STOCK MARKET CYCLES GENERATION OF NON FINANCIAL COMPANIES
IN PAKISTAN

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ABSTRACT

Fluctuations in the share prices play an important role in creating and controlling stock and business markets. The information of this study has been collected from listed seventy-one non-financial companies in Karachi stock exchange taken cross sectional data for the year 2010. The study analyzes the impact of the change in individual retained earnings, debt ratio, net cash flow, sales, and number of shares on share price by multiple log linear model through ordinary least square estimation procedure. The findings show that all independent variables are positively related with share price except debt ratio. Therefore all companies should maintain optimal level of debt in order to increase the share price. It will ultimately lead to fundamental goal of wealth maximization of shareholders.

Keywords: Share Price, Dividend, Retained Earnings, Debt Ratio, Net Cash Flow, Sales, Number of Shares.

1. INTRODUCTION

Cycles have been much discussed and written about during the past twenty years. Some of studies offered by Sebastian Edward and Javier Gomez Biscarri (2003); Bolten and A. Weigand (1998); Irfan and Nishat (2002) about cycle have been found very useful. Weather cycles have effect agriculture. Output of crop, their nature and quality affect commodity prices fixed by company in the stock market, where shares are sold and bought through stock exchange.

The growth of stock market in developing and emerging market has become one of the most debatable issues in the area of financial development. Stock market facilitates companies to acquire capital easily and efficiently and it supports market efficient business transactions to take place. Stock market provides the alternatives to debt financing and becomes the very important stimulants for economic development. Many companies by offering their stock to the investor can get the sufficient amount of funds to support their day to day’s operations or to invest on the different projects. Stock market provides the liquidity to investor in a sense that investor can buy and sell shares easily and it is mostly preferred by investors to have liquid stock market due to fluctuation in stock prices. The movement in stock price can have a link with macroeconomic variables and this also establish the relationship between them. It is important for policy makers, investors and academics to understand variables impact on stock prices.
market price. These relationships also enable them to change their investments according to change in policies.

Economic cycle refers to the up and downs of overall economy and Stock market play a very significant role in the growth of economy. Adjasi and Biekpe (2009) in their study stated that funds generated in the stock market can be channeled to projects that help stimulate investment activities and lead to promotion of sustainable investment and economic growth. However the proxy for funds (share price) is influenced by many factors, either it may be internal factors (earnings, dividends, leverage, retained earnings, sales, number of shares, book value) or external factors (interest rate, regulations, government foreign exchange rate). Bolten and Weigand (1998) invariably found that changes in stock prices are positively related to corporate earnings and negatively related to changes in interest rates that lead the economic cycles.


The major objective of the study is to know about the demand and supply forces and difference between business and stock market cycles. Besides these, the specific objective is to empirically demonstrate the impact of change of dividend, retained earnings, debt ratio, sales, net cash flow and number of shares on share price. By taking cross sectional data of listed companies of KSE year 2010, detected the explanatory variables cause on share price. This paper assist readers to gain additional knowledge, about explanatory variables increase and decrease produce desirable change in share price.

1.2 BACKGROUND

Stock market cycles and business cycles are related, but they both have distinct attributes. The market cycle refers to ups and downs of the financial market, while the business cycle refers to ups and downs of the overall economy. Business cycle in its simplest term can be viewed as alternating periods of business expansion and contraction Jacobsen et al (2010). The available literature on business cycles overwhelming and that on bull and bear market is still exclusive. Delong (1992) defines bull bear market in “The New Palgrave Dictionary” of money and finance as follows:

“Bull market is an era when the general trend of stock price was sharply upward and substantially enriched shareholders considered as a group”.

“Bear market is an era when, ex post if not ex ante, the general trend of stock price was sharply downward and substantially impoverished those who had invested in the stock market”.

Bull and bear markets have been singled out as one of the main source of medium to long term movement in the stock market over the past decades. Two explanations have been put forward for the existence of bull and bear markets. One view held by Kynes (1936) used in the one of his economics books “The General Theory of Employment, Interest and Money” is that major bull and bear markets are purely due to irrational “animal spirit”. An alternative view states that although prices deviate from fundamentals in the short run, that is, in the periods of months or a few years in the long run (decades or generations) proportional differences between market prices and fundamentals are kept within bounds.
A critical aspect of animal spirits is trust, an emotional state that dismisses doubts about others. In talking about animal spirits, Keynes (1936) sought to convey the message that swings in confidence is not always logical. The business cycle is in good part driven by animal spirits. There are good times when people have substantial trust and associated feelings that contribute to an environment of confidence. They make decisions spontaneously. They believe instinctively that they will be successful, and they suspend their suspicions. As long as large groups of people remain trusting, people's somewhat rash, impulsive decision-making is not discovered.

Introduction and background of the paper is followed by section-2 which consists on literature review, then section-3 is about the methodology, section-4 provides empirical findings and discussion. Finally, section-5 summarizes and concludes the study.

2. LITERATURE REVIEW

Several studies have attempted to model stock price and its relationship with different variables. Such as Campbell and Shiller (1989); Humpe and Macmillan (2009); and Nawaz et al (2010).

Bolten and Beasley (1986) had observed that earnings change with the economic cycle. Corporate earnings increase during economic expansion and decline or become slow in economic contraction. As corporate earnings rise, stock prices also rise. As corporate earnings fall, stock price also fall.

Bolten (1998) written a book on stock market cycles and has provided a practical description about the four stages of stock market cycle. Throughout stage one economic activity is slack, the demand for money is low and the supply of money is relatively high. Federal Reserve may still be fighting the recession with money supply growth and lower interest rate and putting upward pressure on stock prices. The stage 2 shows economic expansion in progress, the demand for money increases. The Federal Reserve slightly slows the supply of money. Interest rates begin to rise. The rate of growth in expected earnings may be slower, but still grow. Stock prices continue to rise, but at a slower rate. Business spending increases in response to the expanding economy. Bullish signs usually include still rising expected earnings. Stock prices reach their high because the rate at which expected earnings are discounted now equals the rate of growth in those expected earnings. The downturn in common stock prices starts at the beginning of Stage 3, although the economy and interest rates continue upward. Consumer demand for goods and services continues to be high. Supply bottlenecks and imbalances occur. Interest rates increase at an accelerating rate, exerting more downward pressure on stock prices. The demand for money remains strong. Consumers and corporations continue to borrow. Corporations are in the middle of a large capital-spending boom. The Fed slows or contracts the money supply to fight inflation. The purchasing power risk premium is larger, causing interest rates to increase further. The rate of increase in expected earnings is lower than the rate of increase in interest rates. Now both bond prices and stock prices are declining. This combination continues to the peak in economic activity. The worst of the decreasing earnings expectations, rising interest rates and the steepest rate of decrease in expected earnings occurs in the stage 4. Interest rates continue rising sharply even after the peak in economic activity. The Fed is still vigorously fighting inflation. Stock prices decline throughout in this stage. The recession deepens. The rate of decrease in expected earnings eventually decline to a point equal to the rate decrease in interest rate. The stock prices have been reached at the end of stage four.

Bashir and Hassan (1997) found significant and negative relationship between interest rate fluctuations and stock returns in United Arab Emirates. Negative relationship between stock price and interest rate are also documented by (Lintner, 1975; Bodie, 1976; Fama and Schwert, 1977, Hess and Lee, 1999).
Zahir and Khann (1982); Kirshan (1984); Chawla and Srinivasan (1987); Zahir (1992); Malakar and Gupta (1999) had concluded that dividend is found to be a major determinant of stock price. Lintner (1956) suggested that a firm’s management would resort to increasing dividends if it believed that the increase would be permanent. Bhattacharaya (1979) explained that there exists asymmetric information between a firm’s management and its shareholders. Hence an increase or decrease in dividends conveys price-sensitive information to shareholders and prospective investors. Positive change in share price occurs as a result of increase in the dividends payout ratio and vice versa.

Campbell and Schiller (1988); Chen (1991) and Fame (1981) have shown that the current level of stock price is related to the discounted value of future earnings and dividends. Most recent studies in Africa such as Adjani and Bicker (2006) also found negative relationship between stock market price and interest rate. Fisher (1930) who postulated that stock markets are independent of prices and inflation should move in the same direction. Contrary to this, Fama (1981) disagreed with the generalized and suggested that an increase in inflation caused uncertainty and reduce future economic activity. Increase in inflation will cause reduction of stock price.

Srivastava (1968) reported that retained earnings do not influence share prices, although Chawla and Srinivasan (1987) presented that evidence of retained earnings influencing share prices. According to Free cash flow hypothesis (1988), if a firm pays fewer dividends it would have more funds to invest in projects with less PV and it would cause devaluation of share price of a firm but remember a firm having better opportunities for growth will better utilize these funds. This hypothesis indicates that the firm having less growth opportunities would face more share price volatility as compared to firm having many opportunities to grow.

Graham and Dodd (1934) stated that the stock prices should bear specified relation to earnings but they neither present nor cite data to support the generalization. Since the corporation’s failure to distribute earnings is held to result in an increase in the price of its stock. There is no contradiction in contending that average price varies directly with the proportion of earnings distributed during the year, while greater price appreciations associated with greater portion of its retained earnings.

Myer in (1977) proposed a theory and predicted that increase in debt resulted in lower stock price. Greater leverage increases the probability of debt overhang, thus reducing firm’s value. Agency problems are mitigated by maintaining high leverage as a result of that financial flexibility also declines (De Angelo et al., 2006). Gaughan, et al (1995) in their article pointed out that inventory valuation method (FIFO to LIFO) cause net income to decline but increase cash flows due to tax effects, which in turn increase stock price.

Stock split not only provides optimal trading range, also increase the demand of the stock which in turn place positive stock price effect (Lakonishok and Lev, 1987). Musau, (2007) observed a bullish trend in the Nairobi Stock Exchange in the year 2006. He demonstrated that increase in the earnings tends to increase the demand of shares simultaneously .This price appreciation result in the stocks split. Many companies of Kenya and East Africa such as Kenol Kobil, Centrum Investment Company split their highly price stock to make them affordable to the public, and to benefit the company as well as potential investors.

Doctor Josiah Omollo and Chemarum Caroline (2010) examined the effect of stock splits at the Nairobi Stock Exchange in their research paper titled “Market Reaction To Stock Splits” and stated that there were positive mean returns with respect to stock splits. Managers split their stocks when they were optimistic about the rise of stock prices or at the very least not decrease (Berinnan and Copeland, 1988).
All previous studies had predicted the change in share price according to their objectives of studies. This study considered to provide new evidence on how dividend, retain earnings, debt ratio, sales and number of shares affect the stock price.

3. METHODOLOGY

The study aims to investigate the impact of retained earnings, debt, dividend, sales and number of shares on share price using cross sectional data of 71 companies. Multiple log linear model of Ordinary Least Square method will be used to estimate the cause and effect relationship in this study.

\[ Y_i = a + \beta_1 \log\text{DIVI}_i + \beta_2 \log\text{RE}_i^2 + \beta_3 \log\text{DR}_i + \beta_4 \log\text{NCF}_i^2 + \beta_5 \log\text{S}_i + \beta_6 \log\text{SHR}_i \]

Where;
Y = Share price
DIVI = Dividend
RE = Retained Earnings
DR = Total Debt/Total Asset
NCF = Net Cash Flow
S = Sales in Log
SHR = Number of Shares.
**Multiply Regression Estimate of Stock price and other variables**

Dependent variable = Stock price of 71 nonfinancial Companies

<table>
<thead>
<tr>
<th>Regressor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.685248** (1.822134)</td>
<td>5.207617* (1.806193)</td>
<td>6.233562** (1.879161)</td>
<td>6.233562* (1.747213)</td>
<td>6.246115* (1.672191)</td>
<td>6.696659* (1.714746)</td>
<td>3.146724 (3.418413)</td>
<td>3.680681*** (2.624214)</td>
</tr>
<tr>
<td>Dividend (NDI)</td>
<td>0.082743 (0.105807)</td>
<td>-0.0125868 (0.109496)</td>
<td>-0.12113 (0.109496)</td>
<td>-0.0234471** (0.108135)</td>
<td>-0.232312** (0.103499)</td>
<td>-0.261367** (0.106399)</td>
<td>-0.258447** (0.105109)</td>
<td>-0.129844*** (0.087353)</td>
</tr>
<tr>
<td>Retained earnings (R.E)</td>
<td>4.43E-10* (2.95E-10)</td>
<td>8.41E-10 (9.5E-10)</td>
<td>6.69E-10 (8.54E-10)</td>
<td>5.14E-10 (8.23E-10)</td>
<td>3.23E-10 (8.38E-10)</td>
<td>-2.21E-10 (9.44E-10)</td>
<td>1.63E-09*** (9.12E-10)</td>
<td>-1.17E-19 (3.72E-19)</td>
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<tr>
<td>Debt ratio Log (DR)</td>
<td>-0.817347** (0.332182)</td>
<td>-0.807494** (0.317971)</td>
<td>-0.845200* (0.318284)</td>
<td>0.966377* (0.330279)</td>
<td>-0.646222* (0.267736)</td>
<td></td>
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</tr>
<tr>
<td>Net cash flow NCF</td>
<td>-1.73E-09** (1.04E-09)</td>
<td>-3.84E-09** (2.02E-09)</td>
<td>-3.69E-09** (2.18E-09)</td>
<td>-3.42E-09*** (2.54E-09)</td>
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<tr>
<td>Net cash flow (NCF^2)</td>
<td>6.11E-18 (5.62E-18)</td>
<td>5.15E-18 (5.61E-18)</td>
<td>-1.16E-17*** (6.25E-18)</td>
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<tr>
<td>Sales Log (s)</td>
<td>0.170004 (0.142205)</td>
<td>0.197753*** (0.1099730)</td>
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<tr>
<td>Shares Log (s)</td>
<td>0.193978* (0.068833)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SER</td>
<td>0.872456</td>
<td>0.848620</td>
<td>0.865391</td>
<td>0.773191</td>
<td>0.739984</td>
<td>0.736297</td>
<td>0.727175</td>
<td>0.553442</td>
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<tr>
<td>R^2</td>
<td>0.027046</td>
<td>0.121325</td>
<td>0.129763</td>
<td>0.340552</td>
<td>0.427336</td>
<td>0.464526</td>
<td>0.508435</td>
<td>0.703280</td>
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<tr>
<td>R^2</td>
<td>-0.017179</td>
<td>0.037642</td>
<td>-0.000773</td>
<td>0.201116</td>
<td>0.268263</td>
<td>0.275536</td>
<td>0.293376</td>
<td>0.533726</td>
</tr>
<tr>
<td>F-Test</td>
<td>0.611547</td>
<td>1.449811</td>
<td>0.994078</td>
<td>2.447538</td>
<td>2.686410</td>
<td>2.457934</td>
<td>2.364160</td>
<td>4.147820</td>
</tr>
</tbody>
</table>

The regressions were estimated cross sectional data of 71 nonfinancial company's year 2010. Standard errors are given in parentheses under coefficients. Individual coefficients are statistically significant at the ***10%, **5% and 1%*. 
3. RESULTS AND DISCUSSIONS

The results of Multiple Regression Model in table-1 show the effect of dividend payment policy on the share prices along with other independent variables. Each column represents a different regression model and each row represents the coefficients of estimates and standard error as well.

The results of step wise multiple regression models indicate that dividend payout policy has positive and significant relationship with share prices. Findings of Pettit (1972) and Ahrony and Swary (1981) also support these results. Retained earnings taken as a second independent variable and the result shows positive and significant relationship with share price as Graham ad Dodd (year) had also explained that the corporation's failure to distribute earnings is held to result in an increase in the price of its stock but Srivastava (1968) reported that retained earnings does not influence share prices. Although, Chawla and Srinivasan, (1987) presented evidence that retained earnings do influence the share prices.

In the third step of multiple log linear regression model, debt ratio has significant positive relationship with share price. Contrary to this Myer in (1977) proposed a theory and predicted that an increase in debt would possibly result in lower the stock prices. The future stock prices of a firm are determined by the alteration in the debt level (Dimitrov and Jain, 2008). Greater leverage increases the probability of debt overhang, thus reducing firm’s value. Net cash flow also has significant relationship with share price. Patrick A. Gaughan, Henry Fuentes, and Laura (1995) pointed out that inventory valuation method (FIFO to LIFO) cause net income to decline but increase cash flows due to tax effects, which in turn increase stock price. Inclusion of sales shows significant positive impact on share price as sales increment increases the good will of companies which in turn appreciate the share price. The result of study shows significant relationship of share price on number of shares. Musau in (2007) demonstrated that increase in the earning were increase the demand of shares simultaneously. This price appreciation result in the stocks split.

4. CONCLUSION

This paper examined the relationship of share price with dividend, retained earnings, debt ratio, sales and number of shares. Increase of dividend is positively related with share prices which conclude that the firm, having less growth opportunities, would face more share price volatility as compared to the firm having many opportunities to grow. Retention of earnings depends on the dividends, if firms declare the distribution of profit that will negatively impact on share price while price appreciation related with the greater retention of earnings. The impact of debt on share price depends on the level of debt a company have. Companies having debt beyond optimal level brings negative impact on share price and usually leads companies to bankruptcy. Within optimal level share price shows positive association with debt ratio while increasing above that level may result in the decline of share price. Good will and profit increase with the increased sales that turns increase the share price due to familiarity of a company. If a company has great deal of shares positively may increase the price of shares .The high share price results stock splits and increases the liquidity of a company without bring any further change in the price. Hence, it is concluded from result analysis that all included explanatory variables influence positively on share price.

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