NEPALESE STOCK MARKET EFFICIENCY IN RESPECT OF CASH AND STOCK DIVIDEND ANNOUNCEMENT

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ABSTRACT

This paper examines the abnormal returns of dividend announcements such as cash dividend, stock dividend, and both cash and stock dividend in the Nepalese stock market using the market model of event methodology after adjustment of existing thin-trading problem. To examine the abnormal returns of dividend announcements, 139 dividend announcement samples were partitioned into dividend-initiation (good-news), dividend-increase (good-news), dividend-decrease (bad-news), and no dividend-change (no-news) sub-samples. The positive excess returns on stock dividend announcement were found during the announcement day, indicating the Nepalese investors seek for stock dividend than cash dividend. The negative abnormal returns were found much higher on the cash dividend announcement day in the dividend-decrease case. As dividend signalling hypothesis and efficient market hypothesis, the no dividend-change announcements sub-sample shows that the entire 21-days event-window has insignificant abnormal returns. The dividend announcements have a signalling effect in the Nepalese stock market. The study also found that, to some extent, the Nepalese stock market supported the semi-strong form of market efficiency.

Keywords: Efficient market hypothesis, Dividends announcement, Event methodology, Signalling effect, Abnormal returns.

JEL Classification Code: G14

Introduction:

One of the major premises of efficient market theory is that the market quickly and correctly impounds any publicly available information, including dividend announcement to predict stock prices. The term efficiency is used to describe a market in which relevant information is impounded into the price of financial assets. In general terms, the theory of efficient markets is concerned with stock prices at any point in time *fully reflect* available information (Fama, 1970. 1991). Fama (1970) classified the market efficiency into three levels on the basis of the information: (1) *Weak form efficiency:* (2) *Semi-strong form efficiency:* and (3) *Strong form efficiency.* The paper deals with the semi-strong form of market efficiency.

This study is concerned with the information asymmetry and the dividend policy. It can refer to the signalling theory and the free cash flow hypothesis. The signalling theory, associated to the dividend content information hypothesis, holds that dividend policy acts as a vehicle for transmitting information from firm's authority to the market. Similarly, other theory postulates that the dividends work as a vehicle to drain excess cash-flows. Bhattacharya (1979), John and Williams (1985) and Miller and Rock (1985) developed the signalling models based on the information asymmetry hypothesis. On the other hand, Jensen (1986) proposed a theory which is widely known as the free cash flow hypothesis. The theory predicts that the stock prices will increase (decrease) if there is increase (decrease) in unexpected dividend payments.

This study is focused on the independence of stock returns and the short-run effect on stock price caused by announcement of unanticipated corporate dividend announcements. Similarly, investors perceive the dividend-announcements in different ways, viz., as good-news, bad-news and no effect-news.

Objective:

The main objective of the study is to test semi-strong form of market efficiency. The study examines the

market reaction that would follow immediately to the new unanticipated dividend announcements in the context of Nepalese stock market. Thus, the study examines the abnormal returns before and after the cash, stock, and cash and stock dividend announcements in the Nepalese stock market.

Review of Literature:

A large number of empirical tests (Pettit, 1972, 1976, Aharony & Swary, 1980, Asquith & Mullins, 1983, Dhillon & Johnson, 1994, Gurgul, Majdosz & Mestel, 2006, McClusky, Burton, Power & Sinclair, 2006, Dasilas, Lyroudi & Ginoglou, 2009, and Dasilas & Leventis, 2011) have shown that dividend changes announcements are positively associated with share returns in the days surrounding the dividend change announcements. Their conclusions emphasise on existence of dividend information content, or signalling effect. Nevertheless, several studies including Benartzi, Michaely and Thaler (1997), and Chen, Firth and Gao (2002) have not supported the existence of a positive relationship between dividend changes and the market reaction.

However, Mollah (2007) has found that in the Bangladesh stock market, the dividend-signalling hypothesis was rejected indicating that dividend announcements convey no information. In Saudi Arabia, Uddin and Osman (2008) have reported that the information signal of dividend announcements is weak, and the market does not react to dividend announcements according to information content hypothesis. Chen, Liu and Huang (2009) found the Chinese market reacting positively to both dividend increases and dividend decreases, showing partial compliance with the dividend signalling hypothesis. The empirical results are mixed regarding the dividend signalling effects to the value of stocks.

Van Eaton (1999) tested abnormal stock returns to large changes in dividends announcements during the 1971-1990. Over the 3 day (i.e. day -1 to +1) announcement periods, all dividend change categories showed significant abnormal returns of the expected sign. Dividend initiations and dividend-increase firm exhibited +3.3 per cent and +1.9 per cent during announcement period. Similarly, dividend-decrease and dividend omission firms reported -6.0 per cent and -6.5 per cent. Over the post-announcement year, these dividend decrease and dividend omission firms have statistically significant abnormal returns -11.18 per cent and -17.09 per cent. In the contrast, dividend resumption and increase firms did not exhibit significant abnormal returns over the year after the announcement of the dividend change. It provides new evidence on the pattern of stock price adjustment to the information contained in dividend change announcements that the magnitude of the price reaction at the time of the announcement of the dividend change is greatest for firms announcing

dividend-decrease and dividend-omission. On the contrary, Elfakhani (1998) explained that market reaction to dividend increases was stronger than that to dividend-decrease. Elfakhani (1998) also argued that not all dividend-increases are good-news, nor are all dividend-decreases bad-news.

Gurgul et al. (2006) investigated market reactions to dividend announcement changes (280 cases) on the German stock market for the period between 1992 and 2004. The study found that dividend increase announcements generate significant positive abnormal returns +0.42 per cent on the immediate announcement day t = 0. This result confirmed the findings of other studies in the sense that dividend increases were interpreted as positive signals by investors. Similarly, in case of constant dividends left the stock prices unaltered. In the cluster of announced dividend decreases, a statistically significant average abnormal daily returns on announcement day t = 0 was -1.54 per cent. This result corroborated empirical findings for other markets that cut in dividend payments were bad-news to investors and had negative impact on stock prices. These results also indicated that an announcement of dividend-decrease causes a much stronger price reaction than the average abnormal returns induced by increasing dividends. It provides an additional evidence that bad-news has a greater impact on stock returns than good-news on financial markets. The study results are also consistent to the notion of the semi-strong form of market efficiency. It indicates that the announcement of the changes in the dividend policy conveys 'valuable information' to the market.

Dasilas et al. (2009) investigated the impact of dividend initiations announcements on stock returns using a sample of 38 Greek listed firms for the period 2000-2004. They used three different event methodologies, namely, Market model, Market-adjusted return model and Raw-return model. The study showed that dividend initiations bring about significant positive abnormal returns in the announcement period. The results were in line with those found in the previous studies such as Healy and Palepu (1988) and Michaely et al. (1995). They also found that the price response (abnormal returns) to dividend initiations was inversely associated with the information-environment (and market capitalisation).

In the case of China, Chen et al. (2002) found cash dividend changes were not significantly related with share returns in the 3-day announcement period (t -1 and +1) using market model for 1,232 dividend changes announcements during the period from 1994 to 1997. This evidence is consistent with the dividend policy irrelevance hypothesis supported by Miller and Modigliani (1961). Similarly, Chen et al. (2009) investigated the impact of cash dividend changes on share price in China during the period from 2000 to 2004 and found different results from the study of

Chen et al. (2002). The study found that cash dividend changes had considerable influence on share prices; the market reacted quite positively to both cash dividend-increases and cash dividend-decreases. The results only half supports the signally hypothesis. The Chinese stock markets reaction to dividend changes implies that cash dividends are welcome whether there is dividend-increase or dividend-decrease.

Al-Yahyaee, Pham and Walter (2011) investigated information content of cash dividend announcements in Muscat Securities Market, Oman for the period between 1997 and 2005. The significant abnormal return on day -1 by dividend increasing companies was +1.3 per cent. The presence of significant positive abnormal returns on day -1 showed a somewhat earlier market reaction to the dividend announcement, which may suggest that there was leakage of dividend-information into market. The significant abnormal returns earned +5.78 per cent for dividend increased sub-sample on dividend announcement day (t=0). For dividend decreased sub-sample, the study reported significant abnormal returns of -2.49 per cent on announcement day. Similarly, no abnormal stock price movements had shown in the case of no-news (no changes dividend) sub-samples. These finding of the study supported the view that dividends convey unique and valuable information to investors. The study results were similar to the pervious study conducted by Capstaff et al. (2004) who found that the market reacted favourable to "good-news" announcements (dividend-increase) and adversely to "bad-news" announcements (dividend-decrease).

Akbar and Baig (2010) tested the semi-strong form of market efficiency by investigating the reaction of stock prices to dividend announcements in Pakistan for the period between 2004 and 2007 with 79 observations. It analysed cash, stock and simultaneous cash and stock dividend announcements. The study found that the abnormal return for cash dividend during dividend announcement day was negligible. But, the results for simultaneous cash and stock dividend announcements were similar to those for the stock dividend announcements, and rejected the semi-strong form of market efficiency. It indicates that simultaneous cash and stock dividend announcements give a very strong signal to investors regarding future growth in dividends and stock value. Therefore, such announcements are perceived positively and stock prices appreciate.

Mallikarjunappa and Manjunatha (2009) examined the stock price reactions to dividend announcements to test the semi-strong form of Efficient Market Hypothesis in India for 2002 with 170 cases of dividend announcements. Their study found that abnormal returns are not closer to zero during the day of dividend announcement, as per the prior condition of the semi-strong form of Efficient Market Hypothesis. Similarly, abnormal returns could be earned 24 days after the event day. Thus, the study concluded that the Indian stock market was not efficient in the semi-strong form.

In the case of bonus share-announcements in India, Joshipura (2009) reported that stock price effect associated with stock dividends was significantly positive on the announcement day. Similarly, Raja and Sudhahar (2010) also concluded that stock market reacted positively to stock dividend announcements, showing informational efficiency but it rejected the semi-strong form of market efficiency.

In Nepal, Bhatta (2008) evaluated the effect of 28 cash dividend announcements on stock returns between 1997 and 2005 for the 41 days' event period. The study did not find any dividend signalling effect, and rejected the semi-strong form of market efficiency. The similar results were also found after partitioning the sample dividend announcements into pre-2001 and post-2001, and small payout (less than 20 per cent) and large payout ratio (more than 20 per cent).

Similarly, Dangol (2009) examined the abnormal returns of dividend announcements in the Nepalese stock market using the market model of event methodology. The overall 49 dividend announcement samples were partitioned into dividend-increase (good-news), dividend-decrease (bad-news), and no dividend-change (no-news) sub-samples between 1998 and 2006. The average abnormal returns around the dividend announcement days (0, +1) were found to be positive and statistically significant. The abnormal returns were found much higher around the dividend announcement day. The dividend announcements had a signalling effect on Nepalese stock market. The study found inefficiency of the Nepalese stock market at the semi-strong level. Similarly, in the previous study of Dangol (2008) also found the similar results supporting information content hypothesis and rejecting efficiency of semi-strong form in the Nepalese stock market.

The majority of the above studies showed that the dividend signalling hypothesis was accepted in the developed markets and stock prices were adjusted effectively during the announcement day accepting semi-strong form of market efficiency. On the contrary, dividend announcement-effect has not been observed effectively in the emerging stock markets. Similarly, in the emerging markets, the leakage of dividend announcement-news is also possible to a great extent.

Research Methods:
Hypothesis: Relation between dividend announcements and the market reaction:

The current study has started with analysis of the relationship between dividend change announcements and the share price movements on the dividend announcement period. To do so, the following hypotheses have been formulated:

Null hypothesis, H$_0$: *"The dividend changes are not associated with a subsequent share price-reaction in the same direction during the dividend announcement period"*

Alternative hypothesis, H$_1$: *"The dividend changes are associated with a subsequent share price-reaction in the same direction during the dividend announcement period"*

This hypothesis reflects the signalling theory assumption that dividend announcement conveys information to the market about firms future profitability. So, if the null hypothesis is rejected, the results support the dividend information content hypothesis. If stock price adjust effectively within the day of dividend announcement, then it fulfils the notion of market efficiency in semi-strong form.

Population and sample selection:

As the size of the population, the study has considered those listed companies that have announced dividends up to mid-July 2011 in Nepal Stock Exchange (NEPSE). The sample companies of the study should fulfil the following criteria:

- The company should be the one listed at the Nepal Stock Exchange Ltd (NEPSE).
- The company should not be the one that has remained de-listed for a long period of time.
- The company should be the one that has already paid dividends (cash or stock or both) at least one time in its life.
- The company should be the one that has not dividend events with other potentially contamination announcements, *i.e.*, rights-share issue, merger or acquisition, investment decision, and capital gain tax changes announcements occurring within 10 days (Confounding effect before and after 10 days of divided announcement).
- The securities of the company should be the one traded on at least 50 per cent of the floor-days during the estimation period. This can avoid the sample traded very infrequently.
- The company should not have missing data (on dividend announcement date, and annual reports.)

The study has considered the dividend announcements between 2000/01 and 2010/11. During the period, total dividend events are 561 company-observations. On the basis of the above criteria, the total sample for the analysis has been fixed at 139 firm dividend announcements. The selected sample size has been found statistically adequate according to the calculation based on the formula devised by Cochran (1999). The sample includes dividend events: dividend initiation, dividend increase, dividend decrease and dividend no-change. The samples have also been classified on the basis of types of dividend

announcements, *i.e.,* only cash dividend, only stock dividend and both cash and stock dividend. On the basis of industry breakdown, little more than two-thirds of the sample companies are the commercial banks, and the remaining one-third is the development banks, finance companies, hydropower and other sector companies. Table 1 summary the sample data.

Method of Analysis:

To test the relations between dividend announcements and the market reaction, the majority of the studies have used market model, which is already known as the event study, thus:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \quad\text{---(1)}$$

The market model makes no explicit assumption about how equilibrium stock prices are established (Strong, 1992). The basic assumption of the market model are (i) error term (e_{it}) is a mean zero, independent disturbance term in period *t*, (ii) linear relationship between overall market returns (R_{mt}) and the individual stock returns (R_{it}), and (iii) the effect of firm-specific events is meant to be fully captured in the unsystematic component (e_{it}) and the information signal, i.e., dividend announcement and market returns (R_{mt}) are independent.

The Nepalese stock market suffered from the thin trading (infrequent trading) problem. To remove the problem of thin-trading and its effect on event methodology, the study applies a correction to the observed overall index by using a methodology proposed by Miller et al. (1994). Thus, the proposed model to investigate about abnormal returns on stock due to dividend announcements is as under:

$$R_{it} = \alpha_i + \beta_i R_{mt}^{adj} + e_{it} \quad\text{---(2)}$$

Where, R_{it} = the return of stock *i* on day *t* = Ln $\left(\dfrac{P_t}{P_{t-1}}\right)$

R_{mt}^{adj} = the adjusted market return on day t^{50}

R_{mt} = the unadjusted market return on day *t* = Ln $\left(\dfrac{NEPSE_{mt}}{NEPSE_{mt-1}}\right)$

e_{it} = a random error term for stock *i* on day *t*

α_i and β_i = firm independent coefficients to be estimated

The market model is estimated for each company in the sample using 180 daily returns. The estimated period starts 200 days before the announcement date and ends of 21 days before the announcement date (or day t = - 200 to day t = -21). The length of the estimation period used in this study is consistent with

prior studies of capital market responses (Bosch & Hirchey, 1989, Hovav & D'Arcy, 2003, Dasilas & Leventis, 2011). The estimated parameters and the realised returns on the adjusted overall NEPSE market index have been used to predict normal returns before and after the event period.

The study confined to six separate events periods for a 21 days around the event announcement (*i.e.* −10 days to +10 days) as suggested by Cheng and Leung (2006)**.** Event day $t = 0$, is the date when firm i makes the announcements of dividend. The shorter event window is selected to test the effects of dividend events, are quickly incorporated into stock prices. McWilliams and Siegel (1997) argued that the assumption of market efficiency is difficult to reconcile with the use of a long event window.

The coefficient estimates from regression equation are used to predict normal returns for the six events periods: (-10, -2), (+2, +10), (-10, +10), (-5, +5), (-3, +3) and (-1, +1). Prediction errors during the event periods, *i.e.*, deviations of realisation returns from normal returns, are estimates of abnormal returns (AR). Thus, the market model is used to calculate an abnormal return for the common stock of a firm i on event day t, as under:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}^{Adj}) \quad \dots\dots\dots\dots (3)$$

The null hypothesis to be tested is that the average abnormal returns and cumulative abnormal return are equal to zero for any given event period. More formally, for a sample of N securities, the mean abnormal returns on any given day t is:

$$\overline{AR}_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \quad \dots\dots\dots\dots\dots\dots\dots(4)$$

To measure abnormal returns over a specific time interval or holding period, the sample mean abnormal returns are summed to derive the sample mean cumulative abnormal returns as under:

$$\overline{CAR}_t = \sum_{t=T_1}^{T_2} \overline{AR}_t \quad \dots\dots\dots\dots\dots\dots\dots\dots (5)$$

where, T_1 and T_2 identify beginning and ending days of sample-specific event periods within the overall 21 days $t = -10$ to $t = +10$ event period. The test t-statistic for the significance of $\overline{AR}_t$ is calculated as under:

$$t - \text{Statistic (for AR)}^{52} = \frac{\overline{AR}_t}{\hat{S}(\overline{AR}_t)} \quad \dots\dots\dots\dots(6)$$

Where,

$$\hat{S}(\overline{AR}_t) = \sqrt{\sum_{t=-200}^{t=-21} \frac{(\overline{AR}_t - \overline{\overline{AR}}_t)^2}{179}} \quad \dots\dots\dots\dots (7)$$

$$\overline{\overline{AR}} = \frac{1}{180} \sum_{t=-200}^{t=-21} \overline{AR}_t \quad \dots\dots\dots\dots\dots\dots\dots\dots (8)$$

where, $t = -200$ to $t = -21$ is the 180 days estimation period. The interval test statistic for each sample and each holding period of T days in length is assumed to be approximately unit-normal and can be written as under and follows a *t*-statistic distribution:

$$t - \text{statistic (for CAR)} = \frac{\overline{CAR}_t}{\hat{S}(\overline{AR}_t)\sqrt{T_2 - T_1 + 1}} \quad \dots (9)$$

Empirical test Results:
Dividend Initiation:

The dividend events are classified into three different types such as cash, stock and, both cash and stock dividends. Table 2 presents summary of average daily abnormal returns for the cash, stock and both cash and stock dividend for the dividend initiation sample. During the announcement day $t = 0$, the strong positive average abnormal returns of 0.032 per cent (*t*-statistic = 4.217 significant at the 1 per cent level) has been reported for only stock dividend announcement. The market has reacted efficiently to such announcements, and the reported return is the highest on the announcement day. The market has not significantly reacted to the other remaining two cases – 'only cash' and 'cash-and-stock dividend' –on any day of the event period. It indicates that the Nepalese investors are much concerned about the stock dividend than 'only-cash' and, 'cash-and-stock dividend' for the dividend initiation event.

Dividend increased:

Table 3 presents the average daily abnormal returns for the cash, stock and both cash and stock dividend for dividend increase sample. During the announcement day $t = 0$, the strong positive average abnormal returns of 0.014 per cent (*t*-statistic = 3.176 significant at the 1 per cent level) for only cash dividend and 0.050 per cent (*t*-statistic = 6.695 significant at the 1 per cent level) for only stock dividend announcement has been reported. Similarly, average daily abnormal return is 0.039 per cent (*t*-statistic = 7.836 significant at the 1 per cent level) at the announcement day $t = 0$ in the both cash and stock dividend events. In all the three cases, the market reacts positively during the event day with statistically significance as expected. But, to both cash and stock dividend, market react negatively (0.011 per cent, | *t* | statistic = |-2.134| = 2.134 significant at the 5 per cent

level) in day $t = +7$. The result has contradicted with the notion of market efficiency.

Dividend Decreased:

Table 4 presents a summary of average daily abnormal returns for the cash, stock and both cash and stock dividend in case of dividend-decrease event. During the announcement day $t = 0$, the strong negative average abnormal returns of 0.021 per cent (| t | statistic = |-2.711| = 2.711, significant at the 5 per cent level) has been reported for only cash dividend announcement. The market reaction is efficient and the reported return is highest of all other event days. In case of only-stock dividend event, the average abnormal returns in day $t = 0$ is -0.002 per cent which is not statistically significant. But in day t = +1, the abnormal return is 0.025 per cent (| t | statistic = |-2.734| = 2.734, significant at the 5 per cent level). It is the evidence that the Nepalese market does not react to the event day in case of stock dividend decrease, but it is considered as good-news on the following day of announcement. There is no significant market reaction towards both cash and stock dividend events.

Dividend No-Changed:

Average daily abnormal returns for the cash, stock and both cash and stock dividend for the dividend-no-changed sample is presented in Table 5. As per the prior expectation, the market does not react significantly at 5 per cent level in all three cases – only cash, only stock and, both cash-and-stock – in case of dividend no-change (no-news) events. The result is similar with the notion of market efficiency.

Cumulative Average Abnormal Returns:

Table 6 shows cumulative average abnormal returns for the announcement period and other different periods. In case of the dividend initiation events, statistically significant positive abnormal returns of 0.039 per cent (t-statistic = 2.994, significant at the 5 per cent level) has been reported for stock dividend events during the event announcement period (-1, +1). Similarly, market react positively (0.062 per cent, t-statistic = 4.664, significant at the 1 per cent level) to stock dividends and (0.040 per cent, t-statistic = 4.720, significant at the 1 per cent level) to both cash and stock dividend events during the dividend announcement period (-1, +1) in the dividend-increase event. In the same event, the market reaction is statistically (at 5 per cent level) significant and positive to cash, stock and, cash-and-stock announcement during the period (-3, +3), which suggests that there is the market reaction on all the seven days surrounding the announcement date. There is no significant reaction to the dividend decrease cases in the announcement period and other different periods. In the dividend no-change

announcement event, the market reacts positively with significance up to 5 per cent level in different periods: (+2, +10), (-5, +5) and (-10, +10) in the stock dividend announcements. It follows that the market does not react in the announcement period to the dividend no-change event but market reacts positively later in the case of stock dividends. Finally, it is observed that the market react quickly to stock dividends in the cases of dividend initiation, increase and no-change. Dividend increases are of a bigger concern to Nepalese investors since they have positively reacted to all cases of cash, stock and both cash-and-stock dividend announcements.

Conclusion and Implications:

For dividend initiation sample, the market is reacted efficiently and the reported return is highest in comparison to other event days. In the other remaining two cases – only cash and only stock dividend – has not been significantly reacted by the market on any day of the event period. It indicates that the Nepalese investors are more concerned about the stock dividend than about cash and, cash-and-stock dividend for dividend initiation event. For dividend-increase announcements, the market reacts positively in all three cases during the event day with statistically significant as prior expectations.

For the dividend decrease event, announcement day, the strong negative average abnormal returns of has been reported for only cash dividend announcement. The market is reacted efficiently and the reported return is highest in comparison to other event days. There is no significant market reaction towards the both cash-and-stock dividend events. The market does not react significantly in all three cases – only cash, only stock and, both cash and stock – in dividend no-changes (no-news) events.   The result is consistent with the notion of market efficiency.

Overall, in three cases, dividend-increases, dividend-decreases and dividend-no-changes, the positive excess returns finds stock dividend announcement indicating the Nepalese investors seek for stock dividend than cash dividend. The result is consistent with Joshipura (2009) and; Raja and Sudhahar (2010) in the context of India. Results are consistent to some extent with the dividend-signalling hypothesis and the notion of the efficient market hypothesis. The Nepalese investors should aware with the stock dividend announcement in the market.

References:

[1] Aharony, J., & Swary, I. (1980). Quarterly dividend and earnings announcements and stockholders' returns: An empirical analysis. *The Journal of Finance*, *35*(1), 1-12.

[2] Akbar, M., & Baig, H. H. (2010). Reaction of stock prices to dividend announcements and

market efficiency in Pakistan. *The Lahore Journal of Economics*, *15*(1), 103-125.

[3] Al-Yahyaee, K. H., Pham, T. M., & Walter, T. S. (2011). The information content of cash dividend announcements in a unique environment. *Journal of Banking & Finance*, *35*(3), 606-612.

[4] Asquith, P., & Mullins, D. W. (1983). The impact of initiating dividend payments on shareholders' wealth. *Journal of Business*, *56*(1), 77-96.

[5] Benartzi, S., Michaely, R., & Thaler, R. (1997). Do changes in dividends signal the future or the past? *The Journal of Finance*, 52(3), 1007-1034.

[6] Bhatta, G. P. (2008). *Stock market efficiency in Nepal*. (Doctoral dissertation, Tribhuvan University, 2008)

[7] Bhattacharya, S. (1979). Imperfect information, dividend policy and the bird in the hand fallacy. *Bell Journal of Economics*, *10*(1), 259-270.

[8] Bosch, J. C., & Hirschey, M. (1989). The valuation effects of corporate name changes. *Financial Management, 18*(4), 64-73.

[9] Capstaff, J., Klaeboe, A., & Marshall, A. P. (2004). Share price reaction to dividend announcements: Empirical evidence on the signalling model from the Oslo Stock Exchange. *Multinational Finance Journal*, *8*(1 & 2), 115-139.

[10] Chen, D., Liu, H., & Huang, C. (2009). The announcement effect of cash dividend changes on share prices: An empirical analysis of China. *The Chinese Economy*, *42*(1), 62-85.

[11] Chen, G., Firth, M., & Gao, N. (2002). The information content of concurrently announced earnings, cash dividends, and stock dividends: An investigation of the Chinese stock market. *Journal of International Financial Management and Accounting*, *13*(2), 101-124.

[12] Cheng, L. T. W., & Leung, T. Y. (2006). Revisiting the corroboration effects of earnings and dividend announcements. *Accounting and Finance*, *46*, 221-241.

[13] Cochran, W. G. (1999). *Sampling Techniques*. Singapore: John Wiley & Sons.

[14] Dangol, J. (2008). Unanticipated political events and stock returns: An event study. *Economic Review*, *20*, 86-110.

[15] Dangol, J. (2009). Abnormal returns of dividend announcements: Evidence from Nepalese stock market. *Nepalese Economic Review*, *1*(2), 1-27.

[16] Dasilas, A., & Leventis, S. (2011). Stock market reaction to dividend announcements: Evidence from the Greek stock market. *International Review of Economics and Finance*, *20*(2), 302-311.

[17] Dasilas, A., Lyroudi, K., & Ginoglou, D. (2009). The impact of dividend initiations on Greek listed firms' wealth and volatility across information environments. *Managerial Finance*, *35*(6), 531-543.

[18] Dhillon, U. S., & Johnson, H. (1994). The effect of dividend changes on stock and bond prices. *The Journal of Finance*, *49*(1), 281-289.

[19] Elfakhani, S. (1998). The expected favourableness of dividend signals, the direction of dividend change and the signalling roll of dividend announcements. *Applied Financial Economics*, *8*, 221-230.

[20] Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, *25*(2), 383-417.

[21] Fama, E. F. (1991). Efficient capital markets: II. *The Journal of Finance*, *46*(5), 1575-1617.

[22] Gurgul, H., Majdosz, P., & Mestel, R. (2006). Implications of dividend announcements for stock prices and trading volume of DAX Companies. *Czech Journal of Economics and Finance*, *56*, 58-68.

[23] Healy, P. M., & Palepu, K. G. (1988). Earnings information conveyed by dividend initiations and omissions. *Journal of Financial Economics*, *21*(2), 149-176.

[24] Hovav, A., and D'Arcy, J. (2003). The impact of denial-of-service attack announcements on the market value of firm. *Risk Management and Insurance Review*, *6*(2), 97-121.

[25] Jensen, M. (1986). Agency costs of free cash flow, corporate finance, and takeover. *American Economic Review*, *76*(2), 323-329.

[26] John, K., & Williams, J. (1985). Dividend, dilution and taxes: A signalling equilibrium. *The Journal of Finance*, *40*(4), 1053-1070.

[27] Joshipura, M. (2009). Price and liquidity effects of bonus announcements: Empirical evidence from Indian stock market. *The IUP Journal of Applied Finance*, *15*(11), 5-23.

[28] Mallikarjunappa, T., & Manjunatha, T. (2009). Stock price reaction to dividend announcements. *Journal of Management & Public Policy*, *1*(1), 43-56.

[29] McCluskey, T., Burton, B. M., Power, D. M., & Sinclair, C.D. (2006). Evidence on the Irish stock market's reaction to dividend announcements. *Applied Financial Economics*, *16*, 617-628.

[30] McWilliams, A., & Siegel, D. (1997). Event studies in management research: Theoretical and empirical issues. *Academy of Management Journal, 40*(3), 626-657.

[31] Michaely, R., Thaler, R. H., & Womack, K. L. (1995). Price reactions to dividend initiations and omissions: Overreaction or drift? *The Journal of Finance*, *50*(2), 573-608.

[32] Miller, M., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *The Journal of Business*, *34*(4), 411-433.

[33] Miller, M. H., Muthuswamy, J., & Whaley, R. E. (1994). Mean reversion of Standard & Poor's 500 index basis changes: Arbitrage-induced or

statistical illusion? *The Journal of Finance*, *49*(2), 479-513.

[34] Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, *40*(4), 1031-1051.

[35] Mollah, S. (2007). Price reaction to dividend initiations and omissions in emerging market: Evidence from pre and post market crisis in Bangladesh. *The International Journal of Business and Finance Research*, *1*(2), 51-68.

[36] Pettit, R. R. (1972). Dividend announcements, security performance, and capital market efficiency. *The Journal of Finance*, *27*(5), 993-1007.

[37] Pettit, R. R. (1976). The impact of dividend and earnings announcements: reconciliation. *The Journal of Business*, *49*(1), 86-96.

[38] Raja, M., & Sudhahar, J. C. (2010). An empirical test of Indian stock market efficiency in respect of bonus announcement. *Asia Pacific Journal of Finance and Banking Research*, *4*(4), 1-14.

[39] Strong, N. (1992). Modelling abnormal returns: A review article. *Journal Business Finance & Accounting, 19*(4), 533-553.

[40] Uddin, M. H., & Osman, D. (2008). Effect of dividend announcement on shareholders' value: Evidence from Saudi Arabian Stock Exchange. *The International Journal of Business and Finance Research*, *2*(1), 87-101.

[41] Van Eaton, R. D. (1999). Stock price adjustment to the information in dividend changes. *Review of Quantitative Finance and Accounting*, *12*, 113-133.

Table 1: Sample Selection

The table reports dividend events in terms of dividend initiation, dividend increase, dividend decrease and dividend no-change as well as its types categorised into only cash dividend, only stock dividend and, both cash-and-stock dividend are shown in Panel A. Similarly, Panel B presents sample companies by industry breakdown.

Panel A: Dividend events and its classification					
Dividend events	**Type of Dividend**				
	Cash	**Stock**	**Cash and Stock**	**Total**	**Percentage (%)**
Dividend Initiation	13	14	3	30	21.58
Dividend Increased	27	10	18	55	39.57
Dividend Decreased	18	6	13	37	26.62
Dividend No-changed	6	8	3	17	12.23
Total	**64**	**38**	**37**	**139**	**100.00**
Percentage (%)	**46.04**	**27.34**	**26.62**	**100.00**	

Panel C: Sample by industry breakdown		
Type of companies	**Number of dividend announcements**	**Percentage (%)**
Commercial Bank	98	70.50
Development Bank	20	14.39
Finance Company	12	8.63
Hydro Power	6	4.32
Others	3	2.16
Total	**139**	**100.00**

Table 2: Summary of average daily abnormal returns for the cash dividend, stock dividend and, cash-and-stock dividend for dividend initiation sample of dividend announcements over the period July 2000 to July 2011

The table reports the average daily abnormal returns for day $t = -10$ to day $t = +10$. The sample consists of 13 cash dividend, 14 stock dividend, and 3 both cash-and-stock dividend under yearly dividend initiation announcements for the companies listed at the NEPSE for the period covering July 2000 to July 2011. The market model is considered for the normal returns. Average abnormal return is the simple average abnormal return for the specified day in event time. The event time is measured in days relative to the dividend announcement date.

Day	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns
-10	0.006	0.733	-0.003	-0.381	-0.006	-0.430
-9	0.012	1.380	-0.008	-1.005	0.026	1.865
-8	0.008	0.967	-0.004	-0.585	0.003	0.227
-7	-0.007	-0.796	-0.004	-0.564	-0.018	-1.276
-6	0.001	0.171	0.013	1.757	0.008	0.539
-5	0.000	-0.051	0.003	0.370	0.010	0.710
-4	-0.001	-0.100	0.007	0.984	-0.003	-0.212
-3	-0.008	-0.938	0.001	0.079	-0.003	-0.190
-2	0.006	0.732	-0.001	-0.150	-0.001	-0.055
-1	0.001	0.137	0.003	0.365	0.005	0.374
0	0.016	1.861	0.032*	4.217	0.058	4.113
1	0.001	0.117	0.005	0.604	0.029	2.048
2	0.001	0.082	0.007	0.933	-0.017	-1.230
3	0.006	0.697	-0.008	-1.102	-0.012	-0.890
4	0.002	0.202	-0.006	-0.840	-0.019	-1.371
5	-0.004	-0.431	0.010	1.348	-0.010	-0.706
6	0.009	1.072	0.013	1.690	-0.007	-0.510
7	0.004	0.421	0.003	0.459	-0.026	-1.848
8	-0.007	-0.797	0.010	1.307	-0.002	-0.129
9	0.007	0.800	-0.003	-0.430	0.000	0.010
10	-0.007	-0.866	-0.007	-0.914	0.017	1.224

** Significant at the 5% level (two-tail test)
* Significant at the 1% level (two-tail test)

Table 3: Summary of average daily abnormal returns for the cash dividend, stock dividend and, cash-and-stock dividend for dividend increase sample of dividend announcements over the period July 2000 to July 2011

The table reports the average daily abnormal returns for day $t = -10$ to day $t = +10$. The sample consists of 27 cash dividend, 10 stock dividend, and 18 cash-and-stock dividend cases under yearly dividend increase announcements for the companies listed in the NEPSE for the period of July 2000 to July 2011. The market model is considered for the normal returns. Average prediction error is the sample average abnormal return for the specified day in event time. Event time is measured in days relative to the dividend announcement date.

Day	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns
-10	0.000	0.096	0.000	-0.040	-0.007	-1.395
-9	0.000	0.028	0.000	-0.038	0.004	0.778
-8	0.002	0.427	0.000	-0.012	0.002	0.416
-7	-0.009	-2.029	0.003	0.344	0.003	0.669
-6	0.004	0.977	-0.004	-0.487	0.001	0.120
-5	0.005	1.190	-0.008	-1.091	-0.004	-0.826
-4	0.000	-0.048	0.004	0.476	-0.004	-0.898
-3	0.005	1.132	0.002	0.226	-0.003	-0.653
-2	0.002	0.410	-0.001	-0.097	0.002	0.401
-1	0.003	0.782	0.010	1.371	0.004	0.719
0	0.014*	3.176	0.050*	6.695	0.039*	7.836
1	-0.001	-0.162	0.000	0.011	-0.002	-0.380
2	0.003	0.723	0.003	0.384	0.002	0.371

Day	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Average Abnormal Returns (%)	*t*-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	*t*-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	*t*-Statistic for Average Abnormal Returns
3	0.003	0.669	-0.003	-0.377	-0.007	-1.508
4	-0.004	-0.904	-0.008	-1.115	-0.004	-0.771
5	0.005	1.260	0.005	0.716	-0.001	-0.193
6	-0.004	-1.037	-0.004	-0.526	0.001	0.145
7	0.003	0.758	0.002	0.317	-0.011**	-2.134
8	0.001	0.265	-0.008	-1.073	0.004	0.789
9	0.001	0.267	-0.004	-0.505	0.001	0.129
10	-0.002	-0.426	-0.003	-0.442	-0.002	-0.462

** Significant at the 5% level (two-tail test)

* Significant at the 1% level (two-tail test)

Table 4: Summary of average daily abnormal returns for the cash dividend, stock dividend and, cash and stock dividend for dividend decreased sample of dividend announcements over the period July 2000 to July 2011

The table reports the average daily abnormal returns for day $t = -10$ to day $t = +10$. The sample consists of 18 cash dividend, 6 stock dividend, and 13 cash-and-stock dividend cases under yearly dividend decrease announcements for the companies listed with the NEPSE for the period of July 2000 to July 2011. The market model is considered for the normal returns. Average abnormal return is the simple average abnormal return for the specified day in event time. The event time is measured in days relative to the dividend announcement date.

Day	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Average Abnormal Returns (%)	*t*-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	*t*-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	*t*-Statistic for Average Abnormal Returns
-10	0.004	0.557	0.005	0.560	-0.002	-0.283
-9	-0.004	-0.563	0.008	0.920	0.004	0.497
-8	-0.003	-0.414	-0.007	-0.771	0.000	-0.043
-7	-0.004	-0.526	0.001	0.089	-0.003	-0.381
-6	0.004	0.476	0.001	0.131	0.010	1.271
-5	-0.005	-0.626	-0.016	-1.720	-0.001	-0.142
-4	0.012	1.591	0.013	1.389	0.004	0.479
-3	0.005	0.579	0.008	0.844	-0.017	-2.166
-2	0.003	0.397	0.000	0.047	0.006	0.718
-1	0.007	0.870	0.007	0.788	0.003	0.376
0	-0.021**	-2.711	-0.002	-0.255	-0.001	-0.116
1	-0.002	-0.259	0.025**	2.734	0.007	0.933
2	0.002	0.312	-0.015	-1.612	-0.003	-0.353
3	0.003	0.434	-0.013	-1.402	0.005	0.648
4	0.004	0.486	-0.005	-0.514	0.000	-0.025
5	-0.009	-1.127	0.004	0.448	-0.002	-0.264
6	-0.002	-0.234	0.010	1.136	0.000	0.033
7	0.003	0.426	-0.012	-1.253	-0.003	-0.363
8	0.005	0.590	-0.004	-0.405	-0.003	-0.412
9	0.001	0.124	0.005	0.530	-0.005	-0.622
10	0.007	0.859	0.007	0.775	0.003	0.444
** Significant at the 5% level (two-tail test)						
* Significant at the 1% level (two-tail test)						

Table 5: Summary of average daily abnormal returns for the cash dividend, stock dividend and, cash-and-stock dividend for dividend no-change sample of dividend announcements over the period July 2000 to July 2011

The table reports the average daily abnormal returns for day $t = -10$ to day $t = +10$. The sample consists of 6 cash dividend, 8 stock dividend, and 3 cash-and-stock dividend cases under yearly dividend no-change announcements for the companies listed at the NEPSE for the period from July 2000 to July 2011. The market model is considered for the normal returns. Average abnormal return is the simple average abnormal return for the specified day in event time. The event time is measured in days relative to the dividend announcement date.

Day	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns	Average Abnormal Returns (%)	t-Statistic for Average Abnormal Returns
-10	-0.013	-1.202	-0.006	-0.715	0.010	0.549
-9	0.003	0.257	0.008	0.862	0.007	0.384
-8	0.005	0.478	0.005	0.505	-0.015	-0.796
-7	0.011	1.064	0.007	0.797	-0.007	-0.401
-6	0.001	0.132	0.008	0.860	0.017	0.952
-5	-0.008	-0.774	0.016	1.733	-0.020	-1.083
-4	-0.010	-0.920	0.017	1.870	0.023	1.282
-3	0.001	0.059	0.001	0.133	0.001	0.081
-2	-0.008	-0.764	0.002	0.168	0.015	0.817
-1	0.002	0.194	-0.010	-1.105	-0.017	-0.906
0	0.004	0.401	0.005	0.526	0.010	0.573
1	-0.002	-0.207	0.014	1.504	-0.007	-0.406
2	0.002	0.173	0.019	2.091	-0.001	-0.077
3	0.006	0.587	0.003	0.357	0.004	0.194
4	0.014	1.319	0.004	0.399	0.009	0.488
5	-0.006	-0.596	0.002	0.180	-0.015	-0.814
6	0.005	0.446	0.014	1.591	-0.011	-0.581
7	-0.005	-0.434	0.006	0.709	0.000	0.016
8	-0.002	-0.232	0.013	1.440	-0.018	-0.999
9	0.009	0.866	0.013	1.448	-0.023	-1.257
10	-0.003	-0.276	0.013	1.392	0.054	2.950
**	Significant at the 5% level (two-tail test)					
*	Significant at the 1% level (two-tail test)					

Table 6: Cumulative average abnormal returns

The table reports the cumulative average daily abnormal returns for different event periods between July 2000 and July 2011. The market model is considered for the normal returns. Average abnormal return is the simple average abnormal return for the specified day in event time, and cumulative average abnormal return is the simple cumulative average abnormal return for the specified event window. The event time is measured in days relative to the dividend announcement date.

Period	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Cumulative Average Abnormal Returns (%)	t-Statistic for Cumulative Average Abnormal Returns	Cumulative Average Abnormal Returns (%)	t-Statistic for Cumulative Average Abnormal Returns	Cumulative Average Abnormal Returns (%)	t-Statistic for Cumulative Average Abnormal Returns
A: Dividend Initiation (N = 30)						
(+2, +10)	0.010	0.394	0.019	0.817	-0.076	-1.816
(-10, +10)	0.047	1.177	0.062	1.777	0.032	0.495
(-5, +5)	0.020	0.696	0.051	2.052	0.036	0.782
(-3, +3)	0.023	1.016	0.037	1.869	0.058	1.577

Period	Cash Dividend		Stock Dividend		Cash and Stock Dividend	
	Cumulative Average Abnormal Returns (%)	t-Statistic for Cumulative Average Abnormal Returns	Cumulative Average Abnormal Returns (%)	t-Statistic for Cumulative Average Abnormal Returns	Cumulative Average Abnormal Returns (%)	t-Statistic for Cumulative Average Abnormal Returns
A: Dividend Initiation (N = 30)						
(-1, +1)	0.018	1.221	0.039**	2.994	0.092	3.773
(-10, -2)	0.018	0.699	0.004	0.168	0.017	0.393
B: Dividend Increases (N = 55)						
(+2, +10)	0.007	0.525	-0.020	-0.873	-0.018	-1.212
(-10, +10)	0.033	1.648	0.036	1.034	0.016	0.688
(-5, +5)	0.036	2.481	0.054	2.171	0.020	1.235
(-3, +3)	0.029**	2.543	0.062**	3.105	0.033**	2.564
(-1, +1)	0.016	2.191	0.061*	4.664	0.040*	4.720
(-10, -2)	0.009	0.728	-0.005	-0.240	-0.007	-0.463
C: Divided Decreases (N = 37)						
(+2, +10)	0.015	0.623	-0.021	-0.766	-0.007	-0.304
(-10, +10)	0.010	0.270	0.023	0.536	0.002	0.051
(-5, +5)	0.000	-0.016	0.007	0.225	0.001	0.027
(-3, +3)	-0.003	-0.143	0.011	0.432	0.000	0.015
(-1, +1)	-0.016	-1.213	0.030	1.886	0.009	0.689
(-10, -2)	0.011	0.490	0.014	0.496	0.000	-0.016
D: Dividend No-Changes (N = 17)						
(+2, +10)	0.020	0.618	0.086**	3.203	-0.001	-0.026
(-10, +10)	0.006	0.125	0.151*	3.654	0.018	0.211
(-5, +5)	-0.006	-0.159	0.071**	2.369	0.003	0.045
(-3, +3)	0.005	0.167	0.033	1.389	0.005	0.105
(-1, +1)	0.004	0.224	0.008	0.534	-0.014	-0.426
(-10, -2)	-0.018	-0.556	0.056	2.071	0.033	0.595
** Significant at the 5% level (two-tail test)						
* Significant at the 1% level (two-tail test)						

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