

## Determinants of Dividend Payout: Evidence from listed Oil and Gas Companies of Pakistan\*

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### Abstract

This study aims to investigate the determinants of dividend payout of Oil and Gas industry of Pakistan using secondary data from published annual reports from 2008 to 2014 listed on KSE (Karachi Stock Exchange). Dividend payout can be affected by profitability, firm size, financial leverage, sales growth, investment opportunities, liquidity, business risk, and ownership structure. Panel data technique used due to panel characteristics of available data with ordinary least square regression model to find out the impact of set of explanatory variables on the dividend payout using the Stata. Financial leverage, sales growth and business risks are the most significant variables of the study where financial leverage and business risk have significant negative effect on dividend payout while sales growth has favorable positive impact on dividend payout. Results revealed significant positive link of profitability and firm size with dividend payout whereas government ownership is negatively associated with dividend payout. Investment opportunities, liquidity and managerial ownership showed insignificant relationship with dividend payout. This Suggests that dividend payout policy is dependent on business strategies including both investment and financing decisions. Financial managers should consider these factors while formulating dividend policy of the firm.

**Keywords:** Dividend Payout, KSE (Karachi Stock Exchange), Financial Leverage, Profitability, Sales Growth, Government Ownership.

**JEL Classification Codes:** G10, G17, G30, G32.

### 1. Introduction

Generating profit is one of the key characteristics of the successful firms. Firms can use this profit to pay debt obligations, invest in new projects, purchase new securities, or distribute to shareholders. Dividend is the distribution of profit to the shareholders. The issues that emerge when board of directors decide to distribute profit to its shareholders includes the proportion of profit to be distributed as dividend to stockholders, whether to distribute profit as cash dividend or cash be passed on to

shareholders by repurchasing some shares and how smooth or stable the dividend distribution should be (Amidu & Abor, 2006). These all issues are addressed in dividend payout policy. It includes consistent dividend payout signals to the shareholders the well-being and prosperous future prospect of the company, the dividend can be used by the firms to attract investors who prefer to have consistent return in the form of dividend on their investment and stock price of the firm depends on the dividend payout decision. Reduction or omission of dividend by consistent dividend paying firms will have undesirable effect on the firm's stock price. On the contrary, dividend increase or additional dividend announcements will have positive effect on the share price of these firms. Dividend policy is also useful to stock analysts for valuation.

Dividend policy is one of the most widely addressed and controversial issues in modern corporate finance literature and still is a puzzle (Zameer, Rasool, Iqbal, & Arshad, 2013). Dividend policy is one of the top ten unresolved issues in corporate finance literature (Allen, Brealey, Mohanty, &

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Myers, 2012). As stated by Black (1976) "the harder we look at dividends picture, the more it seems like a puzzle, with pieces that just don't fit together". Corporations have diverse dividend policies due to different rules, regulations, taxation policies and capital markets in different countries. Latest empirical studies suggested that corporation not only formulate different dividend policy at different time-periods but also are not same across countries and between developed and emerging economies (Adaoglu, 2000; Aivazian, Booth, & Cleary, 2003; Pandey, 2001). According to corporate finance, shareholder's wealth maximization is the main goal of the firm. To achieve this goal financial managers have to formulate an effective investment, financing and distribution decisions (dividend policy). Miller and Modigliani (1961) assumed a perfect capital market where dividend policy is irrelevant in determining the firm value. Nevertheless, another group of researchers disagreed with M&M assumptions and argued that these assumptions do not hold in real world imperfect capital market. Gordon (1963) suggested Bird-in-Hand Theory with the assumptions that investors prefer dividend yield to capital gain. They stated that most of the investors are risk averters and they prefer cash in hand in the form of dividend as compare to future capital gains. Hence, high dividend paying corporations will have high firm value. According to Theory of Tax-Preference, investors will prefer capital gain to dividend due to negative tax effect on dividend. The above debate has resulted into an ample financial literature; nevertheless, the main issue seems to be unresolved and static at the same point where Black (1976) called it "Puzzle".

This study contributes to existing corporate finance literature with certain managerial implications. Academically, this research study explains the factors influencing dividend payout decision in Oil and Gas industry of Pakistan and adds latest empirical evidence to existing financial literature in Pakistan. Researchers in Pakistan have focused on dividend policy in general and industry at specific but still there is limited literature on this topic. This study will be an attempt to fill this gap in the academic literature. This study has practical implication on both firm level and individual investor level. Results of this study are useful for investors in making stock investment decisions. Results of this study suggest that investors expecting high dividend should invest in large Oil and Gas companies of Pakistan with stable earnings and few investment opportunities. While investors who prefer capital gain over current dividend should invest in growing firms with high financial leverage and high government ownership. Further, results of this study can be useful for financial managers to formulate effective dividend policy by considering the factors that has impact on dividend payout as revealed by this study. These results will help

financial managers to decide whether to retain free cash flows for future investment projects or distribute free cash flows to shareholders as dividend.

The rest of the paper is structured as follows: Section 2 shed lights on theoretical and empirical literature regarding the dividend policy Section 3 provides information regarding data collection methods for this study, sample selection, variable measurement and explanation and empirical model to test the association of dividend payout with set of explanatory variables. Section 4 is about results and discussion and 5 concludes with recommendations.

## **2. Literature Review**

### **2.1. Theoretical Background**

Miller and Modigliani (1961) provided Dividend Irrelevance Theory, in which they assumed a perfect capital market with the characteristics like no transaction cost, no taxes, no bankruptcy cost, investors are rational, accessibility of same information and investment opportunities to investors, dividend payout has no effect on firm value. However, perfect capital market does not exist, there is transaction cost, investors have to pay taxes on their income and there is information asymmetry. They argued that capability to generate positive future cash flow determine the firm value not the dividend payout. They further argued that shareholders stay indifferent between dividend and capital gain. shareholders who wish dividend can formulate their own homemade dividend policy for example if an investor prefer a 5% dividend and company is not paying dividend then he/she can sell 5% of shares thus creating a homemade dividend. Contrary to this situation if an investor has investment in a firm paying consistent dividend can use the surplus dividend to purchase more shares of the same firm thus artificially creating a capital gain on investment (Brigham & Houston, 2012). These two points were the underlying assumptions of the Dividend Irrelevance Theory.

According to Gordon (1963) dividend payout is relevant and it has impact on firm value by stating that investors are risk averters and they prefer cash in hand as dividend compared to future capital gains. Hence, high consistent dividend paying corporations will have high firm value. They further argued that profitable firms paying consistent dividends have the competitive advantage of having easy access to capital market. Investors prefer to pay high price for stock of high and sustainable dividend paying firms. Inconsistent dividend paying companies will be undervalued because investors will use higher discount rate for the

valuation of the firm's stock. On the contrary, investors will use lower discount rate for valuation of stock of those firms who retain less free cash flow and pay consistent dividend to its shareholders, resulting in higher firm value.

Dividend Irrelevance theory of M&M assumed a perfect capital market having no tax on earnings. However, in real world investors have to pay tax and dividend policy is affected by taxes. According to Theory of Tax-Preference, investors will prefer capital gain to dividend due to tax effect on dividend. As per this theory, taxes are given high weightage while making personal and corporate investment decisions. Low dividend paying firms are more likely to have low cost of capital and high firm value. Capital gains are low and in some of the countries; capital gains are exempt for taxation and higher rates for dividends are charged. Other benefit of capital gain over dividend is the timing of tax deduction as capital gains are charged for tax when investor sell the share while dividends are taxed when paid by the firm. Due to these advantages of capital gain over dividend, investors prefer to invest in companies who retain more free cash flows, invest in new projects with high return, and pay low dividends.

Jensen and Meckling (1976) state that agents are supposed to run the corporation efficiently and effectively on behalf of shareholders and maximize shareholders wealth. However, the agents have differing interest they want to get attractive compensation and entertain themselves at the cost of shareholders by using the free cash flows for their personal leisure and comfort and investing in low NPV projects. Agency cost arises due to the monitoring of agents' activities by the principals to ensure the shareholders' wealth maximization. Firms pay dividend to the shareholders to minimize agency cost; because dividend payment will reduce the cash available to agents, therefore they cannot misuse it. Easterbrook(1984) stated that the main reason for the conflict of interest between agents and principals is the ultimate claim to the firm's earnings. Managers are more risk averter and this is one of the key reasons of the agency problem, because managers prefer to invest in low risk projects with lower rate of return. While shareholders with a well-diversified portfolio of stocks prefer to invest in high return projects with certain manageable risk. Easterbrook (1984) proposed that using capital market for new issuance could act as a tool to mitigate the monitoring problem and risk aversion behavior of managers (agents).

Investors paying high taxes for the dividends prefer to invest in companies who pay low dividend and invest the earnings for the future expansion of the business. The expansion of business will increase the share price of the firm and investors will get capital gain. In contrast, those shareholders paying low tax rates prefer dividend to the capital gains. Generally, old and retired people prefer to

invest in firms paying consistent dividends. Lease, Lewellen and Schlarbaum (1976) administered a research to observe individual investors behavior using the panel data at Purdue. They suggested that, private investors prefer capital gain the most, followed by dividend income and lastly short term gains. Results were in line with the prepositions of clientele effect theory. On the other hand, research studies of Hess (1982) and Barclay (1987) did not show support for clientele effect.

## 2.2. Empirical Studies

### 2.2.1. Profitability

Earlier empirical studies found profitability one of the key determinants of dividend payout (Alala, Christopher, Douglas, Robert, & Musiega, 2013). Researchers have mixed results for the relationship of profitability with dividend payout. As per Pecking order theory, internal source of financing is the most preferred source for the firms, followed by debt and finally equity financing through issuance of stocks. Amidu and Abor (2006) study results revealed negative and significant link of profitability with dividend payout. Aivazian et al. (2003) studied the impact of profitability on dividend payout and found positive relationship between profitability and dividend payout. Results of the research by Kim and Gu (2009) in US hospital industry suggested that firms having high profitability distribute bigger proportion of the profit as dividend. In Rodríguez-Pose and Gill's (2005) research study on Malaysian companies found that profitability measured by return on equity has significant positive impact on dividend payout. Jensen (1986) suggested that firms with high profitability prefer to pay free cash flows as dividend when they do not have any investment opportunities. In Lintner's (1956) research interviewed managers of 28 companies and asserted that managers have long-term dividend payout target.

**H1: Profitability has positive impact on dividend payout.**

### 2.2.2. Firm size

According to Lloyd et al. (1985) large firms have diversified shareholders and to reduce the agency cost they have to pay more dividends. Holder, Langrehr and Hexter (1998) found that firm size has prominent role in determining the firm's dividend payout decision. Large and mature firms have easy access to capital market and they are not dependent on internal financing for new projects. Results of Al-Kuwari (2009) suggested that firm size has favorable

effect on the dividend paying ability of the firm. Mehta (2012) studied UAE Companies for the years 2005 to 2009 and found that there is significant positive relationship between size of the firm and dividend payout of the firm in the UAE. Eddy and Seifert (1988) concluded based on their study findings that large firms have tendency to pay more dividends than the small firms do. In Nizar Al-Malkawi's (2007) research on Determinants of Corporate Dividend Payout in Jordan also provided support for positive association of firm size with dividend payout. However, Ahmed and Javid (2008) studied the determinants of dividend policy in Pakistan and based on the results they concluded that firm size has negative and significant relationship with dividend payout.

**H2: Firm size has positive impact on dividend payout**

### 2.2.3. Financial Leverage

Jensen (1986) suggested that funds from creditors could be used to limit the availability of free cash flows to managers for their personal benefits. On the contrary, firms relying more on borrowed funds are exposed to financial risk. The financial risk will limit the ability of firms to pay more dividends and reserve more free cash flows to meet debt obligations (Rozeff, 1982). Results of the study conducted by Aivazian et al. (2003) revealed that firms depending more on debt financing tend to pay low dividend. Jensen (1986) had a same idea that firms with high dependency on debts for business operations are less likely to pay high dividend. Deshmukh, Goel and Howe (2013) proclaimed that funding by creditors restrict usage of free cash flow through inclusion of debt covenants resulting in reduction of dividend. Similarly, Lie (2005) found that financial leverage is negatively correlated with dividend payout, arguing that high proportion of debt relative to equity confines availability of free cash flows for dividend payout to shareholders due to the inclusion of debt covenants by creditors. Adedeji (1998) study findings suggested a favorable impact of financial leverage on dividend payout decision of UK based firms. Results of Marfo-Yiadom and Agyei (2011) research also supported the positive relation of leverage with dividend payout ratio of sampled banks in Ghana. Nevertheless, insignificant link of financial leverage with dividend paying ability of the firm is suggested by Gill, Biger and Tibrewala (2010) and Al-Kuwari (2009).

**H3: Financial leverage has negative impact on dividend payout**

### 2.2.4. Sales growth

Rozeff (1982) concluded inverse association of sales growth with dividend payout ratio. He argued that sales growth increases the need for investments in new projects and hence large amount of internal financing is required. Zeng (2003) reported inverse association of growth with dividend payout of growing firms. Moreover, results of Marfo-Yiadom and Agyei (2011) study testify negative impact of sales growth on dividend paying ability of the firm. They observed that the banks in Ghana with high growth rate prefer to use excess funds for expansion of the business instead of paying dividend to the shareholders. Firms having high sales growth tend to invest funds in business expansion rather than paying dividends. On the contrary, Imran (2011) found positive link between sales growth and dividend payout ratio. This suggests that sales growth has favorable impact on the cash generated from operations and ultimately enhance the dividend paying ability of the firm. Nevertheless, insignificant effect of sales growth on dividend payout ratio is reported by Al-Kuwari (2009) and Kim and Gu (2009).

**H4: Sales growth has negative effect on dividend payout.**

### 2.2.5. Investment Opportunities

According to Residual Theory, companies having more investment opportunities tend to pay low dividend, because they prefer to invest the earnings in new positive NPV projects rather than paying dividend to shareholders. Chan, Tai, Chan, and Li (2012) study results provide support for residual theory that companies having more investment opportunities need more funds to finance new investment project, tend to retain earnings rather than paying dividend to the shareholders. Rozeff (1982) found the same results that growing firms are assumed to have low dividend payments by using the internal financing for new investment projects. In contrast D'Souza and Saxena (1999) study results revealed that growing companies having more investment opportunities still pay dividends providing support for dividend irrelevance theory, which suggests that investment decisions and dividend payout are independent of each other. Grullon, Michaely, and Swaminathan (2002) empirically found that mature and less growing firms have few investment opportunities and these firms have less need for retaining funds for investment projects tends to pay more dividend. Moreover, Al-Shubiri (2011) study results provided support for positive association of investment opportunities and dividend payout of the firm.

**H5: Investment opportunities has negative effect on dividend payout.**

## 2.2.6. Liquidity

Liquidity measures the short-term debt paying ability of a firm using the liquid assets of the firm. Firms having good liquidity position are expected to pay high dividend relative to firms facing liquidity problems (Ahmed & Javid, 2008). Jensen (1986) suggested that to reduce the consequence of agency problem firms might pay dividend to limit the availability of funds for managers to benefit themselves. Thus, dividend payout acts as an instrument for reduction of agency cost. Study results of Anil and Kapoor (2008) revealed significant favorable effect of liquidity position of the firm on dividend paying ability of the company using the data from information technology (IT) industry of India. In Amidu and Abor's (2006) empirical study found that there is significant positive relation between liquidity and dividend payout ratio, arguing that corporations having good financial conditions (high liquidity) can pay more dividend relative to small companies facing liquidity problem. On the contrary, Ahmed and Javid (2008) concluded that there is inverse relation between liquidity (more cash flow) and dividend payout. In addition, Kania and Bacon (2005) also found negative effect of liquidity on dividend payout. While study findings of Mehta (2012) suggested insignificant link of liquidity with dividend payout.

**H6:** Liquidity has positive effect on dividend payout.

## 2.2.7 Business risk

Business risk has the potential to adversely affect the firm's operations. High degree of variation and uncertainty in current and future earnings expose companies to business risk. Pruitt and Gitman (1991) empirical study findings proposed that business risk is negatively correlated with dividend payout. As per pecking order theory, external financing is the expensive source of financing and to avoid this, firms prefer to retain free cash flows and ultimately results in lower dividend payout. Al-Shubiri (2011) proposed that firms having high business risk are more likely to go bankrupt, therefore the firms prefer to pay low dividend during these times. Amidu and Abor (2006) found that business risk and dividend payout are negatively associated indicating that firms with high risk pay lower dividends to the shareholders. D'Souza and Saxena (1999) concluded that higher risk will lead to lower dividend payout. However, empirical results for association of business risk with dividend by Nissim and Ziv (2001) showed insignificant impact of risk on dividend payout.

**H7:** Business risk has negative association with dividend payout

## 2.2.8. Ownership structure

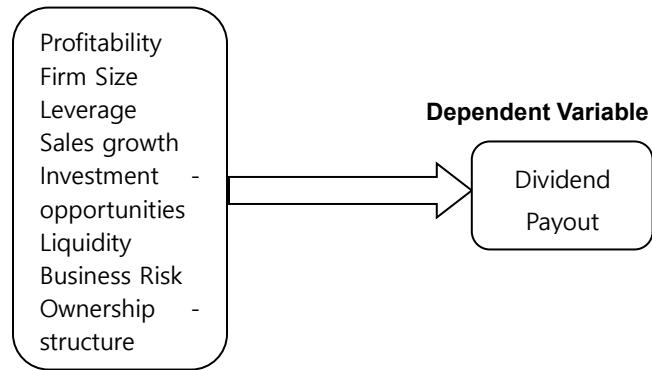
Gunathilaka and Gunaratne (2009) used the data of 101 listed companies of Colombo stock exchange during 2001-2005, to examine the relationship between ownership structure of the corporations and their dividend paying trends. The results of the study showed that managerial and institutional ownership have favorable impact on dividend payout policy. Kumar (2006) found that firms having high proportion of managerial ownership tend to pay more dividends. Mirza, Afza, and Shahbaz (2014) studied ownership structure and dividend policy in perspective of South East Asia using managerial ownership as proxy for ownership structure. Results of their study revealed that in India and Bangladesh managerial ownership has positive role in deciding the dividend payout while negatively associated in Sri Lanka and Pakistan. Nizar Al-Malkawi (2007) found that firms having high proportion of ownership by managers and government would have low dividend payout. He argued that higher proportion of insider ownership would lead to lower dividend payout. The reason behind this relationship is that, to reduce the impact of agency problem firms pay dividend but in case of higher insider ownership, agency cost will be low hence low dividend payout. Mirza and Azfa (2010) reported that firms in Pakistan having high proportion of managerial and individual ownership pay lower dividend. Farinha (2003) asserted negative impact of managerial ownership on dividend payout decision of the firms in United Kingdom.

**H8:** Ownership structure has negative association with dividend payout

## Conceptual Framework

Following conceptual framework is constructed based on previous empirical literature on the factors determining the dividend payout (see Figure 1).

### Independent Variables



<Figure 1> Conceptual framework of the study

### 3. Methodology

#### 3.1. Data Collection and Sample Selection

This research study used secondary data to examine the relationship between dividend payout and set of explanatory variables. Data is collected from the published Annual reports of the Oil and Gas companies listed on Karachi Stock Exchange. To increase the reliability and validity of the results, data from the audited financial statements of the companies has been utilized. Data set containing the required financial information is constructed from the audited financial statements of the sample firms. Oil and Gas Companies listed on Karachi Stock Exchange are the population of this research study. Initially sample size of this

study consists of Ninety one (91 firm- year observation) Oil and Gas companies listed on KSE, but only Seventy Seven (77 firm-year observation) qualified for this research study. This study covers the time-period from 2008 to 2014. Reason for selection of seven-years (7) is that a business cycle completes in five to seven years. Those Oil and Gas Companies not listed on KSE are left out from this research study.

#### 3.2. Variables Measurement

The measurements are constructed based on previous empirical literature on the factors determining the dividend payout (see <Table 1>).

<Table 1> Explanation of proxies and measurement scale for variables of the study

Variable	Symbol	Description or proxy	Measurement
<b>Dependent Variable</b>			
Dividend Payout	DIV	Dividend payout ratio	Dividend per share/ EPS
<b>Independent Variables</b>			
Profitability	PROF	Return on asset (ROA)	Net income/ Total assets
Firm size	SIZE	Total assets of the firm	Natural log of total assets
Financial leverage	LV	Debt to equity ratio	Total debts/ Total equity
Sales growth	SG	Percentage change in sales	Current Sales- Previous sales/ Previous Sales
Investment opportunities	INV	Capital expenditure to total asset ratio	Investing Cash flow/ Total assets
Liquidity	LQ	Current ratio	Current assets/ Current liabilities
Business risk	RISK	Variation in operating income/profit ( OP)	Current OP -Previous OP/ Previous OP
<b>Ownership structure</b>			
Managerial ownership	MNG	Directors and executives share holdings	% of shares held by Directors and Executives
Government ownership	GOV	Government share holdings	% of shares held by Government

#### 3.3. Variables Explanation

Dividend payout is the dependent variable of this study. Dividend payout of Oil and Gas companies of Pakistan has been computed using the dividend payout ratio. Researchers including Amidu and Abor (2006), Musiega et al. (2013), Al-Kuwari (2009), Gill et al. (2010) and Mirza et al. (2014) have also computed dividend payout using dividend payout ratio. Independent variables of this study includes profitability, firm size, financial leverage, sales growth, investment opportunities, liquidity, business risk and ownership structure. Proxy used to compute profitability (PROF) is return on assets using the formula net income divided by total assets. Same formula has been used by

others researchers including Moon, Leeand Dattilo (2015), Thanatawee (2013) and Mirza et al. (2014). Natural log of total assets is used as proxy for firm size (SIZE), which is in line with research of Moon et al. (2015), Mehta (2012), Musiega et al. (2013), Imran (2011) and Mirza and Azfa (2010).

Proxy used to calculate financial leverage (LV) is debt to equity that is consistent with studies of Gill et al. (2010), Al-Kuwari (2009), Nizar Al-Malkawi (2007), Thanatawee (2013). Sales growth (SG) is measured by percentage change in sales (current sales minus previous sales divided by previous sales). Which is consistent with the studies of Amidu and Abor (2006), Gill et al. (2010) and Imran (2011). This study used current ratio as proxy to compute liquidity

position of a firm that is also used by group of researchers such as Kaźmierska-Józwiak (2015), Musiega et al. (2013), and Imran (2011). Business risk is measured by variation or change in operating income/profit using the formula current OP - previous OP dividend by previous OP. Same formula is used by Nizar Al-Malkawi (2007) and Amidu and Abor (2006). Ownership structure is divided into managerial ownership and government ownership. For managerial ownership, percentage of common shares owned by managers and directors is used as proxy and number of shares detained by government represent ownership of the government (Mirza & Azfa, 2010; Nizar Al-Malkawi, 2007).

### 3.4 Empirical Model

Panel data methodology has been used due to panel characteristics of the data. Double subscript in regression equation to each variable is differentiating the panel regression models from the cross-sectional and time-series regression models. Following is the bivariate panel regression equation:

$$Y_{i,t} = \alpha_i + \beta X_{i,t} + \varepsilon_{i,t}$$

Subscript i in above model denotes the cross-sectional aspect whereas subscript t denotes the time-series aspect. Where  $Y_{i,t}$  denotes the dependent variable,  $X_{i,t}$  represents the independent variables in the bivariate regression equation,  $\alpha_i$  represents the constant,  $\beta_{i,t}$  is coefficients of independent variables,  $\varepsilon_{i,t}$  is the random error term. OLS is one of the most widely used technique by the researchers such as D'Souza and Saxena (1999), Amidu and Abor (2006), Anil and Kapoor (2008), Mirza et al. (2014) and Nizar Al-Malkawi (2007) to find the relationship between dividend payout and set of explanatory variables. The general regression equation of this study is:

$$\begin{aligned} DIV_{i,t} = & \beta_0 + \beta_1 PROF_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LV_{i,t} + \beta_4 SG_{i,t} \\ & + \beta_5 INV_{i,t} + \beta_6 LQ_{i,t} + \beta_7 RISK_{i,t} + \beta_8 MNG_{i,t} \\ & + \beta_9 GOV_{i,t} + \varepsilon_{i,t} \end{aligned}$$

Where

- $DIV_{i,t}$  = Dividend per share/ EPS for company i in time t
- $PROF_{i,t}$  = Net income/ Total assets for company i in time t
- $SIZE_{i,t}$  = Natural log of total assets for company i in time t
- $LV_{i,t}$  = Total debts/ Total equity for company i in time t

$SG_{i,t}$	= Current sales – previous sales / Previous sales for company i in time t
$INV_{i,t}$	= Investing cash flow/ Total assets for company i in time t
$LQ_{i,t}$	= Current assets/Current liabilities for company i in time t
$RISK_{i,t}$	= Current OP -Previous OP/ Previous OP for company i in time t
$MNG_{i,t}$	% of shares held by Directors and Executives for company i in time t
$GOV_{i,t}$	= Percentage of shares held by Government for company i in time t

## 4. Results and Discussion

### 4.1. Summary Statistics

<Table 2> Descriptive Statistics of all variables

Variables	Observations	Mean	Standard deviation	Min	Max
DIV	77	38.26104	30.22478	0	98.31
PROF	77	12.45961	13.16851	-23.64	33.41
SIZE	77	7.471429	.9088122	4.12	9.06
LV	77	2.4825	2.446154	.25	9.06
SG	77	22.7713	23.15158	-19.57	88.64
INV	77	5.992481	11.92161	-8.66	56.85
LQ	77	1.822078	1.221993	.76	6.87
RISK	77	19.73481	82.41424	-187.24	345.64
MNG	77	1.105684	2.226133	0	7.48
GOV	77	17.29714	28.64947	0	85.02

<Table 2> shows the descriptive statistics for all variables of this study. Data set contains 77 firm-year observations from Oil and Gas Companies of Pakistan covering the time-period of seven years (2008-2014). The average dividend payout ratio of Oil and Gas Companies of Pakistan is 38.26104 percent, which means that these companies on average distribute 38.26104 percent of their profit to shareholders as dividend. The standard deviation of dividend payout is 30.2247 percent indicating that Oil and Gas Companies of Pakistan do not pay consistent dividend. The average profitability measured by return on asset is 12.45961 percent, suggesting that on average Oil and Gas Companies of Pakistan earn 12.45961 percent profit each year. Firm size has mean value of 7.471429 with lower standard deviation.

**<Table 3>** Correlation of variables

Correlation Matrix										
Variables	DIV	PROF	SIZE	LEV	GROW	INV	RISK	LIQ	MNG	GOV
DIV	1.0000									
PROF	0.3641	1.0000								
SIZE	0.0358	.1481	1.0000							
LV	-0.5832	-0.4515	0.1102	1.0000						
SG	0.2079	0.0851	-0.0251	0.0427	1.0000					
INV	-0.0671	-0.1945	0.1750	-0.0235	0.0826	1.0000				
LQ	0.3294	0.4275	0.2177	-0.5334	-0.0713	-0.0713	1.0000			
RISK	-0.0419	0.3388	-0.0592	-0.1746	0.1516	-0.0339	-0.0097	1.0000		
MNG	0.1930	0.0639	-0.4440	-0.1697	0.1053	-0.2343	-0.0788	0.0070	1.0000	
GOV	0.1305	0.3817	0.4112	-0.3813	-0.0251	-0.0220	0.6293	0.0244	-0.3030	1.0000

Financial leverage (LV) has average value of 2.4825, which shows that on average debt to equity ratio of Oil and Gas Companies in Pakistan is 2.4825 times. Mean value of LV is high suggesting that these companies rely more on debt financing and is the main factor having significant negative effect on dividend paying ability of Oil and Gas companies of the Pakistan. Sales growth (SG) has highest average value of 22.7713 percent after dividend payout, showing that sales of these companies are increasing on an average rate of 22.7713 percent per year. Investment opportunities on average is 5.992481 percent with standard deviation of 11.92161 percent. Liquidity measured by current ratio has mean value of 1.822078 times, which shows that on average Oil and Gas Companies of Pakistan have moderate liquidity position. Risk has average value of 19.73481 percent with highest standard deviation of 82.41424 percent, which shows that there is too much variation in operating income of Oil and Gas companies due to which they are exposed to business risk resulting in lower dividend payout. Average Managerial ownership (MNG) is 1.105684 percent, implying that managers and directors on average own 1.105684 percent shares of Oil and Gas Companies in Pakistan. Mean value of Government ownership (GOV) is 17.29714 percent with standard deviation of 28.64947 percent, indicating that Government of Pakistan has high stake in these companies.

## 4.2. Correlation Matrix

<Table 3> presents the correlation of nine explanatory variables with the dividend payout (dependent variable) and among the explanatory variables. Financial leverage (LV) has the strongest negative correlation of -0.5832 with dividend payout ratio. Test statistics is significant at 1 %

significance level indicating that when the financial leverage of Oil and Gas companies increases dividend payout tends to decrease. Second independent variable having high positive correlation with dividend payout is profitability (PROF). This shows that high profitability will leads to higher dividend payout. The other variables that have positive correlation with the dividend payout are sales growth and liquidity. The coefficient of correlation for these variables are 0.2079 and 0.3294 showing that with the increase in sales and liquidity of the firm the dividend to shareholders will increase. Business risk is negatively correlated with dividend payout, which is consistent to financial theory that higher the business risk lower will be the dividend payout. Investment opportunities and Government ownership are exhibiting negative correlation with dividend payout while managerial ownership is positively correlated with dividend payout. Correlation matrix indicates that independent variables are not strongly correlated to each other, which is testifying the absence of multi collinearity among the explanatory variables.

## 4.3. Diagnostic Tests

### 4.3.1. Homoscedasticity Test

Assumption of homoscedasticity means that dependent variable should show same level of variance across the set of explanatory variables (Hair et al., 2006). Test of homoscedasticity is required to ensure that set of explanatory variables explaining the variation in the dependent variable should not be concentrated in few explanatory variables (Hair et al., 2006). Due to presence of heteroscedasticity, standard error of the predictors will be biased and F- statistics or T- statistics cannot be used in the

model to draw conclusions. Homoscedasticity test for this research study is done using Breusch-Pagan / Cook-Weisberg test for heteroscedasticity in Stata and it is found that there is no heteroscedasticity in the data. Results of this test suggests that at 5 % level of significance there is no support to reject the null hypothesis of constant variance (homoscedasticity).

#### 4.3.2. Multicollinearity Test

**<Table 4>** Variance Inflation Factor (VIF)

Variable	VIF	1/VIF
GOV	2.18	0.458012
LQ	2.11	0.473345
LV	1.80	0.555304
PROF	1.67	0.600150
SIZE	1.52	0.657645
MNG	1.46	0.686814
RISK	1.22	0.817542
INV	1.15	0.868220
GROW	1.06	0.940518
Mean VIF	<b>1.58</b>	

<Table 4> is depicting the variance inflation factor (VIF), which is used as Multicollinearity test. Multicollinearity is the situation where two or more explanatory variables in the regression equation are highly correlated to each other. Overall value of VIF less than four (4) indicates that there is absence of Multicollinearity among the set of explanatory variables (Gujarati & Porter, 2009). From table 4.3 it is clear that overall (mean) VIF for this study is 1.58 less than four (4), which shows the absence of Multicollinearity.

#### 4.3.3. Skewness/ Kurtosis test for Normality

**<Table 5>** Normality Test

Variables	Observations	Pr (Skewness)	Pr (kurtosis)	Chi2(2)	Prob.>chi2
Res	77	0.3545	.6551	1.06	0.5895

<Table 5> presents the skewness and Kurtosis test for normality. It is one of the assumptions for OLS that the residuals should be normally distributed. Prob > chi2 0.5895 in the table 4.4 indicates that at 5% level of significance there is no evidence to reject the null hypothesis that the residuals are normally distributed.

#### 4.4. Model Summary

**<Table 6>** Empirical model summary

Observations	F- Statistics	Prob. > F	R-squared	Adjusted R-squared
77	7.45	.0000	.5062	.4399

<Table 6> depicts the summary of the model. F- Statistics ( $F = 7.45$ ,  $P = 0.000$ ) is significant at 5% level indicating the overall effectiveness of the model. R- Squared value implies that the model explains 50.62% of the variation in the criterion dividend payout. It is a measure of good of fitness.

#### 4.5. OLS Regression Results

**<Table 7>** Impact of set of explanatory variables on dividend payout

Variables	Coefficients	t Value	P value	Remarks
PROF	.4633	1.82	.073*	Accepted
SIZE	5.9618	1.69	.095*	Accepted
LV	-7.7421	-5.44	.000***	Accepted
SG	.3400	2.94	.004***	Rejected
INV	-.2562	-1.10	.277	Rejected
LQ	1.2699	.41	.682	Rejected
RISK	-.0876	-2.52	.014**	Accepted
MNG	.4641	.33	.742	Rejected
GOV	-.2567	-1.92	.059*	Accepted
Constant	4.2602	.16	.870	

\*\*\*Significant at 1%; \*\*Significant at 5%; \*Significant at 10%

<Table 7> depicts the OLS regression results of this study. Dependent variable, which is dividend payout, is regressed using the Stata against nine independent variables. Explanatory variables of the study include profitability, firm size, financial leverage, sales growth, investment opportunities, liquidity, business risk and ownership structure. The regression results show that profitability has positive and significant impact on dividend payout decision of Oil and Gas Companies of Pakistan. Which suggests that with the increase in the profitability, dividend payout will tend to increase. The logic behind this relationship is that profitable firms are in better position to meet trade credits and lenders claims, investment expenditures and still have ability to pay more dividends as compared to firms facing losses. Researchers have considered profitability as one of the key factors affecting dividend payout decision of a firm. Favorable impact of profitability on payout decision in Oil

and Gas industry of Pakistan is in agreement with the hypothesis of this study. Another argument for this relationship is that highly profitable firms are in better position to get financing for business operations from banks and other external sources on cheaper rates and hence pay high dividends. Results of this research study regarding profitability and dividend payout are consistent with other empirical studies of Amidu and Abor (2006), Han, Lee and Suk (1999), Aivazian et al. (2003), Adaoglu (2000), Pandey (2001) and Kim and Gu (2009).

The OLS regression results exhibit a significant positive effect of firm size on dividend payout at 10% significance level. The explanation for this relationship is that the large firms have the competitive advantage over small firms, because they are well-known in the capital market with good credit rating and they can easily manage external financing with overall low cost. The positive impact of firm size on payout decision provides support for agency theory, which states that large firms have more agency problem due to the size of the firm and complications in monitoring the activities of the agents by the principals; hence, agency cost can be reduced by paying dividends to shareholders. Dividend payout can be used as a tool to reduce the agency cost. Accordingly, large firms are in better position to pay more dividend (Holder et al., 1998). The results regarding firm size and dividend payout is consistent with the results of Manos (2003), Zeng (2003), Nizar Al-Malkawi (2007), Redding (1997), Collins (1996), Holder et al. (1998), Eddy and Seifert (1988), and Eddy, Fama and French (2001).

According to the regression results, there is significant negative relationship between financial leverage and Dividend payout. It shows that with the increase in debt level the dividend payout will tends to decrease. The reason for low dividend payout is that with the increase in debt level the financial risk of the firm increases and to encounter this, creditors put debt covenants limiting the usage of free cash flows. Most of the Oil and Gas Companies of Pakistan have high proportion of debt in their capital structure; therefore, financial leverage has the strongest negative impact on the dividend payout decision of these companies in Pakistan. Results regarding association of financial leverage with dividend payout are consistent with the results of Deshmukh et al. (2013), Aivazian et al. (2003), Crutchley and Hansen (1989), Lie (2005), Zeng (2003), Nash et al. (2003), Naser, Nuseibeh, and Al-Kuwari (2004), and Faccio and Lang (2002).

Contrary to hypothesis for sales growth, results show positive and significant relation between sales growth (SG) and dividend payout (DIV) at 1% level of significance. The explanation for this relationship is that with the increase in sales the cash generated from operations will increase which will ultimately increase net income available for

dividend or reinvestment for future expansions. If there is no future need for cash then the earnings available through growing sales will be paid to the shareholders as dividends. The results for sales growth are consistent with the results of Imran (2011) study on factors affecting dividend payout decision in context of Pakistan engineering sector. The positive relationship of sales growth and dividend payout provides support for dividend signaling theory, which suggests that the companies use dividend as signaling device to convey future growth of the company to the shareholders. Results indicate applicability of dividend-signaling theory in Oil and Gas industry of Pakistan.

As expected, results indicate negative but insignificant association of investment opportunities with dividend payout behavior of Oil and Gas Companies in Pakistan. OLS regression results stipulate a positive but statistically insignificant correlation of liquidity with dividend payout of Oil and Gas Companies in Pakistan. As anticipated, results show statistically significant negative association of business risk with dividend payout of Oil and Gas Companies of Pakistan at 5% level of significance. Business risk is high when there is too much variation in the operating income and in such situations, firms prefer to retain more free cash flows and pay low dividend. On the contrary, firms with stable operating income (less business risk) are expected to pay more dividends. Variations in operating income are considered by the creditors as sign of risk and creditors are more reluctant to lend to such firms, therefore these firms are only left with the internal source of financing. Results reveal that there is high variation in earnings of the Oil and Gas Companies of Pakistan which is one of the main reasons for inconsistent dividend payout in this industry. The negative relationship of business risk with dividend payout is even with results of prior empirical studies of Kania and Bacon (2005), Thanatawee (2013), Aivazian et al. (2003), Imran (2011), and D'Souza and Saxena (1999).

Results depict insignificant positive association of managerial ownership with dividend payout of Oil and Gas Companies of Pakistan. Whereas, regression results indicate significant negative link of government ownership with dividend payout in Oil and Gas industry of Pakistan at 10% significance level, which means that firms in this industry having more government ownership pay lower dividends. The reason or argument for this association is that Government of Pakistan being one of the major shareholders of Oil and Gas companies of Pakistan prefer the growth and expansion of these companies and encourage investment of the free cash flows for future expansion of the business rather than current dividends. Negative relation of government ownership with dividend payout is also supported by the study results of Kania and

Bacon (2005).

## 5. Conclusion and Recommendations

This research study examines the determinants of the dividend payout in Oil and Gas Industry of Pakistan. This study used dividend payout as dependent variable. Explanatory variables include profitability, firm size, financial leverage, sales growth, investment opportunities, liquidity, and business risk and ownership structure. Secondary data is collected from published annual reports of Oil and Gas Companies of Pakistan, listed on KSE. Panel data technique is used. This study applied Ordinary Least Square (OLS) regression model using the Stata to examine the relationship of dividend payout with set of explanatory variables. The OLS regression results show significant positive association of profitability with dividend payout, suggesting that profitable firms are more inclined to pay high dividends to the shareholders. Firm size revealed a significant positive effect on dividend payout decision of Oil and Gas companies, implying that large firms are expected to pay more dividends because of having easy access to capital market.

Regression results for firm size provide support for agency theory. Financial leverage is found as one of the most significant variables having inverse impact on dividend payout. It means that companies relying more on debt financing are expected to pay low dividends. Contrary to the hypothesis, sales growth indicates positive and significant association with dividend payout. This suggests that companies experiencing increasing sales are expected to generate high profits that will ultimately increase the funds available for dividends. The positive relationship of sales growth with dividend payout is providing evidence for applicability of dividend signaling theory in Oil and Gas

industry of Pakistan. Business risk is found to have significant negative effect on payout decision, indicating that companies experiencing variant operating income are expected to pay lower dividends due to inclusion of debt covenants by creditors. Results also reveal that firms having high government ownership are more likely to pay low dividends to the shareholders. The argument for this relationship is that government of Pakistan being one of the major shareholders of these Oil and Gas Companies in Pakistan prefer investment of free cash flows for future business expansion instead of receiving current dividend. Investment opportunities, liquidity and managerial ownership showed insignificant relationship with dividend payout in Oil and Gas industry of Pakistan. Overall, the results indicate that profitability, firm size, financial leverage, sales growth, business risk and government ownership are the main factors influencing the dividend payout decision of Oil and Gas companies of Pakistan. This Suggests that dividend payout policy is dependent on business strategies including both investment and financing decisions. Financial managers should consider these factors while formulating dividend policy of the firm.

Further research should continue to include variables like last year dividend, corporate tax and earning per share (EPS) growth and extend the time period which will increase the explanatory power of the model. Longer time-period will help to observe the trend of dividend payout in Oil and Gas industry of Pakistan. Furthermore, Dividend payout ratio can be replaced for future research study by dividend yield to examine the association of certain explanatory variable with dividend yield. Dividend payout ratio is based on book value or accounting value whereas dividend yield is based on market value, which can provide results that are more accurate. Additionally, an interesting research study can be carried out to examine the dividend payout behavior of multinational companies during high currency fluctuations.

## References

- Adaoglu, C. (2000). Instability in the dividend policy of the Istanbul Stock Exchange (ISE) corporations: evidence from an emerging market. *Emerging Markets Review*, 1(3), 252-270.
- Adedeji, A. (1998). Does the pecking order hypothesis explain the dividend payout ratios of firms in the UK? *Journal of Business Finance & Accounting*, 25(9-10), 1127-1155.
- Ahmed, H., & Javid, A. Y. (2008). *Dynamics and determinants of dividend policy in Pakistan: Evidence from Karachi stock exchange non-financial listed firms*. (MPRA Paper No. 37342). Munich, Germany: Munich Personal RePEc Archive (MPRA). Available at <https://mpra.ub.uni-muenchen.de/37342/>
- Aivazian, V., Booth, L., & Cleary, S. (2003). Do emerging market firms follow different dividend policies from US firms? *Journal of Financial Research*, 26(3), 371-387.
- Al-Kuwari, D. (2009). Determinants of the Dividend Policy of Companies Listed on Emerging Stock Exchanges: The Case of the Gulf Cooperation Council (GCC)

- Countries. *Global Economy & Finance Journal*, 2(2), 38-63.
- Al-Shubiri, F. N. (2011). Determinants of changes dividend behavior policy: Evidence from the Amman Stock Exchange. *Far East Journal of Psychology and Business*, 4(1), 1-15.
- Amidu, M., & Abor, J. (2006). Determinants of dividend payout ratios in Ghana. *The Journal of Risk Finance*, 7(2), 136-145.
- Anil, K., & Kapoor, S. (2008). Determinants of dividend payout ratios-a study of Indian information technology sector. *International Research Journal of Finance and Economics*, 15(1), 63-71.
- Barclay, M. J. (1987). Dividends, taxes, and common stock prices: The ex-dividend day behavior of common stock prices before the income tax. *Journal of Financial Economics*, 19(1), 31-44.
- Black, F. (1976). The dividend puzzle. *The Journal of Portfolio Management*, 2(2), 5-8.
- Brealey, R. A., Myers, S. C., Allen, F., & Mohanty, P. (2012). *Principles of corporate finance*. India: Tata McGraw-Hill Education.
- Brigham, E. F., & Houston, J. F. (2012). *Fundamentals of financial management*. Boston, MA: Cengage Learning.
- Chan, C. Y., Tai, V. W., Chan, C. H., & Li, K. A. (2012). The Effects of Executive Stock Options and Stock Bonuses on Payout Policies in Taiwan. *Asia-Pacific Journal of Financial Studies*, 41(2), 146-174.
- Crutchley, C. E., & Hansen, R. S. (1989). A test of the agency theory of managerial ownership, corporate leverage, and corporate dividends. *Financial Management*, 18(4), 36-46.
- D'Souza, J., & Saxena, A. K. (1999). Agency cost, market risk, investment opportunities and dividend policy-an international perspective. *Managerial Finance*, 25(6), 35-43.
- Deshmukh, S., Goel, A. M., & Howe, K. M. (2013). CEO overconfidence and dividend policy. *Journal of Financial Intermediation*, 22(3), 440-463.
- Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 74(4), 650-659.
- Eddy, A., & Seifert, B. (1988). Firm size and dividend announcements. *Journal of Financial Research*, 11(4), 295-302.
- Faccio, M., & Lang, L. H. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics*, 65(3), 365-395.
- Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, 60(1), 3-43.
- Farinha, J. (2003). Dividend policy, corporate governance and the managerial entrenchment hypothesis: an empirical analysis. *Journal of Business Finance & Accounting*, 30(9-10), 1173-1209.
- Gill, A., Biger, N., & Tibrewala, R. (2010). Determinants of dividend payout ratios: evidence from United States. *The Open Business Journal [online]*, Volume 2010(3), 8-14. Available at <http://bentham-open.com/contents/pdf/TOBJ/TOBJ-3-8.pdf>
- Gordon, M. J. (1963). Optimal investment and financing policy. *The Journal of Finance*, 18(2), 264-272.
- Grullon, G., Michaely, R., & Swaminathan, B. (2002). Are dividend changes a sign of firm maturity? *The Journal of Business*, 75(3), 387-424.
- Gujarati, D. N., & Porter, D. (2009). *Basic Econometrics*. Mc Graw-Hill International Edition.
- Han, K. C., Lee, S. H., & Suk, D. Y. (1999). Institutional shareholders and dividends. *Journal of Financial and Strategic Decisions*, 12(1), 53-62.
- Hess, P. J. (1982). The Ex-Dividend Day Behavior of Stock Returns: Further Evidence on Tax Effects. *The Journal of Finance*, 37(2), 445-456.
- Holder, M. E., Langrehr, F. W., & Hexter, J. L. (1998). Dividend policy determinants: An investigation of the influences of stakeholder theory. *Financial Management*, 27(3), 73-82.
- Imran, K. (2011). Determinants of dividend payout policy: A case of Pakistan engineering sector. *The Romanian Economic Journal*, 41, 47-60.
- Jensen, M. C. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *Corporate Finance, and Takeovers. American Economic Review*, 76(2), 323-329.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Kania, S. L., & Bacon, F. W. (2005). What factors motivate the corporate dividend decision? *ASBBS E-Journal [online]*, Volume 1(1), Paper ID: 97-107. Available at <http://asbbs.org/files/2005/PDF/Kania.pdf>
- Kaźmierska-Jóźwiak, B. (2015). Determinants of Dividend Policy: Evidence from Polish Listed Companies. *Procedia Economics and Finance*, 23, 473-477.
- Kim, H., & Gu, Z. (2009). Financial features of dividend-paying firms in the hospitality industry: A logistic regression analysis. *International Journal of Hospitality Management*, 28(3), 359-366.
- Kumar, J. (2006). Ownership structure and dividend payout policy in India. *Corporate Governance and Dividend Payout in India. Journal of Emerging Market Finance*, 5(1), 15-58.

- Lease, R. C., Lewellen, W. G., & Schlarbaum, G. G. (1976). Market segmentation: Evidence on the individual investor. *Financial Analysts Journal*, 32(5), 53-60.
- Lie, E. (2005). Financial flexibility, performance, and the corporate payout choice. *The Journal of Business*, 78(6), 2179-2202.
- Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*, 46(2), 97-113.
- Manos, R. (2003). Dividend policy and agency theory: Evidence from Indian firms. *South Asia Economic Journal*, 4(2), 275-300.
- Marfo-Yiadom, E., & Agyei, S. K. (2011). Determinants of dividend policy of banks in Ghana. *International Research Journal of Finance and Economics*, 61(61), 99-108.
- Mehta, A. (2012). An empirical analysis of determinants of dividend policy-evidence from the UAE companies. *Global Review of Accounting and Finance*, 3(1), 18-31.
- Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *The Journal of Business*, 34(4), 411-433.
- Mirza, H., Afza, T., & Shahbaz, M. (2014). Ownership structure and dividend policy: Evidence from South Asia. *Vidyabharati International Interdisciplinary Research Journal [online]*, Volume 3(2), 13-23. Available at <http://viirj.org/vol3issue2/3.pdf>
- Mirza, H. H., & Azfa, T. (2010). Ownership structure and cash flows as determinants of corporate dividend policy in Pakistan. *International Business Research*, 3(3), 210-221.
- Moon, J., Lee, W. S., & Dattilo, J. (2015). Determinants of the payout decision in the airline industry. *Journal of Air Transport Management*, 42, 282-288.
- Musiega, M. G., Alala, O. B., Douglas, M., Christopher, M. O., & Robert, E. (2013). Determinants Of Dividend Payout Policy Among Non-Financial Firms On Nairobi Securities Exchange, Kenya. *International Journal of Scientific & Technology Research*, 2(10), 253-266.
- Naser, K., Nuseibeh, R., & Al-Kuwari, D. (2004). Dividend Policy of Companies Listed on Emerging Stock Exchanges: Evidences from the Banking Sector of the Gulf Co-operation Council (GCC). *Middle East Business and Economic Review*, 16(1), 1-14.
- Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. *The Journal of Finance*, 56(6), 2111-2133.
- Nizar Al-Malkawi, H.-A. (2007). Determinants of corporate dividend policy in Jordan: an application of the Tobit model. *Journal of Economic and Administrative Sciences*, 23(2), 44-70.
- Pandey, I. M. (2001). *Corporate dividend policy and behaviour: The Malaysian experience*. (IIMA Working Paper No. 2001-11-01). Ahmedabad, India: Indian Institute of Management Ahmedabad (IIMA). Available at <http://www.iima.ac.in/assets/snippets/workingpaperpdf/2001-11-01impandey.pdf>
- Pruitt, S. W., & Gitman, L. J. (1991). The interactions between the investment, financing, and dividend decisions of major US firms. *Financial review*, 26(3), 409-430.
- Rodríguez-Pose, A., & Gill, N. (2005). On the 'economic dividend' of devolution. *Regional Studies*, 39(4), 405-420.
- Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial research*, 5(3), 249-259.
- Thanatawee, Y. (2013). Ownership structure and dividend policy: Evidence from Thailand. *International Journal of Economics and Finance*, 5(1), 121-132.
- Zameer, H., Rasool, S., Iqbal, S., & Arshad, U. (2013). Determinants of Dividend Policy: A case of Banking sector in Pakistan. *Middle-East Journal of Scientific Research*, 18(3), 410-424.
- Zeng, T. (2003). What determines dividend policy: a comprehensive test. *Journal of American Academy of Business*, 2(2), 304-309.