Corporate Tax, Operating Cash flow and Sales Growth and their Impact on Dividend Payout Ratio in Oil and Gas Companies Listed in Karachi Stock Exchange (KSE)

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ABSTRACT

Purpose: The purpose of this study is to comprehend the dynamics of dividend payout in Pakistan’s oil and gas sector. This study is an attempt to differentiate what are factors force firms to distribute dividends instead of enhancing retained earnings. To draw the required results 13 listed oil and gas companies have been incorporated in this study and their 5 years’ data has been studied.

Design/Methodology/Approach: This study is quantitative and secondary data has been used to extract results. The sources of the data are financial statements of the companies under study. Fixed and random effects of regression were used for data analysis.

Findings: Based on this study, it can be concluded that the independent variables selected in this model have the power to explain the dependent variable by 45%, which means the results generated through this study can be given importance accordingly in the oil and gas sector of Pakistan. The explanatory variables were identified from the prior literature and then their impact on dividend payout ratio was studied.

Implications/Originality/Value: It is evident from the results of the study that management can take necessary steps to formulate a mutually beneficial dividend policy that can enhance the strength and effectiveness of these explanatory variables to enforce a dividend policy that fulfils the expectations of both the investors and the company. The investors can also evaluate different factors that might have an impact on dividend distribution and they can also get the ability to determine dividend payout ratio which made the basis for decision making for investment in the given sector.
Introduction
In different organizations, dividend payout has been a subject of significance among corporate finance. Many studies have been presented by different academicians to define theoretical models which can identify different factors that should be considered by managers or decisions makers while establishing dividend payout policy. In the study of Imran (2011), AlTaleb (2012) and Lestari (2018) found that to pay a dividend, cash-flow applies a substantial negative influence on the firm propensity. Dividend payout policy addresses what proportion of earnings should be distributed among shareholders in the form of dividends, i.e., it calculates dividend payout ratio.

In this study our focus is on studying the impact of corporate tax, operating cash flow and sales growth on dividend payout ratio and to establish whether the relationship is significant or not. It stated that different researchers derive that there is a positive insignificant relationship between a firm’s cash flow and a firm’s dividend payout decision (Azouzi & Echchabi, 2016; Suhaiza & Yusniliyana, 2016; Najjar & Kilincarslan, 2018).

The authors said that both of firm’s cash-flow and dividend payout to the stockholders are directly and significantly related to each other (Musa, 2009; Wasike & Ambrose, 2015; Nishant & Ramesh, 2015; Rihanat et al., 2016). In Pakistan, the Oil and gas sector is seen as the most lucrative sector by stock investors. The Oil and gas sector is also recognized as a growth engine by the economists and government of Pakistan.

Background of the Study
The matter of dividend policy comes under the vast umbrella of financing decisions because the profits earned by corporations can be a source of financing in the form of retained earnings. Retained earnings on the other hand either affect or are affected by the dividend payout policy. The issue of dividend payout policy is placed within the basket of highly critical financial decisions. The deep we dig to attain a full understanding of dividend payout, the farther it becomes – like pieces of the puzzle that are very hard to fit together (Black, 1976). Brealy and Myers (2003) concluded that even after decades of exploration, the matter of dividend payout policy ranks higher among the list of unresolved financial issues.

The comprehension of the dividend payout ratio is vital for every concerned party, especially investors as it highlights signals to predict a corporation’s dividend sustainability and its potential to grow (Linter & John, 1956). Therefore, it becomes extremely important to define the factors that influence a corporation’s dividend payout ratio.

In 1991 International Finance Corporation ranked Pakistan’s equity market among the top twenty rising equity markets. Though in the late 1990s equity market in Pakistan faced a declining trend again it re-emerged. The International Magazine Business Week regarded Pakistan’s equity market as an emerging market with the best performance in comparison to other developing markets from 2002 to 2004.
It has been noticed that there is a general assumption that the dividend payout ratio is not affected by different sectors of an economy. Amidu and Abor (2006) concluded that there is no significant relationship between sectors of an economy and dividend payout ratio, whereas, Allen, Bernardo and Welch (2000) found a significant influence of sectors on dividend payout ratio. This study investigated the influence of the selected factors on the dividend payout ratio in the Oil and Gas sector of Pakistan.

**Gap Identification**
There might be some research done on dividend payout ratio in Pakistan but specifically, in the Oil and Gas sector such research work could not be found (Mahira, R 2012). As we know the Oil and Gas sector is one of the top preferred sectors in the eyes of stock investors, therefore it is necessary to understand the factors that affect or might affect dividend disbursement. We have also noticed through literature that the findings of studies carried out on this subject have contradictory outcomes; hence it becomes unavoidable to execute such research for every sector individually.

**Problem Statement**
There are different theories regarding the effect of economic sectors on dividend payout ratio and fit has also been noted that in Pakistan generally it is assumed that future earnings are the only indicators of dividend ratio. Dividend payout in emerging markets is more complex as compared to developed markets. In the presence of these alternative theories, managers need to know that in emerging markets, like Pakistan what is the impact of factors understudy on dividend payout ratio in the sector of oil & gas in Pakistan.

**Objectives of the Research**
The objectives of the study are;
1. To determine the relationship between corporate tax on dividend payout ratio in Pakistani listed companies of oil & gas sector.
2. To examine whether operating cash flow has any relationship with dividend payout ratio in Pakistani listed companies of oil & gas sector.
3. To examine the relationship of sales growth on dividend payout ratio in Pakistani listed companies of oil & gas sector.

**Significance of the Study**
Strategic corporate financial management is critical for any firm whether it’s public or private limited because the purpose of the existence of the firms is the maximization of returns on invested funds for investors. Similarly, investors tend to look for an opportunity where they can gain more dividends on a stock. The distribution of dividends is important for the retention of investors as well as for attracting new investors. But this is not as simple as stated because firms’ also need capital for future opportunities therefore, they need to retain reasonable earnings for that purpose. Considering such a complex situation were creating a balance between two contrary factors is critical for the success of an individual firm, this study will give the management and the investors an inside look at what factors need to be taken care of while predicting or deciding the distribution of dividends.

**Research Questions**
This study is an attempt to empirically answer the following questions about oil and gas sector companies listed in Karachi Stock Exchange of Pakistan;
- Does corporate tax affect dividend payout ratio and what is the level of significance?
- Does operating cash flow affect dividend payout ratio and what is the level of significance?
- Does sales growth affect dividend payout ratio and what is the level of significance?
Literature Review

Linter (1956) can be regarded as one of the first researchers to carry out a study on the subject of determinants of dividend policy. The study concluded that the disbursement of dividends is dependent upon the current year’s earnings and the dividends paid last year. Franco Modigliani and Merton Miller (1961) suggested that in a perfect capital market there is no relevance between dividend policy and a firm’s value. Furthermore, the study also suggested that the value of the corporation is not affected by high or low dividend payout. Before the irrelevance theory was presented it was generally assumed that dividend payout is strongly correlated to a stock’s value (Kent Baker, 2009).

In contrast to Dividend irrelevance theory, the bird in hand theory suggests that the value of the company is affected by the dividend payments. Gordon (1963) presented this theory and since then many researchers have supported this theory. Many studies oppose this theory. As per them, this theory has discarded many important factors. By increasing current dividends, the risk associated with the company does not decrease (Keown, 2007).

Dividend payments or dividend payout can be viewed as a signal to a firm’s expected future cash flows (Bhattacharya, 1979). The agency theory is regarded as one of the fundamental dividend theories. Agency cost can be defined as the cost incurred between stockholders known as principal and the management referred to as the agents (Jensen & Meckling, 1976). Rozeff (1982) formulated an optimal dividend model. By paying dividends to the investors the agency cost can be reduced. Baker and Wurgler (2004) presented the catering theory, which emphasizes the management to distribute dividends as per the preferences of the investors.

Edelman (1985) reports that managers of organizations believe that dividend payout stability is desirable. If this position is accurate, investors should prefer stocks that pay more predictable dividends to those that pay the same amount of dividends in the long run but in a more erratic manner. The dividends are higher because dividends face double taxation whereas capital gain does not face double taxation (Kent Baker, 2009).

Dividend Payout Vs Dividend Yield Ratio

The dividend payout ratio is not dependent upon the external factor. It only incorporates firms’ internal factors for the measurement of dividend distribution (Penman, 2009). This is evident from the definition of dividend payout ratio, as it is calculated by measuring the percentage of the firms’ earnings distributed among the shareholders. The dividend yield is affected by external factors as it incorporates stock price while measuring dividends (Warren et. al, 2011). The dividend yield is calculated by dividing the dividend paid to the shareholders by the stock price of that firm.

Prior literature suggests that both measures of dividend are different therefore it is critical to opt for the most relevant measure as it can substantially affect the findings of the study. The dividend payout ratio is more significant as compared to dividend yield as it elaborates on returns on the earning of a company (McManus et al. 2004). McManus (2004) further iterates that the dividend payout ratio has more strength as compared to dividend yield when it comes to generating signals for investors and the dividend yield is less informative with comparison to the dividend payout ratio. The dividend yield is open to external factors that are beyond the control of the firms’ management; with change in stock price dividend yield also changes, hence proving that the management cannot control dividend yield (Steven & Jose, 1992).

Contrary to that Fama & French (1998), concluded that as dividend yield can be used to predict the return on the stock, therefore, dividend yield with comparison to dividend payout ratio is more significant. Since there are two different opinions regarding the selection of a measure of
dividend distribution, in this study dividend payout ratio has been opted as the measure of dividend distribution because the purpose of this study is to provide helpful information to the management of Oil and Gas firms of Pakistan as they can utilize the findings of this study to better design their dividend policy.

**Operating Cash Flow per Share**

The literature exhibits that cash flow generated through operations has a positive impact on the dividend payout ratio. Cash flow generated from operations serves as a most significant determinant and further, it can be concluded that high liquidity position firms tend to distribute more dividends when compared with the firms with comparatively low liquidity positions (Anil and Kapoor, 2008). In the study of Imran (2011), AlTaleb (2012) and Lestari (2018) found that to pay dividends, cash-flow applies a substantial negative influence on the firm propensity.

According to Rihanna et al. in (2016), Wasike and Ambrose (2015), Nishant and Ramesh (2015) and Musa states in (2009) that both of firm’s cash-flow and dividend payout to the stockholders are directly and significantly related to each other whereas Al-Najjar and Kilincarslan in (2018), Azouzi and Echchabi in (2016) and Suhaiza and Yusniliyana in (2016) derives a positive insignificant relationship between firm’s cash-flow and firm’s dividend payout decision. The profitability and size of the firm increase cash flow. Similarly, Soodur et al. in (2016) and Demirgüneş (2015) found insignificant relation between dividend payout and the cash flow of the firm but negatively and increased cash flow means that the firm can pay high dividends (Al-Malkawi, 2007). Operating cash flow generated through operation can be treated as a proxy of profitability as it measures the flow of cash that a company generates from its operations (Malkawi, 2007).

**Corporate Tax**

The dividend payments can serve as a tax shield; hence the negative impact of tax can be avoided (Miller and Scholes, 1978). Imposing a tax on dividend payments does not significantly affect the dividend ratio (Omet, 2004). Omet (2004) come with the same results in the situation of a firms registered with the Aman securities market and more on the tax imposed on dividends cannot give significant impact on dividends payout behaviour in the registered firm. Reddy (2006) said that in India, those firms paying dividends are most profitable, in large size, and grow fast. An explanatory variable, corporate tax taken as negative association with dividend payout in the organization by Anil and Kapoor (2008). In Reddy’s (2006) conclusion, the study of the information technology sector in India found it to be consistent and insignificant. In the Indian context, the theory related to tax preference and corporate tax does not appear to hold. In Pakistan, it is very interested to note the effect of corporate tax.

**Sales Growth**

The signalling theory formulated by Bhattacharya (1980) suggests that the firms with high growth are willing to pay high dividends. The growth of a firm serves as an important signal for investors; hence it predicts investing opportunities for investors. Investment opportunity serves as a factor determining dividend payout ratio and sales growth can be used as a proxy to empirically measure its effect on dividend payout ratio (D’Souza, 1999). In the case of growth, it represents an insignificant as well as a positive relationship. In another study explained by Higgins (1981), there is a direct link between a firm’s growth and the financing needs of the organization. Similarly, the growth rate of sales measures the growth rate of the organization (Lloyd et al., 1985; Rozeff, 1982; Moh’d et al., 1995; Holder et al., 1998; Chen et al., 1999). Hence, the growth rate of the organization is identified in this research by an annual sales growth.

Some studies have incorporated the growth opportunity to measure the growth of a firm (Rozeff, 1982), whereas other studies have incorporated the actual growth rate in terms of the difference
of sales in current years concerning previous years.

**Proposed Hypotheses**

H1: Cash flow generated through operations has a positive significant relationship with dividend payout ratio.

H2: Corporate tax and dividend payout ratio exhibit a negative significant relationship.

H3: Positive and significant relationship can be found between sales growth and dividend payout ratio.

**Research Methodology**

To answer the research question, there are three basic types of studies, i.e., exploratory study, descriptive study and explanatory study (Saunders et. al, 2009). This study is quantitative and secondary data has been used to extract results. The sources of the data are financial statements of the companies under study. As per the literature review discussed earlier, the following variables have been studied in this study. Dividend payout ratio (dependent variable), Corporate tax, Sales Growth and Operating Cash flow (Independent variables). The variables used in the study are mentioned in the given table-1. Dividend payout Ratio (DPR), Operating Cash Flow per share (CFO), Corporate Tax (CT), and Sales Growth (SG). The DPR is taken as effect variables while others as casual.

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Type of Variable</th>
<th>Symbol</th>
<th>Description</th>
<th>Expected Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend payout</td>
<td>Dependent</td>
<td>DPR</td>
<td>Dividend/Earnings</td>
<td></td>
</tr>
<tr>
<td>Ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Cash Flow</td>
<td>Independent</td>
<td>CFO</td>
<td>Operating Cash Flow / Total No. of Shares outstanding</td>
<td>+</td>
</tr>
<tr>
<td>per share</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Tax</td>
<td>Independent</td>
<td>CT</td>
<td>Corporate tax/Net profit before tax</td>
<td>-</td>
</tr>
<tr>
<td>Sales Growth</td>
<td>Independent</td>
<td>SG</td>
<td>(Current sales - Previous sales)/Previous sales</td>
<td>+</td>
</tr>
</tbody>
</table>

The population for this study will be all Oil and Gas Sector firms listed on Karachi Stock Exchange (KSE) Pakistan. There are 13 Oil and Gas companies listed on KSE. The study sample was comprised of 13 companies given in table-2.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name of the Listed Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATRL</td>
<td>Attock Refinery Ltd</td>
</tr>
<tr>
<td>APL</td>
<td>Attock Petroleum Ltd</td>
</tr>
<tr>
<td>BYCO</td>
<td>Byco Petroleum Pakistan Ltd</td>
</tr>
<tr>
<td>BPL</td>
<td>Burshane LPG (Pakistan) Ltd</td>
</tr>
<tr>
<td>MARI</td>
<td>Mari Petroleum Ltd</td>
</tr>
<tr>
<td>HASCOL</td>
<td>Hascol Petroleum Company Ltd</td>
</tr>
<tr>
<td>NRL</td>
<td>National Refinery Ltd</td>
</tr>
</tbody>
</table>
Research Analysis
Descriptive statistics establish whether the distribution of the data is normal or not. In this study for each variable under study, there are 64 observations for 13 listed companies for 5 years. Therefore, for all four variables, the total number of observations for five years and 13 companies is 320.

Descriptive statistics prove the normality of the data in this study as it shows that the mean for all the variables is close to their respective median. Corporate tax has the maximum mean, whereas Operating Cash flow has the lowest. The difference between maximum and minimum values for all variables is reasonable, the being that of corporate tax. The corporate tax also displayed a higher standard deviation of 0.6983, on the other hand, sales growth has the lowest standard deviation of 0.3625. All the variables except operating cash flow have positive skewness, which implies that operating cash flow is negatively skewed from the data average. The test also shows that at a confidence interval of 95 per cent, the variables under study are significant, as their respective probability value is less than five percent.

Table – 3
Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Dividend Payout Ratio</th>
<th>Corporate Tax</th>
<th>Operating Cash Flow</th>
<th>Sales Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPR</td>
<td>Mean</td>
<td>0.3765</td>
<td>0.3953</td>
<td>0.1209</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>0.2215</td>
<td>0.3309</td>
<td>0.2589</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>3.1100</td>
<td>4.4828</td>
<td>0.9839</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-0.3102</td>
<td>-0.8944</td>
<td>-1.9675</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>0.4905</td>
<td>0.6983</td>
<td>0.5465</td>
</tr>
<tr>
<td></td>
<td>Probability</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>Observations</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

Correlation Matrix
The correlation matrix table 4 shows that the dividend payout ratio is negatively correlated with all three independent variables. The magnitude of this correlation is minimal. The table also shows that a positive correlation exists between operating cash flow and corporate tax. The magnitude of the correlation between corporate tax and operating cash flow is .1634. The highest correlation exists between sales growth and corporate tax i.e., -0.2029. The lowest correlation between dividend payout ratio and operating cash flow.

Table – 4
Correlation Matrix
Tests to Check Conditions of Regression

To verify that the data set in our study fulfils the conditions of regression or not; two tests have been executed. These tests clarified whether the assumptions of regression have been violated or not. These three tests are; autocorrelation and multicollinearity and regression with fixed effect.

The autocorrelation assumption of regression states that the distribution of residuals should not have a set pattern, i.e., the spread between errors must be random. If the covariance is found between residuals, the data is referred to have autocorrelation between residuals and in such a case the assumption of regression is violated. In statistics, this measure i.e., autocorrelation determines that the variables under study are independent of each other or they have some correlation present. If the data under study is found to be autocorrelated or some of the pairs of variables are found to be autocorrelated with each other then it is assumed that the data or the selection of variables has some mistake. Usually, in such a case one of the variables is excluded from the model. In our study, no pair of the variable was found to be significantly autocorrelated. To check for autocorrelation different tests can be executed but we have executed the Durbin Watson Stat test to verify this assumption of regression.

The data under study is said to be multilinear if a significant linear relationship is observed between two or more variables. If such a relationship is found between two or more variables, then the results can be perceived as biased which on the other hand guides towards biased hypothesis testing. Multicollinearity can be tested by correlation matrix that already has been discussed above and that proved that there is no significant linear relationship among the variables under study. The magnitude of the correlation as shown in the correlation matrix is not substantial, hence it would not have a major impact on the results.

As it has been proved that none of the assumptions of regression has been violated, therefore regression can be used as an effective tool to establish a relationship between independent variables and dependent variables in this study. By proving that assumptions of regression are met, this study also has discarded any possible doubt or question over the hypothesis to be unbiased. Three different regression analyses have been carried out, one with fixed effect, the second with random effect and another one without applying the fixed or random effect. The result of all three regression analyses is quite different from each other. Each regression analysis and its result are described briefly.

The fixed effect is used on panel data when the impact of factors that tend to vary in a given period is analyzed. Fixed effect determines the relationship between independent variables and dependent variable(s) concerning an entity like a company, person geography etc. The entity under study may or may not have an impact upon the explanatory power of the independent variable. For example, the demographic attributes of individuals (entity) may or may not affect the opinion about some particular issue. When the fixed effect is used it is assumed that attribute(s) of the entity under study (Oil and Gas companies in our study) may impact independent or dependent variables and such an impact needs to be controlled.

<table>
<thead>
<tr>
<th></th>
<th>DPR</th>
<th>CT</th>
<th>OCF</th>
<th>SG</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT</td>
<td>0.1203</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCF</td>
<td>0.0161</td>
<td>0.1634</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SG</td>
<td>0.0341</td>
<td>-0.2029</td>
<td>0.0880</td>
<td>1</td>
</tr>
</tbody>
</table>
In this study when the fixed effect is applied to the regression analysis it reveals the negative relationship between corporate tax and dividend payout ratio, a positive relationship between operating cash flow and dividend payout ratio and a positive relationship between sales growth and dividend payout ratio. The probability for all three independent variables is within the 5 percent level of confidence which enforces the effectiveness of this model.

The table below represents that with every one unit increase in corporate tax, the dividend payout ratio decreased by 0.2 units. Similarly, the regression table below also enforces that there is an increase of 1.24 units in dividend payout ratio with a 1 unit increase in operating cash flow. The sales growth also increases the dividend payout ratio by 1.023 units with one its 1-unit increase. Corporate tax represents a standard error of 9 percent, whereas, operating cash flow and sales growth represent a standard error of 52.31 percent and 21.91 percent respectively.

The value of R square is 4 percent which means that the explanatory power of these independent variables in determining dividend payout ratio is not so weak. Though there is room for adding more variables to strengthen the model, the impact of these three independent variables in determining the dividend payout ratio is strong.

**Table – 5**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.4405</td>
<td>0.0779</td>
<td>5.6567</td>
<td>0.000</td>
</tr>
<tr>
<td>CT</td>
<td>-0.20</td>
<td>0.09</td>
<td>-2.22</td>
<td>0.048*</td>
</tr>
<tr>
<td>OCF</td>
<td>1.2413</td>
<td>0.5231</td>
<td>-2.3729</td>
<td>0.031*</td>
</tr>
<tr>
<td>SG</td>
<td>1.0213</td>
<td>0.2191</td>
<td>4.6613</td>
<td>0.0212*</td>
</tr>
</tbody>
</table>

R-squared  0.452664  
Prob(F-statistic)  0.005417

*Indicates less or equal to 5 percent significance.

**Regression Analysis on Random Effect**

In Random analysis unlike fixed effect assumption, it is assumed that the variation in the entities is random and these variations are not correlated with the independent variable(s). The coefficients shown in the regression table depict the magnitude of change independent variable with each unit change in the independent variable. When regression is run by keeping cross-section as random, a negative relationship between independent variables and dependent variables was noted. From the below table it is obvious that corporate tax has the highest coefficient which iterates that as compared to other factors under study, corporate tax tends to have more impact on the dividend payout ratio. The probability in this model for corporate tax is within the limit of 5 per cent whereas in the case of operating cash flow and sales growth it is beyond the limit of 5 percent.

Regression on a random effect basis suggests that an increase in 1-unit corporate tax would result in a decrease of dividend payout ratio by 0.13 units. The standard error for corporate tax is 5.21 percent. On the other hand, for sales growth and operating cash flow, the random effect regression model suggests that the impact on dividend payout ratio is not significant as it is below 95 percent confidence level. The value of R square and adjusted R square is approximately 4 percent and 0.1 percent respectively which states that the explanatory power of this model in
determining dividend payout ratio is very weak.

### Table – 6
Regression Analysis – Random Effect

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.4326</td>
<td>0.1140</td>
<td>3.7961</td>
<td>0.0003</td>
</tr>
<tr>
<td>CT</td>
<td>-0.1392</td>
<td>0.0521</td>
<td>-2.6717</td>
<td>0.0012*</td>
</tr>
<tr>
<td>SG</td>
<td>-0.0085</td>
<td>0.1604</td>
<td>-0.0532</td>
<td>0.9578</td>
</tr>
<tr>
<td>OCF</td>
<td>-0.0191</td>
<td>0.1047</td>
<td>-0.1823</td>
<td>0.8560</td>
</tr>
</tbody>
</table>

Weighted Statistics

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R-squared</td>
<td>0.0397</td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.4839</td>
<td></td>
</tr>
</tbody>
</table>

*Indicates less or equal to 5 percent significance.

### The Hausman Test

If the correlation is found between independent variables and error terms it means the ordinary least square estimator has failed. In case this estimator fails we can use an instrumental variable estimator. The Hausman test is used to identify the correlation between independent variables and error terms. In a model where fixed effect regression estimation is supposed to be appropriate, the Hausman test identifies that in such case random effect regression estimation will be as good as fixed effect regression estimation or not. In summary, it can be concluded that the Hausman test can be used to identify that fixed effect regression should be used or random effect should be used.

In the case of fixed-effect regression estimation this test tests Ho: which states that the random effect regression estimation will be more effective, versus H1: which states that the random effect regression estimation will be inconsistent.

In our study, the value of the Hausman test is greater than 0.07 which represents that the fix effect regression estimation is better than the random effect regression estimation. The results of fixed-effect regression also show more effective results as compared to the random effect regression.

### Conclusion

This study is an attempt to comprehend the dynamics of defining different factors to determine the dividend payout ratio concerning oil and gas companies listed in the Karachi Stock Exchange index. The purpose of the study was to provide relevant parties with empirical results as to which are the most common variables that help in the determination of dividend payout ratio. Based on this study, it can be concluded that the independent variables selected in this model have the power to explain the dependent variable by 45 per cent, which means the results generated through this study can be given importance accordingly in Oil and Gas sector of Pakistan. The explanatory variables were identified from the prior literature and then their impact on dividend payout ratio was studied. These explanatory variables are Corporate Tax, Cash Flow from Operations and Sales Growth. There are 13 oil and gas companies listed on Karachi Stock Exchange and all these companies were selected to draw more significant results. The data was gathered from financial statements of the firms and was arranged as panel and pool data as a series of time was an understudy and the tool of regression was used to conclude the desired results. Fixed effect regression estimation and random effect regression estimation was used to determine the relationship between explanatory variables and dependent variable.

The fixed effect regression estimation exhibited more meaningful results as was proved by the
Hausman test. In our study, the value of the Hausman test is greater than 0.07 which represents that the fix effect regression estimation is better than the random effect regression estimation. The results of fixed-effect regression also show more effective results as compared to the random effect regression. The descriptive statistics proved the data to be normally distributed.

The regression results revealed that all three explanatory variables have a significant impact on the dividend payout ratio. It was also found that the model that we used in our study shows that it has good explanatory power. The test revealed that this model can predict 45 per cent of fluctuation in dividend disbursement. The significance of cash flow from operations found in this study is consistent with the findings of Alli and Ramirez (1993). The corporate tax as revealed in this study has also a significant impact on the dividend payout ratio in the oil and gas sector of Pakistan, this result is consistent with the findings of Omet (2004).

**Area for Further Research**

The results of this study have un-curtained various questions which must be explored in future studies. The scope of this study is limited as in this study only three company selected factors were studied to find their relationship with dividend payout ratio, therefore there is a scope for academicians to include other various factors to extract more meaningful results. It is evident from the results of the study that the ability of selected factors as a unit to determine the dividend payout ratio is good but still, there is a need of adding more company selected variables, therefore there is vast room for future research.

**References**


Daniel (2007), ‘Do Firms Manage Earnings To Meet The Dividend Threshold?’


