Dividend capturing on ex- dividend day: A scenario of Pakistan.

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Abstract

This paper has examined dividend-capturing activities and short-term trading of stocks listed on the Pakistan Stock Exchange. For this, a time span of twenty years (2001–2020) for PSX-listed stocks has been selected. Standard event study methodology and regression have been used to analyze the presence of arbitrageurs to capture dividend benefits around ex-dividend day. The abnormal returns of stocks are estimated with the help of a market model. The impact of various exogenous factors is checked through regression. The result of this study confirmed the existence of short-term trading and found evident empirical support for explaining dividend-capturing activities. Positive abnormal returns are recorded before event day, and negative abnormal returns are recorded thereafter. Finally, results from regression revealed that dividend yield and risk are significant and verifiable explanations of stock prices fluctuation on ex-dividend day.

Key words*: abnormal returns, short term trading, Pakistan Stock Exchange, event study*

Introduction

Investors generally make investments in stock markets with the prime motive of getting some financial benefit. This financial benefit can either be in the form of dividends or capital gains. Dividends are the portion of profit that is distributed among the shareholders. On the other hand, capital gains can be exploited by considering the positive price differences between shares. Dividend decisions are considered essential not only for investors but also for corporations because such decisions have a significant impact on the prices of shares. The amount of the dividend is declared on the announcement date by the board of directors of the corporations, which may influence the perception of all stakeholders regarding corporations and their future performance. This may bring stock prices up or down, depending on the amount of the expected dividend. Ex-dividend day comes after the announcement date. Ex-dividend day serves as a cut-off day that draws a clear line of distinction between investors who are eligible to receive declared dividends and those who are not. On ex-dividend day, anyone who buys shares of a company does not qualify to get a declared dividend. As stocks are traded without containing the benefit of dividends on ex-dividend day, a decrease in the price of stock is generally observed. The idea that a stock price should decline by the amount of the dividend at the ex-dividend date was first questioned by Campbell and Beranek in 1955. According to them, the prices of stocks should decrease by an amount equal to the dividend, but in the real scenario this does not happen. In fact, stock prices tend to fall less than the amount of the dividend (Dupuis, 2019; Asimakopoulos et al., 2015; Tamara et al., 2020). Such price discrepancies may attract many investors and arbitrageurs who exploit such price differences and make quick profits. One of the most popular strategies in this context is the 'dividend-capturing strategy' (Tran et al., 2017). This strategy works better around the ex-dividend date. Under this strategy, stocks are acquired on the cum-dividend date and sold on the ex-dividend date. The last trading day on which the owner or purchaser of a stock has the option to receive a dividend is known as the cum-dividend date. The price reduction is generally recovered from the amount of the dividend received. In this way, quick profits can be earned. For example, Mr. X had 100 shares in ABC Company. The share price of the company is assumed to be Rs.20, and the total investment of Mr. X equals the worth of 2000 rupees. ABC Company declared a dividend of Rs.2 per share on July 11, 2023, and the ex-dividend date is assumed to be July 25, 2023. On ex-dividend day, prices of stock are generally assumed to fall, and the share price of ABC Company, following a similar pattern, also

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dropped by Re.1. To get the benefit of this price drop, Mr. X sells his shares and receives 1900 rupees. He covered the price difference by receiving the declared dividend of 200 rupees. Thus, Mr. X receives 200 rupees in the form of a dividend and over-weights the profit by 100 rupees. Investors normally compensate for the price drop by capturing declared dividends. Stock pricing behavior surrounding ex-dividend day is considered the most debated issue in corporate finance theory. According to Miller and Modigliani (1961), stock prices should fall approximately by an amount equal to a dividend in a risk-free environment. In fact, no such market exists in the real world. Various researchers have studied the stock price phenomenon of ex-dividend day across the world to explain this anomaly. Existing literature has penned various competing explanations for this stock price discrepancy, but the most popular and widely accepted reason is the short-term trading effect. Kalay (1982) was one of the researchers who shed light on a new aspect to explain the ex-dividend day effect. He presented the theory of short-term trading' and connected this cause to the ex-dividend day phenomenon. According to his seminal work, for tax-neutral investors, there are factors that mitigate the effect of any tax discrepancy. These factors are generally brought on by short-term traders. Stock prices drop to generate arbitrage opportunities. Arbitrage traders may earn arbitrage profits up to their marginal transaction costs. Numerous researchers have started to investigate the phenomenon of ex-dividend day around the globe. Kreidl, F. (2020) conducted a study on German stocks to examine the price behavior and volume of stocks traded around the ex-dividend date, covering the time from 2002 to 2019. A standard event study methodology was being used to empirically test the pricing behavior of stocks. The prices of stocks dropped almost as much as dividend amounts, so no price discrepancy was observed. The results of this study strengthened tax-motivated reasoning. The stock price fluctuations surrounding ex-dividend day is not very clear in the context of less developed countries, especially in the financial markets of developing economies like Pakistan (Tauseef and Nishat 2015). Recently, several studies have been done to examine stock behavior in Pakistan as well. Tanveer et al., (2019) examined how stock prices on Pakistan's stock exchange responded to dividend declaration dates. They calculated the data for 91 companies in the top ten most active industries on the Pakistan Stock Exchange. The panel regression method was used. Their findings confirm the information content hypothesis, which postulates that managers have more access to knowledge than investors. Because stock prices reflect information that is currently available, such as dividend releases and information leaks, the significant values of AAR around

the event support the semi-strong efficient theory. The results can be broadly interpreted to show that practically all PSX sectors are struggling with the issue of insider trading. Further, Amir and Shah (2011) examined the effect of dividend announcements on stock market returns. Their study covered the time span from 2004 to 2008. Overall, 26 dividend announcements were made throughout this time. An event window of 42 days had been used by them. Overall, their findings show that the dividend had a favorable effect on stock prices. It demonstrates that dividend distribution is significant for determining future prices. Since tax on the gain on sale of securities was introduced on July 1, 2010, in Pakistan, no study till date has examined the stock behavior around ex-dividend day by considering the extensive duration of twenty years. By examining Pakistani equities, this study expands the existing research on the behavior of stock prices. The underlying study supplements the chunk of existing literature by examining stock behavior around ex-dividend day by considering 20 years of duration from 2001 to 2020. Various approaches have been used to explain the ex-dividend-day stock price anomaly. First, stock price reactions are analyzed to assess the presence of abnormal returns. For this, an event study methodology has been selected following Asimakopoulos et al., (2015) and Nishat & Tauseef (2015). The ex-dividend date is considered the event day. An event window of 41 days has been used to assess the pricing behavior of PSX-listed stock. Lastly, relationships among different variables are assessed by using regression. For this, the most widely analyzed variables in the underlying context are dividend yield, risk, and transaction cost. These relationships were also not tested earlier in the context of Pakistan.

Literature Review

The ex-dividend day anomaly was first established in 1955 by Campbell and Beranek, who are regarded as pioneers in the field. The idea of a stock price decline at the ex-dividend date was first questioned by Campbell and Beranek in 1955. According to them, the price of stocks drops on ex-dividend day, but they have not explained the reason for it. Elton and Gruber (1970) are considered among the first who have discovered the tax effect as a reason of ex – dividend anomaly. They asserted that when shareholders considered selling a stock close to the ex-dividend date, they would determine whether it would be more advantageous to sell just before the ex-dividend date, on the cum-dividend day, or just after. The equation that explains this equilibrium is as follows:

$$S_c - (S_c - S_0)\, t_c = S_e - (S_e - S_0)t_c + D\,(1 - t_d) \qquad\qquad (2.1)$$

S_c denotes the share price on cum-dividend day, S_0 signifies the stock purchase price, S_e is the share price on the ex-dividend date, D stands for dividend, tc represents the rate of tax on capital gain, and td is the rate of tax on dividend. By rearranging,

$$\frac{S_c - S_e}{D} = \frac{1 - t_d}{1 - t_c} \qquad\qquad (2.2)$$

$\frac{S_c - S_e}{D}$ a mathematical formula referred to as the price drop ratio. The "Theory of Tax" paradigm they presented has gained popularity. Under various tax regimes, investors are subject to varying capital gain and dividend tax rates. Investors would rather have \$1 in capital gain than a dividend if dividends had a higher tax rate. Potential investors must be indifferent about whether to purchase the shares before or after the ex-dividend day in an equilibrium market. The hypothesis of short-term trading is presented by Kalay (1982). The idea behind the short-term trading hypothesis is that some investors engage in arbitrage trading and are therefore tax-neutral about capital gains and dividends. These investors see an arbitrage opportunity when the predicted price-drop ratio is less than one. According to this, the short-term transaction costs associated with the dividend-capturing technique influence the stock price movement on the ex-dividend day (Elton et al., 2005). The short-term trading hypothesis contends that there are factors brought on by short-term traders that mitigate the effects of any tax discrepancy. Arbitrage traders may achieve arbitrage profits up to their marginal transaction costs if the stock price decline on the ex-dividend day differs from the after-tax dividend amount. Fonseca (2022) evaluated the ex-dividend-day effect on stock price on the Portuguese stock exchange for the years 2004–2017. The whole period was divided into two broad regimes. The undertaken regime of 2004 to 2011 was more favorable towards dividends due to the presence of different tax rates. On the other hand, from 2012 to 2017, an identical tax rate was introduced. Exploiting the importance of changes in tax laws, they examined 262 observations by using panel data regression. The variations they observed when contrasting the outcomes of the two subsamples implied the existence of a tax effect. A significant rise in the predicted price changes relative to the dividend results with the addition of a tax-indifference scenario. Their findings demonstrate the plausibility of the tax theory for the creation of ex-dividend pricing. Another study was

conducted by Kreidl, F. (2020) on German stocks to examine the price behavior and volume of stocks traded covering the time duration from 2002 to 2019. A standard event study methodology was being used to empirically test the pricing behavior of stocks. The prices of stocks dropped almost as much as dividend amounts, so no price discrepancy was observed. The results of this study strengthened the tax-motivated reasoning of ex-dividend-day stock behavior. Moreover, no evidence of abnormal trading volume was found. Similarly, Le et al., (2019) investigated the effects of tax heterogeneity between foreign and domestic investors on stock prices and trading volume. They examined Australian stocks for a time ranging from 1996 to 2014. They found evidence of increased trading surrounding the ex-dividend day. They support the dividend clientele and confirm that tax preferences for dividends affect the stocks' behavior around ex-dividend day. Muñoz et al., (2017) examined how stock prices behave. They are concentrating on the implications of a sizable tax cut on the 40 most actively traded securities on the Chilean market. They supported the tax-clientele effect. In a similar manner, Wagner et al., (2022) confirmed the presence of short-term trading that is consistent with dividend-capturing activities. Israelsson et al., (2017) investigated the impact of taxes, trading activity, and various market microstructures in Sweden. They reported low price drop ratios. Their results broadly agreed with previous literature's theories for short-term trading and dividend capture. Since the net gains from trading in high-yield equities are greater, it appears that short-term traders are present and primarily concentrate on high-yield securities. In a unique institutional setting, the Athens Stock Exchange (ASE) was considered by Asimakopoulos et al., (2015) to examine the factors influencing the ex-dividend day price behavior of stocks. The years 1996 to 2005 are covered under the study period. In this study, a total of 500 ex-days are examined using various techniques like price drop ratios, abnormal returns, and trading volumes using event study methodology. In addition to these techniques, regression analysis is also conducted to explain the relationship between various variables. They reported low price drop ratios in relation to dividend and confirmed the presence of abnormal returns and trading volumes surrounding ex-dividend day. They reported a significant positive association between abnormal returns and dividend yield. However, no significant impact of risk or transaction cost was observed by them. Dasilas (2009) looked at the trading volume and stock price trends in the Greek stock market from 2000 to 2004. The study discovered that stock prices decline at a smaller rate than dividend payments. The results showed the existence of not only abnormal returns but also abnormal

trading volumes surrounding ex-dividend day, which is consistent with the existence of dividend-capturing operations. The regression analysis's findings support the notion that dividend yield and transaction costs are the two factors that have the greatest impact on stock prices on ex-dividend days. The short-term trading theory explains the anomalous Greek stock price movement, according to the findings of the cross-sectional regression analysis. The effect of ex-dividend day on stock returns to Indian companies listed under the Nifty 50 was studied by Rawat et al., in 2016. They examined the period between 2011 and 2015, both inclusive by using event research techniques. They looked at the daily anomalous returns for 61, 31, and 11-day event windows. The calculation of abnormal returns was done using the market model, utilizing the Nifty index for market returns. They discovered that the AAR had been statistically significant over the 31-day event window. This suggests a favorable market response. Jiang et al., (2019) examined stock price behavior in the stock market of China around ex-dividend day. They took 330 stocks listed on the Shenzhen and Shanghai stock exchanges. They reported that stock prices fell by a greater magnitude in relation to dividend amount and found the existence of abnormal returns. Their results are more consistent with the tax explanation. Tran et al., (2017) examined Vietnamese listed stocks around the ex-dividend date. They concluded that tax treatment is unable to explain the anomaly in the research framework. Stocks with higher dividend yields tend to attract many arbitrageurs looking to profit from market inefficiencies. Therefore, arbitrageurs attempt to maximize their gains from higher-yielding stocks, which will attract more short-term traders. Similar claims were made by Tamara et al., (2020), who claimed that dividend capture operations are used by short-term investors to reap profits. They established a link between dividend yield and short-term trading profitability. It suggests a strong correlation between abnormal price returns and dividend yield. Several scholars have investigated this connection and found evidence to support it, including Dasilas (2009), Asimakopolous et al., (2015), and Jakob & Ma (2007). It is often found to be significant at high levels of probability (Henry & Koski, 2017). Risk has a negative effect on trading activity around ex-dividend day, which reduces the abnormal returns Dasilas (2009). Risk (diversified and non-diversified) lays an integral role in diminishing the level of trading activities surrounding ex-dividend day and has confirmed the inverse relationship between risk and abnormal returns. Heath and Jarrow (1988) asserted that it is very difficult for arbitrageurs to take short-term trading benefits without considering risk. The stock prices on ex-dividend day

are not known to traders in advance. For this, they look for premiums that may provide compensation against the risk of unknown ex-day stock prices. On the contrary, Asimakopoulos et al., (2015) argued that a positive association is expected between risk and abnormal returns and that more compensation will be required for extra risk-taking. That is why more return is associated with more risk. An abnormal return is basically a diversion between the actual and expected return. It indicates an investment's outperformance or underperformance compared to what conventional asset pricing models would have predicted. Contrarily, transaction costs are the costs related to purchasing or selling an investment. It comprises commissions, bid-ask spreads, brokerage fees, and other trade-related expenses, etc. Thus, there is an inverse association between TC and AR. High transaction costs dampen trading activity and result in lower abnormal returns. As dividend-capturing activities are more prevalent in high-yield stocks around ex-dividend day, it signifies that short-term traders are likely to pay higher trading costs to get high DY stocks. Therefore, a positive relationship is expected, as reported by previous studies by Karpoff and Walking (1988), Dasilas (2009), Asimakopouos et al., (2015), and Dhaliwal & Li (2006).

Based on the literature review, the following hypotheses are generated:

H_1: Positive abnormal returns are predicted before the dividend ex-date, and considerable negative abnormal returns are anticipated after the dividend ex-date.

H_2: Dividend yield has no impact on the ex-dividend-day abnormal return.

H_3: Risk has no impact on the ex-dividend-day abnormal return.
H_4: Transaction cost has no impact on the ex-dividend-day abnormal return.

Data and Methodology

Data related to ex-dividend dates, daily prices of shares, annual number of dividends, dividend yield, and market index is collected from the data stream. Ex-divided dates are collected from the business recorder website, covering the time span of 2001–2020. All listed companies that met the following selection criteria were considered in this study:

a) Annual cash dividends must be paid by companies every year for the period under investigation, i.e., 2001–2020. b) Ex-dividend dates must be available publicly. c) Price data for companies would be accessible for the event window and estimation period. Based on the mentioned criteria, the final data set included 429 ex-dividend days. The behavior of stock prices is analyzed using a conventional event research methodology to evaluate stock returns. In the second part, cross-sectional regression analysis is carried out. This paper applies the approach recommended by Dasilas (2009), Asimakopoulos et al., (2015), Anantarak (2011), and Qadar et al., (2023) to analyze pricing behavior around ex-dividend day. Market reactions on and around the ex-dividend date are examined using a methodology called an event study. The event window ranges from -20 to +20 days from the event day. A single-factor market model has been used to calculate market returns. The parameters of the market model are calculated considering the length of the 230-day' estimation period. The parameters of the market model are as follows:

$$AR_{it} = R_{it} - E(R_{it}) \tag{3.1}$$

AR_{it} = abnormal return

R_{it} = actual return

$E(R_{it})$ = expected return of stock i at time t

Expected return is measured by using following equation:

$$E(R_{it}) = \alpha + \beta R_{mt} \tag{3.2}$$

α = intercept of market model

β = beta coefficient of market model

The cumulative abnormal returns (CAR) are calculated for the event window of 41 days. Abnormal returns are regressed against various exogenous parameters to make it clear which factors have significantly contributed to stock price behavior. The Ordinary Least Squares (OLS) method is used. The cross-sectional regression model of this study is as follows:

$$ARo = \alpha_0 + \alpha_1 DY_i + \alpha_2 TC_i + \alpha_3 Risk_i + \varepsilon_i \tag{3.3}$$

Y denotes the dependent variable, Abnormal Returns (AR_0). On the other hand, α_0 is an intercept, and $\alpha_1, \alpha_2,$ and $\alpha_3,$ symbolize the regression coefficient of the respective variable. Moreover, α1 represents the exogenous variable Dividend Yield (DY), α_2 stands for Transaction Cost (TC), and α_3 represents risk. To remain consistent with Chowdhury (2015), Dasilas (2009), and Henry et al., (2017), the ratio of the dividend (annual) to cum dividend day stock price is

used as the dividend yield. Following Chowdhury & Sonaer (2015), Naranjo et al., (2000), Asimakopoulos et al., (2015), Yahyaee et al., (2007), and Dasilas (2009), the inverse of share price (1/Pc) is used to compute transaction costs. Abnormal returns (AR) are calculated by using the market model following Al-Yahyaee (2007), Dasilas (2009), Chowdhury (2015), Tamara et al., (2020), and Graham et al., (2003). Risk is estimated using a market model and represents systematic risk.

Results and Discussion

Table 1
Abnormal Returns for 2001 – 2020

	AR%	t-Statistic		AR%	t-Statistic
	2001 -2020				
-20	0.040066683	0.407161336	1	-0.23930342	-2.431823426
-19	-0.026585832	-0.27016768	2	-0.18168191	-1.846268336
-18	0.185537716	1.885451407	3	-0.08609811	-0.87493693
-17	0.05736565	0.582955034	4	0.034974021	0.355409234
-16	0.104764817	1.064629749	5	0.112592751	1.144177928
-15	0.033101031	0.336375734	6	-0.00291782	-0.029651165
-14	0.037589608	0.381989068	7	-0.08249433	-0.838315008
-13	-0.085728536	-0.8711813	8	0.010734816	0.10908819
-12	-0.103235252	-1.04908617	9	-0.17080254	-1.735711175
-11	-0.053349474	-0.54214228	10	0.013194988	0.13408869
-10	0.092566231	0.940666587	11	-0.1263189	-1.28366432
-9	0.165851373	1.685396964	12	0.010775277	0.109499363
-8	0.086005021	0.873990961	13	-0.14870101	-1.511113349
-7	0.063736738	0.647698618	14	0.015352118	0.156009637
-6	0.269101874	2.734638095	15	0.029366083	0.298420846
-5	0.146501508	1.488761857	16	0.012372181	0.125727247
-4	0.304321658	3.092544787	17	0.048988907	0.497829797
-3	-0.02657374	-0.2700448	18	-0.01029338	-0.104602242
-2	0.116040561	1.179214898	19	-0.06968516	-0.708147009
-1	0.113245484	1.150811068	20	-0.08216861	-0.83500499
0	0.821408246	8.347226447			

Source: Author's calculation

The pricing patterns of PSX-listed stocks from 2001 to 2020 are shown in Table No. 1. On ex-dividend day, positive abnormal returns (0.8214%) significant at 1% are reported. In addition, on the day before the event, positive abnormal returns are observed. On day -4, the mean AR is significant (3.0925) by 0.3043 percent. In a similar vein, a significant positive AR of 0.2691%

with a corresponding value of 2.7346 is reported on day -6. The traders' buying pressure is confirmed by the positive AR results in the pre-event window. Negative ARs can be seen on the post-event day. These negative abnormal returns in the post-event window are demonstrating the selling pressure on stocks. The short-term trading theory is supported by these outcomes. These results follow the findings of other studies by Qadar et al., (2023), Asimakopoulos et al., (2015), Tamara et al., (2020), and Tauseef and Nishat (2015).

Table 2
Cumulative Abnormal Returns

2001 -2020		
	CARs %	t-Statistic
CAR (-20 -10)	0.282092642	0.864327943
CAR (-10 -5)	0.823762744	3.417508934
CAR (-5 -1)	0.653535471	2.970074199
CAR (+1 +5)	-0.359516663	-1.633868723
CAR (+6 +10)	-0.232284886	-1.055647901
CAR (11 +20)	-0.320312482	-1.029335615

Source: Author's calculation

Table 2 presents different sub-periods inside the 41-day event window. Positive CARs are found in all pre-event periods ranging from –20 to -10, -10 to -5, and -5 to -1. Post-event CARs, on the other hand, are negative for the sub-periods +6 to +10 and +1 to +5 and +11 to +20. These results are in line with the short-term trading hypothesis. In regression, the following results are obtained:

$$ARo = \alpha_0 + b_1 DY_i + b_2 TC_i + b_3 Risk_i + \varepsilon_i \qquad (4.1)$$

Table 3
Regression Analysis

Variable	Coefficient	t-statistics	P – value
DY	0.879724	18.42317	0.0000
Beta	0.035339	6.668342	0.0000
TC	0.009555	0.193338	0.8468
C	0.011087	0.508195	0.6116
R – Square	0.481531		

Source: Author's calculation

The results from the regression analysis are reported in Table 3. The coefficient of DY is 0.879724, with t-statistics of 18.42317, which is significant at 1%. The results show a positive

association between DY and the company's stock price. The strength of this relationship is quite strong (0.879724 is a high number). This suggests that companies with higher dividends (which are attractive to investors who want to make quick profits) tend to have higher stock prices. These outcomes agree with the results of previous research by Asimakopoulos et al., (2015), Henry and Koski (2017), Chowdhury and Sonaer (2015), Dasilas (2009), and Kadapakkam and Martinez (2008). The coefficient of systematic risk is 0.035339, with t-statistics of 6.668342, which is positively significant. On ex-dividend day, the prices of stock are not known in advance, so short-term traders find it difficult to engage in dividend-capturing activity without taking into consideration the extent of risk. Due to the existence of risk, arbitrageurs expect to have a risk premium in ex-dividend-day returns. Extra compensation is demanded by arbitrageurs for bearing additional risk. Therefore, risk and ex-dividend-day abnormal returns are positively related. These results are consistent with Henry and Koski (2017), Dhaliwal and Li (2006), and Chowdhury and Sonaer (2015). A positive relationship is found between transaction cost and abnormal returns in the context of ex-dividend day. The coefficient of TC is 0.009555, with t-statistics of 0.193338, indicating an insignificant relationship. Shares with a higher TC result in higher brokerage costs, which could stop investors from capturing dividends. As dividend-capturing activities are more prevalent in high-yield stocks around ex-dividend day, it signifies that arbitrageurs are likely to pay higher trading cost to get high DY stocks. Therefore, a positive relationship is justifiable and in accordance with previous studies by Karpoff and Walking (1988), Dasilas (2009), Asimakopouos et al., (2015), and Naranjo et al., (2000). But insignificant transaction costs mean that TC may not have any effect on ex-dividend-day abnormal returns and do not play any role in preventing trading activities. This finding is consistent with Asimakopoulos (2015).

Conclusion

The stock price behavior around ex-dividend day was analyzed by taking into consideration a span of twenty years. This short-term trading hypothesis of Asimakopoulos et al., (2015), Dasilas (2009), Graham et al., (2003) has been scrutinized from the literature and analyzed. A time of twenty years from 2001 to 2020 is chosen. The short-term trading hypothesis is used to explain the stock's behavior around ex-dividend day and the presence of dividend-capturing activities. Positive abnormal returns were reported on the ex-dividend day. Additionally, positive abnormal

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returns were recorded before the event day and negative abnormal returns are observed thereafter. The outcomes of unusual returns validated the existence of short-term trading evidence, which consequently supported the existence of dividend-capturing activities. This paper supports the predictions of the short-term trading hypothesis. These results concur with Qadar et al., (2023), and Tamara et al., (2020). Further, to confirm the verifiable justification of the short-term trading hypothesis that has better explained stock price behavior around ex-dividend day, a regression analysis is performed to analyze the potential relationships of different variables. For this, the impact of dividend yield, risk, and transaction cost is examined on abnormal returns. The ex-day abnormal return and dividend yield have a strong positive correlation. A higher dividend yield is a sign that investors receive higher rewards. The correlation between anomalous returns and dividend yield is positive, which suggests short-term trading. A positive association between transaction costs and abnormal returns is documented. Transaction cost has a negligible impact on arbitrage activity, as demonstrated by the low coefficient of transaction cost. This result concurs with that of Asimakopoulos et al., (2015). Risk and anomalous returns are found to have a strong positive association. As higher risks are anticipated to provide higher returns, there is a positive correlation between risk and abnormal returns. Arbitrageurs may find it challenging to engage in short-term trading since ex-dividend stock prices are unknown in advance, making it impossible for them to assess perceived risk. A short-term trader needs to be compensated for taking on greater risk. The findings of this study reveal that investors engage themselves in dividend-capturing activities around ex-dividend day to benefit from price discrepancies. Moreover, dividend yield and risk are considered important determinants of stock prices on ex-dividend day, as they both have a significant impact on stock price returns on ex-dividend day. However, the coefficient of transaction cost was found to be insignificant, meaning that it may have no impact on abnormal returns and does not restrict arbitrage activity.
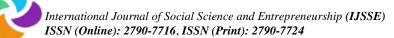
Future Research

A comparative study of different sectors can be conducted to study the underlying phenomenon. This would provide more insights into the ex-dividend-day behavior of stock prices that would enable investors to make more prudent trading decisions. Moreover, new proxies for transaction cost would be taken to understand the impact of transaction cost on abnormal returns in a more

precise way. As this study is conducted in the context of Pakistan, more developing economies will be considered in the future. This may increase the generalizability of the findings of this study. Some behavioral factors would also be considered in the future to explain the ex-dividend price anomaly.

References

Aamir, M., & Shah, S. Z. A. (2011). Dividend announcements and abnormal stock returns for the event firm and its rivals. *Australian Journal of Business and Management Research*, *1*(8), 72-76.

Anantarak, S. (2011). Economic Motivation of the Ex-Dividend Day Anomaly: Evidence from an Alternative Tax Environment. Dissertation Doctor of Philosophy University of North Texas.

Asimakopoulos, P., N. Tsangarakis, and E. Tsiritakis (2015). Price Adjustment Method and Ex-dividend Day Returns in a Different Institutional Setting. *International Review of Financial Analysis 41*: 1–12.

Campbell, J., & Beranek, W. (1955). Stock price behavior on ex-dividend dates. *Journal of Finance, 10*, 425-429.

Chowdhury, J., & Sonaer, G. (2015). Ex-dividend day abnormal returns for special dividend. *Journal of Economics and Finance, 40*(4), 631-652.

Dasilas, A. (2009). The ex-dividend day stock price anomaly: evidence from the Greek stock market. *Financial Markets and Portfolio Management 23*, 59-91.

Dhaliwal, D., Zhen Li, O. (2006). Investor tax heterogeneity and ex-dividend day trading volume. *Journal of Finance*, 61, 463–490.

Dupuis, D. (2019). Ex-dividend day price behavior and liquidity in a tax-free emerging market, *Emerging Markets Review*, 38(C), 239-250.

Elton, E. J., & Gruber, M. J. (1970). Marginal Stockholder Tax Rates and the Clientele Effect. *Review of Economics and Statistics, 52*(1), 68-74.

Elton, E.J. &M.J. Gruber & C.R. Blake, (2005). Marginal Stockholder Tax Effects and Ex-dividend-day Price Behavior: Evidence from taxable versus non-taxable closed end funds. *The Review of Economics and Statistics, 87*,579-586.

Fonseca, T. O. C. (2022). Ex - Dividend Day Pricing in Portugal. Thesis.

Graham, J., R. Michaely, & M. Roberts (2003). Do price discreteness and transaction costs affect stock returns? Comparing ex-dividend pricing before and after decimalization. *Journal of Finance, 58*, 2611-2636.

Heath, D. C., & Jarrow, R. A. (1988). Ex-dividend stock price behavior and arbitrage opportunities. *Journal of Business*, 95-108.

Henry. T.R., Koski, J.L. (2017). Ex-Dividend Profitability and Institutional Trading Skill. *The Journal of Finance, 72*(1), 461-494.

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Israelsson J. & Hansson. M. W. (2017), why do stock prices drop by less than the value of the dividend? Evidence from a country with a flat tax rate on capital gains and dividends? Thesis in Finance, University of Gothenburg, School of Business, Economics and Law.

Jakob, K., & Ma, T. (2007). Tick size, NYSE rule 118, and ex-dividend day stock price behaviour. *Journal of Empirical Finance, 72*(3), 605-625.

Jiang, Y., Pan, X., & Zhou, Q. (2019). The Effect of Dividend on Stock Returns in Chinese Market: Is There a Clientele Phenomenon? *Journal of Accounting and Finance*, *19*(2), 96-114.

Kadapakkam, P.-R., & Martinez, V. (2008). *Ex-dividend returns: The Mexican puzzle. Journal of Banking & Finance, 32(11), 2453–2461.*

Kalay, A. (1982). The Ex-Dividend Day Behaviour of Stock Prices: A Re-Examination of the Clientele Effect. *Journal of Finance, 37*(4), 1059-1070.

Karpoff J, Walking, R (1988): Short-term trading around ex-dividend days: Additional evidence. Journal of Financial Economics, 21(2):291–298.

Kreidl, F. (2020). Stock-Market Behavior on Ex-Dates: New Insights from German Stocks with Tax-Free Dividend. International Journal of *Financial Studies,* 8 (58), 1-21.

Le, N. N. A., Yin, X., & Zhao, J. (2019). Effects of investor tax heterogeneity on stock prices and trading behaviour around the ex-dividend day: the case of Australia. *Accounting & Finance.*

Miller, M. H., & Modigliani, F. (1961). Dividend Policy, Growth, and the Valuation of Shares. *Journal of Business, 34*(4), 411-433.

Muñoz, E., & Rodriguez, A. (2017). Ex-dividend date stock behavior and the clientele effect: Evidence around a tax reduction. *Global finance journal*, *32*, 55-61.

Naranjo A, Nimalendran M, Ryngaert M (2000): Time variation of ex-dividend day stock returns and corporate dividend capture: A re-examination. Journal of Finance, 50:2357–2372.

Qadar, A., Rehan, A., & Hussain, M.A., (2023). An examination of stock price behavior and trading volume around ex – dividend day: Empirical Evidence from Pakistan, *International Journal of Social Science and Entrepreneurship*, 3(1), 129-143.

Rawat, L., & Jessica, M. (2016). Effect of ex-dividend date on stock returns of Nifty stocks in India. *People*, *2*(1), 236-248.

Tamara, T. (2020). The Ex-Dividend-Day Behavior of Stock Prices and Volume: The Case of Pharmaceutical Dividend Aristocrats, *The Singapore Economic Review*, 65(4), 889–915.

Tanveer, Z., & Jamil, M. (2019). The impact of dividend announcement on stock returns among the ten top companies in Pakistan. *Malaysian Management Journal,* 23(December), 47-64.

Tauseef, S. & Nishat, M. (2015). The Ex-Dividend Day Stock Price Behavior: Evidence from Pakistan. *IBA Business Review, 10*(1), 21-30.

Tran, Q, T. (2017). Dividend Capture on Ex-dividend day: Evidence from Vietnamese stock market. *Asian Academy of Managerial Journal of Accounting and Finance*, *13*(2), 69-94.

Wagner, M., & Wei, X. (2022). Ex-dividend day price and volume: the case of cum-ex trading. *Applied Economics*, 1-14.

Yahyaee, K., Pham, T., Walter, T. (2007). *Ex-dividend behavior in the absence of taxes and price discreteness*. Presentation at the 2007 EFMA conference, Vienna, Austria.