

THE EFFECT OF THE FIRM'S AGE AND FINANCIAL LEVERAGE ON ITS DIVIDEND POLICY – EVIDENCE FROM KUWAIT STOCK EXCHANGE MARKET (KSE)

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Abstract

Identifying the major determinants of companies' dividend policy has been the pith of various researchers and industry practitioners as well. In this research, the effect of the firms' financial leverage and age on their dividend policy has been explored. Two hypotheses were formulated, where the first focused on examining the effect of the firms' financial leverage and the second concentrated on investigating the effect of the firms' age on their dividend policy. The sample assimilated in this study comprises of 38 Kuwait Stock Exchange listed companies from different industries. The period of investigation was five years, from 2009 to 2013. The hypotheses were tested using ordinary least square and fixed-effect panel regression. The results signify a negative relationship between the firm's financial leverage and dividend payout ratio. Moreover, the results indicate a negative relationship between the firm's age and dividend payout ratio.

Keywords: Financial Leverage, Dividend Policy, Stock Exchange Market

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1 Introduction

The monitoring of companies dividend policy is requisite and integral for many investors and industrial practitioners. Dividends distributed in the form of cash to shareholders serves as a gauge of the financial soundness, strength, and future prospects of companies. Dividends are used to calculate a wide range of ratios (e.g. dividend yield, dividend coverage ratio, firm value via the dividend discount model) that are essential for the valuation of companies. Furthermore, there are investors who are dividend seekers and who target companies with high cash dividend payout ratios. In that perspective, these investors are analogous to John D. Rockefeller who quoted: "The only thing that gives me pleasure is to see my dividend coming in".

Due to the importance of companies' dividend policies to investors and practitioners, numerous researchers focused on determining the dominant factors that affected such policies and sought to explain it in a quantifiable relationship.

2 Literature review

When companies generate profits, management must decide whether to distribute these profits in the form of dividends or else reinvest these funds in the form of retained earnings within the company. Dividends are categorized into two main classes: 1) Cash Dividend 2) Stock Dividend. Usually, it is more common for companies to distribute dividends in the form of cash

as opposed to stocks, however stock market characteristics and investor behavior vary substantially with regards to different countries, opting many companies to allocate stock dividends in certain circumstances. Moreover, regulations in certain countries can delimit the company's dividend policies and restrain their flexibilities.

Financial leverage refers to the total amount of debt expressed as a percentage of total assets for a specific company (debt ratio). Financial leverage includes all fixed-income securities and preferred stock included in the company's capital structure. The impetus behind the use of financial leverage is inherent from the tax shield offered by several governments, including the United States. Furthermore, raising external debt adds economical value to a company that earns higher returns on the assets acquired by debt than the cost of debt itself. Nevertheless, financial leverage has its negative implications, which was salient during the financial crisis in 2008, where many financial companies collapsed due mainly to exorbitantly leveraged capital structures (e.g. Lehmann Brothers). On the other hand, Modigliani and Miller (1958) published the Nobel Prize winning paper regarding the optimal capital structure and theory of investment, where they claimed that financial leverage has no effect on the firms' value in the absence of corporate income taxes and distress costs (i.e. ex ante (related to increased borrowing) and ex post costs (related to filing for bankruptcy)).

All living organisms have a finite age, where they go through various stages in their lives and eventually end at some point in time. The life cycle theory (Adizes, 1989) claims that firms experience commensurate life cycles as living organisms on the premise that they initiate, stabilize, and ultimately perish. Copious researchers have concluded that the firms operating and financial activities, including the payout of dividends, are affected by the company's stage in its life cycle (Anthony and Ramesh, 1992). The four stages of a firm's life cycle are as follows: 1) Introduction 2) Growth 3) Maturity 4) Decline.

Research regarding the determinants of dividend policies traces back to the 1950's, when Lintner (1956) surveyed several chief executive officers (CEO's) and chief financial officers (CFO's). Lintner proposed several factors affecting firms' dividend policy including the corporation's ownership structure, investing expenditures, size, and proclivity to employ external debt. Nonetheless, Lintner's dividend policy model was based on two main parameters: 1) target payout level 2) the time it takes for current dividends to adjust to the target. During his research on determinants of dividend policy, Lintner observed that managers tend to establish long-term dividend to earning targets based on the total amount of projected positive net present value (NPV) of available projects. Further, he concluded that firms would not alter the dividend policy, unless managers are confident of sustaining earnings at a specific level. Fama and Blahnik (1968) further extended Lintner's model. Al-Kuwari (2007) researched the main determinants of dividend policies for firms listed in the Gulf Cooperation Council (GCC) stock exchange markets. She tested several variables including financial leverage, where she found a negative relationship between a firm's debt and its dividend payout ratio. Nevertheless, she concludes that the effect of leverage on dividend payout is not as profound as other research cases suggest. Hafeez and Attiya (2008) applied Lintner's model along with its extension in order to determine the main factors affecting dividend policies for non-financial firms in Pakistan's stock exchange market. Their sample included 320 listed non-financial firms from the period 2001 to 2006. They tested several variables including the company's earnings, ownership structure, liquidity, and market capitalization. More importantly, they concluded that financial leverage has negative impact on dividend policy. Thus, their research suggests that highly leveraged firms listed in Pakistan's stock exchange market are more loath to payout dividends. Furthermore, Talat and Hammad (2010) analyzed 100 companies listed in Pakistan's stock exchange market. Although they also concluded that financial leverage is negatively related to dividend payout, however based on their sensitivity analysis, they suggested that leverage is not a major factor in determining the firm's dividend level for companies incorporated in the sample study. Azhagaiah and

Veeramuthu (2010) examined 73 stock exchange listed companies across different sectors in India. Their research manifested that the dividend payout ratio for small-sized, medium-sized, and large-sized companies is dependent on the level of debt reflected in the capital structure. Wang et al. (2011) assessed the main determinants of dividend policy and the application of the life-cycle theory with regards to Taiwanese companies. Their sample included various listed companies in Taiwan's stock exchange market, from the period 1992 to 2007. Their results were coherent with the life-cycle theory, where they found out that younger firms with high growth trajectories and limited profitability have a higher propensity to distribute stock dividends as opposed to cash dividends, whereas older firms with lower growth potential and high profitability prefer to dispense cash dividends as opposed to stock dividends. Ihejirika and Nwakanma (2012) compiled a similar study on 62 stock exchange listed companies in Nigeria from the period 2000 to 2008. Their results indicated that firms' dividend payout ratio is affected mainly by the return on equity (ROE), life-cycle stage, and size. Surprisingly, their results suggested a negative relationship between the firms' life cycle stage and the dividend payout ratio, demonstrating that younger aged Nigerian firms have a higher predilection to pay dividends than older firms, which is inconsistent with Deangelo et al. (2006) study findings. Maladjian and El Khoury (2014) conducted a study on several Lebanese banks listed in the stock exchange market from 2005 to 2011 to find out the main determinants of dividend policies for banks in Lebanon. Similarly to some previous studies, the results signified that financial leverage is not a major variable affecting dividend payout, however it was surprising that there was a positive relationship between debt and dividend policy. Lastly, Tamimi et al. (2014) evaluated the effect of financial leverage and age on the dividend policy of listed manufacturing companies in Tehran stock exchange from 2005 to 2011. Their results suggest a negative relationship between leverage and dividend policy, while in the mean time indicate a positive relationship between the firm's age and its dividend policy.

3 Objective of the study

The goal of this paper is to assess whether the firm's age and financial leverage have a significant effect on its dividend payout ratio with regards to companies listed in the Kuwaiti Stock Exchange (KSE). Moreover, the study aims to quantify the magnitude of the effect of financial leverage and age of the firm on its dividend policy, if such relationship exists.

4 Hypotheses development

Consistent with the goals of this research paper, the primary objective is to investigate the following

research hypothesis, which are related to the impact of different firm specific variables on the company's dividend payout ratio after controlling the effect of sales growth, earning per share and size of the company. In particular, we will test:

H₀₁: A firm's financial leverage has no effect on its dividend payout ratio.

H_{a1}: A firm's financial leverage has a significant effect on its dividend payout ratio.

H₀₂: A firm's age has no effect on its dividend payout ratio.

H_{a2}: A firm's age has a significant effect on its dividend payout ratio.

5 Methodology

5.1 Sources of data

The empirical study is exclusively based on secondary

data obtained mainly from several related articles and the Kuwait Stock Exchange (KSE) website. The data garnered includes historical dividend payout ratio, financial leverage, age, and earning per share (EPS) of listed firms in KSE during the period of study.

5.2 Sample selection

The sample incorporated in this study comprises 38 disparate listed firms in KSE, analyzed across a period of 5 years, from 2009 to 2013. In order to enhance the accuracy of this study, all of the 38 listed companies involved in the sample disbursed cash dividends each year during the period of investigation. Furthermore, the companies encompassed in the sample represent different industries, in an attempt to assimilate a multifarious sample that would represent the KSE accurately (Table 1).

Table 1. Sample representation of KSE companies among industries

Type of Industry	Number of Companies
Oil & Gas	1
Basic Materials	2
Industrial	12
Consumer Goods	3
Consumer Services	2
Telecommunications	2
Banks	4
Insurance	4
Real Estate	2
Financial Services	4
Technology	2

5.3 Research method

The conducted research represents a type of empirical study applied to extrapolate the causal relationship between the variables under observation. The study will be conducted through the application of econometrics, mainly correlation analysis and multiple linear regression models. In order to estimate the effects of the independent variables, company size and financial leverage, on dividend payout ratio, we perform the ordinary least square model. Next, we look at the variance explained by the ordinary least square model and decide whether the panel data methodology or the variable effect models will be more appropriate to test the proposed model. Further, in order to decide between random and fixed effect model, we have used Hausman test of correlated random effects. The suppositions proposed by the study will be tested using *evIEWS* statistical software.

5.4 Terminology of variables

5.4.1 Dependent variable

The dividend payout ratio considered in the study

takes into account only dividends disbursed in the form of cash and disregards stock dividends. The cash dividend payout ratio is calculated by dividing the annual cash dividend per stock by its par value.

5.4.2 Independent variables

a. The age of the companies, which is found by subtracting the current time period from the company's date of establishment.

b. The financial leverage of the company, which is indicated by the percentage of total debt to total assets, i.e. the debt ratio.

$$\frac{\text{Total Debt}}{\text{Total Assets}} \times 100$$

5.4.3 Control variables

In order to obtain a more accurate measure of the relationship between the dependent and independent variables, the following control variables have been incorporated in the study:

a. The annual growth in sales (revenues), which is calculated as follows:

$$\frac{\text{Current Period Net Sales} - \text{Prior Period Net Sales}}{\text{Prior Period Net Sales}} \times 100$$

b. The earning per share (EPS), which serves as a gauge of a firm’s profitability and quantifies the portion of a firm’s profit that is allocated to each share of common stock. It is derived as follows:

$$\frac{\text{Net Income}}{\text{Average Outstanding Common shares}}$$

c. The size of the company, which is found by taking the log of the total assets at the end of each financial year (DeAngelo, 1981).

Furthermore, the selection of the control variables stated above is based on the fact that many researchers applied the same control variables in conducting analogous studies and achieved successful results. Moreover, sales growth will be represented in percentage terms, earning per share and company size will equate to a minimal quantity. Therefore, the input data of the control variables will maintain consistency with the data of the dependent/independent variables, which is represented by percentages and minimal quantities, and which will aid in fostering reliable results.

5.5 Model construction

In order to test the research hypotheses, the research model has been constructed as follows:

$$DP = \beta_0 + \beta_1(LEVERAGE) + \beta_2(AGE) + \beta_3(SALES GROWTH) + \beta_4(EPS) + \beta_5(SIZE) + \varepsilon$$

- Where DP: Dividend Payout Ratio
- LEVERAGE: Financial Leverage of Companies (debt)
- AGE: Companies Age
- SALES GROWTH: Annual Growth In Revenues
- EPS: Earning Per Share
- SIZE: Company Size
- ε: Error Term

6 Data analysis results

6.1 Descriptive statistics

The analysis results in Table 2 summarize the descriptive statistics of the data used in this research study. The analysis results show the descriptive summary of each variable; particularly it calculates minimum, maximum, mean, median, standard deviation, skewness, kurtosis, as well as the Jarque-Bera test of normality. The analysis results in Table 2 indicate that most of the variables are symmetrical. As we observed that all the variables are positively skewed. However, the skewness values of some variables such as- financial leverage, sales growth, size and age of the companies are less than 3 (in absolute value), so we can conclude that these variables are nearly normally distributed. Nonetheless, skewness value of the dividend payout ratio and earning per share of the companies is greater than 3, which manifests that these two variables are asymmetrical. Similarly, the kurtosis values of all the variables are summarized in Table 2. It is observed that three series dividend payout, earning per share, and sales growth have high kurtosis values, whereas the other series have low kurtosis values. Thus, we can conclude that dividend payout, earning per share, and sales growth deviate slightly for a normal distribution. Lastly, we confirm the normality of each variable using the Jarque-Bera statistics and the corresponding p-values. The Jarque-Bera test statistics indicate that firm specific variables used in the study deviate slightly from the normal distribution. However, from the central limit theorem we can assume the variables to be normally distributed if the sample size is increased. Though, in the present study there is a constraint on the sample size because of limited availability of yearly data for each company.

Table 2. Descriptive statistics

Variables	DP	Leverage	EPS	SALES GROWTH	SIZE	AGE
N	190.00	190.00	190.00	190.00	190.00	190.00
Mean	0.31	0.44	0.05	0.03	8.23	30.11
Median	0.25	0.41	0.03	0.01	8.16	31.00
Maximum	2.00	0.91	0.72	0.60	10.27	61.00
Minimum	0.05	0.03	-0.03	-0.39	6.59	9.00
Std. Dev.	0.30	0.24	0.06	0.18	0.89	14.01
Skewness	3.01	0.37	3.20	0.45	0.45	0.22
Kurtosis	3.52	2.12	2.87	3.88	2.57	2.07
Jarque-Bera	15.45	10.48	12.93	12.66	7.93	8.36
Probability	0.00	0.01	0.00	0.00	0.02	0.02

6.2 Correlation matrix between the dependent and explanatory variables

In this research we have used simple correlation matrix to examine multi co-linearity between the explanatory variables. The analysis results indicate

that there is no significant violation to the multi co-linearity assumption. Thus, we conclude that there are no firm specific variables that are highly correlated (>0.50) and there exists no multi co-linearity among these variables.

Table 3. The pairwise- correlation matrix for dependent variable (DP) and explanatory variables

Variables	DP	Leverage	EPS	SALES GROWTH	SIZE	AGE
DP	1.00					
Leverage	-0.17	1.00				
EPS	0.45	-0.05	1.00			
SALES GROWTH	0.05	-0.09	0.17	1.00		
SIZE	0.14	0.49	0.17	-0.14	1.00	
AGE	0.05	0.36	0.00	0.01	0.39	1.00

6.3 Regression analysis (OLS model)

In order to confirm the normality of the residual terms we generate the residual histogram plot (Figure 1) and the normal quantile plot (Figure 2). It can be observed that residual error terms deviate slightly from the normal distribution. However, we can assume that the residual error terms are nearly normally distributed and proceed with further analysis. In addition, we can observe that the VIF values are less than 4, indicating that multi-collinearity is not an issue in the dataset.

This further confirms the findings from the correlation analysis about the multi-collinearity.

The results from the ordinary least square model are summarized in Table 4. The dependent variable is dividend payout ratio and with the computed F-value of 14.9421 ($p < 0.05$) for OLS regression, we reject the null hypothesis that all coefficients are simultaneously zero and accept that the regression is significant overall.

Table 4. Parameter estimates of ordinary least square regression model

Variable	Coefficient	Std. Error	t-Statistic	Prob.	VIF	Tolerance
C	-0.5079	0.2174	-2.3358	0.0206		
AGE	0.0014	0.0014	0.9789	0.3289	1.2048	0.8300
DEBRATIO	-0.5140	0.1137	-4.5193	0.0000	2.1185	0.4720
GROWTH	-0.0011	0.1061	-0.0103	0.9918	1.0727	0.9322
EPS	1.7636	0.3139	5.6183	0.0000	1.1469	0.8719
SIZE	0.1122	0.0315	3.5658	0.0005	2.3080	0.4333
R-squared	0.2888					
Adjusted R-squared	0.2695					
F-statistic	14.9421			0.0000		
Durbin-Watson stat	1.0667					

Further, it is observed that the adj. R-square value is 0.2695, which indicates that only 26.95% of the variability in the dividend payout ratio is explained by the OLS model. Moreover, the Durbin Watson statistic value in our output of ordinary least square model is 1.0667 and this confirms that residuals are serially correlated. Thus, we conclude that the OLS model does not fully explain the variation in the dependent variable, dividend payout ratio. Next, we look at the variable effects model to determine a better fitting model. In order to choose between the two variable effect models (random effect model v/s fixed effect model), we perform the Hausman test for correlated variable effect.

6.4 Hausman test for correlated random effects

In order to specify the type of panel regression analysis (random-effects/fixed-effects), we have used Hausman test (1978). Hausman test is used in the study to confirm whether there exists any random effect in the dataset. The null hypothesis in Hausman's test states that the random effect model is appropriate. On the contrary, the alternative hypothesis states that the fixed effect model is appropriate.

The analysis results for Hausman's test are summarized in Table 5. The analysis results indicate that the corresponding effect is statistically significant. Thus, we reject the null hypothesis and conclude that the fixed effect model is appropriate.

Figure 1. Histogram plot of residuals

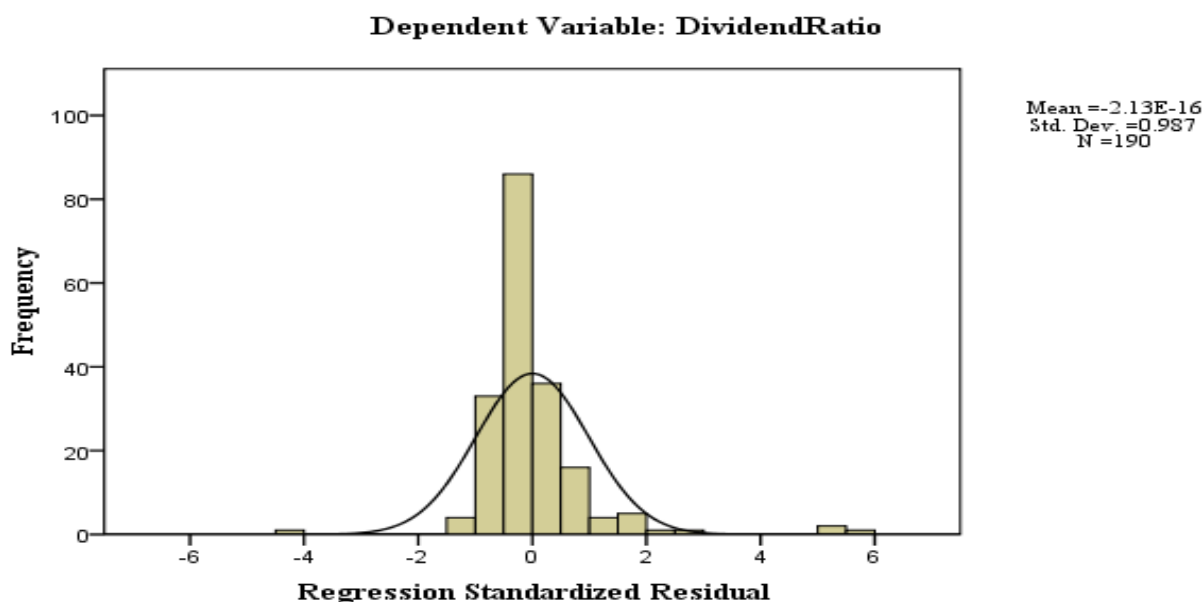


Figure 2. Normal P-P plot of standardized residuals

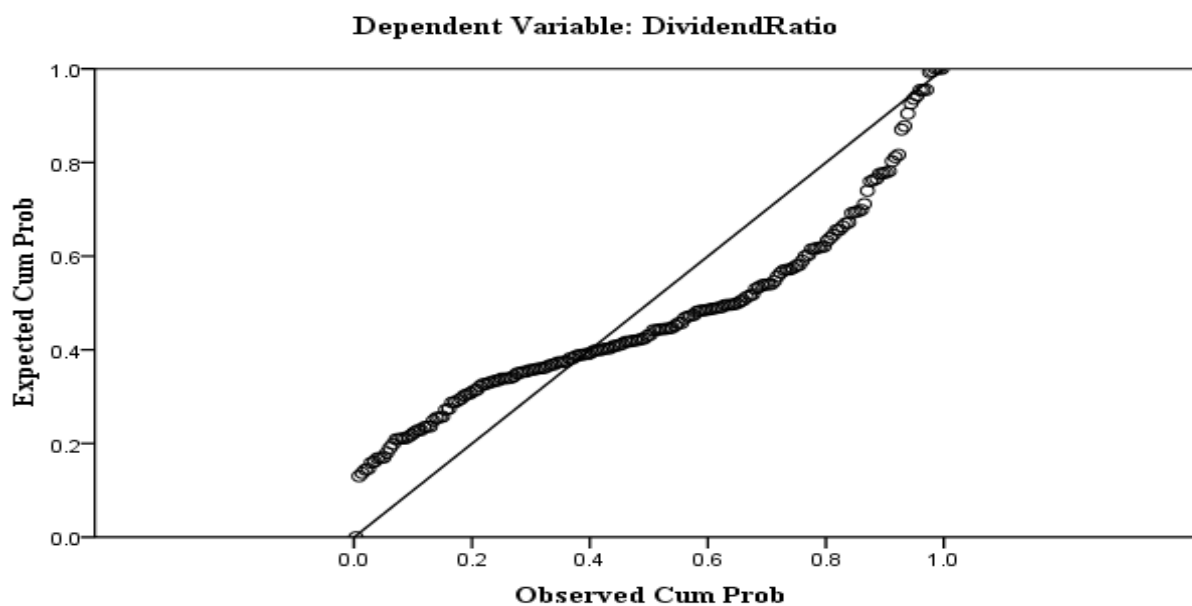


Table 5. Hausman's test for correlated random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-Section random	53.02	5	0.000

6.5 Panel regression analysis (fixed effect model)

The analysis results of fixed effect panel regression are reported in Table 6. The dependent variable is the dividend payout ratio. As shown in Table 6, the adj. R-squared value (0.6627) suggests that the model serves its purpose in determining the impact of firm specific variables on dividend payout ratio. In other words, 66.27% of the variability in the Dividend

Payout ratio can be explained by the financial leverage, earning per share, sales growth, size and age of the company. The Durbin Watson statistic value in our output of fixed effect model is 1.902 and this result confirms that residuals are serially correlated. Further, according to the computed F-value of 9.8407 ($p < 0.05$) for the panel data regression, we reject the null hypothesis that all coefficients are simultaneously zero and accept that the regression is significant overall.

The estimates of the fixed-effect regression coefficients in Table 6 manifest that variables sales growth and earning per share do not have any impact on Dividend payout ratio. Further, we observe that the financial leverage has a significant and negative relationship with dividend payout ratio, which is consistent with the majority of previous studies. This result implies that companies with higher financial leverage ratios tend to disburse fewer dividends as compared to companies with lower financial leverage ratios. Similarly, we observe that a firm's age has a significant and negative relationship with dividend payout ratio, which is inconsistent with the life-cycle theory. This result suggests that older companies tend to pay fewer dividends as compared to new companies. The coefficient of age indicates that a unit increases in age of the company decreases the company's dividend payout ratio by (-0.0357) units

and the coefficient of leverage ratio indicates that a unit increase in company's leverage ratio decreases company's dividend payout by (-1.6561) units.

Lastly, it is observed that one of the control variables i.e. the firm size has a significant and positive relationship with dividend payout ratio. The coefficient of size indicates that a unit increases in total assets increases the dividend payout by 1.7753 units. This indicates that larger firms tend to disburse more dividends to their shareholders compared to smaller firms.

In summary of the regression results, the variables age, size and leverage ratio of the company seem to affect its dividend payout ratio. On the other hand earning per share and sales growth of the company do not appear to have a significant effect on its dividend payout ratio.

Table 6. Regression analysis results from fixed-effect panel regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12.4599	2.2296	-5.5885	0.0000
Financial Leverage	-1.6561	0.3433	-4.8240	0.0000
Firm's Age	-0.0357	0.0109	-3.2765	0.0013
Sales Growth	-0.0247	0.0790	-0.3128	0.7548
Earnings Per Share	-0.4123	0.3197	-1.2896	0.1992
Firm Size	1.7753	0.2966	5.9861	0.0000
R-squared	0.7376			
Adjusted R-squared	0.6627			
F-statistic	9.8407			0.0000
Durbin-Watson stat	1.9020			

7 Conclusion

The primary objective of the study was to examine the effect of the companies' age and financial leverage on their dividend cash payout ratio. The study was based on testing two hypotheses. The first hypothesis focused on investigating the effect of the companies' financial leverage on their dividend policy. On the other hand, the second hypothesis focused on examining the effect of the companies' age on their dividend policy. The sample assimilated in the study includes 38 Kuwait Stock Exchange listed companies from different industries. The period of study was 5 years, from 2009 to 2013. The data was initially tested using ordinary least square regression, where the results indicated that the regression is significant overall. Nevertheless, the OLS model was not sufficient to explain the variation in the dependent variable (dividend payout ratio). Subsequently, the Hausman test was applied, where it turned out that the fixed effect model is appropriate. The results of the

fixed effect panel are more accurate, where 66% of the variation in the companies' dividend payout ratio is explained by changes in their respective age and financial leverage.

The panel data analysis results in Table 7 indicate that age and the financial leverage ratio significantly affect the dividend payout ratio of companies listed in Kuwait Stock Exchange (KSE). Thus, we reject null hypothesis 1 and null hypothesis 2, and conclude that there is a significant impact of firm's age and firm's financial leverage on a firm's dividend payout ratio. The results of hypothesis testing are summarized in Table 7 and overall we can conclude:

H_{a1}: There is a significant and negative relationship between financial leverage of the company and the dividend payout ratio.

H_{a2}: There is a significant and negative relationship between age of the company and the dividend payout ratio.

Table 7. Summary of the hypothesis testing

Variable	Conclusion	Remark
Hypothesis 1	Null Hypothesis Rejected	Significant effect of leverage ratio of company
Hypothesis 2	Null Hypothesis Rejected	Significant effect of Age of company

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