Determinants of Dividend Payout Ratio: Evidence form MENA region

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Abstract

This paper studies the determinants of the dividends payout ratio. The factors affecting the dividends payout ratio are to be identified. The study focuses only on the cement and construction industry within the MENA region in an attempt to isolate any incoherent behavior. The factors under consideration are: Sales Growth, ROE, ROA, ROS, Debt to Equity Ratio, Firm Size, and Free Cash Flow. Data were collected from official stock exchange markets in addition to annual reports. The study considered all firms that paid dividend in each of the three consecutive years starting from 2010 till 2012. Out of the 123 listed firms that work in cement and construction industry in MENA region, only 19 paid dividends in the three consecutive years 2010-12. Our sample consists of the 19 firms (57 observations) is selected according to purposive sampling. Moreover, the study uses the homogeneous subcategory within the purposive sampling since only similar firms in construction industry had been examined. The outcome of the study provides a vital insight into the determinants of dividends payout ratio of companies in MENA region. The results showed that the Dividend Payout Ratio has a strong and positive relationship with Return on assets and strong but negative relationship with Return on Equity. On the other hand, the results detected weak relationships between Dividend Payout Ratio and Sale Growth, Debt to Equity Ratio, Firm size, and Free Cash Flow. The study suggests that board of directors tend to compensate shareholders and minimize the agency cost by distributing a high portion of profits in form of dividends whenever return on equity decreases. Also, when the performance of the firm improves, and hence return on assets increases, boards of directors are more generous in distributing profits.

1. Introduction

Dividends have been regarded as one of the most important indicators both to managers and shareholders since the late 1950's (Linter & Gordon). However, Ciaccia (2012) states that in recent years Apple and Google among other successful companies have opted for not paying dividends. Thus, dividend payout presents a major paradox. Dividend payout ratio of companies is one of the most important financial research topics debated nowadays to the extent that this topic has been called the unsolved dividend puzzle (Black, 1976). Recent research has been focusing on determining factors affecting dividend payout ratio. Researchers believe that firms should pay dividends in accordance to profit as profit is considered as one of the most important factors found in financial statements (Amidu & Abor 2006; Anil & Kapoor 2008). However, the profit has a major drawback which is its characteristic of being industry specific. This study will overcome this drawback by focusing primarily on the cement and construction industry in the developing MENA region because this conglomerate follows the same equity's and asset's investment structure. By focusing only on this group in the MENA region, this study will avoid unnecessary distortion from external industries.

Alongside profit, free cash flow is another determinant according to which firms should pay dividends (Jensen, 1986). Moreover, Miller and Rock (1985) considered the determinant of growth. Another determinant examined by Needles & Powers (2010) is leverage (Debt to Equity Ratio). Firm size does take part in explaining the dividend payout ratio according to Vogt (1994).

2. Objective and Purpose

The aim of this research is to test the relationship between the dividends payout ratio with respect to Growth, Profitability represented by Return on Equity (ROE), Return on Assets (ROA), Return on Sales (ROS), Leverage, Firm Size, and Free Cash Flow. Extensive research has been conducted to study the determinants of dividend payout ratio but none has concentrated on the cement and construction industry in the developing countries of the MENA region. Studying a group of industries together would distort the image of uniformity since each industry has its own homogeneously directed behavior independent from the others. The current study aims to identify the determinants of dividend payout ratio of only the cement and construction industry.

3. Literature review

The first study of dividends distribution was done by the pioneer Lintner who in 1956 came up with "the Bird in The Hand" theory. This theory shows a positive and strong correlation between dividends and a company's value since investors prefer dividends. Thus the expression "a bird in the hand is worth more than two in the bush". Gordon (1962) supported the aforementioned theory alongside with other researches saying that what is available today is more important than what may be available in the future as the time and the risk level are correlated. The more the company retains its earnings, the more the investors are unwilling to invest in it, thus decreasing the company's value. Petty and Scott (2007) argued against the bird in the hand theory by showing that distributing dividends does not decrease the risk of the company, instead it shifts the risk for the new shareholders.

Miller and Modigliani (1961) propose that in perfect markets, dividends are irrelevant and do not affect a firms' value. They argued that the earning power is the solo determinant of a firm's value. Moreover, investors are capable to sell part of their share and replicate dividend payment. However, contrary to this theory, many firms set a clear dividend policy which is an evidence for the importance of dividend distribution on firm's value (Brav, Graham, Harvey, & Michaely, 2005).

Bhattacharya (1979) showed that distribution of dividends is a sign of future projected cash flow. The increase of dividends infers that managers are expecting an increase in cash inflow in the coming period. This theory was based on two assumptions. The first is that those external investors have information asymmetry regarding future cash flow. The second is that dividends subjective to taxes more than capital gain. Baker (2009) agrees with Bhattacharya (1979) that external investors have imperfect information and managers could send a significant signal about their anticipated future cash

flow either by increasing or decreasing dividends payments. On the other hand, Petty (1972) and Black (1976) showed that dividend distribution is a very expensive way to send signals about future cash flows and there are other ways which managers can use to send information for shareholders.

Agency theory has been widely argued among many researches. Jenses and Meckling (1976) showed that there is a disagreement between decision makers and the shareholders who want to maximize the value of their equity. Decision makers act as agents and try to pursue their own interest which may not be in favor of the shareholders. Easterbrook (1984) connect the agency cost problem with dividend payment and the results have been supported by two other studies conducted by Jensen (1976) and Rozeff (1982). Furthermore, Easterbrook (1984) showed that paying dividends to shareholders could reduce agency conflict. Jensen (1986) showed that if there is an excessive cash flow, shareholders would want to prevent managers from engaging in risky investment. Jensen stated that in this case managers should get rid of excessive cash flow by distributing it to shareholders in the form of dividends.

Several studies were conducted to test the dividends payment with respect to the growth of the firm. Rozeff (1982), Higgins (1981) and Holder, Langrehr, & Hexter (1998) showed a negative relationship exists between growth and dividend payment as managers prefer to retain earnings for future investment. Moreover, Rozeff (1982) and Lloyd (1985) showed also a negative relationship between dividend's payment and risk; whenever risk increases, external financing becomes more expensive, thus managers tend to preserve earnings to avoid external financing. As long as firms don't vary its investment visions, shareholders are not worried about getting their money in the form of dividend or as capital gain. Under these conditions, the dividend payout ratio of the firm shapes their free cash flow. In consequence, whenever a cash flow becomes positive, firms will distribute its dividends, and whenever a cash flow becomes negative firms choose to issue shares. Moreover, they conclude that distributing dividends can send signals for shareholders about the firm's future cash flow.

Miller and Modigliani suggest that distributing the dividends will have no effect on the firm's value. This contradicts the findings of many researches; mainly because Miller and Modigliani based their assumption only on perfect market which does not exist in a real world. In addition, researches start to search for empirical evidence to contradict Miller and Modigliani's findings and to build a competing hypothesis and test it in an imperfect market. Therefore, according to Gordon (1956) and Linter (1956) firms must distribute its profits in form of dividends to maximize its share price.

4. Methodology

Research Approach and Data collection
This study follows the objectivistic approach since it relies on historical scientific data especially that the conclusions will not be based on any subjective assumption. The research aims to test the relationship between dividends payout ratios and a number of indicators within the company. Indicators such as Growth, Profitability (ROE, ROA, and ROS), Leverage, Firm Size, and Free Cash Flow, are considered to determine whether they affect the dividend payout positively or negatively. Data were collected from the official stock exchange market in addition to annual reports. The study considered all firms that paid dividend in each of the three consecutive years starting from 2010 till 2012. Out of the 123 listed firms that work in cement and construction industry in MENA region, only 19 paid dividends in the three consecutive years 2010-12. Our sample consists of the 19 firms (57 observations) is selected according to purposive sampling. This kind of sampling allows answering the research question according to Saunders (Saunders et al., 2009). Moreover, since we study only similar firms in cement and construction industry, we will use the homogeneous subcategory within the purposive sampling. Since MENA is such a diversified region, each firm operating in the region publishes its financial statement in compliance with host country rules and regulations. Some annual reports are published in English, while other are published in Arabic or even in French. The seven factors under consideration are: Growth, Profitability (ROE, ROA, and ROS), Leverage, Firm Size, and Free Cash Flow. Numerical data for these factors were extracted without any subjective influence. Growth, Profitability, and Leverage, were calculated. The time frame used is from 2009 till 2012. The sales figures of year 2009 were used to calculate the sales growth of year 2010.

Description of Variables
Sales Growth: Many firms tend to retain cash and don't pay dividends when they have an opportunity of growth. This is because it is easier for firms to use internal sources to finance future projects than to acquire new external ones. Thus firms cut dividends and stop migrating large amount of cash. Based on what was mentioned before, the study expects a negative relationship between dividend payout ratio and growth. Growth is calculated using:

Growth= (Sales Y1 – Sales Y0) / Sales Y0.

Based on this discussion the first hypothesis can be stated as:

H1: There is a negative relationship between dividends payout ratio and growth.

Profit (ROE, ROA, and ROS): One of the most significant aspects of the financial business is profit. It has been widely regarded as a strong factor in paying dividends (Anil &Kapoor 2008; Linter, 1956). Many studies have shown a positive correlation between profits and dividends payout. These studies used different measurement of profit. Some used return on equity (ROE), while others used return on sales (ROS) or return on assets (ROA). This study examines all three measurements in an attempt to determine how each affects the dividend payout ratio. Earnings Before Interest and Tax (EBIT) as a return factor is used to eliminate differences in taxation. Kuwari (2009) affirms that return on equity is among the greatest determinants of a firm's profit. ROS also has a significant importance especially when firms in the same industry are compared. ROS gives an image of the operation efficiency of a firm, while ROA has a draw back since it differ dramatically between industries. For instance, firms in the service industry have a minimum investment in asset, and hence a high return on asset. On the other hand, firms in the construction industry rely heavily on plant and equipment. Thus their ROA will be much lower. Such a drawback is eliminated firms in the same industry are examined. In this case, ROA is considered to be a useful measurement. This leads us to the following hypotheses:

H2: There is a positive relationship between dividends payout ratio and profitability represented by ROE.

H3: There is a positive relationship between dividends payout ratio and profitability represented by ROA.

H4: There is a positive relationship between dividends payout ratio and profitability represented by ROS.

Debt to Equity Ratio: Debt to equity ratio corresponds to the proportion of debt with respect to equity in financing the total assets of the firm. It is also called leverage, risk, or gearing ratio. Al Shabibi & Ramesh (2011) showed no relationship between dividend payout ratio and leverage. On the other hand, Al-Kuwari (2009) found a strong and negative relationship between the two. These contradictory results make it necessary to study the effect of leverage on dividends distribution in the construction industry. Thus we have the following hypothesis;

H5: There is a negative relationship between Leverage and payout ratio.

Firm size: According to Lloyd (1985) and Vogt (1994), firm size is considered as one of the major factors that affect dividend payout ratios. Daunfeldt (2009) used the number of employees as an indicator of the size. Al-Kuwari (2009)

used market capitalization which relies totally on current market conditions. Lloyd (1985) used the sales volume as a measurement of the firm's size. This measurement has a drawback as it differs from an industry to another. Although this study examines one industry, sales volume will not be used as a measure of the firm size. Instead the total assets will give a better measure of a firm size. The hypothesis to be examined is:

H6: There is a positive relationship between the firm size and payout ratio.

Free Cash Flow: The free cash flow is the excessive cash after managers exhaust all projects with a positive net present value (Jensen, 1986). As increase cash flow increases, decision makers may follow actions that results in their own benefits regardless of maximizing the wealth of the shareholders. To reduce the agency cost, firms tempt to pay higher dividends for shareholders as many of prior studies suggested (Jensen, 1986; Holder et al 1998; La porta et al., 2000). Moreover, a weak liquidity situation will result in a less generous in dividend payment as a result of shortage in cash (Alli et al., 1993). Therefore, free cash flow should have a positive relation with dividend payout ratio. The hypothesis is:

H7: There is a positive relationship between free cash flow and payout ratio.

The current study used in calculating the Free Cash Flow Fabozzi's formula (Fabozzi, 2009) is: Free Cash Flow= Net Cash Flow form Operation – Capital Expenditures

5. Results

Statistical analysis was conducted to test the above hypotheses. A summary of the descriptive statistics for the dividend payout ratio and the seven factors is shown in the below table.

Table 1 Statistical Analysis

	Dividend payout ratio	Sales Growth	ROE	ROA	ROS	Debt to Equity Ratio	Firm size in M	Free Cash Flow in M
Count	57	57	57	57	57	57	57	57
Mean	66.4%	12.8%	18.7%	12.5%	31.5%	0.81	$840	$169
Standard deviation	23.0%	27.1%	8.2%	7.4%	19.1%	0.95	$701	$177
Minimum	7.8%	-28.2%	4.0%	2.2%	2.9%	0.08	$27	($12)
Maximum	119.7%	149.2%	37.5%	31.6%	56.9%	3.97	$3,528	$731
1st quartile	48.9%	-0.7%	13.5%	6.5%	11.7%	0.16	$477	$41
Median	68.0%	7.8%	18.0%	11.6%	34.5%	0.44	$687	$124
3rd quartile	82.5%	18.3%	22.6%	16.1%	49.5%	1.07	$1,081	$236

Descriptive statistics shows that on average construction firms in the sample distributed 66.4% of its profits in form of dividends to the shareholders. Dividends distribution varies between 7.8% and 119.7% of the total year profits. In addition, 75% of firms tend to distribute at least 48.9%, half of the firms distribute at least 68% of its profit in the form of dividend, and only 25% tend to distribute 82.5% or more. The results suggest that cement and construction firms in the MENA region who paid dividends for the three consecutive years 2010-12 tend to distribute high dividend payout ratio. The descriptive analysis for the seven factors can be interpreted in a similar manner. It is worth noting that

Next, a multiple regression model is developed to determine the effects of the seven factors (independent variables) on the dividend payout ratio (dependent variable). The results of the model are shown in Table 2. The p-value of the overall model is 0.0000349 which is considerably less than 0.01. One can conclude that the overall model is highly significant. In addition, the overall module resulted in an R-square value of 0.468. Hence, 46.8% of the variability in Dividend Payout Ratio is explained by the seven independent variables.

Table 2: Regression output

Variables	Intercept	Sales growth	ROE	ROA	ROS	Debt to equity ratio	Firm Size	Free Cash Flow
Coefficients	0.5518	0.164	-2.205	3.9578	0.1083	0.0792	-0.0088	-0.0077
p-value	6.05E-07	0.0833	0.0071	0.0027	0.6639	0.0877	0.1697	0.7938

The results indicate that return on equity and return on assets are significant at a level of significance of 0.01. ROE has a negative significant coefficient of -2.205. Hence, one can conclude that there is a strong negative relationship between ROE and dividend payout ratio. This gives evidence to hypothesis H2. The coefficient of ROE indicates that, when all other factors are kept the same, an increase in ROE by 1% will result in a decrease in the dividend payout ratio by 2.2%. The result is aligned the findings of Al-Kuwari (2009) and Gill et al. (2010).

Similarly, ROA has a positive and significant relationship with the dividend payout ratio. This supports hypothesis H3. Also, when all other factors are kept the same, an increase in firm's the ROA by 1% will result in an increase of 3.8% in the dividend payout ratio. As mentioned before, many researchers avoid using ROA as a determinant due to differences in assets investment among industries. However, our results are totally reliable as we are testing only the construction industry in one particular market, the MENA region.

The regression output gives some evidence that sales growth and debt to equity ratio have positive relationship with dividend payout ratio, p-value of 0.0833 and 0.0877, respectively. This sales growth result is aligned with the signaling

theory (Battachrya, 1979) stating that future growth is a determinant of dividend payment. On the positive relationship between leverage and dividend payout ratio contradicts previous findings (Lloyd et.al, 1985; Rozeff, 1982). The positive relationship can explained that firms with high risk tend to attract investors by paying higher dividend.

The other factors, return on sales, firm size and free cash flow, are not significant when the overall model is considered. This does not necessarily mean that these factors are not significantly related to dividend payout ratio. To settle this matter, we perform stepwise regression for this model. The results are shown in Table 3.

Table 3: Stepwise Selection displaying the best model of each size

Number of Variables	Sales growth	ROE	ROA	ROS	Debt to equity ratio	Firm Size	free Cash Flow	R^2	p-value
1		.		.0002				.223	.0002
2				.0000		.0026		.344	1.13E-05
3		.0053	.0000			.0051		.404	4.32E-06
4	.1039	.0060	.0000			.0048		.433	4.70E-06
5	.0591	.0022	.0001		.0909	.0045		.465	4.23E-06
6	.0823	.0066	.0020	.6566	.0850	.0044		.467	1.24E-05
7	.0833	.0071	.0027	.6639	.0877	.1697	.7938	.468	3.49E-05

The last row of Table 3 represents the overall model. It contains the individual p-values, the coefficient of determination, and the p-value for the overall model. Considering all models with six factors only, the best model is the one that eliminates the free cash flow factor. This model is still highly significant, p-value of 0.0000124, and has a coefficient of determination of 0.467, which is 0.1% less than that of the overall model. It is worth noting that three variables are highly significant, ROE, ROA, and the firm size, for this model. Examining the coefficients of this model, we have significant evidence supporting hypothesis H6.

The best model with five factors removes return on sales and fee cash flows. The model is highly significant, R-square is slightly lower, by 0.2%, and has ROE, ROA, and the Firm Size as significant variables. As for the best model with four factors, debt equity ratio is further eliminated. This result in 3.4% decrease in the R-square value. It is still a high percentage even though it started to decrease. Note that this model is more significant, p-value = 0.0000047, than the best models with 5, 6, and seven factors. The significant variables remain the same. These variables constitute the best model of size 3.

It is interesting to note that the best model with two factors is the one having ROS and Firm Size as independent variables. This model confirms hypothesis

H4. In this model ROS, previously undetected as significant, is most significant in this model. Moreover, ROS is the independent variable for the best model with one variable only. This variable, ROS, is considered as one of the most important indicators to measure operational performance between firms. Many firms tempt to compare its ROS with other firms to overcome the differences in size or in turnover.

6. Conclusion and Recommendations

This study examine the effects of seven factors, Sales Growth, ROE, ROA, ROS, Debt to Equity Ratio, Firm Size, and Free Cash Flow, on dividend payout ratio. Evidence from the cement and construction industry in MENA region confirmed all but one of the hypotheses under consideration. Data collected from companies that paid dividend in the three consecutive years, 2010 till 2012, were analyzed. The results showed that these factors determine to a high extent the dividend payout ratio. Among the factors examined, the results revealed that the dividend payout ratio has a strong and positive relationship with return on assets, return on sales, and firm size. Also, a strong but negative relationship exists with return on equity. In addition, the results indicated some evidence of a positive relationship with sales growth and debt to equity ratio. On the other, no significant relationship was found between free cash flow and dividend payout ratio.

The results suggest that whenever return on equity decreases, decision makers tend to compensate shareholders and minimize the agency cost by distributing a high portion of profits in form of dividends. In addition, the study found that decision makers are more generous in distributing profits when the performance of the firm increases; in other words, when return on assets increases.

This research has been conducted only on industrial listed companies in MENA region so findings cannot be generalized to other industries neither other areas. Moreover, this study examined companies that paid dividend in three consecutive years, thus it is possible that the same market in the same industry would behave differently in different time frame. Furthermore, this study examined only seven factors, but it is possible to find other factors with a high influence on Dividend Payout Ratio.

This study opens the opportunity to examine the same industry within different market or testing different industries within the same market. Moreover, we suggest prolonging the time frame of the study period to more than three years as well as conducting the study in a different time frame.

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