

DOES GOOD STEWARDSHIP REDUCE AGENCY COSTS IN THE IT SECTOR? EVIDENCE FROM DIVIDEND POLICY AND ESG RATINGS

Kevin M. Casey, Jr, University of Central Arkansas
K. Michael Casey, University of Central Arkansas
Ken Griffin, University of Central Arkansas

ABSTRACT

The link between corporate social responsibility, firm performance and various discretionary managerial decisions is widely documented in the academic literature. Recently, ESG ratings emerged as one metric that quantifies components of social responsibility. ESG (environment, social and governance) ratings enable researchers to evaluate the firm's overall social responsibility and then to parse that measure into its individual components to identify specific social responsibility decisions that may have greater impact on the firm. Recently, Yahoo! finance added a series of sustainability metrics that provide scores for a firm's "environmental, social and governance issues" (ESG). The ESG data focuses on issues that are most likely to affect the firm and assesses the firm's "ability to mitigate ESG risks." This study obtained current 2019 data from Yahoo! finance for firms in the information technology (IT) sector. The sample size includes 50 firms with sufficient data to run the models. The positive relationship between ESG rating and dividend yield suggests that firms with higher (better) ESG percentile rankings have higher dividend yields. Overall, the results provide additional evidence that firms consider several social and environmental factors when establishing dividend policy.

INTRODUCTION

The link between corporate social responsibility, firm performance and various discretionary managerial decisions is widely documented in the academic literature. Galbreath (2010) shows a link between social responsibility and strategic orientation. Hsu (2018) shows that firms that are better corporate stewards tend to make better financial decisions and do a better job of allocating capital to positive net present value projects. Olowokudejo, Aduloju and Oke (2011), in their study of Nigerian insurance companies, show that organizational effectiveness improves as firms become more socially responsible. Numerous other studies show similar linkages between social responsibilities and various measures of performance, including Buallay (2019) and Feng, Wang and Kreuze (2017). Still other studies document a linkage between dividend payout and corporate social responsibility. Examples include Casey, Ellis, Casey (2019) and Samet and Jarboui (2017).

Recently, ESG ratings emerged as one metric that quantifies components of social responsibility. ESG (environment, social and governance) ratings enable researchers to evaluate the firm's overall social responsibility and then to parse that measure into its individual

components to identify specific social responsibility decisions that may have greater impact on the firm. Given that industry differences do exist, as shown by Feng et al. (2017) and Nyeadi, Ibrahim and Sare (2018), it is appropriate to study the impact of ESG ratings on firms in a specific industry. In this paper we focus on the information technology (IT) sector given its recent prominence in the popular press with regard to privacy and data usage issues. We also evaluate the impact on dividend policy since dividend payout is often used as to mitigate agency issues and push the firm to show greater transparency. The rest of this paper is organized as follows. Section II contains a brief review of the relevant literature. Section III contains a presentation of the data and methodology, section IV presents the results, and Section V provides some concluding remarks and directions for future research.

LITERATURE REVIEW

Jensen and Meckling's (1976) paper on agency theory shows that problems emerge when you separate a firm's ownership and management. These two disparate groups often have different goals. For this reason, academics and practitioners alike have focused research efforts on ways to align the goals of these two divergent groups. Costs incurred to align these goals are known as agency costs. Various oversight and internal control techniques attempt to reduce agency costs by monitoring management to ensure management behavior is consistent with the primary goal of the owners, which is shareholder wealth maximization.

Dividend payment is one common technique firms use to reduce agency costs. Paying dividends depletes cash and forces the firm into the external capital markets to acquire necessary financial capital for operations and/or expansion. Investor bankers, analysts, potential investors and any external stakeholder evaluates the firm's financial condition, recent managerial actions, corporate governance mechanisms, and other factors prior to providing external capital. This review process uncovers any relevant external or internal issues that will negatively impact the firm and future cash flows. Social responsibility issues fall into this category. Dividend payment is therefore an agency cost since retaining dividends for internal financing would be an easier option for firms seeking expansion capital or firms needing capital for existing operations. Given this relationship exists we can evaluate the linkage between dividend payment and social responsibility to determine whether firms that are more socially responsible pay more or less in dividends.

Rozeff's (1982) agency cost and transaction cost tradeoff model postulates that firms adopt a dividend policy that minimizes their overall costs. When firms issue dividends and are forced to the external markets the firms incur issuance costs associated with raising new debt or equity. Firms must balance the costs of dividend payment and the cost of raising external capital with the value of the information disseminated in that process. The dividend payment must convey relevant information that reduces agency costs or the firm's best decision would be retention of that cash dividend for other uses. Rozeff (1982) maintains that firms will adopt a dividend payment policy that minimizes these overall costs. Easterbrook (1984) and Dempsey and Laber (1992) both support Rozeff's model and an agency explanation of dividend payment.

Several studies, including Noronha, Shome, and Morgan (1996), use adaptations of Rozeff's (1982) model. Moh'd, Perry, and Rimbey (1995) provide strong support for the model over time and across various industries. Casey et al. (1999) extends Rozeff's model to investigate the relationship between payout policy and changes in the tax law. This study notes that industry differences exist with regard to payout policy. Other studies support industry differences. Dickens, Casey, and Newman (2002) study banking while Puleo, Smith, and Casey (2009) focus on the insurance industry. Both use variations of Rozeff's (1982) model to evaluate dividend decisions.

The relationship between corporate governance and dividend payout is also documented in the literature. For example, Puleo, Smith, and Casey (2009) find that regulated firms in the insurance industry have a lesser need to pay dividends and subject the firm to the scrutiny of the external capital markets. Regulators appear to perform that function to the satisfaction of market participants. In a separate study, Smith, Puleo, and Casey (2008) show that non-regulated firms with higher corporate governance quotients also pay lower dividends. A higher corporate governance quotient indicates the firm is a better steward and less likely to engage in inappropriate actions. It appears that firms recognized externally as better stewards can lower dividend payout since they have a lesser need to convey governance information via dividend payment and forcing firms into the external capital markets.

Recently, Yahoo! finance added a series of sustainability metrics that provide scores for a firm's "environmental, social and governance issues" (ESG). The ESG data focuses on issues that are most likely to affect the firm and assesses the firm's "ability to mitigate ESG risks." Casey, Casey and He (2018) use this data source and study the relationship between dividend policy and ESG factors in the utility industry. Their study did not find a relationship between dividend policy and the ESG factors in the utility industry. However, the utility industry is highly regulated, and regulation could reduce the need for firms to mitigate ESG risks. Other research, such as Casey, Smith and Puleo (2010), finds that firms in the oil and gas industry with stronger corporate governance structures paid lower dividends. This finding suggests that dividends do convey information and dividend payment does subject the firm to greater external scrutiny.

In this paper we focus on the relationship between dividend policy and ESG factors in an industry that is often in the press for data stewardship and other social responsibility issues, the IT sector. We evaluate the impact on dividend yield using an overall ESG percentile score and then look at the individual components of ESG. The ESG factor is split into governance, environmental and social affects with distinct numerical values. The addition of the controversy variable provides even more detailed information about the public perception of the firm. Casey, Casey and He (2018) note that today's investors are more interested in socially responsible investing and are willing to reward firms that possess the desired socially responsible characteristics and punish firms that do not possess these traits. For this reason, we expect to see a strong link between ESG ratings and dividend policy.

DATA AND METHODOLOGY

This study obtains current 2019 data from Yahoo! finance for firms in the information technology (IT) sector. The data was collected in July of 2019. The sample size includes 50 firms with sufficient data to run the models (Appendix A). We estimate the following version of Rozeff's (1982) model consistent with Casey, Ellis and Casey (2019) and Casey, Smith and Puleo (2010) who both use a similar model in the oil and gas industry.

$$DY_j = \alpha + \sum B_i X_{ij} + \mathcal{E},$$

Where:

DY = dividend yield as reported by Yahoo! finance

X_{ij} represents each independent variable I, for each firm j. These variables are:

INSTIT = percentage of institutional ownership,

BETA = each firm's beta,

DEBT = total debt/equity ratio,

GROW = next year's percentage forecast growth rate in revenues,

ESG = Sustainalytics total ESG percentile rating,

CONT = controversy rating assigned by Sustainalytics.

The ESG rating can be split into its three components of Environment rating (ENV), Social rating (SOC) and Governance rating (GOV). Each of these ESG ratings can fall between 1-100. The ratings are calculated using a proprietary balanced scorecard system. Percentile rankings are also reported for these individual components. Justification for the included variables follows.

CONT, or the controversy rating computed by Sustainalytics, assumes a value between 1 and 5 and is assigned based on recent controversies involving the specific firm. A value of 5 is assigned to the most serious controversies that could negatively impact stakeholders, the environment, or the firm's operations. Firms with higher controversy ratings will likely need to increase dividend payout and subject the firm to the scrutiny of the financial markets with greater frequency.

Justification for the other included control variables follows:

Instit, defined as the percentage of institutional equity ownership, could have a positive or negative relationship to dividend yield. Depending on the overall faith in management and fund goals, institutional owners may desire to have dividends retained and invested or paid out to shareholders. Institutional ownership can exceed 100% in rare situations where one institution borrows shares from another institution to short stock. If both institutions report the stock as "owned" then the percentage can exceed 100%.

Beta, the firm's beta computed and reported by Yahoo! finance, serves as a measure of market risk. Investors with higher risk tolerances should prefer firms that reinvest earnings instead of paying cash dividend. Beta should be negatively related to dividend payment and therefore dividend yield.

Debt represents the firm's use of leverage. We use the total debt to equity ratio provided by Yahoo!. Debt could also be positively or negatively related to dividend payout. As debt increases firms often opt to retain funds for debt service in lieu of paying out cash dividends. However, an opposing position suggests that firms paying higher dividends could be forced to incur more debt for capital budgeting and operations. Therefore, debt could have either a positive or a negative sign.

Growth, or next year's forecast revenue growth rate, serves as a proxy for the firm's immediate future cash needs. Higher growth rates indicate the firm may need more cash to support that growth. For this reason, we expect to see a negative relationship between growth rates and dividend yields.

RESULTS

Table 1 contains the descriptive statistics for the variables included in this study. Many of the variables have a wide variation. For example, beta falls between 0.280 and 2.520 which indicates a large variation in market risk in this sample. Future growth rates exhibit an even greater variation and range from -28.2% to 34.3%. It is also worth mentioning again that Institutional Ownership can exceed 100% since one institution can borrow shares from another to short. If both institutions report the ownership the total can exceed 100% in rare situations. Institutional ownership ranges between 0.00% and 117.58%.

Variable	Minimum	Maximum	Mean	Std. Deviation
Dividend Yield	0.350	4.620	1.858	0.982
Beta	0.280	2.520	1.254	0.452
Debt	0.010	426.350	101.736	112.073
Institutional Own.	0.000	117.580	83.685	18.367
Next Year's Growth	-28.200	34.300	10.510	8.742
ESG Rating	43.000	87.000	64.420	10.912
ENV Rating	42.000	96.000	66.380	14.890
SOC Rating	38.000	88.000	62.780	12.565
GOV Rating	54.000	87.000	64.720	6.606
CONT	0.000	4.000	1.360	1.025

The ESG rating ranges 43 to 87 for the IT firms included in this study. We see similar variation when we split ESG percentiles into its three components. ENV ranges between 42.0 and 96.0 and SOC has a range of 38.0 to 88.0. The last component, GOV, has a percentile range from 54.0 to 87.0. Each of these variables should measure a slightly different aspect of corporate governance and stewardship. Controversy level (CONT) has a mean of 1.36 and ranges between

0.0 and 4.0. Table 1 also shows that dividend yields also vary quite a bit. Dividend yields have a mean of 1.858% with a low of 0.35% and a high dividend yield of 4.62%.

In Table 2 we report the variable correlations.

	Beta	Debt	Instit	Growth	ESG	ENV	SOC	GOV	CONT
Beta	1								
Debt	0.031	1							
Instit	0.087	0.131	1						
Growth	0.010	0.087	0.058	1					
ESG Rating	0.266	-0.209	-0.108	-0.017	1				
ENV Rating	0.223	-0.171	-0.116	-0.042	NA	1			
SOC Rating	0.306	-0.171	-0.084	-0.003	NA	0.834	1		
GOV Rating	0.105	-0.215	-0.143	-0.009	NA	0.524	0.488	1	
CONT	-0.055	0.093	-0.260	0.207	0.207	0.262	0.163	0.103	1

The correlation coefficients indicate there are no variables that are highly correlated and there are no serious multicollinearity problems with the model. The exception is that ENV and SOC are highly correlated. White's (1980) test indicates there is no serious problem with heteroskedasticity.

Table 3 contains a presentation of the OLS regression results from four different regression models. All four models do a good job of explaining the variation in dividend yields with adjusted R^2 's ranging from 0.268 to 0.300. Two of the control variables are significant in every model. Debt is positively related to dividend yield and significant at the 0.05 level in all four models. Growth rates are also significant at the 0.005 level in all four models. The relationship is negative in all models.

Independent Variables	Regression Model 1 (n = 50)	Regression Model 2 (n = 50)	Regression Model 3 (n = 50)	Regression Model 4 (n = 50)
Constant	0.303 (0.314)	1.315 (0.924)	0.289 (0.294)	1.307 (0.897)
Beta	0.040 (0.144)	0.012 (0.041)	0.043 (0.152)	0.012 (0.044)
Debt	0.003* (2.600)	0.003* (2.400)	0.003* (2.533)	0.003* (2.346)
Institutional	-0.006 (-0.939)	-0.007 (-0.977)	-0.006 (-0.860)	-0.006 (-0.917)
Growth	-0.046** (-3.321)	-0.045** (-3.251)	-0.046** (-3.218)	-0.045** (-3.120)
ESG Rating	0.034** (2.927)		0.034* (2.772)	
ENV Rating		0.013 (0.815)		0.012 (0.775)
SOC Rating		0.021 (1.145)		0.021 (1.131)
GOV Rating		-0.014 (-0.646)		-0.014 (-0.636)
CONT			0.014 (0.111)	0.005 (0.037)
R ²	0.372	0.390	0.373	0.390
Adjusted R ²	0.300	0.286	0.283	0.268

*Significant at .05 level or better

** Significant at .005 level or better

The four models that include various combinations of the ESG and CONT variables are all significant. These adjusted R²s indicate that the regressions explain between 26.8% and 30.0% of the variation in dividend yields. In the four significant regression models, the only significant social responsibility variable was the composite ESG rating used in Model 1 and Model 3. When the ESG variable was split into individual components in Model 2 and Model 4 there were no significant social responsibility variables. CONT was insignificant in both models that included this variable.

CONCLUSIONS

The four regressions help explain a large part of the variation in dividend yields. However, the only significant explanatory variables are the control variables Debt and Growth in all four models and the overall ESG rating in Model 2 and Model 4. ESG rating was positively related to dividend yield and in both cases and highly significant.

Debt is significant and positive suggesting that firms paying higher dividends also incur more debt as one would expect since it is not uncommon for firms to incur more debt to pay dividends while also engaging in capital spending. This finding suggests that managers do opt to pay dividends knowing they will need additional capital from the financial markets. The negative relationship between growth rates and dividend yield suggests that managers do tend to retain dividends to fund growth when possible. As growth opportunities increase managers will reduce dividends to fund all, or at least a portion, of that growth.

The positive relationship between ESG rating and dividend yield suggests that firms with higher (better) ESG percentile rankings have higher dividend yields. This increase in dividend yield could result from higher dividends or declines in stock price. Either change will result in a lower dividend yield. This finding suggests that firms that are better overall stewards likely convey that information via dividend distributions forcing them into the scrutiny of the external markets. This explanation seems likely given previous research on corporate governance and performance suggests better corporate stewards outperform firms with lower governance standards in most industries, although the impact is greater in large firms (Nyeadi, Ibrahim and Sare; 2018). Lower governance standards would also tend to be penalized by investors selling stock when issues become public. Firms that do not exhibit good governance or good stewardship are penalized by investor selling activity.

Overall, the results provide additional evidence that firms consider several social and environmental factors when establishing dividend policy. As we would expect in the current investing climate, technology firms are affected by environmental factors. Somewhat surprising is that these firms do not appear to be affected by Controversy levels. Managers of these firms should focus some effort on the prevention of issues resulting in negative publicity and being better corporate citizens. Future research should focus on the impact of ESG ratings on other managerial decision variables and performance metrics. Other industries may show completely different results so this analysis should be conducted on an industry-specific basis.

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APPENDIX

Appendix A: Firms Used in Study

International Business Machines Corp. (IBM)	Cognizant Technology Solutions Corp. (CTSH)
CDW Corp. (CDW)	DXC Technology Co. (DXC)
Leidos Holdings Inc. (LDOS)	Xerox Holdings Corp. (XRX)
Microsoft Corp. (MSFT)	Apple Inc. (AAPL)
Cisco Systems Inc. (CSCO)	Intel Corp (INTC)
Oracle Corp (ORCL)	Texas Instruments Inc. (TXN)
Broadcom Inc. (AVGO)	NVIDIA Corp. (NVDA)
Qualcomm Inc. (QCOM)	Intuit Inc. (INTU)
Accenture PLC Cl A (ACN)	Hubbell Inc. (HUBB)
Sabre Corp. (SABR)	CDK Global Inc. (CDK)
Acuity Brands Inc. (AYI)	Avnet Inc. (AVT)
Applied Materials Inc. (AMAT)	Analog Devices Inc. (ADI)
Activision Blizzard Inc. (ATVI)	Netease Inc. ADR (NTES)
HP Inc. (HPQ)	TE Connectivity Ltd. (TEL)
Xilinx Inc. (XLNX)	Amphenol Corp. Cl A (APH)
Motorola Solutions Inc. (MSI)	Lam Research Corp. (LRCX)
NXP Semiconductors N.V. (NXPI)	Fortive Corp. (FTV)
Corning Inc. (GLW)	Tessco Technologies Inc. (TESS)
Microchip Technology Inc. (MCHP)	KLA Corp. (KLAC)
Juniper Networks Inc. (JNPR)	Amdocs Ltd. (DOX)
Teradyne Inc. (TER)	Western Digital Corp. (WDC)
Maxim Integrated Products Inc. (MXIM)	LifeLoc Inc. (NLOC)
Garmin Ltd. (GRMN)	NetApp Inc. (NTAP)
Skyworks Solutions Inc. (SWKS)	SS&C Technologies Holdings, Inc. (SSNC)
Citrix Systems, Inc. (CTXS)	Open Text Corp. (OTEX)