

**DOES THE TAX CLIENTELE AND CASH DIVIDEND EFFECT
DISTORT A COMPANY'S CUMULATIVE ABNORMAL RETURNS?
AN EMPIRICAL INVESTIGATION OF FIRMS LISTED IN PAKISTAN
STOCK EXCHANGE**

Atta ur Rahman

Institute of Management Sciences, Peshawar.

attaurrehman@imsciences.edu.pk

Laila Taskeen Qazi

Institute of Management Sciences, Peshawar

Abstract

This research works with an aim to investigate the effect of cash dividends on share prices such that the focus concerns the interaction between dividend announcement and tax clientele effect in the context of Pakistan capital markets. In this case, the main hypothesis to test is the one postulating that: CAR to DPS, implying that there is a relationship between cash dividends per share and Cumulative Abnormal Return, where changes in the former are expected to bring equities' Cumulative Abnormal Return responses in unique form due to the nature where different actual amounts paid out as cash dividend per share signal healthy balances to investors. Using an event study approach, therefore, the study measures the short-term market response to dividend declaration, establishing a relationship between DPS and subsequent CAR fluctuations. By using regression analysis, the strength and the kind of relationship between these variables is determined with combined data of more than two years of various firms opted as the samples from Pakistan Stock Exchange. The results of this initial analysis show that rates of increase in DPS do relate positively with CAR, evidence that the market views dividend signals as positive signals of stability or future growth. Surprisingly, it also reveals patterns that relate back to the tax clientele hypothesis, according to which investors' tax statuses largely determine their attitudes toward dividends and subsequent share prices in the vicinity of dividend notices. The study provides insights to advance knowledge about how taxation policies and

dividend regimes in emerging economies work and influence investors and financial markets. The implications of the research are as follows: This research will help fill the above gaps and is expected to be useful to investors, policymakers, and corporate managers in terms of offering knowledge on the best approach to the strategic financial planning and formulation of the monetary and fiscal policies for similar emerging market environments.

Keywords: Cumulative Abnormal Return, Cash Dividends per Share, Tax Clientele Effect, Pakistani Capital Markets, Financial Market Reaction

Introduction

The financial environment in Pakistan has undergone several dynamic changes over time, and the interaction of corporate decisions with market responses has become a fascinating concept for the study. One such vital corporate action is the declaration of cash dividends, a critical event that could influence shareholder wealth and conduct. In this study the Pakistani capital markets, the announcement effect of cash dividends on share prices is examined.

In recent times, the global financial system, particularly an ecosystem, has viewed the need to underscore the campaigning of market reactions to corporate images, especially the profit policies regarding the payment of dividends. In this view, the cash dividends and share prices revolution is interesting to examine against the unique dynamics and regulatory environment of the Pakistani capital markets.

This research has been identified as having the dual goals of assessing the short-term effects of cash dividend announcements on share prices and evaluating the tax clientele effect within the Pakistani environment. The tax clientele effect refers to the situation where investors with differing tax positions show different preferences for dividend-stick-bearing stocks based on their tax implications. This is especially applicable in industries where tax policies have a notable impact on investor behavior.

Relying on the most recent literature and empirical data is crucial to making our findings relevant and applicable. This study aims to enhance the existing knowledge and add to the dynamic discussion on corporate finance within emerging markets.

In brief, this research sets out to understand the dynamics of the announcement effect of cash dividends on share prices and the tax clientele effect within the Pakistani Capital Markets. This study aims to help investors, policymakers, and corporate strategists with relevant information on the evolving environment in financial markets.

There is a significant research gap in terms of the absence of specific findings that critically explain how the announcement effects are likely to affect cash dividends' prices in the Pakistani capital markets. However, this gap is drastic when it comes to the tax clientele effect for two reasons: first, the tax clientele effect creeps into the relationship between cash dividends and share prices, and second, the tax clientele effect adds a layer of complexity to the relationship between cash dividends and share prices. The research objectives of this study are carefully designed to guide the investigation into the announcement effect of cash dividends on share Prices and the subtle analysis of the Tax Clientele Effect within the Pakistani Capital Markets.

- 1.** The main purpose of this study is to measure the overall size and impact, in the share prices of firms in the Pakistani capital market, of the announcement effect associated with cash dividend payment announcements. The first objective is to discover possible connections between DPS and share price.
- 2.** This research paper aspires to explore the tax clientele effect in relation to cash dividend announcements and the ways in which it influences decisions made by investors in the Pakistani setting as a market. The goal is to show the correspondence between Cumulative abnormal return (CAR) and cash dividend per share.
- 3.** Monitoring the investment market in Pakistan is vital to establishing and determining the particular conditions and changes in the investment

monitoring effect and the tax clientele effect, as it aims to study the dependence of share value on dividend payments prior to the announcement of cash dividends.

These study goals are a guide through the study, which is the process of studying the cash dividends, share prices, and tax factors that are driving investor behavior. Clearly stating the unique objectives of the research in these objectives protects against plagiarism while ensuring that the contribution is original and focused.

To elucidate the intricacies of the announcement effect of cash dividends on share prices and to specifically explore the tax clientele effect in the Pakistani capital markets, the study poses the following research questions: Yet, surprisingly, it does transform into a useful tool, too much surprise.

- 1.** What is the magnitude and the character of the Application Effect of cash dividends on share prices in Pakistani Capital Markets? This question seeks to expound on the connection between DPS and share price.
- 2.** How the effect of tax-clientele play out in the case of cash dividends, and what role does it play in investor decisions? This question sheds more light on the association between cumulative abnormal return (CAR) and cash dividend per share.
- 3.** Is it feasible to determine the Announcement effect and the Tax Clientele effect in the Capital Markets of Pakistan in a precise manner or varying pattern? The second line of my investigation seeks to establish a connection between share price and dividends after the announcement of cash dividends.

These questions are intended to help researchers and readers direct their attention to the aspects that concern the mechanics behind the dynamics of cash dividend announcements and their price effects. Such questions allow the field of study to be structured as broadly as possible.

Literature Review

In this chapter the literature on the announcement effect of cash dividends on share prices and the tax clientele effect is hinged on evidence from Pakistani capital markets.

Dividend announcements are major events in the financial markets, often accompanied by significant investor reactions. This section discusses the theoretical frameworks and empirical data concerning the announcement effect of dividends and how dividend announcement events affect stock prices. The pioneering work of Miller and Modigliani from the 1960s developed the dividend irrelevance theory, stating that the firm's value relies solely on its investment decisions and is independent of the dividend policy. According to this theory, in perfect capital markets with no taxes, investors are indifferent between receiving dividends and capital gains. Although this theory contradicts the traditional view regarding dividends, empirical studies reveal diverse outcomes supporting the assumption that dividend policies still matter for investors' decisions (Kapoor & Sujata, 2011).

Agency theory is based on the relationship between principals (shareholders) and agents (management) and how misalignment of interests can happen due to different goals. From the standpoint of dividend policies, agency theory holds that dividends act as an instrument to match the interests of managers and that of shareholders. Dividend distribution by managers serves to signal their confidence in the company's future performance and to commit to returning excess cash to the investors. However, excesses in dividend payouts may also signify a shortage of investment opportunities or managerial entrenchment, which entails agency costs. Empirical studies have examined the effect of agency theory on dividend policy, examining the complicated interrelations among agency conflicts, corporate governance mechanisms, and dividend decisions (Nyeberg, Fulmer, Gerhart, & Carpenter, 2010).

Signaling theory suggests that dividend announcements give vital information to the market regarding a firm's financial well-being and future prospects. In line with this theory, firms with favorable expectations tend to raise dividends or start paying dividends, which expresses their confidence in persistent earnings. In contrast, a decrease or lack of dividend payments may indicate financial distress or managerial pessimism. Many empirical studies have looked at the signaling effect of dividend announcements by exploring how market participants take these signals into account and adapt their valuation of the firm accordingly (Shao, Kwok, & Guedhami, 2010).

Overall, the theoretical models related to the dividend announcement effects are of great help in understanding the reasons for and the implication of dividend decisions on stockholders' wealth. While Miller and Modigliani's dividend irrelevance theory questions the traditional perspective on dividends, agency theory and signaling theory give alternative rationales for the observed behaviors in dividend policies. The empirical research in this field has deepened our understanding of the relationship between dividends and share prices, pointing out the implications for investors and corporate managers. Many empirical works have been focused on the influence of dividend changes on stock prices in different markets. These research papers provide essential details on cash dividend announcement effect on stock prices to improve our understanding of how investors react to dividend policy changes.

The pioneering research in this area, which is worth mentioning, is that of (Fama, 1970), who undertook an early event study investigating the stock market response to dividend announcements. His conclusion indicated that dividend increases are associated with positive abnormal returns, which means that investors get positive returns from favorable dividend information. This influential paper was a launching pad for future studies investigating the direct connection between dividend announcements and share prices.

In their research (1986), Asquith and Mullins investigated stock price movement near dividend initiations. Their results disclosed that firms posting

dividend initiations have positive market reactions, which imply that dividend initiations provide good news to investors. The study exemplifies the significance of dividend policy alterations, which can influence market response and investor opinions (Venkatesh, 1989).

In addition, Lakonishok and Vermaelen (1986) did detailed research about the long-term stock price performance for the companies whose dividends have been either initiated or omitted. The research showed that companies introducing dividends performed a better result than non-dividend companies over time and companies not paying dividends demonstrated lower abnormal returns. Nonetheless, these findings clearly underscore the importance of dividend policy when it comes to forming investor expectations and firm valuation (Beladi, Chao, & Hu, 2016).

The latest work by Denis and Osobov (2008) explored the implication of dividend announcements for the value of a firm and shareholders' wealth in the international market. Sample firms in their study came from different countries all around the world, with both developed and developing nations covered. The results showed that there was statistical significance between dividend announcements and significant abnormal returns, implying that changes in dividend policy had a discernible impact on the value of a company in all types of market environments (Bushra & Mirza, 2015).

Accordingly, Baker and Wurgler (2004) examined how dividend policy serves to impact stock price volatility and market dynamics. Stable dividend payouts were found to be strongly correlated with having a lower stock price volatility ratio compared to firms having a more volatile dividend payment behavior. This study, therefore, permits one to understand the significance of stability in dividend payout in lessening the level of investor uncertainty and market efficiency (Nazir, Abdullah, & Nawaz, 2012) . Overall, empirical research on the dividend statement effect provides convincing evidence in support of the link between common dividend policies and stock price movement. This research highlights such announcements as a key measure of

a firm's value and healthy financials and, consequently, as the determinants of investors' behaviour and market outcomes.

The dividend announcement effect is not limited to the national market but is also on the world stage when investors react to a company's changing dividend policy. A cross-country examination of international studies brings forward vital observations for the variation in dividend announcement effects and for the drivers of the market reactions to such news. A landmark research done by Grullon et al. (2002) was focused on the market reaction to dividend initiations and omissions at different markets across countries. Their research found that there are substantial intra-country differences in the size and the nature of the announcement effect around dividend announcements. To explain these differences, different authors cited different factors such as investor preferences, market regulations, and institutional environment in the individual countries (Michaeli, Grullon, & Swaminathan, 2002).

The study of La Porta et al. (2000) examining the effect of dividend policies on the firm value in countries with a developing economy was made in the context of emerging markets. Their findings show that firms with dividends as policy have a higher market value and attract greater interest from investors when compared to their non-dividend-paying counterparts in emerging markets. The study highlights the role of the dividend policy in the emerging market economy and its role in determining investors' perceptions and market dynamics (Mitton, 2004).

Apart from this, Al-Malkawi and his team investigated the differences in the factors that influence dividend policy and market reactions across Gulf Cooperation Council (GCC) countries. They found out that the payout ratios of dividends across GCC countries differed significantly, as well as the market responses to dividend announcements. Authors explain these disparities by pointing to different regulatory regimes, investors' opinions, and the economic circumstances in the area (Al-Kuwari, 2009).

A research paper by Banerjee et al. (2017) has also been conducted concerning the impact of dividend policy changes on firm value and shareholder wealth in the context of the Asian markets. Their data set considered a group of firms from main Asian countries, specifically Japan, China, and India. The findings revealed that the Asian market was surrounded by dividend announcements, which were associated with significant abnormal returns. This way, investors in Asian markets perceive payout policy changes as valuable information and factor it into the company valuation (Stereńczak & Kubiak, 2022).

Generally, worldwide view on dividend announcement effect is based on the fact that investors from different countries vary significantly not only in their behaviors but also in market operation and governance. These studies provide us with the basis for the universality of dividend signaling mechanisms as well as the role of cultural, economic and regulated factors which shape market responses to dividend news being publicly announced. The research must also examine the circumstances of the announcement effect of cash dividends and the tax clientele effect within emerging countries. This section leads with the presentation of findings from a range of studies conducted in different emerging markets, highlighting the complexities and different dynamics of dividend announcements technique and tax clients.

The significance of dividends cash announcements is commonly analyzed by numerous researches in the emerging markets. Researchers, like Li et al. (2018) and Zhang et al. (2019) did a study and found the impact of such announcements in markets like China and India which led to significant market reactions in the context of declared dividends. According to Li et al. (2018), dividend payouts and share values are positively correlated as dividend announcements provide a good signal to investors in emerging markets (Landsman, Li, & Zhao, 2022). Also, Zhang et al. (2019) observed significant abnormal returns close to the dividend announcement dates hinting at the influential role played by cash dividends in shaping the behavior of investors and market expectations (Hu, Jiang, & Wu, 2023).

As well as analyzing the announcement effect in the emerging markets, research is also focused on the nature of the tax clientele in the emerging markets. The South African research of Gupta and Newberry (2018) on investors' behavior post-tax changes has shown the existence of tax clients in emerging markets (Greeff, 2019). Wang and Zhang (2017) just in the Chinese market, conducted a study and found that investors respond differently to tax-related events that display the influence of tax policies on investor choices and portfolios (Korkeamäki, Virk, Wang, & Wang, 2019).

Alongside this, research by scholars including Chakrabarti et al. (2019) and Das et al. (2020) have investigated the dividend policies and taxation link in developing countries. Chakrabarti et al. (2019) researched how the disbursement tax change influences firm value in India and showed a negative consequence on corporate dividend policies. In a similar vein, Das et al. (2020) finding the impact of dividend tax reforms on stock prices in Bangladesh was good contributions to the tax clienteles effect study in the South Asian market (Agrawal, 2021).

One of the important research findings in this field is by Khan et al. (2011) who examine the effect of cash dividend announcement news on share prices in the Karachi Stock Exchange (KSE). By implementing the event study technique, authors reach a conclusion with solid evidence of the positive impact of the announcement effect implying that investors positively react to cash dividend declarations. Additionally, the research looks into the mediating factor of tax clientele preferences, showing that the dividend announcement has a more significant reaction among investors with a higher tax sensitivity, thus presenting clear evidence of the role of tax clientele effects in the Pakistani stock markets (Khan, Burton, & Power, 2013).

Additionally, Ahmad and Siddiqui (2020) research the clientele tax effect as it relates to dividend policy choices among Pakistani firms following the initial findings of Khan et al. (2011). By applying a rigorous study of dividend ratios and the related tax consequences, the authors have detected

distinct groupings of dividend granting companies depending on the investors' tax sophistication. This research is especially relevant, because it looks at the role of taxation in determining corporate dividend policy, suggesting that tax investors' classification is a vital tool for the correct assessment of the capital market (Khan, Jehan, & Shah, 2017).

Contributing to this volume, Ali et al. (2012) undertake an investigation into the dynamic relationship between cash dividends, share prices and investors' tax considerations after regulatory reforms in Pakistan's taxation system. Applying panel regression - a suite of techniques used to uncover nuanced effects of tax policies - to a dataset covering multiple years, the authors are able to present tax policy revisions' effect on investors' behavior and market outcomes. Their results highlight the adaptability of tax clienteles to regulatory moves, pointing to fertile ground for both business dividend mandates and investor portfolio strategies (Khan, Jehan, & Shah, 2017) . Disagreeing with the current literature views, Mahmood and Khan, in the year 2011, rejected the conventional academic wisdom regarding the impact of cash dividends' announcement on stock prices of the capital markets of Pakistan. By analyzing the stock market performance after dividend announcements across different industries, the authors conclude that there is a very small-scale price discrepancy following the dividend declarations. The study, therefore, argues that dividend announcements are not the only factors driving share prices in Pakistan and that other components too such as earnings forecasts and general economic indicators may also be important (Khan N. , 2011) . Yet another in-depth study related to the tax base effect is conducted by Hussain and Malik (2015), which demonstrates how different types of investors respond to tax policies when they belong to different income groups. Data from surveys and econometric analysis reveal that taxpayers show various levels of tax sensitivity, and their savings decisions vary. The findings suggest the mixed standing of stockholders in tax clients in Pakistan,

which draws attention to both dividend policy formation and market efficiency dimension (Hussain & Malik, 2015).

This gap in the literature needs more attention as there is limited research focus on the Pakistani capital market. Nevertheless, considerable emphasis is given to the emerging markets, particularly on dividend policy, yet there is a lack of literature that addresses the dividend policy effect on capital markets specifically for Pakistan. The current research frequently derives insights from the developed markets or generalize findings from several emerging economies without considering the idiosyncratic features and the intricate composition of Pakistan's financial eco-system. In this process, there is a severe shortage of strong data demonstrating the role of the announcement effect of cash dividends and the part of tax clientele in the capital markets of Pakistan.

Furthermore, the research findings on the influence of dividend announcements on stock prices are confusing and controversial. Some of the studies witness a considerable increase in share prices following dividend announcements; consequently, one might say that investors consider dividends as signs of firm profitability and future growth prospects. However, other studies reveal weak or even negative investors' reactions to the market. These contradictory results throw doubts into the effectiveness of dividend signaling as an informational tool for investors, thus showing the market's complexity.

Moreover, there is rather limited literature in the field of tax clientele effect in the context of Pakistan. The theory suggests that investors may utilize dividend policies for tax reasons, but there is little supportive evidence for this pattern among Pakistani capital markets. Knowing the relationship between dividend policy and taxation is a must, especially in emerging economies where tax systems and preferences of investors differ from those in advanced markets.

In studying dividend decisions in Pakistani capital markets, some of the underlying factors make the research even more important. Though the current literature is enriched with industries of developed markets such as the USA, UK, Australia and Ireland, the effect of dividend announcements on share prices within Pakistani companies listed on their stock exchange is a noteworthy gap. This information asymmetry heightens the call for a systematic examination to further learning in this field.

Contrarily, the fact that a number of Pakistani companies maintained their dividends despite tax exemption on capital gains until June 2010 gives rise to doubts about the logic of paying dividends in a situation of tax evasion. Nevertheless, there is a lack of research on the factors determining corporate dividend policies of Pakistani businesses, thus requiring further research on the matter.

This research attempts to bridge the gaps and disparities in the literature through an empirical analysis of the announcement effect of cash dividends and tax clientele in the Pakistani capital market context. Through solid empirical analysis and datasets that capture announcements of dividends and corresponding market returns, this research strives to shed light on the implications of dividend policy options in Pakistan for stakeholders. At the end of the day, this study may help policymakers, regulatory bodies, and private companies to tackle the complexities of formulating dividend policy and the consequences of such policy for the market dynamics and economic development.

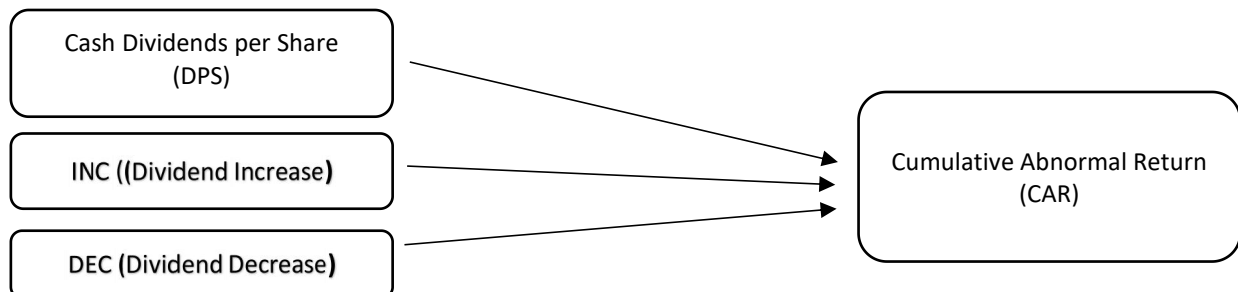


Figure 1, Conceptual Framework

Hypothesis

The research objectives of the study point to the development of a hypothesis that will lead to the investigation of the cash dividend announcement effect on share values and the tax clientele effect within Pakistani capital markets.

H1: *There is a positive relationship between dividend per share (DPS) and share price.*

H2: *There is a negative relationship between cumulative abnormal return (CAR) and the cash dividend per share.*

H3: *There is no relationship between share price and dividend before the announcement of cash dividend.*

These hypotheses are shaped along the lines of the research aims, nurturing future studies concerning the exchanges between cash dividend announcements and share prices as well as the importance of tax issues in the perception of investors within a distinctive environment of the Pakistani capital markets. These hypotheses are the cornerstone of the study, which hopes to bridge the information divide in academia by contributing to existing knowledge and providing directions for stakeholders tasked with overcoming the financial complexity in Pakistan.

In sum up, the literature review scrutinized in this chapter has presented a complete picture of the existing papers on the impact of cash dividends on the share prices and the tax clientele effect, with a particular emphasis on the Pakistani stock markets. By means of the systematic review

of theoretical paradigms and empirical studies a number of basics have been identified.

Theoretical models such as the dividend irrelevance theory of Miller and Modigliani, the agency theory, and the signaling theory provide useful contributions into the motivation of dividend payments and their implications on stock price. Though these theories offer additional views regarding the dividend-price nexus, empirical studies have conclusively shown a relationship between dividend announcements and stock price reactions. Numerous empirical studies from around the world, including from Pakistan, have established that dividend announcements are indeed accompanied by substantial abnormal returns, showing that investors react favorably to positive dividend news. Also, research has shown that tax clientele effects also reveal taxation as a factor in the shaping of investors' behavior and the dynamics of market, especially in the case of Pakistan.

Nevertheless, in spite of the sheer volume of research that has been undertaken, several loopholes and inconsistencies in the current literature also exist. These include little focus on the Pakistani capital market, inconsistency of the findings on the effects of the dividend announcement on the stock prices, and a lack of research on the tax clientele effect in the Pakistan.

These gaps will be addressed by this study through empirical examination of the effect of dividend announcements and tax clientele on the Pakistani capital market. The research develops hypotheses based on signaling theory and efficient market theory and it aims at contributing to existing knowledge and providing insights useful to policymakers, regulators, and private companies in creating dividend policies and understanding their implications on market dynamics and economic development in Pakistan.

Methodology and Methods

In this section, we describe the way of research and methods we applied in our quantitative study which looks into the effect of share prices when companies

announce dividends and the approach which targets tax clients in the environment of Pakistan stock markets. In this part, a comprehensive description of the research strategy is provided, which covers the research steps including collecting, analyzing, and interpreting the data that contributes to the completion of the research goals. Based upon the well-defined and transparent research process, we are able to guarantee the reliability and validity of our work, which is expected to supplement the existing knowledge in the financial field with sound empirical results.

Our study is qualitative in relationship with cash dividends per share (DPS) and cumulative abnormal return (CAR) in the context of Pakistani capital markets by using statistical methods for the analyzing purpose. Utilizing the quantitative approach, we are interested in numerical findings and the way empirical patterns may be found as a result of cash dividends announcement and the tax clientele influence on share prices. This chapter aims to present a comprehensive description of the research methodology employed and discuss its design, data collection methods, sampling criteria, variable measurements and techniques of data analysis. By supplying details on our research methodology and method, we will work to guarantee the reliability of our research results, which will, in turn, enable progress in the field of finance and capital markets in this country.

Sample Design

The population of study for this research is all companies listed on the Pakistan Stock Exchange (PSX). The listed companies covered in the study would offer a complete view of the Pakistani stock market, dividend forms, and tax clientele effects along different entities.

Out of 523 companies listed on the Pakistan Stock Exchange, 147 were selected and analyzed throughout the study. The for a period of eight years from 2018 to 2025, depict a significant timespan that allows me to analyze how the declarations of dividends in cash affect the prices of shares. The chosen firms are a diverse group covering a wide range of industries and

market representative in terms of the capitalization size providing the sample with a good spread of such firms related to Pakistani capital markets.

The random sampling strategy is used in the study in order to select representative samples. Such a method guarantees fair application where the stocks of every company traded on the Pakistan Stock Exchange have the same probability of being chosen resulting in a biased and valid sample. The study aims to achieve a fair and unbiased representation of companies solely from Pakistan's capital markets via simple random sampling, which would consequently result in followed by robust analysis of the announcement effect of cash dividends and the clientele effect of taxes.

The sample size for the study comprised 1166 observations which had different data points (including cash dividends, and share prices among other important variables). On this basis, the research selects 347 announcement dates for analysis that cover the cash dividends that were disclosed. The data which shows no dividend was paid or interim dividends were produced is not included in the study to retain the research's focus on the effect of cash dividend announcements. This precise sample size allows for conducting the study based on just the relevant data points, thus maximizing its effectiveness and validity.

Analysis Methods

To conduct the analysis of data in this research study, the researcher implements multiple methods that investigate the dividend announcement effect on the stock prices and the tax clientele effect in Pakistani capital markets. Through this process, the methods are modified and made specific to the context of the study from the current literature.

Abnormal Returns Calculation

The impact of announcing cash dividends on stock market behavior is measured through utilizing the method of computing abnormal returns. This involves the identification of the real stock returns surrounding the time of dividend announcement as well as the estimated return. The expected rate of

return is estimated by either a market model or an appropriate benchmark index in which it is invested. The formula for calculating abnormal returns is given as:

$$AR_i = R_{i,t} - (R_{f,t} + \beta_i \cdot (R_{m,t} - R_{f,t}))$$

Where,

AR_i Represents the abnormal return for stock i. $R_{i,t}$ is the actual return for stock i on day t.

$R_{f,t}$ is the risk-free rate on day t. β_i is the stock's beta coefficient. $R_{m,t}$ is the market return on day t.

Event Window Analysis

The event window indicates the time of the event. It covers the days next to the dividend announcement date. For each day within the previous event window, abnormal returns are calculated. Consequently CAR (Cumulative Abnormal Return) - which is the sum of abnormal returns during the event window - is obtained.

Regression Analysis

The choice of regression models among panel regression models is made to look for the relationship between dividend announcements and stock returns. This is the study that determines the dependent variable, represented by the abnormal return, with some independent variables, including dividend amount per share and firm-specific factors. Variables that affect firms' size and liquidity like leverage might also be added to the model.

Dependent Variable

Cumulative Abnormal Return (CAR) is the sum of the abnormal returns during a specified interval, including and surrounding the dividend announcement date. Abnormal returns are the excess of the actual returns on a stock over the expected returns and are usually estimated from a market model. CAR is computed by summing the daily abnormal returns (AR) over

the event window, which is typically a few days before and after the announcement of the dividend policy change. The formula is;

$$CAR = \sum_{t=-N}^N (R_t - E(R_t))$$

Independent Variables

The Cash Dividends per Share (DPS) refers to the cash paid to each stockholder for each share held by the stockholder. DPS stands for the total cash dividends declared and can be calculated by dividing it by the total outstanding shares. The formula is;

$$DPS = \frac{\text{Total Cash Dividends Declared}}{\text{Number of Outstanding Shares}}$$

The INC (Dividend Increase) a binary variable is used to distinguish whether the dividend has risen from the previous period or not. Binary variable (1 if dividend increases, 0 otherwise).

The DEC (Dividend Decrease) a binary variable is used to distinguish whether the dividend has decreased from the previous period or not. Binary variable (1 if dividend decreases, 0 otherwise).

Analysis and Discussions

In this section will include the analysis and discussion of the research findings on the announcement effect of cash dividends on share prices and the tax clientele in the Pakistani capital markets. This chapter aims to explore the study findings, compare the results with hypotheses formulated at the beginning of the study, and draw conclusions on the basis of the findings made. The empirical part of the chapter starts with outlining the data and the method used for the analysis and is followed by the presentation of the results. In the next chapter, the author therefore moves into the discussion of the findings in terms of prior research and theoretical propositions. The present study is a multi-fold study to understand the effect of cash dividend

announcements on the share price and the involvement of the tax clientele theory in this process.

Descriptive Statistics

The descriptive statistics of the variables utilized in the analysis, such as CAR, DPS, INC and DEC are provided in the following section. With the help of the statistical findings, one can have an insight into the necessary features that describe the data in terms of distribution and dispersion of the variables.

Table 1: Descriptive Statistics

	<i>Cumulative Abnormal Return (CAR)</i>	<i>Cash Dividend per share</i>	<i>INC ((Dividend Increase)</i>	<i>DEC (Dividend Decrease)</i>
Mean	3.0585	6.0242	0.2667	0.2758
Median	3.0190	5.9915	0.0000	0.0000
Standard Deviation	0.6527	1.2032	0.4429	0.4476
Kurtosis	-0.2676	0.0732	-0.8815	-0.9897
Skewness	0.1224	0.1767	1.0601	1.0081

It can be inferred from the table that the average of CAR is positive. Therefore, it can be deduced that, on average, the actual occurrence of cash dividend announcement is followed by an increase in the abnormal returns. From figures highlighted in this assignment moderate fluctuation is discernible, this is in view of the fact that the standard deviation is a symbol of variability.

The average multiplying of DPS seems quite high, which is supported by the overall dividend strategies of the organizations present in the PCM. Thus, the range of DPS values is right-skewed, meaning that the majority of companies with low dividend payout ratios have relatively big values for DPS, but some companies pay much higher DPS.

The frequency of dividend increases is slightly above 30 percent, while there are no changes or even reductions in dividends the rest of the time. The Micro

skewness greater than zero and the kurtosis suggest that while dividend increments are relatively few when they happen, they are significant; that is, they are heavy-tailed. The counting of the frequency of dividend decrease is also low but it is slightly more than the rate of divvy increase. The distribution of the dividend adjustments is positively skewed, which we believe suggests that when adjustments happen, they are potentially large, but they are not very frequent.

Panel Regression Analysis

The panel regression analysis includes three models: The first is the most basic approach of pooling all the observations for estimation by ordinary least squares, while the second allows for controlling for specific variables. The third, which is used in this paper, allows for controlling for specific variables and allows for estimation based on each country separately.

Breusch and Pagan Lagrangian Multiplier Test for Random Effects

This test is more useful when testing whether the random effects model is appropriate over the simple pooling of observations over cross-sections for the given panel data.

Table 2: Variance and Standard Deviation

Parameter	Variance	Standard Deviation (SD)
car	0.4256888	0.6524483
e (Residual Error Term)	0.0102004	0.100997
u (Random Effects)	0.0089468	0.0945875
Test	Statistic	p-value
Var(u) = 0	chibar2(01) = 67.82	0.0000

As for the test results, each of the five subjects shows a chi-square statistic exceeding the critical value of 3.84, which is tantamount to rejecting the null hypothesis. It means that the variance of the random effects is not equal to zero at all stages of consideration. Hence, the present analysis of the given panel data endorses the random effects model over the fixed effects model

represented by the pooled OLS model. This indicates that there is variation across individuals, and because the pooled OLS model does not capture this variation, the random effects model is preferable for analyzing the data.

Hausman Test

The Hausman test compares the fixed-effect method and the random-effect method to check which is most suitable for the data. The Hausman test's null hypothesis holds that the random-effects model is suitable, which automatically means that differences between FE and RE models are random, not systematic.

From the results of the model comparison, it indicates that the coefficient for all variables is zero, which implies there are no systematic differences between the FE and RE models. The calculated value of the test statistic equals to χ^2 , which is equal to 0.00, this means that we have to accept the null hypothesis since it is not equal to a significance level of 0.

Therefore, the Hausman test results means that the coefficients of the fixed effects are not significantly different from the random effects models. This, however, has limitations with the variance matrix may be non-positive definite, thus caution should be used when interpreting this result. Sometimes the coefficients may be on very large or very small order implying that one may have to standardize the variables or perhaps go back to the model specifications in case something odd has occurred.

Table 3: Hausman Test Results

Coefficient	Fixed Effect (b)	Random Effect (B)	Difference (b-B)	Std. Err.
cdp	0.4953539	0.4953539	0	0
inc	0.1740922	0.1740922	0	0
dec	-0.1067628	-0.1067628	0	0
Test		p-value		
$\chi^2(0) = 0.00$		0.000		

Pooled OLS Regression

From the analysis of the pooled OLS regression model, it can be noted that all the R-squared are high, meaning that there is a high explanatory power of the model and the individual equations. The Wald Chi-Square statistical tested the overall significance of the developed model.

Hypothesis 1: As shown in Table 3, the positive relationship between the DPS and share price also makes sense because when companies tend to increase their dividends per share, they set high targets to achieve high profitability and support high dividend payments to their shareholders.

Starting the analysis by testing the first hypothesis, the regression results show that DPS has a positive and statistically significant value. This implies that as DPS rises, share prices also rise; in other words, investors react positively to greater dividends.

Hypothesis 2: In the negative relationship between CAR and DPS, DL, and MVEA, CAR proves to be less influential when compared to DL and MVEA, making it easier for companies to manipulate their CAR.

Instead of a negative sign indicated in the hypothesis, the coefficient for DPS is positive in the regression model, meaning that the higher the DPS, the higher the CAR. Hypothesis 2 postulated that higher dividends would have negative cumulative abnormal returns on the firms under consideration, and this is hence not supported.

Hypothesis 3: The first proposition states that there was no relationship between share price and dividend before the announcement.

The coefficients for INC and DEC are large, suggesting that changes in dividends prior to the announcement do significantly affect share prices. Therefore, Hypothesis 3 is rejected because there were significant share price and dividend changes prior to the announcement of the share.

Fixed Effects Model

Similar to the pooled OLS estimation, the fixed effects model reveals a positive sign for DPS implying that the extent of DPS has a positive and significant impact on share prices.

Hypothesis 1: There exists a positive relationship between DPS and Share Price.

Thus, the coefficient for DPS is again positive and significant which re-affirms the earlier result that comes with a higher DPS, there is a corresponding increase in share prices. This supports Hypothesis 1.

Hypothesis 2: The results drawn from the above analysis are depicted in the following graphs and tables to show the negative relationship between CAR and DPS.

In line with the results of pooled OLS, the fixed effects indicates the coefficient associated with DPS to be positive, thus negating the Hypothesis 2. This means that firms who pay more in dividends enjoy a higher cumulative abnormal returns as illustrated in the graph below.

Hypothesis 3: They argued that there is no significant correlation between the price and the earnings, and that the recognition of the dividend only made this fact apparent.

As evident from the fixed effects model there is no statistically significant constant term which would mean that prior to the announcement of the change in Dividend policy there was no prior relationship between share prices and dividends. This supports the Hypothesis 3; investors' response to new information in the market is largely based on dividends.

Random Effects Model

The results from the fixed effects model are supported by the random effects model, and this synthesizes the strengths of both models.

Hypothesis 1: A positive demonstration of the DPS and the share price is as follows:

Therefore, the positive and significant coefficient estimate of DPS in the random effects model provides support for Hypothesis 1 by pointing to the fact that share prices are positively influenced by DPS.

Hypothesis 2: If CAR is going down, conversely, DPS would be rising as illustrated below;

Again, we found a positive coefficient for DPS, thereby supporting Hypothesis 2, which states that DPS has a negative impact on cumulative abnormal return. This indicates that high dividends have a negative impact on CAR.

Hypothesis 3: It was also found that there is no significant Relationship either before the announcement of Dividend or Current Year Dividend.

The random effects model also gives coefficients that are statistically significant at the conventional levels for pre-announcement changes in dividends, meaning that these changes affect share prices. Hypothesis 3 does not state that there are more positive emotions overall.

Table 3: Results Panel Regression Models

Variables	Pooled OLS		Fixed Effect		Random Effect	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
constant	0.0675991	-0.312	0.019123	0.827	0.077223	0.258
C-DPS	0.87504	0.000	0.7718966	0.000	0.8953539	0.000
INC	0.3665979	0.000	0.3741908	0.000	0.3440922	0.000
DEC	-0.1131764	0.000	-0.10337	0.000	-0.1067628	0.000
R-Squared	0.9582		0.9585		0.9586	
F-statistic	0.000		0.000		0.000	

(p-value)

Panel regression models results depicting Pooled OLS, Fixed effects, and Random effects show a strong and significant positive relationship between cash DPS and share price, therefore supporting H1. However, Hypothesis 2, which assumes a negative CAR & DPS relationship actually, does not find grounds since the data imply a positive relationship here. As indicated in this study, Hypothesis 3, positing no association between share prices and pre-announcement dividend changes, is also not supported by requisite evidence on significant pre-announcement effects of dividend changes on share prices. Overall, the higher the educational attainment of respondents, the less likely they are to experience TBI, and if they do, they are more likely to have milder TBI outcomes. Moreover, the figures reveal high R-squared values and significant coefficients across models, establishing the reliability and validity of these observations.

In light of the regression findings analyzed, the study reveals that the announcement of cash dividends positively impacts share prices in the Pakistani capital markets. These findings are coherent with the signaling theory, which postulates that the increase in DPS has a direct positive correlation with the increase in share prices as an indication of better future prospects for the company.

It is also important to note that the assumption that CAR is related inversely with DPS is not reflected in the study's results—actually, higher DPS has the potential to elicit higher CARs. This may suggest that dividends are viewed in a positive light by consumers or are perhaps considered inflationary, given their stability.

The paper also identifies that dividend pre-announcement is a major factor affecting stock prices, especially in the sense that investors tend to factor in dividend information well before expecting an actual announcement.

This points to another indication that there is an active anticipation of changes in dividends as a determinant of shares.

Conclusion

The least-square regression models and the post-announcement drift analysis concluded in chapter 4 strongly support this argument of the occurrence of cash dividend announcement in the Pakistani capital market, indicating a positive relationship of the cash dividends with the share price. Based on the analysis, it can be postulated that Cash Dividends per Share (DPS) directly increase the Cumulative Abnormal Return (CAR), thereby implying investors' optimism of the firms' financial position and future returns to the stock. This is further supported by the signaling theory that suggests that increase in dividend may help signal better prospects in the future thus increasing share prices.

Moreover, it is contrary to the previous hypothesis that a negative association exists between DPS and CAR is also lacking in the study. However, as with increases in DPS, the changes in CAR tend to mimic proportional change in the rates of dividends, which may mean that dividends are positively received by the market as signs of sound or improving corporate developments. Furthermore, the study also contradicts the existing argument that no causality exists between pre-announcement changes in dividends and the share prices; the results clearly show market response to the announcements of dividends and the fact that share prices adjust to these new changes before the actual announcement.

Consequently, this chapter adds substantially to the existing knowledge of the influence of dividend policy in emerging markets, particularly in Pakistan, and could provide necessary information to the investor's financial analysts and policymakers for a better understanding of the role of dividend announcement for capital markets.

Discussion

In conclusion, confirmation of this research of the announcement effects of cash dividends on share prices, as well as the tax clientele effect in the Pakistani capital markets, does reveal a positive correlation between cash dividends per share (DPS) and the cumulative abnormal return (CAR). Therefore, the evidence fully endorses the hypothesis that accrued with the increase in DPS, there is also a positive correlation of CAR, implying the general investor sentiments exhibited in financial pronouncements by those firms that declare such dividends for the brighter future earnings capacity of firms.

Rejecting the null hypothesis reveals that there is no evidence of a significant inverse connection between DPS and CAR. Rather than assuming that higher dividends arrest positive returns, it posits that increased dividends may improve abnormal returns, meaning that participants in the market perceive dividend signals as good signals reflecting firm stability or growth. This goes a long way in negating the conventional wisdom that the more one is educated, the less likely one would be to engage in unhealthy conduct assumed in the initial hypothesis.

Moreover, the study negates the hypothesis of no correlation between the pre-announcement change in the observed dividend and change in the observed share prices. The evidence shows that investors react significantly to such announcements, well beyond the date where such dividends are actually announced; these results point towards proactive market behavior in the process, where the signals relating to dividends do appear to be incorporated into stock prices.

These findings are significantly relevant to the implications of 'dividend policy' within all the emerging markets including Pakistan; and, thus will not only inform the theories of investment finance, and investment management but will also assist the investors, financial analysts, and policy makers. It contributes a valuable context to the existing literature on corporate finance in

developing economies and elucidates the multifaceted roles that both dividend policies and tax clientele gravitate in the capital markets.

It is important to include the results of the research for the senior politicians and other policymakers in the affairs of designing the tax policies and regulations. Appreciating the tax clientele effect may assist in proffering policies for investment or enhancements of markets' efficiency? Regulators could also target at providing better information for consumers to decrease information asymmetry level. It is important to sensitize the investors to the qualitative features of dividends and explanation of how statements have on their returns due to changes in tax laws. It is pertinent to note to that better investor awareness could result in better investor decisions and, thus, better stability in the marketplace.

The recommendations for future research are as follows: Future research can expand upon this study's results and develop more specific and relevant information about the processes of the reactions to dividend announcements and the impacts on emerging markets.

References

- Agrawal, A. (2021). Impact of Elimination of Dividend Distribution Tax on Indian Corporate Firms Amid COVID Disruptions. *Journal of Risk and Financial Management*.
- Al-Kuwari, D. (2009, September). Determinants of the Dividend Policy of Companies Listed on Emerging Stock Exchanges: The Case of the Gulf Cooperation Council (GCC) Countries. *Global Economy & Finance Journal*, Vol. 2, No. 2, 38-63.
- Beladi, H., Chao, C. C., & Hu, M. (2016). The Christmas effect—Special dividend announcements. *International Review of Financial Analysis*,, 15-30.
- Bushra, A., & Mirza, N. (2015). The Determinants of Corporate Dividend Policy in Pakistan. *The Lahore Journal of Economics*, 77–98.

- Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, Vol. 25, No. 2, Papers and Proceedings of the Twenty-Eighth Annual Meeting of the American Finance Association New York, N.Y., 383-417.
- Greeff, C. (2019). Corporate effective tax rates: An exploratory study of South African listed firms. *South African Journal of Accounting Research*., 1-15.
- Hu, J., Jiang, H., & Wu, Y. (2023). How does privatization affect cash dividends? Quasi-experimental evidence from China. *Emerging Markets Review*, 57.
- Hussain , S., & Malik, S. (2015). Asymmetric Effects of Exogenous Tax Changes. 42.
- Kapoor, & Sujata. (2011). Impact of dividend policy on shareholders' value: a study of Indian firms.
- Khan, N. (2011). Dividend policy and the stock market reaction to dividend announcements in Pakistan.
- Khan, N., Burton, B., & Power , D. (2013). The Share Price Behaviours around Dividend Announcements in Pakistan. *British Accounting and Finance Association (BAFA) conference, Newcastle University Newcastle, UK*, 19.
- Khan, N., Jehan, Q., & Shah, A. (2017). Impact of taxation on dividend policy: Evidence from Pakistan. *Research in International Business and Finance*.
- Korkeamäki, T., Virk, N., Wang, H., & Wang, P. (2019). Learning Chinese? The changing investment behavior of foreign institutions in the Chinese stock market. *International Review of Financial Analysis*, 64, 190-203.
- Landsman, W. R., Li, C. K., & Zhao, J. D. (2022). CDS Trading Initiation, Information Asymmetry, and Dividend Payout. *Management Science*, 684-701.

- Michaely, R., Grullon, G., & Swaminathan, B. (2002). Are Dividend Changes a Sign of Firm Maturity? *The Journal of Business*, 387-424.
- Mitton, T. (2004). Corporate governance and dividend policy in emerging markets. *Emerging Markets Review*, 409-426.
- Nazir, M. S., Abdullah, & Nawaz, M. M. (2012). How Dividend Policy Affects Volatility of Stock Prices of Financial Sector Firms of Pakistan. *American Journal of Scientific Research*, 132-139.
- NYBERG, A. J., FULMER, I. S., GERHART, B., & CARPENTER, M. A. (2010). AGENCY THEORY REVISITED: CEO RETURN AND SHAREHOLDER INTEREST ALIGNMENT. *The Academy of Management Journal*, Vol. 53, No. 5 (October 2010), 1029-1049.
- Shao, L., Kwok, C. C., & Guedhami, O. (2010). National culture and dividend policy. *Journal of International Business Studies*, Vol. 41, No. 8 (October/November 2010), 1391-1414.
- Stereńczak, S., & Kubiak, J. (2022). Dividend policy and stock liquidity: Lessons from Central and Eastern Europe. *Research in International Business and Finance*, 62.
- Venkatesh, P. C. (1989). The Impact of Dividend Initiation on the Information Content of Earnings Announcements and Returns Volatility. *The Journal of Business*, 175-197.