**DIVIDEND PAYOUT POLICY IN THE MINING INDUSTRY UNDER A CONFIDENCE CRISIS**

**Abstract**

In the past, the Mining industry has outperformed the broader equity markets, but this trend has recently changed. While Mining stocks fell slightly in recent years, the Mining industry is facing a confidence crisis. In this situation, it seems contradictory to increase the payout ratio while earnings have become scarce. In light of the latest corporate finance theories, this article investigates the rationale for Mining companies' payout policy. In particular, we discuss corporate payout policy under asymmetric information models focusing on signaling theory. The results support a negative correlation in some years, however, from 2002 to 2013 the Mining industry as a whole showed no positive correlation between future earnings and changes in dividend payout policy.

**Key words:**

Dividends, Payout policy, Mining industry

**INTRODUCTION**

The Mining industry is a very important sector for Developing Countries due to its contribution to their economic growth. In 2013, Pricewaterhouse Coopers reported that more recently, the Mining sector has suffered global meltdowns according to several indicators. These include a steady drop in market value amounting to a 20% drop compared with 2012; no revenue growth among the forty largest mining companies(flat at $735 billion,); and a 6% increase in production volume that was offset by softer commodity prices. Within the same group of companies, the estimated 2013 capital expenditure (capex) was $110 billion, 21% lower than 2012, and since April 2012, the top ten companies’ CEOs have all been replaced. This report concluded that these circumstances were indicators of a confidence crisis in the mining sector. At the same time, the same report points out that the rewards to shareholders are scheduled to stay the same, or improve. All but two of the top ten companies have publicly assured shareholders that current dividend levels will either be maintained or improved. In 2012, the top ten companies paid out record dividends, increasing the dividend payout ratio from 25% in 2011 to 57% in 2012. From 2009 to 2012, the top forty companies’ dividends have increased by more than 150%, from $15 billion to $30 billion.

With a confidence crisis in the backdrop, it seems contradictory to increase the payout ratio while the earnings have become scarce according to corporate finance theory regarding payout policies. In this study, we explore the possible causes of this paradox. Essentially, the question is: are recent payout policies of companies of the Mining industry consistent or inconsistent with the Asymmetric Information model in corporate finance Signaling theory. Accordingly, dividend changes should be positively correlated with price changes, and positively correlated with changes in expectations about future earnings.

We run a regression with the financial data of mining firms extracted from COMPUSTAT and grouped them in three time periods: 2002 – 2007, 2008 – 2009, and 2010 – 2013. Our dependent variable is earnings and the independent variable is the dividend payout. The equation modeled is based on the model described by Grullon, Michaely, Benartzi, and Thaler (2005). As in Grullon et al’s paper, this study intends to determine the direction of the relationship between changes in future earnings and dividend payouts.

**LITERATURE REVIEW**

The literature on corporate payout policy addresses two important questions. Firstly, how much cash should firms distribute to their shareholders? Secondly, how should firms distribute cash to their shareholders? The latter question refers to which is the best way to transfer cash to shareholders: either by dividends or share repurchases. To date, it is unclear why corporations distribute a significant fraction of their earnings to their shareholder. Since Modigliani and Miller (1961) demonstrated that in perfect capital markets the market value of any firm is independent of its dividend policy, until today, academics and practitioners have tried explain the reason for the dividend payout policy of firms. One of these theories is the Static clientele model which describes how historically, the time trend of tax rates on capital gains has been much lower than the tax rate on ordinary income. The tax disadvantage of dividends relative to share repurchases raises several important issues: Does the tax disadvantage of dividends affect asset prices?, Why do firms pay dividends instead of repurchasing shares? The static clientele model answers affirmatively to the first question if all investors are taxed in the same way, and negatively if the different clienteles are taxed differently. In equilibrium, it means that individuals in high tax brackets will hold low-dividend yield stocks, corporations will hold high-dividend yield stocks, and institutions will be indifferent, all of these because investors are taxed at different rates. Elton and Gruber (1970) examine the effect of taxes on prices using ex-dividend data price, assuming risk-neutrality and no transaction costs and they show that differences in prices after the dividend was paid is equal to dividends paid multiplied by a factor of the personal tax rate on dividend income over personal tax rate on capital gains.

There is mixed evidence in the literature. Elton and Gruber (1970), Kalay (1982), Poterba and Summers (1984) find that the average price drop on the ex-day is smaller than the dividend payment if taxes on dividends are higher than taxes on capital gains. Barclay (1987), Michaely (1991) find mixed evidence on the effect of the relative taxation of dividends to capital gains on the premium. Latest studies examining closed-end funds in which taxes on dividends are less than taxes on capital gains find that the average price drop on the ex-day is greater than the dividend payment (Elton, Gruber& Blake, 2005). The idea behind that the Dynamic Model is that investors can trade around the ex-dividend day to capture or avoid dividends. Namely, institutions and corporations try to capture dividends and individuals try to avoid dividends. Kalay (1982) shows that dynamic trading should lead to no difference between the change of stock prices and the dividend paid. Other researchers found that premiums are lower for stocks with low transactions costs, (Karpoff &Walking; 1988, 1990). Michaely and Vila (1996) found evidence of abnormal trading volume around the ex-dividend day and a negative correlation with transaction costs and risk.

Regarding to models based on Asymmetric information, Miller and Modigliani (1961) explained that if managers have better information than shareholders about the cash flows of the firm, then dividends may convey information about future earnings. That is the idea behind the Signaling theory: there are lots of researchers that consider firms intentionally change dividends, at some cost, to send a signal to the market. Bhattacharya (1979) found that signaling cost is the cost of raising external capital. Miller and Rock (1985) consider that signaling cost is sub-optimal investment. John and Williams (1985) found that signaling cost is dividend taxation. Allen, Bernardo, and Welch (2000) pointed out that signaling cost is more monitoring by institutions. Main empirical predictions of signaling models consider: unexpected dividend changes, will be associated with price changes in the same direction, dividend changes will be associated with future earnings change in the same direction, and dividend changes will be associated with changes in expectations about future earnings in the same direction. The empirical evidence is almost universal agreement that positive (negative) dividend changes are associated with positive (negative) changes in stock prices (Aharony &Swary, 1980; Asquith and Mullins (1983), Kalay and Loewenstein (1985), and Michaely, Thaler, and Womack (1995) support these findings. There is also some evidence that market expectations through analyst’s forecasts move in the same direction as change in dividends. Ofer and Siegel (1987), and Yoon and Starks (1995) are some of them. Finally, there is a debate on whether dividend changes predict actual changes in future earnings, Watts (1973), Gonedes (1978), Bernartzi, Michaely, and Thaler (1997), and Grullon, Michaely, Benartzi, and Thaler (2005) found that, dividends are unrelated to future earnings changes. At worst, they are negatively related. It means that dividend decreases are associated with subsequent earnings increases, and dividend increases are associated with either no change or negative change in future earnings. Most of the positive relationship between dividend changes and concurrent changes in earnings can be attributed to dividend announcements occurring in the last six months of the year after some of the earnings information is known. The opposite position, defended by Healy and Palepu (1998), Aharony and Dotan (1994) and Nissim and Ziv (2001), points out that dividends can predict the changes in future earnings, however the latter paper has weak evidence due to some econometrics issues.

According to the Maturity Hypothesis, a dividend increase indicates that the firm has matured. It has fewer growth opportunities available resulting in declining growth and profitability, and at the same time becomes less risky. Risk declines because when a firm becomes mature, it has fewer growth options in its portfolio. Since growth options are typically more risky than assets-in-place, a decline in the proportion of growth options in a firm’s portfolio will, in turn, cause a decline in the systematic risk of the firm. While less growth opportunities will tend to reduce firm value, the lower risk class will have the tendency to increase its value. Therefore, any attempt to explain the price reaction to dividend changes has to rely, at least partially, on the risk effect (Grullon, Michaely & Swaminathan, 2002).

The models based on agency problems explain the free cash flow hypothesis that considers profits may be diverted by insiders for personal use, or committed to unprofitable projects that provide private benefits to insiders. Since corporate payouts reduce the amount of excess cash available to managers, this also reduces the likelihood that managers will invest in bad projects(Jensen, 1986). Low-growth profitable firms are more likely to generate free cash flows, (Lang & Litzenberger, 1989; Grullon & Michaely, 2004). In contrast, Yoon and Starks (1995) disagree. Finally an explication of dividend payout policy is provided by the Outcome and Substitution Model as outlined by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000). The authors test two agency models of dividends. The first tests whether dividends are an outcome of legal protection of stockholders. In other words, the better the investor protection, the higher the dividend payout, and the better investor protection, the lower the dividend paid by high growth companies compared to low growth companies. The second tests that dividends are a substitute for legal protection of stockholders, implying that the weaker the investor protection, the higher dividends payouts and the weaker investor protection, the higher dividends by high growth firms.

**DATA AND METHODOLOGY:**

We obtained data from COMPUSTAT for all mining firms (SIC Code 1000 to 1400).The data span from 2002 – 2007, 2008 – 2009, and 2010 – 2013. The grouping of years accounts for the ex-ante crisis effect in the mining industry accounting for structural changes in the data (as was determined in an analysis prior to this study).We removed the negative and missing asset values, and the extreme values (5% of the highest and lowest values). The summary statistics are showed in Table I.

Through the first two periods, we can see that revenues (measured by the natural log of sales) had remained constant, although in the last period it increased slightly. The prices have decreased significantly from the first period to the second. This indicates that the impact of the crisis hit the mining industry very hard, the prices have not recovered to the level of the first period; the reduction, considering the third period, was 29%.

Table I

**Summary Statistics**

The sample consists of all Mining firms in the COMPUSTAT database from 2002 to 2013 divided into three periods. The table presents variable averages, medians (in brackets), and standard deviations (SD).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2002 - 2007 | | 2008-2009 | | 2010 – 2013 | |
| Variable | Mean [Median] | (SD) | Mean [Median] | (SD) | Mean [Median] | (SD) |
| Revenue (ln(sales)) | 2.12 | (1.17) | 2.13 | (1.14) | 2.22 | (1.11) |
|  | [2.13] |  | [2.13] |  | [2.23] |  |
| Prices | 17.85 | (30.83) | 11.93 | (22.05) | 12.64 | (20.63) |
|  | [5.85] |  | [2.24] |  | [3.17] |  |
| Market to Book | 2.02 | (2.09) | 1.36 | (1.46) | 1.62 | (4.20) |
|  | [1.58] |  | [1.03] |  | [1.08] |  |
| Book leverage | 0.19 | (0.15) | 0.18 | (0.16) | 0.17 | (0.15) |
|  | [0.16] |  | [0.14] |  | [0.14] |  |
| Market leverage | 0.16 | 0.18 | 0.21 | (0.21) | 0.20 | 0.21 |
|  | [0.10] |  | [0.15] |  | [0.12] |  |
| Capex/Assets | 0.12 | (0.11) | 0.12 | (0.09) | 0.12 | (0.10) |
|  | [0.09] |  | [0.10] |  | [0.10] |  |
| Productivity | 0.90 | (0.92) | 1.00 | (1.14) | 0.86 | (1.06) |
|  | [0.72] |  | [0.72] |  | [0.66] |  |
| ROA | 0.05 | (0.22) | 0.01 | (0.27) | 0.04 | (0.27) |
|  | [0.07] |  | [0.06] |  | [0.08] |  |
| Dividends/Assets | 0.012 | (0.04) | 0.009 | (0.03) | 0.011 | (0.03) |
|  | [0.00] |  | [0.00] |  | [0.00] |  |
| Dividends/Market Value | 0.012 | (0.07) | 0.014 | (0.07) | 0.026 | (0.25) |
|  | [0.00] |  | [0.00] |  | [0.00] |  |
| Div/EBIDTA | 0.031 | (0.55) | 0.050 | (0.54) | 0.072 | (0.61) |
|  | [0.00] |  | [0.00] |  | [0.00] |  |
| Tobin’s q | 2.90 | (4.14) | 2.09 | (5.02) | 2.12 | (4.70) |
|  | [2.16] |  | [1.37] |  | [1.42] |  |
| Obs. | 681 |  | 315 |  | 650 |  |

While the levels of Book leverage (Total debt/Assets) fell over the three periods, Market leverage (Total debt/Market value) rose in the second period and decreased in the third. Using Capex/Assets to measure Investment, this value was flat at 0.12 in all periods of analysis. This meant that during the meltdown the level of investment had remained constant and continued at the same level in the last period. The productivity (Sales cost/sales) was the clue in this sector as higher values provided opportunities for internal savings. In our sample, we considered values of productivity larger than one, we have to check with values of the ratio less than one to evaluate if there was skewness.

The returns had meaningfully decreased in the first period from 0.05 to 0.01, but recovered to 0.04. Surprisingly, the levels of dividends had increased compared to the Market Value and EBIDTA. This evidence is at odds with economic intuition, that in crisis, liquidity is a problem and a method of internal funds is to reduce dividends. A possible explanation is the reduction in prices, as compared with the Assets, dividends had decreased a little. Finally the opportunities of investment, measured by Tobin’s q, had increased comparing the third period with the second, but lessened comparing the third with the initial period.

We know that gold is a very special commodity which is used as a hedge in times of crisis. To check for robustness of the data, we have exclude from our sample, companies who’s main product is gold and its derivatives. We can see in Table II the main difference is in the value of the stock prices as they fell 29% considering gold mining companies, but 36.5% excluding them. Another difference is found in the ratio Div/EBIDTA which is larger if we consider the mining firms in our sample.

**MORE DETAILS IN PROGRESS**

Table II

Summary Statistics

(Robustness check)

The sample consists of all US Mining firms (except companies that produce gold) in the COMPUSTAT database from 2002 to 2007. The table presents variable averages, medians (in brackets), and standard deviations (SD).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2002 - 2007 | | 2008-2009 | | 2010 - 2013 | |
| Variable | Mean [Median] | (SD) | Mean [Median] | (SD) | Mean [Median] | (SD) |
| Revenue (log(sales)) | 2.39 | (1.19) | 2.37 | (1.12) | 2.27 | (1.18) |
|  | [2.54] |  | [2.36] |  | [2.33] |  |
| Prices | 24.37 | (37.80) | 14.91 | (26.04) | 15.48 | (23.05) |
|  | [11.26] |  | [3.64] |  | [4.53] |  |
| Market to Book | 1.81 | (1.65) | 1.15 | (1.18) | 1.46 | (2.03) |
|  | [1.44] |  | [0.85] |  | [1.08] |  |
| Book leverage | 0.22 | (0.16) | 0.21 | (0.16) | 0.21 | (0.16) |
|  | [0.20] |  | [0.17] |  | [0.18] |  |
| Market leverage | 0.19 | (0.19) | 0.26 | (0.22) | 0.23 | (0.21) |
|  | [0.13] |  | [0.20] |  | [0.17] |  |
| Capex / Assets | 0.11 | (0.10) | 0.11 | (0.10) | 0.11 | (0.11) |
|  | [0.08] |  | [0.09] |  | [0.09] |  |
| Productivity | 0.87 | (0.86) | 1.07 | (1.25) | 0.91 | (1.13) |
|  | [0.73] |  | [0.73] |  | [0.71] |  |
| ROA | 0.09 | (0.20) | 0.04 | (0.23) | 0.04 | (0.25) |
|  | [0.10] |  | [0.08] |  | [0.08] |  |
| Dividends / Assets | 0.018 | (0.06) | 0.011 | (0.03) | 0.014 | (0.04) |
|  | [0.00] |  | [0.00] |  | [0.00] |  |
| Dividends/Market Value | 0.017 | (0.09) | 0.017 | (0.08) | 0.012 | (0.03) |
|  | [0.00] |  | [0.00] |  | [0.00] |  |
| Div/EBIDTA | 0.054 | (0.43) | 0.076 | (0.71) | 0.085 | (0.70) |
|  | [0.00] |  | [0.00] |  | [0.00] |  |
| Tobin’s q | 2.83 | (4.72) | 1.59 | (1.60) | 2.02 | (3.15) |
|  | [1.98] |  | [1.22] |  | [1.45] |  |
| Obs. | 390 |  | 180 |  | 363 |  |

**Linear Model of Earning Expectations**

We examine the relationship between dividend changes and future earnings changes using a linear model of earning expectations. To this end, we use the linear model of Nissim and Ziv (2001) that estimates a regression model that allows for asymmetric reactions to dividends increases and decreases and controls for uniform mean reversion and momentum in earnings:

Where is EBIDTA in year , is the book value of equity at the end of year -1, is the annual percentage change in the cash dividend payment in year 0, is a dummy variable that takes the value of 1 for positive dividends changes and 0 otherwise, is a dummy variable that takes the value of 1 for negative dividends changes and 0 otherwise, and is equal to EBIDTA in year scaled by the book value of equity at the end of year , and the last term is the initial difference in EBIDTA scaled by the book value of equity. This equation considers that the relationship among the variables described as linear. One issue according to Nissim and Ziv (2001) is to consider that the mean reversion has a linear relationship. As Grullon, Michaely, Benartzi, and Thaler (2005) demonstrate, the factor that measures the mean reversion is not linear; questioning the validity of the original model. Nevertheless our first approximation for determining the relationship between future earnings variation and dividend variation is analyzed with this model.

We work with a panel data set, namely the data is grouped by firms through years from 2002 to 2013, the methodology used is the Fama-MacBeth (1973) regression model. This consists of a cross-sectional regression coefficient for each year using all the observations in that year. The results of the regression are shown in the Table III.

Table III

**Annual Cross-sectional regression Coefficients of Dividends Changes**

This table shows the Cross-sectional coefficients grouped by year of the mining span from 2002 to 2013. According to the Fama-MacBeth (1973) procedure. Where is EBIDTA in year , is the book value of equity at the end of year -1, is the annual percentage change in the cash dividend payment in year 0, is a dummy variable that takes the value of 1 for positive dividends changes and 0 otherwise, is a dummy variable that takes the value of 1 for negative dividends changes and 0 otherwise, and is equal to EBIDTA in year scaled by the book value of equity at the end of year , and the last term is the initial difference in EBIDTA, scaled by the book value of equity. . \* Level of statistical significance at 10%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | t = 1 | | | | |
| Year | (t-stat) | (t-stat) | (t-stat) | (t-stat) | (t-stat) |
| 2002 | - | - | - | - | - |
|  |  |  |  |  |  |
| 2003 | 0.046 | 0.013 | -0.003 | **-0.209\*** | 0.023 |
|  | (0.96) | (0.82) | (-0.03) | **(-2.30)** | (0.32) |
| 2004 | 0.092 | 0.019 | -0.068 | 0.007 | 0.148 |
|  | (1.35) | (0.37) | (-0.48) | (0.05) | (0.76) |
| 2005 | -0.123 | 0.065 | -0.110 | **0.100\*** | -0.475 |
|  | (-1.59) | (1.21) | (-0.64) | **(5.17)** | (-1.31) |
| 2006 | 0.087 | **0.190\*** | **-0.410\*** | -0.281 | **0.347\*** |
|  | (1.31) | **(6.05)** | **(-2.90)** | (-1.61) | **(2.36)** |
| 2007 | 0.098 | 0.014 | 0.145 | **-0.144\*** | 0.128 |
|  | (1.21) | (0.61) | (0.35) | **(-76.98)** | (0.58) |
| 2008 | 0.063 | 0.004 | 0.172 | -0.028 | **-0.047\*** |
|  | (0.92) | (0.42) | (1.14) | (-0.20) | **(-3.38)** |
| 2009 | **0.159\*** | -0.056 | 0.133 | -0.095 | **-0.71\*** |
|  | **(2.10)** | (-0.66) | (0.94) | (-1.41) | **(-3.93)** |
| 2010 | 0.036 | -0.038 | **0.542\*** | **0.407\*** | -0.129 |
|  | (0.47) | (-1.18) | **(2.19)** | **(2.84)** | (-1.02) |
| 2011 | **0.099\*** | 0.032 | **0.435\*** | **-0.152\*** | **0.348\*** |
|  | **(2.14)** | (0.71) | **(3.47)** | **(-1.80)** | **(3.99)** |
| 2012 | -0.054 | **0.001\*** | 0.003 | -0.058 | **0.279\*** |
|  | (-1.41) | **(3.01)** | (0.03) | (-0.59) | **(1.99)** |
| 2013 | 0.030 | -0.024 | **0.176\*** | **-0.148\*** | -0.005 |
|  | (0.71) | (-0.51) | **(1.68)** | **(-1.92)** | (-0.69) |
|  |  |  |  |  |  |

To evaluate the reliability of dividend changes as predictors of future earnings changes and to see whether the relationship between dividend changes and earnings changes varies through time in a systematic way, Table III shows the results of this relationship. The coefficients of the regression that were positive/negative and significant at least at the 10% level are highlighted in bold. This represents only 18% for positive relationships and 36% for negative relationships, over the years when t = 1. That is, in most of the years in our sample, current changes in dividends are not a reliable signal of future earnings changes, in the same direction, instead, there are more years on the period of analysis with this relation in the opposite direction. This conclusion is consistent with the previous work done by Grullon, Michaely, Benartzi, and Thaler (2005), and the last finding is new, taking into account the mining industry under analysis.

In the second stage of the Fama-MacBeth regression, we calculate time-series means of Betas. Each Beta is obtained from the cross-sectional regression calculated with the equation below. The standard deviations for these averages are estimated using Hansen-Rodrick (1980) standard error correction model. The coefficients of the regression are evaluated if they have a statistical significance at 90%, 95% and 99% level using the Wald test. The results are shown in the Table IV.

Table IV

**Time-Series means of the Cross-sectional Regressions Coefficients**

Time-Series means of the Cross-sectional Regressions Coefficient in accordance to Fama-MacBeth regression. Each Beta is obtained from the cross-sectional regression calculated with the equation below. The standard deviation for these average are estimated using Hansen-Rodrick (1980) standard error correction model. The coefficient of the regression are evaluated if they have a statistical significance at 90%, 95% and 99% levels. The equation is:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | t = 1 | | | | |
| Year |  |  |  |  |  |  | Adjusted- |
| t = 1 | Mean | 0.048 | 0.020 | 0.089 | 0.027 | -0.009 | 40% |
|  |  |  |  |  |  |  |  |
|  | Wald-statistic | 0.62 | 0.31 | 0.34 | 0.07 | -0.03 |  |
|  |  |  |  |  |  |  |  |

The results show that the coefficient for positive dividend changes is equal to 0.020 and the coefficient for negative dividend change is equal to 0.089, both do not have statistical significance at 10%, at least. Although this result is not consistent with Nissim and Ziv (2000) and Grullon, Michaely, Benartzi, and Thaler (2005) where in their works have found a positive relationship (although weak) this is consistent with the final conclusion that there is no significant relationship between change in dividend and future earnings. For robustness check, [RESULTS REQUIRED] we divide our sample in three periods (2002 – 2007, 2008 – 2009 and 2010 – 2013) and carry out the same analysis, the results did not show significant changes with the results reported.

**MORE DETAILS IN PROGRESS**

**CONCLUSIONS**

The Mining industry is a very important sector as a source of income for developing countries. According to the last PricewaterhouseCoopers report, this sector is experiencing a crisis of confidence that generated changes in corporate strategies pressured by stockholders. In this paper we have analyzed the dividend payout policy in light of corporate finance theories related to why companies pay dividends. Although there is no clear consensus in general, this analysis aims to shed light on which theories apply to the mining sector. The model that we evaluate is the signaling hypothesis in its controversial version, namely, whether changes in dividends generate positive changes in future earnings. We confirm the crisis of confidence in the Mining industry, including reductions in share prices, market to book levels, and investment, is coincident with increases in dividends. In addition, in the last period of analysis that spans 2010 to 2013, a robustness check that includes a group of mining companies including gold companies and its derivatives is shown to yield the same trend in the results.

Taking into account the papers of Nissim and Ziv (2001) and Grullon et al. (2005), we carry out a regression analysis to determine the relationship between the changes in dividend payouts and future earnings. We take EBIDTA as a proxy for earnings and the annual variation of the previous year for dividends. The equation is complemented with ROA and the initial EBIDTA for controlling the mean reversion trend in the data. Our results are the opposite to of those of Nissim and Ziv (2001) but in accordance with Grullon et al. (2005).Between the years 2002 to 2013, positive earnings changes are correlated with negative dividend changes. This result is congruent with Bernatzi et al (1997). Therefore, for the mining companies from 2002 to 2013, there is no positive correlation between future earnings and changes in dividend payout policy.

It remains to be analyzed whether there is empirical evidence for the Maturity Hypothesis; whether the behavior of the stockholders and managers of increasing dividend policy under a confidence crisis has strong support for the Maturity Hypothesis or whether we find an anomaly that may lead to new theory. We leave this to future research.

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