from for repurchases?

V. Conclusions

Four groups with different dividend payment patterns are derived from quarterly data from 2000 through 2012. Group 1 (traditional) has a stable annual cash dividend. Group 2 (irrelevance) has firms that stop annual dividend payments during the study period. Group 3 (initiators) begin and continue annual cash dividends. Group 4 (residual or catering) includes all other dividend paying firms. A seemingly random payment pattern fits many of these firms. The mean percentage change is calculated for each group for seven variables for five points in time during the study period and arranged into two tables based on small versus large size firms.

For total assets all large size firm groups mean % change are larger than small size firm groups except Group 3. Large result (9.43%) versus small result (17.90%) shows the large Group 3 mean % change is considerably lower than any other group. This low growth rate does not encourage investment in these companies. Highest growth rate is for Group 2 large size firms at 42.99%. Large firms are growing total assets faster than all other firms by following a dividend irrelevant approach.

For dividends per share Group 4 has the largest mean % change for both small and large firms. This may signal good times ahead for the residual/catering dividend approach firms. This is encouraging to investors interested in these firms.

All small firm groups have larger mean % change than mean % change for large group firm groups for the beta variable. Small firms are increasing beta risk at a much faster rate than large firms. Large firm Group 3 mean % change (-0.71%) has the only decrease in risk. Dividend initiators in large firms decrease beta risk over the study period, while no other groups (large or small) are able to match this result.

The mean % change for the market/book ratio variable demonstrates investor reward or punishment from the market over the five time points. All groups have a negative mean % change result except small firm Group 1 and 4. Traditional theory and residual/catering theory are rewarded by investors only for small firms. This supports the clientele effect for small firms, different investors favor different dividend patterns. Group 3 initiators of dividends have the lowest growth rate (-11.72%) of all groups of both size firms. Firms in this group are not being rewarded for initiating dividends. Further analysis shows small Group 3 mean % change (-3.25%) and large Group 3 mean % change (3.70%) for liquidity current ratio. This group has the lowest mean % change for current liquidity for each size category of firms. Small firms are decreasing liquidity over the time points, increasing default risk. Similar results for debt ratio show Group 3 with the highest mean % change, regardless of size. Group 3 small (5.86%) and large (3.41%) have positive relatively high mean % change. These increases in debt ratio mean % change demonstrate growing default risk for this group. Apparently, beta risk does not capture these increases in default risk while the market does.

All groups for both small and large firms have positive net income mean % change. Group 2 had the highest mean % change for large size firms. Small firm Group 4 mean % change (22.91%) is rewarded by Group 4 market/book ratio mean % change being the highest of any size firm group. This is not true for large firm Group 4 market/book ratio mean % change which is negative. It appears investors favor small firms following residual or catering intermittent dividend payment pattern over large firms.

Results for shares outstanding variable show all positive results. Large firm dividend initiators, Group 3, had the lowest growth rate overall. This group also had the lowest net income growth and a negative market/book value mean % change.

Two most interesting study results to the authors are the evidence that both small and large firm Group 3, dividend initiators, are not being rewarded by positive market/book ratio mean % change and that both small Group 1, traditional, and small Group 4, residual/catering, are being rewarded with positive market/book ratios.

For investment purposes, this means does not buy firms that initiate dividend payments and instead seek small firms following a traditional or residual/catering payment pattern. This evidence supports that the clientele effect is present in small firms. Different investors like and reward widely diverse dividend patterns. Firms that initiate dividends or stop dividends are not

rewarded with positive market/book value ratio mean % change. These firms would be less attractive for investment purposes.

Further work might focus on Group 3, dividend initiators, to resolve the issue of no market reward, driven by low liquidity and increasing debt ratio. While at the same time, beta risk is not capturing this increase in default risk. Did the mortgage crisis, stock market decline, and recession impact this group to a greater extent than other groups? More work is needed to answer this question.

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