

## IMPACT OF DIVIDEND ANNOUNCEMENT ON STOCK PRICE EVIDENCE FROM KARACHI STOCK EXCHANGE

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### ABSTRACT

*This study has been conducted to investigate the stock price behaviour around dividend announcement day in Karachi Stock Exchange. The literature suggests the mix trend in stock price around dividend announcement. This area in finance has been subject of extensive research since Miller Modigliani's (1961) seminal paper. The impact of dividend announcement on stock price has been explored in number of ways. Despite of extensive research, dividend puzzle is still unresolved. In some circumstances stock price alone cannot interpret, dividend announcements' impact properly. This study examines whether dividend announcement signals any information about future prospects of company and how investors react towards dividend announcement.*

*This study is based on companies listed at KSE 30 Index during 2007 to 2009. The sample of 19 companies has been selected on the basis that companies are listed at KSE 30 Index throughout the study period. The study has followed event study methodology and market adjusted abnormal return (MAAR), cumulative abnormal return (CAR) and abnormal volume ratio has been calculated over the event window of 41days bifurcated in 20 days before and after announcement. The findings from the study reflect that price movement on announcement day is insignificant. Average MAAR on dividend announcement day is 0.003142% with t-value of -0.29355 which is not statistically significant. Cumulative abnormal return, reflect that investors have loosed, value of their investment on dividend announcement day. The CAR on dividend announcement day is 0.0268% with t-value of -0.154.*

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### INTRODUCTION

Dividend policy has been subject of extensive research since Miller and Modigliani (1961) seminal paper, suggesting irrelevance of dividend payout on value of firm. The issue "Why Companies Pay Dividend?, when there is no obligation on

companies to pay dividend on common stocks, an extensive amount of studies have been conducted to resolve puzzle of dividend policy, but no consensus has reached among the researchers. Dividend payout is still an open issue, which is yet to be resolved (Kaleem and Salahuddin 2006).

The empirical research supports the view that change in company's dividend payout has an effect on stock price. A questionnaire survey of investor conducted by Arnold and Moizer (1984) concludes that dividend plays an integral part in the evaluation of current value of share. While setting the dividend pay-out (Linter 1956) through interviews of financial managers, great care is taken. In addition, studies on dividend policy are of the views that stock price react to dividend news; news of increase dividend likely correlates with share price increase, whereas dividend decrease is usually associated with fall in share price (Petit 1972). Despite of several studies conducted to solve the dividend puzzle, it has not been conclusive and the words of Fisher Black (1976) are still valid today: "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together".

This study will investigate the correlation between dividend announcement and stock price of companies listed at Karachi Stock Exchange 30 Index. Mestel, *et.al.*, (2006) describes that investigation of stock price in relation to dividend announcement will give the broader perspective of how investors react to news on dividend announcement.

#### **OVERVIEW OF KARACHI STOCK EXCHANGE**

Karachi stock exchange (KSE) is one of the oldest stock market among emerging countries and it is first equity market in Pakistan established in September 1947 (Iqbal, et al., 2008). It is also one of the first emerging stock market, eliminating the trading restriction for international investors (Hameed & Ashraf, 2006).

There are currently three Stock Exchanges currently functional in Pakistan. Out of three Stock Markets, Karachi Stock Exchange is the premiere Stock Exchange of the country, with 652 listed companies. The other two independent stock markets

currently operating, Islamabad Stock Exchange (ISE) and Lahore Stock Exchange (LSE), were established in 1989 and 1974 respectively. Iqbal, *et.al.* (2008) estimates that approximately 85% turnover occurs at KSE, 14% at LSE and remaining 1% at ISE.

The Karachi Stock Exchange is maintaining four stock indices, which are: KSE 100 Index, KSE 30 Index, KSE All Share Index and KMI 30 Index. KSE all share and KSE 100 index are market capitalization index, whereas KSE 30 and KMI 30 index are free float capitalization index. KMI 30 index was launched on September 2008 and it operates according to the Islamic Shariah.

Free-Float of a security is defined as the amount of total shares outstanding that are deemed accessible for purchase in the Stock Exchange. It is commonly the shares held by Free-Float methodology mirror true position of liquidity available in market. This methodology is generally adopted globally by the major index like S&P, FTSE, SENSEX and STOXX (KSE, 2009).

KSE 30 index was introduced on June 2005 having base value of 10,000 index points. The index is calculated semi-annually by dividing 30 companies' free-float market capitalization by index divisor. There is preferential tax treatment of capital gain as compared to dividend income at KSE, up till today income from capital gain has been exempted from tax and whereas dividend income is taxed at the rate of 10%. This preferential treatment will lead to formation of clienteles. The investor in lower tax bracket will prefer income from capital gain rather than dividend income and investor in upper tax bracket will prefer vice versa.

Karachi Stock Exchange is the most liquid and biggest stock exchange of Pakistan, with market capitalization of PKR 2.14 trillion and average daily turnover of PKR 206 million (KSE, 2009). Karachi Stock exchange was ranked third by international finance corporation in 1992, and in 2002 *Business Week* (US news magazine) reported KSE as one of the best performing stock exchange in the world (Iqbal, *et al.* 2008).

## RESEARCH METHODOLOGY

Event study methodology has been used to collect and analyze data. This methodology has been selected because this study finds out the relationship of particular event (dividend announcement) on share price. Event study will be used to calculate Market Adjusted Abnormal Return (MAAR), Cumulative Abnormal Return (CAR) and Abnormal Trading Volume (AV).

The event period of study comprises of 41 days which can be bifurcated in 20 days before announcement and 20 days after the announcement date. In the selected sample most of the companies make quarterly announcement. So, for this reason post announcement period has been limited to 20 days only. The problem with considering longer event period after announcement was double counting of some data.

The announcement date in event period is labelled as time zero and the days before announcement are labelled as -1, -2....., -20. Whereas post announcement days are labelled as; +1, +2..... +20. At each event day market abnormal return and cumulative abnormal return for selected companies are calculated.

### Announcement Day

#### Pre announcement

#### Post Announcement

-20, -19, -18, ..... 0 ..... +18, +19, +20

Sample size selected for the study is composed of 19 companies from ten different sectors. The breakdown of sample companies according to sector is shown in table below:

| <b>DISTRIBUTION OF SAMPLE COMPANIES<br/>FROM DECEMBER 2007 TO AUGUST 2009</b><br><b>(All values in PKR)</b> |                         |                         |                         |                         |
|---|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Sector</b>   | <b>No. of companies</b> | <b>Minimum Dividend</b> | <b>Maximum Dividend</b> | <b>Average Dividend</b> |
| Commercial banks  | 3                       | 1.5                     | 30                      | 16.66                   |
| Insurance   | 1                       | 8.8                     | 8.8                     | 8.8                     |
| Textile composite   | 1                       | 7                       | 7                       | 7                       |
| Cement  | 2                       | 1.5                     | 5.3                     | 3.4                     |
| Refinery  | 1                       | 52.5                    | 52.5                    | 52.5                    |
| Power generation  | 2                       | 8.5                     | 8.5                     | 8.5                     |
| Oil and gas marketing   | 1                       | 49.5                    | 49.5                    | 49.5                    |
| Oil and gas exploration   | 3                       | 25.2                    | 39                      | 32.16                   |
| Telecom   | 1                       | 3.5                     | 3.5                     | 3.5                     |
| Fertilizer  | 3                       | 7.2                     | 33.1                    | 18.76                   |
| Chemicals   | 1                       | 16                      | 16                      | 16                      |
| <b>Total</b>  | 19                      | -                       | -                       | -                       |

#### **PERFORMANCE OF STOCK PRICE AROUND DIVIDEND ANNOUNCEMENT**

Dividend policy has been prominent issue in finance literature and has captured the attention of academics, chartist theorist and economist of this century. Dividend has been subject of extensive research to this day. Despite decades of pioneering studies by Linter (1956), Gordon (1959), Black (1976), Miller and Modigliani (1961), we have to yet discover the possible determinants of dividend policy and the way in which they interact.

Linter (1956) provides the first empirical study of dividend policy, in which he surveyed the managers to comprehend the way adopted by them to formulate the dividend policy. Linter found some exciting findings from the survey. Linter found that existing dividend paid by company forms a benchmark for the company's

next dividend and company management shows strong reluctance to cut the dividends. Miller and Modigliani (1961) opined that change in dividend policy might cause a change in clientele and this could be expensive.

Over the last century three schools of thoughts concerning the dividend policy have emerged: Michael (1970) considered as having a leftist view point, claim that dividend announcement has inverse relation with the stock price. The rightist's view (supported by Gordon, 1959; Linter, 1956; Graham and Dodd, 1951) claims that with the increase of dividends, stock price also increases. The third school of thought considered as the middle of the road approach (supported by Black and Scholes, 1974; Miller and Modigliani's, 1961; Miller and Scholes, 1978) claims that dividend policy is unrelated given the investment decision of firm; that is increase or decrease of dividend have no effect on stock price. There are controversies in both the dividend relevance and irrelevance arguments. Due to such controversy the corporate dividend policy remained mysterious and as Black (1976) rightly pointed it as one of the puzzles in corporate finance that need to be resolved.

The issue of share price performance around ex-dividend date is widely discussed in corporate finance theory. A large number of academics, researchers and economists have investigated the issue for decades to reach at the conclusion about changing performance of stock price around ex-dividend date. As Miller and Modigliani (1961) in their seminal paper show that in a perfect market with no frictions of taxes and transaction cost, share price on ex-dividend day should drop exactly by the dividend amount paid. Dasilas (2009) come across number of studies done in developed markets like USA, UK and Canada and other developing markets are significantly deviating from Miller and Modigliani (1961) prediction. In these studies it was generally found that share price on ex-dividend day decreases less than the amount of dividend paid.

Black (1976) finds no compelling answer to, why firms pay dividend? The markets in which dividend are heavily taxed as compare to capital. Miller and Modigliani (1961) were of the view

that investor should make there on dividend by selling their stock. Over the years a number of theorist and authors have developed number of contradictory theoretical models to explicate the dividend behavior. A number of theorists provided empirical evidence to clarify, why a firm should /should not pay dividends, or even why this choice may be irrelevant.

The pioneering work around ex-dividend day share price behavior was done by Campbell and Beranek (1955) using small sample of firms listed at NYSE found that on average share price falls by 90% as compared to the dividend amount. Elton and Gruber (1970) also found that on ex-dividend date price drop ratio of stock is less than one. Ever since then no researcher has found any decisive result.

The effect of dividend announcement on stock price has captured the attention of financial literature and researchers. The studies conducted by Wooldridge (1982), Kwan (1981) and Eades (1982) using dividend announcements made in isolation of other firm news reports, found significantly positive relationship between changes in dividend and stock return on announcement day.

The issue of informational content of dividend has been area of continuous interest in finance. The resolution of two hypotheses: dividend signaling and smoothing has yet to be determined. Dividend signaling suggests that past and current earning of company influence the dividend decision. Whereas dividend smoothing suggest that current dividend has prognostic power for future earnings (Goddard, et al., 2006). According to Allen and Michaely (2002) “the overall accumulated evidence does not support the assertion that dividend changes convey information about future earnings”, taxation is often thought to be influential in dividend signaling theory.

Over the years many theorists and chartists have proposed the arguments to validate the market response to dividend announcements. Miller and Modigliani (1961) were first to propose the argument that in a perfect market, dividend policy of the firm has no impact on value of firm. Keane (1974) points out that manger also use dividend policy to send the signals about

firm's policy of financing investment. In conjunction to this view Garver and Garver (1993) elaborate that firms with high (low) dividend payout signals the investor that a capital expenditure will be financed through external source (retained earnings).

Later on Miller and Modigliani (1961) realized that the model failed to take account of impact of informational content on dividend. They elaborated that change in dividend rate by the firm having good target payout ratio and stable dividend policy will be interpreted by investor as change in future prospects of the firm from point of view of management.

Miller and Rock (1985) were of the opinion that in the world of information asymmetry, dividend changes reflect the management's view about future prospect. Bhattacharyya (1979) found that in imperfect market with information asymmetry, managers use dividend as their choice to signal their knowledge about the distributional cash flow. In signaling equilibrium the good future prospect is signaled by the higher dividend and vice versa.

Wang (1994) explains that stock price of company can change due to two reasons: information about future prospects and dividend, and alteration in future opportunities of investor. The involvement of information in dividend announcement can be inferred by the movement of stock price. Eades, et al., (1984) interpret that before the ex-dividend date stock price follows an upward trend. While after ex-dividend date, stock price follows the downward trend. Gunasekarage and Power (2006) were of the view that upward (downward) trend in share return will be visible in dividend increasing (decreasing) companies before the dividend announcement and same trend is also expected in post announcement periods. Frankfurter and Wood (2002) also find empirical evidence about the positive relationship between share price and dividend announcement.

Market signaling is the primary factor influencing security return on the announcement day in case of change in dividend. Earlier studies have reflected that positive (negative) change in dividend announcement will result in positive (negative) change in common stock price (Woolridge 1980). Rantapuska (2008)



estimated three year abnormal return for NYSE firms during the period of 1971 to 1990. The findings of study clearly reflect the significant amount of price reaction to announcement of dividend decrease / omission by firms. The study further revealed that dividend decreased / omissions firms have approximately abnormal return of 211% and 217% over post –announcement year.

Bhattacharyya (2007) suggest that market imperfection lead to signaling and free cash flow theories. He further explains that dividend signaling is used by managers to flow out private financial information about the company in the market. Whereas free cash flow theory hypothesize that extra cash from the managers has been taken from the managers and given to shareholders in the form of dividend. The principal of agent frame work explains those dividends are used to reduce the overinvestment by managers (Jensen, 1986).

Feldstein and Green (1983) were of the view that dividends are given due to separation of ownership and management. Dividend are used to signal the future income of the firm; management uses dividend policy to communicate the financial strength of the firm, because accounting reports do not project the financial figure of the firm. Feldstein and Green further express signaling idea is of the view that stockholders do not trust the management and have the fear that retained earnings will be invested in unprofitable projects. In context of above argument stockholders will prefer ‘bird in hand’ approach and this approach can pressurize the management to make dividend payment regardless of tax penalty. But as known, companies do not pay all the retained money out to shareholders and they do not demand this to happen. A legend investor, Warren Buffet has never paid dividends through his company Berkshire Hathaway. Since he thinks that he can gain better profits with retained money than shareholders, and the shareholders have never complained.

Signaling hypothesis seems to be losing ground in the study conducted by DeAngelo, et.al. (1996) on 145 corporation listed at NYSE, conclude that future prospect of the firm are not actually predicted by change in dividend. Gunasekarage and Power (2006)

oppose the signaling hypothesis and has given the argument that changes in current dividend of firm inform investors about the past performance of the company rather than signaling the future prospects.

DeAngelo, et al. (1996) also put forward an argument, that favorable change in dividend decision is not the reliable indicator of future earnings prospect. Because the magnitude of cash involvement in dividend is too small to realistically reflect the firm's future earnings. This argument is in line with the studies conducted by Majluf and Myers (1984) and Jensen (1986). They pointed out that managers are not held accountable even in situation when the signals given to market result to be wrong.

Kaleem and Salahuddin (2006) researched the relationship of dividend announcement and share price on sample of 24 companies listed at Lahore stock exchange. The study supported the Miller and Modigliani's dividend irrelevance theorem. The other interesting finding was that; investors were not better off from the dividend due to diverseness in tax of capital gain and dividend. The stock holder trading around the dividend announcement period has actually lost more value on ex-dividend date in comparison to value gained before dividend period.

Gunasekarage and Power (2006) in their research revealed evidence associating the abnormal stock price performance and dividend announcement on UK companies. The announcement of increased dividend is linked with significant positive increase in the abnormal/excess return and the announcement of decreased dividend is linked with negative abnormal/excess returns. Whereas the stocks with similar dividend announcement as compare to previous year, only produce normal return for their shareholder.

Kane, et.al. (1984) examined the interaction effect of earning and announcement during the period of 1979 to 1981, on sample of 352 quarterly announcements. They found that when EPS and DPS move in same direction, the adjustment in share price was significant. Conversely when EPS and DPS moves in opposite direction then share price has significantly reduced.

How, *et.al.* (1992) opined that it is almost impossible to differentiate the effect of dividend and earning on share price, in

capital market where dividend and earnings are announced simultaneously.

Bhattacharyya (2007) explains that differential tax treatment of capital gain and dividend income has led to the clientele theory in dividend policy. The clientele theory further elaborates that due to different tax treatment of income from dividend and capital gain, shareholders form clientele groups in a manner that each individual has optimal dividend income for its marginal rate of tax.

Elton and Gruber (1970) provide rational justification for variation of stock price on ex-dividend date. They developed a model to elaborate stock price anomaly and by testing the model on sample data of one year from New York stock index with 4,148 dividend announcement, confirmed that the fall in stock price on ex-dividend is less than dividend amount. The key assumptions of the model were: there is no transaction cost and investors prefer capital gain over the dividend. They also argue that systematic fall of stock price in contrast to dividend is due to preferential tax treatment of capital gain as compare to dividend income.

The assumptions of Elton and Gruber (1970) were later opposed by number of studies. Miller and Scholes (1982), and Kalay (1982) argue that transaction cost cannot be considered insignificant in comparison to extent of cash dividend. Boyd and Jagannathan (1994) argue that it is unrealistic to presume that all investor prefer capital gain to dividend due to tax bracket difference. There might be some investors/traders whose income from both sources is taxed at same rate i.e. pension funds are mostly exempted from tax, floor traders and market mover.

#### **EMPIRICAL FINDINGS AND ANALYSIS**

The empirical findings obtained from MAAR and CAR during the event period will reflect the dividend announcement effect on common stock price. The results obtained from these tools have been averaged out to clearly mirror the effect of divided announcement in the event period.

**Market Adjusted Abnormal Return (MAAR)**

The market adjusted abnormal return tabulation will replicate the abnormal stock price change caused around dividend announcement. The MAAR on dividend announcement day for year 2007, 2008 and 2009 are: -0.00530, -0.00382, and 0.00921 respectively. The abnormal price change indicates that there is shift in stock price on dividend announcement day. In 2007 and 2008 the data shows that on dividend announcement day stock price has reduced, but in 2009 the study witnesses a trend of increase in price. The price movement on announcement day is not that much significant.

The analysis of stock price over the seven days before and after announcement reflect mix trend in price of dividend paying stocks. The analysis of each year included in study shows that on average stock price follows upward trend before dividend announcement and it reflects the leakage of information about company's future prospects, couple of days before announcement. But as stock approaches to announcement day, stock prices are reduced which illustrates that stock market reacts before dividend announcement.

The abnormal return seems to be at high on two days before and after announcement. The abnormal price change on dividend day is not statistical significant to conclude that dividend announcement has impact on stock price. The detailed overview for the whole event period considered in this study further show that average abnormal return of dividend paying stock before dividend announcement seems to increase whereas after announcement there is declining pattern in stock price.

The in-depth analysis of abnormal return throughout event period illustrates that none of the dividend paying stock reflect the significant abnormal return caused by dividend announcement. The less abnormal returns around announcement day signals about the type of investor trading at KSE 30 Index. It can be presumed that investors in low tax bracket are trading at KSE 30 index.

Average MAAR on dividend announcement day is 0.003142% with t-value of -0.29355 which is not statistically significant and t-value also suggests that dividend has no impact on

stock price at 90%, 95% and 99% confidence interval. The detailed look on dividend announcement on each year included in event period shows a mix trend with t-value of -1.84856, -1.14949 and 1.54889 in year 2007, 2008 and 2009 respectively. The highest abnormal return found in event window was 0.60% on day 13 whereas highest abnormal return after announcement was 0.59%, 0.23% on day 9 and day-1 respectively. The overall result reflects that dividend announcement does not have strong effect on stock price of companies listed as KSE 30 index.

#### **Cumulative Abnormal Return (CAR)**

The result from Cumulative abnormal returns will reflect the value gained by investor around the dividend announcement period. The higher CAR will show that investor has considered dividend announcement as good market signal about the future prospects of company, whereas vice versa should be considered about lower CAR value. The cumulative abnormal returns will be interpreted in average term to clearly reflect the pattern over the event period.

The thorough look on the result obtained from cumulative abnormal return reflects that investors have loosed their value of investment on dividend announcement day. The CAR on dividend announcement day is 0.0268% with t-value of -0.154, the day before dividend announcement CAR was at 0.1740% which show decline in the investor value by 84% on announcement day. The CAR figures obtained on announcement day are insignificant. If we further look at the post announcement day 1; the study witnesses a decline of 80% in investor value. It can be concluded from the result that investor's lost more value than the value gained in pre dividend period. The findings are in line with the Miller and Modigliani (1961) theorem of dividend irrelevance. The finding also reveals that investor did not find any information about future cash flow and earnings of the company.

#### **CONCLUSION**

This study has been carried out to determine the impact of dividend announcement on stock price and trading volume of

companies listed at KSE 30 index. It is widely accepted in financial literature that in absence of taxes, shareholder value will be unaffected regardless of dividend payment (Miller and Modigliani, 1961). The cash dividend is less preferable in the stock markets; where dividends are taxed more as compared to capital gains. The Cumulative Abnormal Returns calculated in this study reflect that investor value has not increased around dividend announcement date, though shareholders have loosed their value after dividend announcement. The Average Cumulative Abnormal Return on dividend announcement day was 0.0268% which is insignificant. Due to preferential tax treatment of capital gain income and investors finds more gain from capital gain.

The findings from Market Adjusted Abnormal Return show mix trend in price movement around divided announcement day. The interesting finding is fall in the price on dividend announcement day, which leads to the conclusion that dividend announcement has informative content attached to it. This can be interpreted that dividend announcement at KSE 30 is not considered favourable by investors, because of non existence of tax imputation on dividend income and no tax on income from capital gain leads investor to make their home made dividend by selling the stocks. The existence of such type of stock behaviour at KSE 30 signals that stock market is not efficient. The study also found positive relationship between price movement and investor value around dividend announcement. The event days before announcement were comparatively stable and investor gained some value from it.

The findings detailed above hold up the applicability of dividend irrelevance theorem in Karachi Stock Market. However it is significant to look further, whether dividend conveys any information about future prospect and earnings of the company. The future studies conducted on information hypothesis at Karachi Stock Exchange will validate the current findings of this research paper.

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