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## Factors Influencing Corporate Dividend Payout Decisions of Financial and Non-Financial Firms

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### Abstract

We examine the determinants of dividend policy of firms listed on Karachi stock Exchange and are part of KSE-100 index. Using panel data of 100 financial and non-financial firms over the period 2007 to 2009 we have found that liquidity, leverage, earning per share, and size are positively related to dividend, whereas growth and profitability are found to be insignificant determinant of dividend policy. The results from probit model estimation reveal that earning per share, company profitability, and size increase the probability of companies to pay dividend, whereas growth opportunities decrease the probability of paying dividends. Data is compiled in two different forms, as per the requirement of the two models used in this study. On the first set of data, panel OLS Regression is used. All financial factors, as independent variables, are calculated in terms of percentage except for the sales which is in log form. Whereas dependent variable D<sub>it</sub> is also used in percentage of dividend paid per share. Secondly, data set is constructed so as to apply probit model where we categorize firms among dividend-paying and non-dividend-paying, and all independent variables are taken as three years averages.

Keywords: Karachi Stock Exchange, Dividend Irrelevance Theory, Probit Model

JEL Classification: G32, G35

### 1. Introduction

Since Miller and Modigliani (MM) presented debt irrelevance theory (DIT, dividend policy has become one of the most researched topic in financial economics. This theory discloses that firm value and shareholders' wealth are not related to the decision of whether or not the firm pays dividend. But on the other side Bird-in-the Hand theory strongly suggest paying dividend (see for instance Linter, 1956; Gordon, 1956; Fisher, 1961; and Gordon and Brigham, 1968). There are several researches on dividend policy till date, which deal with different aspects of the policy. Stability of dividend is an important decision to be made by any firm just like other decisions made. Brealey and Myers (2005) listed top ten problems that are unresolved in advance corporate finance and one of them is dividend policy. In empirical literature one of the important issues that are investigated intensively is to find the factors affecting firm's dividend policy. Among the factors industry specific and anticipated level of future earnings is found to be the major determinant of dividend policy Baker and Powel (1999). It is noteworthy that dividend policy is not only influenced by internal factors but external factors also play significant role (Jensen & Johnson, 1995; Jensen & Smith, 1984; Lintner, 1956). Internal factors include investment opportunity, profitability and liquidity, whereas among external factors, macroeconomic problems like growth, stability, change in technology, and change in consumer taste are most important Roberto (2002). Despite the importance of the issue limited number of research studies is available for a developing country like Pakistan. Most of the studies are conducted in developed markets and countries. This research aims at investigating the issue of dividend policy in Pakistan-an emerging

market economy. Pakistan was acknowledged as one of the twenty potential rising market acknowledged by IFC (Institute of Financial Consultant) in 1991. After going through different lapses in 1990's it has re-gained momentum after 2002 Previous studies related to Pakistan show that dividend announcement affects the share price and market efficiency Akbar & Baig (2010). Ahmed & Attiya (2009) find that dividend policy is affected by earning per share (EPS) and by previous dividend per share. The study is limited to non-financial firms only.

This study aims at finding specific financial factors affecting dividend in Pakistan. In our previous work Gul et. al., (2012) on determinants of dividend policy we have only taken the banking industry of Pakistan and the sample size was only 18 banks. Here we have extended the work to non-financial firms also and include firms from other financial sectors and used a large sample size. So the objective is to examine whether or not there exists any relationship among different financial characteristics and decision regarding dividend payments. More specifically we investigate the effect of financial variables and ratios like profitability ratio, liquidity ratio, efficiency ratio, investment, companies risk and companies size on firm's dividend policy. For this we use data over the period 2007–09 for 100 companies listed at Karachi Stock Exchange and are part of KSE 100 index. We conducted the analysis in two stages. In the first stage we used panel data least squares method to estimate the effect of financial ratios on dividend payments. In order to ensure the validity of these results we estimated the regression as model with dichotomous variable as dependent variable, Long (1997). This methodology has an advantage of estimating probability of paying dividend due to each of the above mentioned factors. Rest of the study is structured as follows: the following section discuss literature review related to the financial factors and dividend policy. Third section consists of theoretical framework followed by fourth section which describes data, model and methodology. Data interpretation and results are discussed in the fifth section. Finally the sixth section concludes the study.

## 2. Literature Review

Controversies exist among many studies and research is conducted on several topics on cash dividend policy. Given in a perfect capital markets, worth of a firm is not influenced by dividend decision and is considered irrelevant Miller, Merton & Franco (1961). Miller & Merton established their proposition, but below a set of limitations assuming that Zero flotation, Zero taxes and transaction costs. Their independence will be observed between systematic information, dividend policy and equity costs. Most of the financial researcher and academics acknowledged this theory with a surprise because previous researches focused and suggested that share price and shareholder equity is affected if dividend policy is properly managed, similarly structure of a capital is affected by cash dividend Gordon (1959). Different researches have explained that the disputed dividends are outcomes of bird-in-hand theory. The bird-in-hand means cash dividends, in comparison it considers birds-on-the-bush (capital gains). This theory states that investors prefer cash dividends over capital gains. This leads firms to lay high dividends which will result the increase in value of shares. All these theories prescribe the financial managers with a diverse approach. There is no single perfect dividend payout policy. The firms should adjust higher dividend payout ratios so that the stock prices can be raised. Many empirical studies afterwards proved that the results gained from the researches were not consistent. The other relevant dividend policy theories are mentioned in the below table:

### (Insert Table 1 Here)

Several hypotheses were developed afterward to prove the relationship among dividend policy and capital structure of organization, dividend announcement and share price relationship is not apparent (Litzenberger & Ramaswamy, 1982; Black, 1976; Miller, 1986; Dempsey, Laber & Rozeff, 1993; Bernstein, 1996; Holder, Langrehr & Hexter, 1998; Van Horne, 2001; Brealey & Myers, 2002; Brigham & Gapnskil, 2002). According to Fama & French (2002) three characteristics affecting dividend decisions are: the investment opportunity, the yield and the company's size. Manao and Nur (2001) investigated the relation between financial ratios and stock returns during the time period of economic crisis in Indonesia. They have found that EPS have significant influence on dividend payout in all models. In a report by (Baker *et al*, 2007) it was stated that many Canadian firms paying dividends are remarkably larger in size with higher profits. They are having huge positive cash flows, greater ownership structure and also available with some growth opportunities. In Australia and Japan a study was held on dividend policy by Ho (2002). This study instituted that dividend policy is positively affected by size in Australia and by liquidity in Japan. It has negatively affected by risk in Japan only. Moreover the industry effect is found to be significant in both the countries. In Greek firms the effect of size of firms and dispersed earnings to its dividend policies was determined by Eriotis (2005). It was concluded that the dividend polices are determined not only by dispersed earnings but also by the variation in dividend. Similarly numerous studies revealed that large companies have better opportunity to raise funds comparatively at lower cost as they have greater right of entry to capital markets. That's why they don't depend much on internal funding and more likely pay their shareholders higher dividend (Fama and French, 2001;

Holder *et al*, 1998; Redding, 1997; Eddy and Seifert, 1988). From previous studies positive bond is anticipated among dividend pay-out ratio and Size because larger firms face higher agency costs and inferior issuing costs. (DeAngelo *et al*, 2004) focused on why the firms pay dividends? This study was based on dividend policy, agency cost and earned equity. It concluded that there is a significant relationship between the choices to pay or not to dividends and the profitability, cash balance, firm size, leverage, growth and dividends paid in past. Study by Amidu and Abor (2006), examined determinants of dividend policy in Ghana. After study outcome they concluded that the profitable firms tend to disburse more dividends. They found a positive association between the dividend payout ratio, cash flows, profitability and corporate tax. They also showed that highly liquid firms pay more dividends; on the other hand negative relationship was found between growth, market to book value risk and payout ratio. The signaling theory and trade off theory hypothesis were used to clarify the observed performance of the companies listed on Bombay Stock Exchange (BSE) by (Reddy, 2006). The determinants of dividend policy of Indian corporate companies were examined in this study. Theory of Tax preference doesn't show to be right for Indian firms, because of the increased costs of external financing the growing companies utilize funds which are internally generated to finance their investments projects; it leads them to pay low dividends. In comparison companies with fewer investment opportunities and slow growth have a greater ability to pay higher dividends. This negative relationship has been supported by a large number of studies (Holder *et al*, 1998; Moh'd *et al*, 1995; Alli *et al*, 1993; Dempsey & Laber, 1992; Jensen *et al*, 1992; Rozeff, 1982;). This negative association among company dividend payouts and growth opportunities is steady with Myers and Majluf (1984) the pecking order theory. Investigation by Al-Malkawi (2007) examined the dividend policy determinants by utilizing the panel data of publically operated companies listed during 1989 and 2000 on Amman Stock Exchange. Tobit model specification results suggested that percentage of stock held by state ownership and insiders considerably affect dividend payout ratio. While size, age and profitability were found to be the determining aspects of Jordan dividend policy.

Ayub (2005) studied the impact of firm specific factors on corporate dividend payments. Out of 180 companies listed at KSE during 1981 to 2002 only 23% of companies transform their incremented profit into dividend. After attaining certain level of growth from additional investment from profits companies start paying dividend. He also determined liquidity as negatively whereas profitability, insiders' ownership and retained earnings as positively related with payment of dividend. A recent study conducted in Pakistan by Ahmad and Attiya (2009). The results showed a trend that Pakistani companies fix their dividend payments through past dividends and current earnings. Second analysis of determining factors of dividend payout showed that more dividends are paid by stable companies. Ownership concentration and market liquidity are positively related with dividend payout ratio but Growth opportunities had no impact on dividend payment and size of the firms found to be negatively correlated. Similar research was conducted by Afza & Mirza (2010) on ownership structure and cash flows as determinates of dividend policy. They have found positive relation of operating cash flow and profitability to dividend policy whereas negative relationship was determined for ownership, cash flow sensitivity, size and leverage. Regarding ownership structure, Ayub (2005) argued that increased ownership by managers increases the corporate dividend payouts because in Pakistan majority of companies have concentrated family ownership structures that's why management practices are not strongly monitored. Shah, Yuan & Zafar (2010) conducted their study in the context of Pakistan and China to express the impact of earnings management on dividend policy. The results of research indicated that there is no such impact exists. Study conducted by Ayub (2005) focused on the role of corporate governance relation with factors in designing dividend policy, whereas, Ahmed and Attiya (2009) investigated the impact of general corporate characters on dividend payouts. But there is no comprehensive study on the aspect that what is the probability for dividend paying firms in Pakistani economy. In 2002, the Code of Corporate Governance was introduced by SECP. It leads to an improved significance in investigating the dividend behavior of the firms.

## 2.1 Theoretical Framework

### 2.1.1 Model 1

We start with the regression model proposed by Fama and French, (2001); Aivazian, Booth & Cleary, (2001). The model is given as:

$$D_{it} = \alpha_i + \sum \beta_j X_{ijt} + \varepsilon_{it}$$

$$D_{it}^* = f(\text{CR, QR, LEV, PROF, SIZE, GROWTH, EPS})$$

$t=1, 2, 3, \dots, T$  is the subscript for time and  $i=1, 2, 3, \dots, N$  for cross sectional units; The dependent variable  $D_{it}$  is continuous and is the amount paid as dividend by company  $i$  in period  $t$ .  $\alpha_i$  Capture firm specific effect and  $X_{ijt}$  is the independent variable  $j$  for company  $i$  in year  $t$ .  $\beta_j$ s are the coefficients of the independent variables and  $\varepsilon_{it}$  is the error term. The final version of the model in estimable form is given as:

$$D_{it}^* = \beta_1(\text{profitability})^* + \beta_2(\text{liquidity})^* + \beta_3(\text{leverage})^* + \beta_4(\text{growth})^* + \beta_5(\text{size})^* + \beta_6(\text{eps})^*$$

This equation can be estimated by OLS as Fixed Effect Model.

### 2.1.2 Model 2

The second objective of this study is to investigate firm financial factors that lead to the decision to pay (or not pay) dividends. The suitable model with such a dependent variable is to use binary probit or logit model Long (1997). The general specification of the model is as follows:

$$D_i = \beta X_i' + \varepsilon_i$$

Where  $D_i$  is latent variable measuring firm's willingness to pay (or not pay) dividends;  $X_i$  is a  $(k \times 1)$  vector of observed explanatory variables;  $\beta$  is a  $(k \times 1)$  vector of unknown parameters to be estimated; and  $\varepsilon_i$  is the random error term that has a normal distribution with a mean of 0 and a constant variance. The latent variable  $D_i$  is linked to the observed binary variable  $D_i^*$  by the following measurement equation

$$y_i^* = \begin{cases} 1 \rightarrow \text{if } D_i > \phi \\ 0 \rightarrow \text{if } D_i \leq \phi \end{cases}$$

Where  $\phi$  is the threshold? The probability that the outcome is 1 can be expressed as:  $\Pr(D_{it} = 1; X) = \Phi(X\beta')$ .  $\Phi$  is the cumulative distribution function for the standard normal distribution? The parameters included in  $\beta$  are typically estimated by the maximum likelihood method. Coefficient of correlation will be calculated by using various financial variables beside the dividend yield to determine the relationship between them. After determining their relation characteristics of non-dividend-paying firms and dividend-paying firms, we will determine how strong the relationship of the financial variables is with dividend policy.

## 2.2 Independent and Dependent Variables

### 2.2.1 Dependent Variable

Dependent variable used for this research is of two types. In the first model amount of dividend declared by the firm is used. Dividend yield declared is in percentage each year, as ratios are calculated in similar unit so we have used the data as percentage for dividend payout as well. For second model, we used latent variable for dividend by dividing firms into dividend payers and non-dividend payers. If a firm paid dividends in a specific year, the dependent variable is 1, otherwise, it is 0. The company which paid dividend for two years or more continuously during the study period (2007–2009) is treated as dividend paying company.

### 2.2.2 Independent Variable

#### 2.2.2.1 Profitability

It is an important explanatory variable of dividend policy (Fama and French, 2001; Han *et al*, 1999). Return on assets, selected as profitability of the firm is defined as Net Income divided by Total Assets. According to (Belanes

*et al.*, 2007) the relation between return on asset and the dividend payout is found to be positive, in case of the Tunisian companies. Jakob and Johannes (2008) in their study on dividend policy in Denmark found that the dividend payers in Denmark are affected by positive earnings, high ROE, large size and high retained payment in last year but no relationship is found between market to book ratio, leverage ownership structures and dividend decision in Denmark.

H0: Profitability positively affects the dividend policy

H1: Profitability does not affect the dividend policy

#### 2.2.2.2 Liquidity

Liquidity is one of the important considerations in dividend decisions, because dividend represent cash outflow. The greater the liquidity of a company by having stable cash flow greater its ability to pay a dividend. Company going through development and growth may not be liquid because its funds may go into permanent working capital and fixed assets. Companies desire to maintain liquidity up to certain level in order to provide cushion to provide financial flexibility and protection against uncertainty. So in order to avoid uncertainty they may be reluctant to jeopardize this position by paying dividend. In current study Current Ratio (CR) and Quick test Ratio (QR) are used to measure liquidity. CR is most commonly used variable where as QR is more conservative measure of liquidity. According to the literature bulk of results explains that there is positive relationship present between liquidity and dividend payout behavior (Jakob & Johannes 2008; Amidu & Abor 2006; DeAngelo *et al.*, 2004; Ho, 2002; La Porta *et al.*, 2000);

H0: Liquidity positively affects the dividend policy

H1: Liquidity does not affect the dividend policy

#### 2.2.2.3 Leverage

Debt always involves high risk as it must be paid off. However, it allows companies to manage return on equity for shareholders. High financial leverage is associated with risk, so highly leveraged companies pay lower dividends to protect creditors and maintain internal cash flow to fulfill their responsibility. That is, highly leveraged firms pay lower dividends to reduce their transaction costs (Gugler & Yurtoglu, 2003; Agrawal & Jayaraman, 1994; Crutchley & Hansen, 1989; Jensen, 1986; and Rozeff, 1982). This suggests that non-dividend paying firms have high leverage in comparison to dividend paying firms. To determine the extent to which liabilities or debt can affect the pattern of dividend paying; this variable is included as one of the independent variables and is defined as total debt to total equity. Hypothesis formulated is as follow:

H0: Financial leverage does not affect the dividend policy

H1: Financial leverage affects the dividend policy

#### 2.2.2.4 Growth

Signaling theory showed that it is smoother for higher growth firms to payout dividends to the shareholders. This signals shareholders that the firms having high growth opportunities. Chen & Dhiensiri (2009) found that in Newzeland firms that practice recent development in revenues has a tendency to disburse lower dividends. We have used percent age change in sales annually as proxy for the growth.

H0: Firm sales growth does not affect the dividend policy

H1: Firm sales growth affects the dividend policy

#### 2.2.2.5 Company Size

Scott & Martin (1975) stated that the firm size is one of the significant factors which affect the firms' debt and dividend policies. Bradley *et. al.*, (1998) conducted a study on a sample of 75 Firms. The data from year 1985-1992 was tested. The results proved that the firms with high expected cash flow risk have lower payout ratio. The firm size has also been accounted for as firms' total sales.

H5: Size of the firm does not affect the dividend policy

H05: Size of the firm affects the dividend policy

#### 2.2.2.6 Earnings per Share (EPS)

There is another independent variable used i.e. Earnings per Share (EPS). EPS after tax is used because dividend has been paid earning after interest, taxes and after depreciation and calculated as net earnings divided by number of shares. Following will be the hypothesis for EPS in our study:

H0: Earning per share does not affect the dividend policy

H1: Earning per share affects the dividend policy

**(Insert Table 2 Here)**

### 3. Data & Methodology

Sample data used for analysis is taken from KSE-100 listed companies over the period 2007 to 2009. The data has been collected from KSE, SECP, State Bank of Pakistan and the Audited Annual Reports from companies' official websites. Audited Annual Accounts of all the companies during 2007 to 2009 has been mostly considered for calculation of financial variables. Total number of observations for each variable is 100 per year. The objective of the study is to test whether there is difference among the financial characteristics of the companies adopting dividend paying policy (DP) and companies that do not have such policy (NDP). For this purpose t-test is used to verify whether or not there is difference in average ratios of two types of firms. Data is compiled in two different forms, as per the requirement of the two models used in this study. On the first set of data, panel OLS Regression is used. All financial factors, as independent variables, are calculated in terms of percentage except for the sales which is in log form. Whereas dependent variable  $D_{it}$  is also used in percentage of dividend paid per share. Secondly, data set is constructed so as to apply probit model where we categorize firms among dividend-paying and non-dividend-paying, and all independent variables are taken as three years averages.

#### 3.1 Empirical Results

In this section we have identified firms' characteristics that lead to a policy regarding dividend. This study has been analyzed into two parts as:

- Firstly, the regression analysis is used to analyze the effect of different financial variables on dividend, measured in percent.
- Secondly, the impact of financial factors on the probability to pay dividend, is estimated.

##### 3.1.1 Number of Dividend and Non Dividend Paying Companies

The company which paid dividend for two years or  $>2$  years during the study period (2007 –2009) is treated as dividend paying company, otherwise non-paying company. Out of the 100 companies, 24% are declared as non-dividend-paying, while the remaining 74% of firms are dividend-paying firms. If we analyze the dividend paying behavior during each year we observed that in recent years the trend of paying dividend is decreasing as shown in table 3:

**(Insert Table 3 Here)**

##### 3.1.2 Descriptive Statistic

Table 4 presents the descriptive statistics for the variables, included in the models to examine the dividend policy of companies. The mean of the current ratio and quick ratio indicates that the firms distributed an average of 185 & 152 % liquidity. The standard deviation of both variables was 462.4 & 454 % suggesting that the liquidity was highly dispersed. Overall results determined for the variables are similar that data has variability and high dispersion. The highest dividend paid during this time period is 100 %.

**(Insert Table 4 and 5)**

From Table 5 we can see that banks are the more consistently dividend paying sector among all the sectors as among 16 banks, 12 banks are paying dividend on average.

##### 3.1.3 Correlation Analysis

Results in table 6 show that most of the exogenous variables are having coefficient with weak magnitude. Relationship among dependent variable and independent variable is weak, except EPS. Dividend payout has strong relationship with coefficient 0.609 with EPS which is strong among all exogenous variable. QR and CR are strongly positively correlated 0.99 as both of them represent liquidity of firm; change in CR ratio strongly affects QR. ROA and ROE are moderately positively related with DIV and among themselves as well. Therefore it is revealed that the

correlation coefficients were low (all < 0.500) multi-collinearity does not seem to pose a serious problem in our study.

**(Insert Table 6 Here)**

#### 3.1.4 Results of Regression

Table 7 presents the results of the OLS Regression with dividend paying behavior as the dependent variable and financial factors as independent variables. Model's significance was tested from F-statistics which showed probability of 0.000. The value of R-Squared and adjusted R-Squared, are 0.87 and 0.85, respectively. The variables with 95% statistical significance are liquidity, firm size, firm leverage and firm profitability. The insignificant variables are growth rate and profitability. The results of the estimated equation are given in table 7, below.

**(Insert Table 7 Here)**

First variable under consideration is liquidity proxied by current ratio and quick ratio. Mixed results are observed in the study as current ratio has positive but quick ratio has negative impact. Results are in accordance with the empirical evidence as majority of previous studies showed that there is positive relationship of current ratio with dividend policy. Current ratio is considered to be the important ratio for calculation of liquidity but for high liquidity we included quick ratio as well, for more robustness. If a firm has a good liquidity position, it does not mean that it will pay higher dividend. That's why relation is inverted in the context of Pakistan, where dividend will be lower, if a company has a positive working capital. Expected relation of leverage ratio is positive and significant with dividend paying behavior. Showing importance of Debt Ratio in determining dividend policy which is in line with the results reported by Mayers and Frank (2004) but contradicts the results reported by (Baker et. al. 2007; Ahmed and Attiya 2009; Ayub 2005) presenting lesser importance of Debt Ratio. They argued that the public debt market is not well established in Pakistan and majority of loan are sanctioned on socio-political basis and such loans are sanctioned only for a particular project and are not contributed in capital employed by the company. Therefore, debt cannot be considered as having a direct bearing on the corporate dividend policy in Pakistan. Profitability is the next independent variable where two variables are used as proxy. Return on Assets shows negative relation with dividend but is insignificant; on the other side Return on Equity is significant and positive in relation with dependent variable. Companies usually attempt to maintain balance in their debt/equity ratios before making any dividend distributions, which demonstrates that they decide on dividends only if there is enough money left over after all operating and expansion expenses are met. Under the corporate law, a corporation can only pay dividends out of retained earnings which is basically the sum of all previous profits. Size is next independent variable having significantly positive relationship with dividend behavior. Literature shows mixed results on the relationship of size and dividend paying behavior. Majority of researchers have reported there is positive relationship of size with dividend payouts (Stacescu, 2006; Al-Malkawi, 2007) while others have revealed negative relationship (Naceur, 2006; Avazian et. al., 2006; Ahmed and Attiya, 2009). The coefficient of Growth is negative and insignificant suggesting that firms experiencing growth in revenue have negative impact of dividend paying behavior but it's not significant. Similar result from growth sales was observed by Anil & Kapoor (2008). This clearly indicates that growth is not important factors that influence the dividend payment behavior of firms. EPS show's a positive and significant relation with dependent variable, which shows that high earning per share leads to high dividend paying behavior. All the variables liquidity, leverage, profitability, growth and financial return were significant so related hypothesis are supported except the size of firm.

#### 3.1.5 Results from a Probit Model

For estimation through Probit model the company which paid dividend for two years or more during the sample period of 2007 to 2009 is treated as dividend paying company, otherwise non-paying company. Table 8 presents the results of the probit regression with dividend paying behavior as the dependent variable and financial factors as independent variable. Significance of model was tested from F-statistics which showed probability of 0.000. Dependent variable in the study the firm's willingness to pay a dividend - is a latent variable, it would be more interesting to interpret the partial change in the probability that a firm has paid a dividend or not. This is known as the marginal effect.

Log likelihood = -26.725695 for probit model with F-Statistic Prob > chi2 = 0.0000.

Equation for Probit probability

$$y = \text{Pr}(d\_avg) (\text{predict}, p)$$

Table 8 illustrates the marginal effects of the probability of being paid a dividend for changes in the explanatory variables. For instance, the marginal effect for the probability of a current ratio effect on dividend paying is positive and 1.43% higher than non-paying firms and for quick ratio probability of dividend paying firm decreases by 1.53%. Which means that if one unit (per cent) current ratio increases it will increase the probability of paying dividend by 1.43%. Current ratio being the more dominant proxy of liquidity shows that high liquidity firms tend to pay more dividends.

**(Insert Table 8 Here)**

So it's revealed that for higher liquidity quick ratio have decreasing impact on dividend paying firms. For leverage ratio the probability increase's for dividend paying firms by 0.5%. ROA and ROE also increase the probability of paying dividend by 0.6% & 0.5% respectively. This can help us to determine that profitability is not highly significant factor to differentiate between dividend and non-dividend paying firm. Similarly growth opportunity and leverage tend not to be a significant factor but is lower as compared to non-dividend paying firms. On the other side earning per share and Size of firm are significant. Which states that there is a probability that firms will pay 3.66% and 12.40% dividend on the basis of above mentioned two variables (i.e. earning per share and size) respectively. Results of this probit model are similar to what we get in OLS regression. Level of significance and relationship is similar in almost all the independent variables. High liquidity firms tend to pay more dividend as dividend is a significant factor with positive relation with dividend payout. Where debt to equity ratio has also positive relation with dividend policy, low debt to equity ratio is positive sign for firm as it will decrease their liabilities. So low leverage ratio lead to pay more dividends, where as firms with high leverage ratio tends to pay low dividend. Profitability is not a significant variable to affect the dividend payout policy but yet dividend firms with low profitability are likely to pay dividend as it sends positive signal to the market. Similarly growth is insignificant variable for dividend payout with negative relationship, and probability for growth firm to pay dividend is low. EPS and Size of firm are significant and probability of dividend paying firm is greater with high co-efficient value. The results of this study, in terms of the signs of the coefficients, the predicted probabilities and the marginal effects, would facilitate the identification of factors that are influencing the decision of whether or not to pay dividends to shareholders of firms listed on the Karachi stock exchange

#### 4. Conclusion

Dividend paid at appropriate time has a positive impact on reputation of company. Corporate dividend paying companies in Pakistan are very low as compared to other emerging economies. In last six years, the numbers of dividend paying firms has reduced. If we look at the number of companies that are not paying dividends in last three years, this number has increased from 23 to 33. Finally after analyzing the results we can determine that profitability, liquidity, earning per share and size of the firm positively affects the probability of paying dividend so we fail to reject Null Hypothesis, whereas firm sales growth has negative impact on the probability of dividend payment so in case of sales growth we also fail to reject null hypothesis. But for financial leverage we reject null hypothesis as financial leverage has negative effect on probability of paying dividend. The first part of the study, (Fama and French, 2001; Aivazian, Booth & Cleary, 2001) proposed model was used to determine the financial factors affecting the dividend payout policy of the firm. The second part of the study was conducted through probit model proposed by (Long, 2007; Al-Kuwari 2010) to evaluate the probability of dividend paying and non dividend paying firms. Results obtained are consistent to the previous studies done on dividend determinants and probability for dividend payers and non-prayers. Growth rate declined 5.8% in 2008 and Pakistan's economy was hit by the worst crises of its history driven by energy shortage, disappointing harvest in key cash crops and policy uncertainty during the transition of the government. External and internal factors affect the decision of paying dividends. The non-financial segment companies listed at KSE illustrated comparatively healthier performance during the year 2009. Positive financial position has been seen for paper & board and cement sectors whereas a depression is seen in textile, engineering and other sectors.

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Table: 1 Theories

Theories		Description
The Signaling Theory	(Miller and Rock, 1985; McNally, 1999)	Conveying positive information which is signal of the insiders' private information about firms' future earnings.
The Earnings Management Theory	(Bens, Nagar, Skinner & Wong, 2003)	The repurchases of shares were affected by a firms' own desire to manage earnings.
The Asymmetrical Information Theory	(Sanders and Carpenter, 2003)	The information enclosed in the statement of a stock buyback is management's announcement of something valuable. It is usually unknown to the investors.
The Agency Theory	(Jensen, 1986)	The Firms with surplus cash and inadequate or meager investment opportunities can face considerable agency costs if the surplus cash has not been dispersed to Stockholders.
The Free Cash Flow Theory	(Nohel and Tarhan, 1998, Grullon and Ikenberry, 2000)	To invest in their own shares when there aren't any investment prospects with good profits and also excess cash is available.
The Efficient Market Hypothesis	(Sander and Carpenter, 2003)	Stock prices react efficiently and instantly in a neutral way to the fresh information conveyed in the announcement.

Table: 2 Explanation of Variables

Sym	Variable description	Proxy	Expected Relationship
Dependent Variable			
D	Dividend Payout Each Year	Dividend Behavior	
Independent Variables			
CR	Current Assets/Current Liabilities	Liquidity	Positive
QR	Current Assets-Inventory/Current Liabilities	Liquidity	Positive
DTE	Total Debt/Total Equity	Leverage	Negatively
ROA	EBT/Total Assets	Profitability	Positive
ROE	EBT/Total Equity	Profitability	Positive
Size	Natural Log of Sales	Size	Positive
SG	$\Delta$ Sales /last year sales	Growth	Negative
EPS	Net Profit/ No. of Ordinary Shares	Profit Return	Positive

Table: 3 Number of Dividend and Non Dividend Paying Companies

Dividend Behavior	2007	2008	2009
Dividend Payer's	77	76	67
Non-Dividend Payer's	23	24	33
Total Companies	100	100	100

Table: 4 Descriptive Statistics

	DIV	CR	QR	DTE	ROA	ROE	SG	EPS	TS
<b>Mean</b>	86.14	185.57	152.45	256.59	9.92	23.35	109.01	15.32	8.77
<b>Median</b>	32.50	104.00	76.70	84.00	6.50	18.40	12.80	6.10	9.19
<b>Std. Dev.</b>	163.15	462.42	454.56	636.40	19.16	159.52	171.11	33.22	2.50
<b>Skewness</b>	3.66	10.41	11.08	5.74	-1.38	1.30	17.15	1.37	-1.83
<b>Kurtosis</b>	17.87	127.41	139.44	42.14	17.39	120.10	295.76	12.91	6.82
<b>Obs</b>	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00

Table: 5 Sector wise Distribution of KSE-100

Sr#	Sector Name	DP	NDP	Sr#	Sector Name	DP	NDP
1	Oil and Gas	7	1	17	Tobacco	2	0
2	Chemicals	6	2	18	Pharma and Bio Tech	2	0
3	Forestry and Paper	1	0	19	Media	0	1
4	Industrial Metals and Mining	1	0	20	Travel and Leisure	1	2
5	Construction and Material	2	5	21	Fixed Line Telecommunication	1	1
6	General Industrials	4	1	22	Electricity	3	1
7	Electronic and Electrical Equipment	1	0	23	Gas Water and Multi-utilities	3	1
8	Industrial Engineering	2	0	24	Banks	12	4
9	Industrial Transportation	2	0	25	Non-Life Insurance	4	0
10	Support Services	1	0	26	Life Insurance	2	0
11	Automobile Parts	3	0	27	Real Estate Investment and Services	1	0
12	Beverages	1	0	28	Financial Services	2	0
13	Food Producers	4	0	29	Equity Investment Instruments	0	1
14	Household Goods	1	0	30	Software and Computer Services	1	0
15	Leisure Goods	1	0	31	Technology Hardware and Equipment	0	1
16	Personal Goods	4	2		Total Companies	74	26

Table: 6 Correlation Coefficients of the Tested Variables

Items	DIV	CR	QR	DTE	ROA	ROE	SG	TS	EPS
DIV	1.00								
CR	-0.01	1.00							
QR	-0.03	0.99	1.00						
DTE	0.08	-0.09	-0.07	1.00					
ROA	0.32	-0.11	-0.14	-0.06	1.00				
ROE	0.32	-0.02	-0.03	0.22	0.34	1.00			
SG	-0.03	0.00	0.00	0.02	-0.07	-0.04	1.00		
TS	0.16	-0.11	-0.11	0.05	0.19	0.03	0.02	1.00	
EPS	0.61	0.01	-0.01	-0.09	0.45	0.19	-0.03	0.10	1.00

Table: 7 Regression Results of Model I

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-34.321	27.193	-1.262	0.208
CR	0.326	0.137	2.373	0.018
QR	-0.333	0.140	-2.381	0.018
DTE	0.023	0.012	1.919	0.056
ROA	-0.408	0.456	-0.896	0.371
ROE	0.202	0.050	4.083	0.000
SG	-0.001	0.004	-0.257	0.797
EPS	2.785	0.245	11.373	0.002
TS	7.038	2.942	2.392	0.017
R-squared	0.874	Durbin-Watson stat		2.286
Adjusted R-squared	0.850	Prob (F-statistic)		0.000

Table: 8 Probit Results of Model II

Variable	dy/dx	Std. Err.	Z	P> z	[ 95% C.I. ]	X
Cr	0.014	0.001	1.390	0.165	-0.001 0.003	195.002
Qtr	-0.015	0.001	-1.380	0.167	-0.004 0.001	161.123
De	0.006	0.000	1.040	0.299	0.000 0.000	305.008
Roa	0.006	0.002	0.380	0.705	-0.003 0.004	10.295
Roe	0.005	0.001	0.630	0.526	-0.001 0.002	24.897
Sg	0.000	0.000	0.470	0.635	0.000 0.000	118.285
Eps	0.004	0.003	1.350	0.178	-0.002 0.009	16.609
Insa	0.012	0.012	1.030	0.301	-0.011 0.036	8.970

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