The Study to Check the Applicability of Arnott and Asness Model on KSE 100 Index from 2005-2015

Abeeha Zehra[*], Fida Altajjari, Saad Waqar, Sabika Shahid and Sanaullah Munir

Department of Management Sciences, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Pakistan

[*]**Corresponding author:** Abeeha Zehra, Department of Management Sciences, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Pakistan, Tel:+92 21 111 922 478; E-mail: zehraabeeha@gmail.com

Abstract

The purpose of this research is to find out the impact of dividend payments on the earnings of companies listed on Pakistan Stock Exchange. The sample includes firm listed on the Karachi Stock Exchange 100 index for a time period of 2005-2015. The model was applied where they refuted the conventional theory that said dividend payments do not affect future earnings of the company, on the aggregate U.S. Market (S&P 500). Our variables include size, return of asset, payout ratio, leverage taken by the company, earnings over price, past earnings growth, exchange rate and annual growth.

This study holds importance in respect to finding out whether our results will vary after applying the model studied in the developed economy or it holds same results in the developing economies. One important insight that we aim to find out is whether companies, in order to maximize shareholder's wealth, should pay dividend or retain it back for further reinvestments.

Keywords: Dividend payments; Earnings growth; Earnings yield; Annual growth

Introduction

Market observers are often seen with the view that companies that pay lower dividends tend to have higher earnings growth. However, this has been negated by many researchers along the lines of Dividend Irrelevant theorem. The debate is often there whether investors should invest in companies with dividend payments or in those that do not pay dividends. Researchers have carried in depth studies regarding this and have come up with varying results in different markets. Miller and Modigliani [1,2] suggested that dividend have no impact on the value of the company whereas Gordon and Lintner suggested that dividends play an integral part in valuing a company. Arnott and Asness [1] used the Gordon growth model which is as follows:

$$E=(D/P)+g$$

Gordon suggested that this can be substituted with this:-

$$E=(D/E)*(E/P)+g$$

He said that as companies were trading at a very high P/E hence, it is important that they will be offset by lower D/P which was not the case in US market hence this task of offsetting was alone left to "g" only. Arnott and Asness [1] used this model as a basis and tested this on the US equity market to find out whether dividend policy has an impact on the future growth of the company's earnings. They found a positive relation between the dividend policy and the earnings of the market. Going forward in 2006, Zhou and Roland [3] extended this research on the individual companies listed on the S&P 500 index over a span of 50 years and applied several variables on the companies to find whether dividend payments have an impact on the future earnings

of the company. They again found a positive relation between dividend payments of companies with respect to their earnings.

The aim of this study is to test the model given by Arnott and Asness [1] on the Pakistani Equity Market of KSE - 100 index over a span of 11 years from 2005-2015 and see that the model when applied in developing country's market will yield same results or it will vary as the base model has been applied in the developed market.

Dividend payments play an integral part for an investor to make decision about their investment plans. On the other hand company's management has to be very efficient in making their dividend payments as their aim is to maximize on shareholder's wealth without affecting the company's growth as well. Hence, the debate always goes on; "Whether companies should pay dividends or retain it back for the company's efficient growth".

This paper will focus on studying the growth patterns of companies listed on KSE 100 over a span of 11 years and deduce whether dividend paying companies grow faster and efficiently or companies who do not pay dividends grow faster in the Pakistani market.

Literature Review

Dividends can either be in the form of cash outlays or in the form of capital gains, this decision depends on management of the company to either pay dividend in the form of cash outlays or in the form of capital gains as per the investor's preference which is as per the company's reputation in the market. However, the management holds the view that if they pay out high dividends they will be left with less retained earnings, which is the lowest source of cost of capital and vice versa. Hence, higher dividend payout ratio will result in lower retained earning increasing their cost of capital which will be need to be met with either higher interest rates through debt financing or higher required rate of return through equity financing [4] Agency Theory.

Most companies pay dividends because people value dividend paying companies higher than non-dividend paying companies and they prefer dividend gain rather than capital gain only because of the matter fact that capital gain is something that is very difficult to forecast accurately also companies prefer to pay dividend because of market inefficiency which is regarded as investors sentiments by Ben David [5].

Arnott and Asness and Miller Modigliani [1,2]

Miller and Modigliani [2] Dividend Irrelevance Theorem predicts that dividend payments do not impact the valuation of a company as investor gains are nullified when dividends are announced which result in lowering the prices. However, this theory was challenged by Gordon [6] when they introduced the Bird in the hand theory stating that dividends play an integral part in valuation of a company as investors tend to be more interested in dividend payments as compared to only capital gains. This has led to two major areas of dividend payment debate namely: Dividend Irrelevance Theorem and Dividend Relevance Theory.

Arnott and Asness [1] observed that instead of E/P offsetting low dividend payout ratio it was left entirely on growth to balance the return. This contradicted the conventional theory. Some infer this as a progressive extension of Miller and Modigliani [2], who believed price should not change signifying no change in E/P and since the current earnings do not change as well, it's again left upon growth to balance the equation. Many observers on the basis of this would assume a perfect negative relationship between the payout and growth.

This theory however, is based on assumptions like: Investment policy for the firm remains constant by the amount of dividends paid, information is equal and shared and dividends do not seek to deliver the private information of the manager, tax treatment is same for retained as well as distributed income, managers seek to work in the best interest of the shareholders, markets are priced efficiently.

When these assumptions of perfection is relaxed, potential behavioral or information based explanations arise to enlighten how market's payout ratios are related to expect future earnings growth. Many scholars like Arnott [1] in their paper states that high dividend leads to a high earnings growth and companies which have a low dividend yield leads to a low earning growth but there is a second school of thought believing the complete opposite, many financial analyst believe that high dividend is because of high earning growth rather than vice versa. Many companies increase their dividends when their earnings increases so earning growth cannot be impacted by dividend policy.

Rationale behind Arnott and Asness

According to Arnott and Asness [1] dividend payout ratio could be used to determine/forecast the future earnings growth [7]. Their theory, differing from conventional wisdom, suggested that higher payout ratio boils down to a greater growth of real earnings than low distributions leading to slow growth.

They debated that, a combination of high P/E and low payout does not necessarily mean a higher return in future. Earlier, researches from Keim [8], Christie [9] have confirmed the positive relationship between Dividend yields (DPS/Share Price) and return, Fama and French [10] have reported a positive relation between earnings yield (EPS/Price) to return.

Arnott and Asness [1] further applied Gordon's constant growth valuation model (1962) to aggregate market:-

$$R=d/p+g= \qquad (1)$$

$$R=D/E.E/P+g \qquad (2)$$

Breaking down, the dividend yield into dividend payout (D/E) and Earnings yield (E/P) helps understanding the relationship further. Under Miller and Modigliani [2] and Vivian [11], keeping the earnings constant means no significant impact on earnings yield and keeping the return constant translates to the fact that a low payout would mean increase in the expected growth of the dividend. This strengthens the idea that higher retained earnings lead to higher growth in future. Conventional wisdom, suggesting the idea that higher retention ratio would translate into reaping of more positive NPV capital projects. This belief was negated by Arnott and Asness [1] who could not substantiate the theory with the U.S data from 1871-2001. However, the results were the opposite, low payout was strongly correlated to low 10 year real earnings growth. The correlation was positive when tested on a 5 year data as opposed to 10 years. The reversion to the mean for earnings, earnings yield and bond yield curve were kept constant. This contradicted the theory that was believed earlier.

Other performance factors

Gordon furthermore studied this area and suggested that the only way to offset payout ratio is through growth element of companies. Baker [12] found that management and corporations view dividend policy as a very difficult task "It is like a puzzle with pieces that just don't fit together". Kent debated that higher dividend payout leads to higher growth in company's earnings while many contradict this theory. Kent surveyed the determinants of dividend policy and found several internal like anticipated level of future earnings, past dividends, cash availability and concerns about increasing maintaining the stock price in addition to external factors like shareholding pattern of directors in the company, the interest of the management etc.

Benartz and Michaely [13] conducted a study to find out whether dividend changed does really have an impact on the future earnings. They found out that companies that might have higher dividend payments might enjoy higher earnings only for a year as compared to those companies that might have lower dividends but will enjoy higher earnings in the long run. The only strong finding of their research was that companies that cut dividends are likely to experience a growth in future earnings. They concluded their paper on the finding that when firms increase their dividends they do so on the basis on current earnings which happens to grow but is indifferent to the future earnings and do not predict anything about future earnings. Many researchers like Rehman [14] suggest that dividend is one of the factors of firm performance and growth, Gulay [15] and Ardekani [16] indicates a positive relationship between dividend announcement and price volatility. Companies paying out more dividends have higher volumes of shares traded and higher share price.

Research objectives

The objective of this study is to test the applicability of Arnott and Asness [1] Model on the KSE - 100 index from 2005-2015 and find out:

Dividend paying companies tend to have higher earnings

Non-Dividend Paying Companies tend to have higher earnings

Hypothesis

: Size #

: ROA#

: E /P#

: PEG#

: AG#

Research Methodology

Population of the study

PSX-100 index was considered for this study as the companies in the index represent all the sectors in Pakistan stock exchange and the results can be generalized for all the companies listed in PSX.

Sample size and sample methodology

We have taken a sample size of 100 firms listed on KSE 100 from the period 2005-2015. For the companies data to be included in our research they need to have been listed on KSE from the period of 2005-2015.

A criterion for dividing PSX 100 index companies into dividend and non-dividend paying is given below:

Companies that have not paid dividend for more than 5 years or have paid discretely.

Retention ratio is more than 60%.

Listed in 100 index for at least 10 years from 2005-2015.

Research tool

Eviews 8 was used to test the Multivariate regression to test the validity of the model which is as follows:

=+payout+size+ROA+E/P+LEV+-, +, +e

Using this theory as the basis we are using several factors like ROA, EPS, and size of a company, payout ratio, and annual growth in assets, past earning growth and leverage of a company of every company over the last eleven years 2005-2015 and see whether companies with dividend payouts have grown faster or the companies which did not pay dividends.

After sorting data in MS Excel, Eviews 8 for formal testing GMM (Generalized Method of Moments) was run as it is best to run on a time series data and on panel data. Following assumptions were taken into account before running the test on data:

The data is:

Normally Distribution:

Homoscedasticity or No heteroscedasticity, No variability in the dependent variable (Earning Growth)

Multicollinearity

Hausman Test will be applied to check which model is appropriate, FEM or REM. (Reason for testing is to see whether the regression model corresponds to the data.)

To answer these entire assumptions panel unit root test was run.

Theoretical Framework

The basis of this study is the Arnott and Asness [1] test that was conducted on the US Stock Markets in 2003 where they tested whether the impact of dividends is positive or negative on the return of the company. Their test proved to be positive and they concluded that companies should pay dividends in the US markets as it has a positive impact on the return of a company.

Using this theory as the basis we are using several factors like ROA, EPS, size of a company, payout ratio, leverage of a company and past earning growth of every company over the last Ten years and see whether companies with dividend payouts have impacted the growth or not. A quantitative study will be conducted where we will be testing PSX 100 over a period of 11 years.

Subsequently we are using Arnott and Asness [1] approach to measure the future earnings growth with some addition of variables which are mentioned in the formula below:

Explanation of framework and definition of variables

=+Payout+size+ROA+E/P+LEV+-, +, +e

Where,

*EG=earnings growth, measured as compounded annual earnings for common shareholders growth.

Payout=dividend payout, measured as Year0 dividends divided by Year 0 earnings which shows how much a company pay dividend.

Size=market value or capitalization of a company in PSX 100 index.

ROA=return on assets, measures the company return with the help of assets over a period.

LEV=leverage, measured as the book value of debt to total assets.

i earnings yield, measured as earnings for Year 0 divided by the end-of-year market value of equity.

PEG–t, 0=past earnings growth, measured as compounded annual earnings growth from year –t to Year 0 (the basic procedure was the same as for the EG variable).

AG=compounded annual growth in total assets.

*Note: Earnings growth is a dependent variable.

Results

Multivariate regression is run on the equation to check the impact of payout on the earnings growth of companies from 2005-2010.

Theoretical analysis

Payout: The result of our findings for payout of 922 observations companies has been insignificant as the probability is 0.4164 for non-dividend companies and 0.6800 for dividend paying companies as shown in Table 1 meant that in KSE 100 index payout doesn't have a significant impact on the earnings of the company. Hence, the model of Arnott and Asness [1] extended by Zhou P and Ruland [3] is not applicable in Pakistani market due to different factors that prevail in developing markets which unlike are different from the developed market of US where the model was initially tested. Moreover, companies in Pakistan have not been paying a very high dividend in

the past couple of years and only few companies have given dividend mounting to more than 40% of earnings.

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	PAYOUT	1.327411	1.631477	0.813625	0.4164
Dividend Paying Companies	EPSG	PAYOUT	0.03422	0.082924	0.412662	0.68

Table 1: Meant that in KSE 100 index payout doesn't have a significant impact on the earnings of the company.

Return on Assets

ROA tells us that what earnings have been generated from the invested capital i.e. assets. The assets of the company are financed both by debt or equity. The ROA of a company will give investors an idea of how effectively the company has been converting the money to invest into net income. The higher the ROA number, the better, because the company is earning more money on its investment on assets. Return of assets (ROA) proved to be significant for the both categories as the statistical results showed significance probability for both non dividend and dividend paying companies that turned out to be 0.0000 as shown in Table 2. This can be attributed to the fact that when companies are not paying dividends they are retaining it back and investing it wisely in expanding their businesses and buying new assets thus increasing its assets base. This effective utilization of funds helps in increasing their earnings significantly for the succeeding years which increases its ROA. Also, the companies that have been paying dividends are using their retained earnings effectively for reinvesting in the business in efficient projects which has helped in increasing their earnings tremendously.

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	ROA	-1.29325	0.186342	-6.9402	0
Dividend Paying Companies	EPSG	ROA	4.041478	0.646689	6.249495	0

Table 2: Statistical results showed significance probability for both non dividend and dividend paying companies.

Size

The size of a company proved to be insignificant for both non-dividend and dividend paying companies, probability for non-dividend paying companies turned out to be 0.0810 while for dividend paying it was 0.647 as shown in Table 3. Share prices in Pakistan usually doesn't reflect the true worth of the company unlike signaling theory by Modiglinia and Miller [17] where dividend is considered to be a signal for investors for the future outlook of companies if the company is paying high dividends investors would have a positive view on the company thus more people would be interested to invest in the company which could increase the price thus increasing the size while on the other hand non dividend paying companies fail to acquire

investors' confidence resulting in less demand for their shares that results in low prices and decreased size

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	LGSIZE	1.16821	0.667696	1.749616	0.081
Dividend Paying Companies	EPSG	LGSIZE	0.032344	0.070591	0.458183	0.647

Table 3: Insignificant for both non-dividend and dividend paying companies, probability for non-dividend paying companies turned out to be 0.0810 while for dividend paying it was 0.647.

Leverage

Leverage of the companies proved to be insignificant for both categories as for non-dividend paying companies probability turned out to be 0.2014 while for dividend paying companies probability was 0.2477 Table 4. Although the theory suggests that leverage and earnings growth have an inverse relationship as high leverage would result in higher finance cost, resulting in lower earnings. but in our study the result is opposite mainly because most of the companies in PSX 100 Index are shariah compliant stocks and according to shariah compliant requirements companies could only have debt to asset ratio of maximum 37% which suggest that companies can't take much debt so leverage ratio in our sample is on the lower side thus there is no impact of leverage on earnings growth for both non dividend and dividend paying companies in PSX 100 INDEX.

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	LEV	-4.18E-05	3.27E-05	-1.279874	0.2014
Dividend Paying Companies	EPSG	LEV	2.30E-06	1.99E-06	1.157199	0.2477

Table 4: Leverage of the companies proved to be insignificant for both categories as for non-dividend paying companies.

Annual growth

The annual growth is in the form of change in assets from the preceding year and has been highly significant for dividend paying companies. The result has been 0.1904 for non-dividend paying companies while for dividend paying companies it is 0.0000 as shown in Table 5. The reason for such behavior can be attributed to the fact that when companies are paying dividends they have been investing their remaining earnings back in the companies in the form of buying more assets or investing in efficient projects to expand their businesses and thus this has increased their annual growth year on year basis. Once a company starts paying dividend there is extra pressure on the management to increase or maintain the level of profitability. According to Powell [18] management efficiency plays a huge role in earning growth and assets so consistent earnings growth would encourage management to perform even better therefore increasing their asset base to improve efficiency and maximize shareholders wealth [19-25].

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	AG	2.198157	1.675692	1.311791	0.1904
Dividend Paying Companies	EPSG	AG	0.956788	0.210253	4.550646	0

Table 5: Annual growth is in the form of change in assets from the preceding year and has been highly significant for dividend paying companies.

Earning to price (earning yield)

The earning to price has been significant for the dividend paying companies while insignificant for non-dividend paying companies, the probabilities for non-dividend and dividend paying companies are0.4430 and 0.0000 respectively as shown in Table 6.

Dividend paying companies usually have a higher demand because they are considered relatively safer so they trade on a higher P/E thus E/P has a significant impact on the earnings growth of dividend paying companies on the other hand non dividend paying companies fail to attain investors' confidence resulting in lower demand of shares also non dividend paying company have a lower earnings growth and are relatively cheaper companies so there is no impact of earning growth on E/P of non-dividend paying companies [26].

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	EP	0.417379	0.543485	0.767968	0.443
Dividend Paying Companies	EPSG	EP	1.54371	0.161164	9.57848	0

Table 6: The probabilities for non-dividend and dividend paying companies are0.4430 and 0.0000 respectively

Past earnings growth

Past earnings growth has been defined as P/E over the EPS growth (%). The PEG ratio has been highly insignificant for impacting the earnings growth of both dividend paying or non-dividend paying companies the probability for non-dividend companies is 0.8384 and the probability for dividend paying companies is 0.7369 as shown in Table 7 and hasn't impacted company's earnings in the future [26-38]. The reason for such behavior can be attributed to the fact that P/E ratio for each industry is different hence, some have higher P/E ratios while others have been trading at lower P/E ratios resulting in lower PEG ratio and not having any significant for earnings growth [39,40].

Companies	DV	IV	Coefficient	Std. Error	t-Statistic	Prob.
Non Dividend Paying Companies	EPSG	PEG	0.000234	0.001147	0.204063	0.8384
Dividend Paying Companies	EPSG	PEG	-2.49E-06	7.41E-06	-0.336175	0.7369

Table 7: The probability for non-dividend companies is 0.8384 and the probability for dividend paying companies is 0.7369.

Earnings growth

Earnings growth refers to the net income or net loss that a company makes during one fiscal year. It is a dependent variable which is being tested by seven variables in the equation to test which variable impacts earnings growth or not. The earnings for companies have increased from 2005-2007 and fallen in 2008 when the market crashed [41]. It however, gained momentum in 2012 onwards and has been on the increasing trend since then. The earnings growth has not been impacted by the payout which was the result in the base study. However, it has been affected by earnings yield, annual growth in assets and return on assets [42,43].

Summary and Conclusion

From decades dividend policy is considered to be a puzzle with several pieces still missing; despite several theories proposed by well-known researchers, arguments, and models devised by analyst and researchers this debate still not rest as behaviors of investors and nature of industries varies from country to country so it is very difficult to analyze whether paying dividend causes a higher growth in earnings or retaining would increase the growth rate [44-46]

The main aim of our study was to find out whether the model used in U.S. hold true in Pakistani Equity market or not. We used companies of PSX 100 index which were constantly present from 2005-2015. Hence total companies were 84 and observations tested were 922 [47]. After conducting several tests on the stability of data we get to a result that dividend payout does not impact on long term earnings growth which was not in favor of the study done by Arnott and Asness [1]. One of the reasons could be that this model was tested initially in developed countries which have different dynamics than Pakistan where mostly investors focus on capital gains than the dividend and they don't tend to keep the shares for a long time. Hence, here companies tend to invest more in assets than giving dividend to its shareholders which can be depicted in our statistical results of both dividend and non-dividend companies, where earnings growth had a positive relationship and impact with return on assets. This can also be evident from the balance sheets of various companies which mostly show an upward trend in assets. Our statistical results proved payout to be insignificant for both dividend paying and non-dividend paying companies whereas annual growth in assets and earnings yield proved to be significant for dividend paying companies and return on assets proving significant for both dividend paying and non-dividend paying companies [48]. Hence, we can say that firms in Pakistan have been investing efficiently in projects or such assets that have resulted in higher earnings for the companies in the long run.

References

1. Arnott RD, Asness CS (2003) Surprise! Higher Dividends=Higher Earnings Growth. Financial Analysts Journal 59: 70-87.

2. Miller MH, Modigliani F (1961) Dividend policy, growth and the valuation of shares. Journal of Business 34: 411-433.

3. Zhou P, CFA, Ruland W (2006) Dividend Payout and Future Earnings Growth. Financial Analysts Journal 62: 58-69.

4. Meckling WH, Jensen MC (1976) Theory of the Firm: Managerial Behavior, Agency Costs and Capital Structure. Journal of Financial Economics 3: 305-360.

5. Ben-David I (2010) Dividend Policy Decisions.Behavioral corporate finance Hamilton pp. 435-452.

6. Gordon MJ (1963) Optimal Investment and Financing Policy. Journal of Finance 18: 264-272.

7. Gwilym, Owain, Seaton, James, Thomos, et al. (2004) Dividends, Earnings, the Payout Ratio and Returns: A Century of Evidence from the US and UK. Discussion Papers in Accounting and Finance 37.

8. Keim DB (1985) Dividend Yields and Stock Returns: Implications of Abnormal. Journal of Financial Economics 14: 473-489.

9. Christie W (1990) Dividend Yields and Expected Returns: The Zero Dividend Puzzle. Journal of Financial Economics 28: 95-125.

10. Fama EF, French KR (2001) Disappearing Dividends: Changing Firm characteristics or lower propensity to pay? Journal of Financial Economics 60: 3-43.

11. Vivian A (2007) The UK equity premium: 1901–2004. Journal of Business Finance & Accounting, 34: 1496-1527.

12. Baker HK (1985) Survey of Management Views on Dividend Policy. Financial Management 14: 78-84.

13. Benartzi S, Michaely R, Thaler R (1997) Do Changes in Dividends Signal the Future or the Past? The Journal of Finance 52: 3.

14. Rehman MU, Hussain A (2000) Impact of dividend policy on the performance of firms having stocks listed in an emerging market. Asian Journal of Empirical Research 3: 20-29.

15. Gulay G, Yilmaz MK (2006) Dividend Policies and Price-Volume Reactions to Cash Dividends on the Stock Market: Evidence from the Istanbul Stock Exchange. Taylor & Francis Ltd 42: 19-49.

16. Ardekani AM, Hashemijoo M, Younesi N (2012) The Impact of Dividend Policy on Share Price Volatility in the Malaysian Stock Market. Journal of Business Studies Quarterly 4: 111-129.

17. Modiglinia F, Miller MH (1958) Cost of Capital, Corporation Finance, and the Theory of Investment. American Economic Association 48: 261-297.

18. Powell GE, Baker HK (1999) How Corporate Managers View Dividend Policy. Quarterly Journal of Business and Economics 38: 17-35.

19. Dickens RN, Casey KM, Newman J (2002) Bank Dividend Policy: Explanatory Factors. Quarterly Journal of Business and Economics, pp: 3-12.

20. Ahmed MF (2000) Impact of dividend and retained earnings on stock prices in bangladesh: an empirical investigation. Giordano Dell-Amore Foundation 24: 5-31.

21. Al-Malkawi HAN, Rafferty M, Pillai R (2010) Dividend policy: A review of theories and empirical evidence. International Bulletin of Business Administration Research Gate 9: 171-200.

22. Alzomaia TSF, Al-Khadhiri A (2013) Determination of Dividend Policy: The Evidence from Saudi Arabia. International Journal of Business and Social Science 4: 181-192.

23. Baker M (2007) A survey In Handbook of corporate finance: Empirical corporate finance. In Behavioral corporate finance. Amsterdam: North-Holland 1: 145-178.

24. Bhattacharya S. (1979) Imperfect Information, Dividend Policy, and "The Bird in the Hand" Fallacy. The Bell Journal of Economics 10: 259-270.

25. Brennan M. (1971) A Note on Dividend Irrelevance and the Gordon Valuation Model. Journal of Finance 26: 1-7.

26. Brown LD, Robinson JM (2004) Corporate Governance and Firm Performance. Gorgia State University, USA.

27. Conroy RM, Eades KM (2000) A Test of the Relative Pricing Effects of Dividends and Earnings: Evidence from Simultaneous Announcements in Japan. The Journal of Finance 55: 1199-1227.

28. DeAngelo H, DeAngelo L, Skinner DJ (1992) Dividends and losses. The Journal of Finance 47: 1837-1863.

29. Deeptee PR, Roshan B (2009) Signalling Power of Dividend on Firms' Future Profits A Literature Review. Evergreen Energy – International Interdisciplinary Journal.

30. Demontis MD (2013) A study of the Dividend Signaling theory on the Scandinavian market Aarhus University Business and Social Sciences Master thesis.

31. Desai MA, Foley CF, Hines JR (2007) Dividend Policy inside the Firm. National Bureau of Economic Research 36: 5-26.

32. Fairchid R (2010) Dividend policy, signalling and free cash flow: an integrated approach Managerial Finance 36: 349-413.

33. Ibbotson RG, Chen P (2003) Long-run Stock Returns: Participating in the Real Economy. Financial Analysts Journal 59: 46-53.

34. Jabbour GM, Liu Y(2004) The Effect of Tax Rate Change On Dividend Payout. Journal of Business & Economics Research 2: 69-74.

35. Jensen M (1993) The modern industrial revolution, exit, and the failure of internal control systems. Journal of Finance 48: 831-880.

36. Lintner J (1956) Distribution of Incomes of Corporations among Dividends, Retained Earnings, and Taxes. The American Economic Review 46: 97-113.

37. McManus I, Gwilym OA, Thomos S (2004) The Role of Payout Ratio in the Relationship between Stock Returns and Dividend Yield. Journal of Business Finance and Accounting 31: 1355-1387.

38. Michel A (1979) Industry Influence on Dividend Policy. Financial Management 8: 22-26.

39. Miller MH, Rock K (1985) Dividend policy Under Asymmetric Information.The journal of Finance 40: 1031-1051.

40. Modigliani F, Miller MH (1959) The cost of capital, corporation finance, and the theory of investment: Reply. American Economic Review 49: 655-669.

41. Modigliani F, Miller MH (1963) Dividend Policy, Growth, and Valuation of Shares. Journal of Business 34: 411.

42. Lambrecht BM, Myers SC (2011) A Lintner model of payout and anagerial rents. Journal of Finance.

43. Ramachandran A, Packkirisamy V (2010) The Impact of Firm Size on Dividend Behaviour: A Study With Referenceto Corporate Firms across Industries in India. Managing Global Transitions 8: 49-78.

44. Robinson CJ (2006) Corporate Finance in Developing Countries, An analysis of dividend policy among publicly listed firms in Jamaica. Savings and Development 30: 18.

45. Robinson CJ (2005) International perspective on corporate finance: The Lintner Model and dividend policy among publicly listed firms in barbados. Savings and Development 29: 155-168.

46. Rubinstein M (1976) The Irrelevancy of Dividend Policy in an Arrow-Debreu Economy. The Journal of Finance 31: 1229-1230.

47. Sadka G (2007) Understanding Stock Price Volatility: The Role of Earnings. Journal of Accounting Research 45: 199-228.

48. Batool Z, Javid AY (2014) Dividend Policy and Role of Corporate Governance in Manufacturing Sector of Pakistan 109.