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Analyzing the Determinants of Dividend Policy: A Comprehensive Study on Ownership Structure and Cash Flow Characteristics in the Banking Sector of Pakistan

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Abstract

This article comprehensively explores diverse facets of dividend policy and its determinants by synthesizing findings from various research studies. Examining seminal works such as Linter's study in 1956, this research delves into factors influencing dividend policy decisions, including existing dividend rates, changes in earnings, investment decisions, financing choices, and the impact of tax considerations. Noteworthy analyses encompass Ghosh's investigation into India's economy, highlighting the effects of past dividend policies, future prospects, leverage, and profitability. Additionally, the article delves into Hines and Hubbard's exploration of tax influences on dividend repatriation by U.S. multinational companies. Focusing on the banking sector in Pakistan, a joint model evaluates the combined effects of ownership structure and cash flow characteristics on dividend behavior, incorporating variables such as managerial ownership, individual ownership, cash flow sensitivity, size, leverage, and profitability. Descriptive analysis of data trends and averages reveals fluctuations in dividend payout and intensity over time, influenced by varying financial conditions.

Keywords: Dividend Policy, Determinants, Financial Decision-making

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1. INTRODUCTION

As usual when companies make a profit, the management has to decide what to do with those available profits (Smith, 2008). Normally, organizations have two options: either they declare dividends or retain earnings. When the decision is made to pay dividends, the management must establish a fair dividend policy. The dividend policy of a company critically affects both its perceptions in the financial market and investor decisions. Researchers have engaged in extensive debates on how a company's dividend policy impacts investor decision-making. According to some experts, dividends help increase shareholder wealth, while others consider dividends less influential in making financing policy decisions, including dividend choices. Financial management research includes investment as an exogenous variable and explores the implications of dividend policies on overall corporate performance and investor behavior. Dividends are typically distributed proportionately based on the number of shares held by each shareholder. The evaluation of dividend distribution involves comparing rounded values to industry standards and considering factors such as cash flow, asset valuation, and P/E ratios. Various models, including the discounted cash flow model and the dividend discount model, are utilized to estimate and evaluate dividends, leading to different outcomes. Dividends represent a portion of corporate profits paid to shareholders. Companies have two options for utilizing profits: retaining earnings or distributing them to shareholders. Dividends are typically paid as fixed amounts per share, and shareholders receive dividends based on their shareholdings. There are several forms of dividend payments, including cash dividends, stock or script dividends, property dividends, and other forms. Cash dividends are the most common type, where companies pay cash electronically, and the dividend is distributed proportionately based on the number of shares held by each shareholder. For example, if a shareholder holds 100 shares and the company declares a dividend of 2 RS per share, the shareholder would receive 200 RS in the form of a dividend.

1.1. STOCK DIVIDEND

Stock dividend is a type of dividend in which companies issue additional shares to shareholders instead of paying cash. These additional shares can be from the company's subsidiaries or its own shares. For instance, if a company declares a stock dividend of 2 shares for every 10 shares held by a shareholder, someone with 100 shares will receive an additional 20 shares as a stock dividend.

1.2. PROPERTY DIVIDEND

Companies have the option to provide dividends in the form of property, which can consist of assets from either their subsidiaries or the parent company. Another approach to dividends involves companies offering warrants to their shareholders. These warrants allow shareholders to purchase three additional shares for every ten they currently own, at a predetermined date and a discounted price. Such decisions regarding property dividends and the issuance of warrants can have significant

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implications for the company's investment and financing strategies. In certain cases, companies choose to distribute dividends in the form of property, including assets from their subsidiaries or the parent company.

1.3. DIVIDEND POLICY

"Dividend policy is the set policy or plan employed by a company to determine the amount of dividends it will distribute to its shareholders. This policy encompasses four key elements:

1.4. HIGH OR LOW PAYOUT

Companies must decide whether to distribute a high proportion of their earnings as dividends or retain a larger portion of profits for reinvestment in the business.

1.5. FREQUENCY OF DIVIDENDS

Another aspect of dividend policy involves determining the regularity with which the company will pay dividends to its shareholders.

1.6. STABLE OR IRREGULAR DIVIDENDS

The consistency of dividend payments is an essential consideration in dividend policy, with companies opting for either stable, predictable dividends or irregular, fluctuating ones based on financial performance and other factors.

1.7. DIVIDEND POLICY DECISION

Companies need to make a clear decision on whether they will adopt a dividend policy at all, as some may choose to reinvest all profits back into the company for growth and expansion. Each of these elements within the dividend policy framework plays a crucial role in shaping the financial standing of the company and influencing investor confidence and expectations. The dividend policy of a company is influenced by various factors, including legal constraints, contractual obligations, internal financial health, growth prospects, and capital structure (Smith, 2008). Additionally, companies employ specific measures to determine their dividend payments.

2. FACTORS AFFECTING DIVIDEND POLICY

2.1. LEGAL CONSTRAINTS

Companies must adhere to the legal requirements and regulations of the country in which they operate. These regulations may dictate the maximum amount of dividends a company can pay or impose restrictions on dividend payments based on the company's financial position.

2.2. CONTRACTUAL CONSTRAINTS

Some companies may have contractual obligations, such as debt covenants or agreements with preferred shareholders, that restrict their ability to pay dividends.

2.3. INTERNAL CONSTRAINTS

The financial health and liquidity of the company play a significant role in determining its dividend policy. If a company does not have sufficient retained earnings or available cash, it may limit the amount of dividends it can distribute.

2.4. GROWTH PROSPECTS

Companies with higher growth prospects may choose to retain more earnings to reinvest in the business, rather than paying them out as dividends.

2.5. CAPITAL STRUCTURE

The capital structure of a company, including its debt and equity mix, can influence its dividend policy. Companies with a higher proportion of debt may opt for lower dividend payouts to meet interest and debt repayment obligations.

3. MEASURES OF DIVIDEND PAYMENT

There are different measures used to assess dividend payments:

3.1. DIVIDEND PAYOUT RATIO

This ratio measures the fraction or percentage of earnings that the company pays out as dividends. It can be calculated as (Dividends / Earnings) * 100 or (Dividend per share / Earnings per share) * 100.

3.2. DIVIDEND YIELD

Dividend yield represents the return an investor can make solely from dividends and can be calculated as Dividends / Stock Price. Each of these factors plays a crucial role in shaping a company's dividend policy and the overall financial decisions it makes. According to Smith (2008), the dividend policy of a company is influenced by factors such as legal constraints, contractual obligations, internal financial health, growth prospects, and capital structure.

4. METHODS OF DIVIDEND PAYMENTS

There are two primary methods of dividend payment employed by companies:

4.1. LEFTOVER INCOME METHOD

In this method, dividends are paid to shareholders from the amount left over after covering all other expenditures. The company allocates a portion of its profits as dividends after fulfilling operational costs, investments, and debt obligations.

4.2. PERCENTAGE OF EARNING METHOD

Under this approach, dividends are paid to shareholders as a percentage of the company's earnings. The dividends can be distributed on a quarterly, semiannually, or annual basis, irrespective of the company's expenses. It is essential to consider

whether a company aims to provide a stable, regular income to its shareholders or variable dividend payments based on its chosen dividend payment method.

4.3. DIVIDEND POLICY OF CORPORATE ORGANIZATIONS IN PAKISTAN

A corporation is an entity with a distinct legal identity, separate from its owners, and is subject to its own liabilities and privileges. Various forms of corporations exist, and most are engaged in conducting business. In contemporary times, companies play a crucial role in the economic sphere, providing goods, services, contributing to economic growth, and fostering cultural development. The two common methods of dividend payment include the leftover income method, where dividends are paid from the remaining profits after all expenses, and the percentage of earning method, where dividends are paid as a percentage of earnings regardless of expenses. Corporate organizations in Pakistan, like in other countries, operate as distinct legal entities contributing to economic growth and cultural development.

4.4. BANKING ORGANIZATION IN PAKISTAN

In Pakistan, the financial sector encompasses a wide range of institutions, such as commercial banks, nationalized banks, private banks, foreign banks, and non-bank financial institutions (NBFIs). These NBFIs include development finance institutions (DFIs), leasing companies, investment banks, and mortgage companies. The operations of both regulated banks and NBFIs are subject to the regulatory oversight of the State Bank of Pakistan, while Modaraba and leasing companies are regulated by the Securities and Exchange Commission of Pakistan (SECP).

5. LITERATURE REVIEW

The existing literature on dividend policy is abundant with theoretical explanations and studies on the experimental behavior of various companies. Researchers have extensively analyzed the factors that influence dividend policy, including ownership structure, profitability, and cash flow sensitivity. Many studies have investigated how ownership structure affects dividend decisions. They have explored the impact of different ownership patterns on dividend payouts, particularly when ownership is highly concentrated or dispersed among shareholders. Additionally, researchers have looked into the effects of unique forms of property ownership on dividend policies, examining how specific asset management practices can influence dividend distributions. Likewise, cash flow sensitivity is another essential aspect that researchers have delved into concerning dividend policy. They have sought to understand how a company's dividend decisions are influenced by its cash flow dynamics. This involves examining whether dividend payouts are directly linked to the company's cash flow generation, and how companies adjust their dividend policies in response to changes in cash flows.

Overall, the literature presents valuable insights into the complex interplay between various factors and dividend policy decisions for different companies.

Linter's seminal paper in 1956 on the determinants of dividend policy laid the foundation for subsequent research in this field. His study revealed that existing dividend rates and changes in earnings are among the most significant factors influencing dividend policy. Following Linter's pioneering work, numerous researchers have delved into various aspects of firms' dividend policies.

Dhrymes and Kurz (1967) conducted an analysis on the influence of investment decisions, financing decisions, and dividend policy. Their research revealed that dividend decisions are significantly influenced by both financing and investment decisions.

In his article, Black (1976) provided insights into the reasons why companies pay dividends and why investors should pay attention to them. He posited that the answers to these questions might be apparent. Dividends could be seen as a way to provide investors with a return on their invested capital, representing a reward for their financial commitment to the company. Moreover, companies might pay dividends to attract and incentivize both existing and potential shareholders, thereby increasing the demand for their shares and potentially driving up the stock price. Black also considered the flip side of the coin, questioning whether paying dividends is the only way to provide value to shareholders. He acknowledged that investors may focus on dividends as they perceive them to signify returns on their investments or opportunities to sell their shares at higher prices in the future. However, he highlighted that other factors might be at play, challenging these assumptions. For instance, a company might pay dividends to demonstrate its confidence in attractive investment opportunities. By forgoing retained earnings in favor of dividends, the company signals its belief that the value generated through these investments will exceed the amount of dividends foregone.

In their study, Georg and Nellie (2000) analyzed the impact of managerial stock incentives on corporate payout policy. They observed that companies facing significant agency problems tend to have a higher payout ratio when management has substantial stock ownership. On the other hand, firms with fewer investment opportunities or lower management stock ownership show a lower payout ratio. The researchers also discovered a strong inverse relationship between dividends and management stock options, meaning that as management stock options increase, dividend payouts tend to decrease. Conversely, they found a direct relationship between stock repurchases and stock options, indicating that companies are more likely to engage in repurchases when management holds stock options.

Dong ET Al (2004) conducted a research study to understand the preferences of individual investors, particularly Dutch investors, regarding investment returns. They collected data through a questionnaire and found that investors strongly preferred profits in their investment decisions. When faced with a company that cannot pay cash dividends, investors preferred

stocks that offer profit potential. The researchers observed that this preference for profits was influenced by the fact that cashing in profits was more cost-effective compared to selling shares.

Amihud and Li (2005) conducted a study on the role of reductions in information content in the profit & loss statement as one of the reasons for the decline in the information content of dividends. They found that institutional investors tend to increase their holdings in anticipation of informed decisions. These institutional investors exploit their superior information, strategically buying shares before the announcement of increased dividends.

Jeffrey, Nellie, and Scott (2006) conducted a study and found that top executives of firms are more inclined to pay dividends when they have a higher share in the ownership of the company. This behavior is primarily driven by personal liquidity reasons, especially after the dividend tax cut in 2003. However, before the tax rate reduction in 2003, the level of executive ownership did not have the same impact on dividend decisions. In some firms where executives held a substantial share of ownership, they chose to increase dividend payments at the expense of share repurchases. This decision increased the tax burden on individual shareholders. On the other hand, certain firms opted to engage in share repurchases as a strategy to reduce dividend payments.

Pavel Kraus (2006) provided insights into Real Estate Investment Trusts (REITs) and their dividend payment practices. He described that many REITs tend to pay higher dividends in accordance with tax laws and regulations, resulting in a relatively higher payout ratio. Shareholders of REITs prefer receiving dividend payments as it allows them to closely monitor and influence investment decisions made by the company.

Additionally, some financial instruments are employed to convert dividends into capital gains, offering a way for investors to potentially avoid certain tax implications.

Juma'h, Ahmad, Pacheco, and Carlos (2007) reached the conclusion that the availability of information about the financial market plays a vital role in reducing uncertainty, ultimately leading to improved decision-making for better organizational performance and effectiveness. During their discussions on the factors influencing a firm's dividend policy, they identified several key determinants. These include dividend announcements, stakeholder perceptions, historical patterns of dividend payments, the impact on share prices, the effect of taxes, available investment opportunities, and the company's size. Each of these factors contributes to shaping a firm's approach to defining its dividend policy. Additionally, the researchers emphasized that internal factors also significantly influence a firm's dividend policy. These internal factors comprise income levels, liquidity positions, and agency costs.

Gourio and Miao (2008b) conducted a study to examine the dynamic effects of taxes on dividend policy and its impact on organizational investment decisions. They found that the dynamic effects of fiscal policy are contingent on whether a company issues new shares or utilizes retained earnings to finance its investments. In their model, mature companies finance their capital solely through retained earnings. Therefore, any misrepresentation of taxation on dividends would arise from its permissiveness.

Miller and Modigliani (1961) put forth an advanced view on dividend policy development and evaluation. They argued that the value of a firm depends solely on its earnings strength and the distribution of income between profits and retained earnings does not impact the firm's value.

Collins and Kemsley (2000) studied the effect of dividends and capital gains on the value of a company.

Mihir, C. Fritz, and James Jr. (2002) analyzed the dividend payout of a large board of foreign affiliates of U.S. multinational firms. They concluded that the dividend policy of the parent company has minimal influence on the dividend policy of foreign affiliates. The researchers observed that tax considerations do play a role in the dividend payout policy but are not the sole determinant. Rather, dividend policies are mainly driven by the need to control managers of foreign affiliates due to the absence of capital market considerations and the limitations of tax explanations.

Mackey and Barney (2005) conducted a study to explore the relationship between diversity policy and firm value, along with corporate profits and stock repurchases. Their findings indicated that diversity and a variety of factors are likely to influence the payment of dividends.

Zhang (2005) examined the impact of firm-level and corporate-level dividend and cash policies, as well as governance mechanisms, on firm value. The results revealed that these policies were interconnected and collectively affected the firm's value.

Zhou and Ruland (2006) investigated the relationship between current dividend payments and future earnings growth at the individual company level. They found a strong positive association between dividend payment growth and future income.

Cuba and Saito (2006) conducted a study examining the impact of strong financial incentives for directors on dividend policy. They sampled 1818 firms during the period from 1990 to 1996. The authors observed that larger firms with higher management ownership were more likely to pay dividends, indicating that these firms were inclined to increase their dividend payouts. On the other hand, for firms where dividend payment might not be appropriate, the likelihood of cash dividends being paid was reduced.

Adelegan (2007) conducted a study to explore the relationship between dividend policy, debt, and firm value. The study assumed that there might be an exaggeration in the association between dividends, debt, and firm value based on the company's size. The research was divided into two sub-samples based on market size. Separate equations were estimated for each sub-sample, and the findings indicated a positive relationship between firm value and dividends for both small and large enterprises. However, the relationship between firm value and debt varied, with negative values observed in the sub-sample

of small businesses and positive values in the sub-sample of large enterprises. The study concluded that dividends and debt are influenced by factors like control variables and lack of profitability. Moreover, the information on profitability was ambiguous concerning the potential tax impact of financing decisions.

Ghosh (2008) conducted a study to examine the effects of past dividend policy on the price of a firm's future prospects, leverage, and profitability in India's growing economy. The findings indicated that an increase in the firm's leverage was likely to result in a decrease in future price, while an increase in firm profitability led to an increase in future price.

San Juan and Bayamón, Puerto Rico (May 2007) described the various factors that influence a firm's dividend policy. These factors include the pattern of dividend payments, share price, tax implications, stakeholder perceptions of dividend announcements, investment opportunities, and the size of the company. Additionally, internal factors such as agency costs, liquidity, and income of the firm also play a role in shaping the dividend policy. Behavioral factors are also taken into account as determinants of the dividend payout policy.

Fairchild (2008) developed a model to understand the complex relationship between dividend signaling, firm incentives, and management value. The model considers the role of double profit, where current earnings and profits of a firm signal its ability to invest in new projects.

As discussed earlier, Ghosh (2008) conducted a study on the effects of past dividend policy on the price of the firm's future prospects, leverage, and profitability in India's growing economy. The author found that an increase in the firm's leverage was likely to result in a decrease in the future price of the firm, while an increase in firm profitability led to an increase in future price.

Harris (2000) explored the effect of the dividend tax credit and taxes on the company's value. The main focus of these studies (HK, CK, and H) was to interpret their evidence as consistent with the full activation of dividend taxes. However, the question has been expanded, and the goal was to not only examine the issue of activation but also to understand to what extent taxes are activated and capitalized in the market value of shares. Investors perceive an average dividend tax rate of 47%, and there is evidence that dividend taxes are enabled in the values of shares. Regarding the results of Harris and Kemsley's tests, they found that the coefficient on retained earnings compared to book value was negative (-0.47, to be exact). They interpreted this result as an estimate of the activation of the dividend tax rate in prices, suggesting that marginal tax rates on dividends negatively impact the valuation of firms.

Jeffrey, Nellie, and Scott (2006) conducted a study on top executives of firms and their dividend payment behavior in relation to their ownership share in the company. The researchers found that top executives were more likely to pay dividends when they held a greater share of ownership in the company. This behavior was attributed to personal liquidity reasons, especially after the dividend tax cut in 2003. However, the same pattern was not observed when the tax rate was comparatively high before the year 2003. The study also revealed that some firms with executives holding significant ownership shares opted to increase dividend payments at the expense of share repurchases. This decision led to an increase in the tax burden on individual shareholders. Conversely, some firms chose to repurchase their own stock as a strategy to reduce dividend payments.

Basil Al-Najjar (2005) conducted a research analysis on the financial markets of developing countries and explored the factors that influence a firm's decision-making process in these markets. The study revealed that the factors influencing firm decisions in developing markets are similar to those in developed countries. These factors include institutional ownership, business risk, profitability, leverage ratio, asset structure, growth rate, and the size of the firm. Furthermore, the research highlighted that in developing countries, there is a trend of adjusting the target payout ratio at a higher rate compared to developed countries. This indicates that firms in developing economies are more flexible in adapting their dividend payout policies to meet changing market conditions and economic dynamics.

Upananda Pani (1998) conducted a comprehensive analysis of the Indian corporate sector, focusing on the percentage of size and the debt-to-equity ratio, as well as retained earnings, and their impact on changes in equity returns. The study found that these factors have a significant influence on the interpretation of changes in equity returns. Furthermore, the research revealed a positive relationship between distribution companies, dividends, and retained earnings, particularly when companies choose to go for more debt. Conversely, there was an inverse relationship between revenues from equities and bonds to equity. The study also explored the benefits of larger companies driving profitable growth and higher profits. It was observed that such companies do not tend to defer the payment of dividends, rather, they maintain a consistent dividend payout policy.

Chunchi, Chihwa Cao, and Wu (1994) conducted an analysis on the relationship between unexpected dividends and changes in firms. The study revealed that changes in dividend patterns are indicative of fixed income managers' information and their strict forecasting of current and future income for companies that regularly pay dividends. Senior managers supported these findings as they led to more precise estimates of permanent income and adjusted their strategies in response to changes in permanent income and profitability.

Hines and Hubbard (1990) conducted an analysis on a sample of U.S. multinational companies using data from IRS 1984, and their research concluded that tax considerations play a significant role in timing the repatriation of dividends. Other tax-focused studies on the dividend policy of companies, such as Altshuler, Newline, and Randolph (1995), include multiple sections that distinguish the effects associated with transient and permanent changes in the tax cost.

Altshuler and Grubert (2003) as well as Desai, Foley, and Hines (2003) described that companies can differentiate themselves from tax liabilities by investing repatriated foreign income in other currencies or branches instead of repatriating profits to

their parent country. These studies provide evidence of the proliferation of organizational forms that facilitate such delays in repatriation.

6. DATA AND METHODOLOGY

6.1. SAMPLE AND DATA COLLECTION

The study conducted a data analysis of 20 banks, including commercial banks and Islamic Banks, listed at the Karachi Stock Exchange (KSE) during the period from 2004 to 2008. The data collected for the study was based on specific criteria, which included:

- Banks listed at KSE during the years 2004 to 2008.
- Availability of data regarding ownership for the years under study.

To analyze the impact of ownership structure and cash flow characteristics on dividend payout of the banks listed at KSE, the study employed the Ordinary Least Squares (OLS) regression estimation technique. This widely-used technique has been employed by various researchers to investigate the impact of specific characteristics on dividend behavior in different studies, such as those conducted by Al-Malkawi (2007), and Kumar (2006).

6.2. DEPENDENT VARIABLES

Two dependent variables were used to conduct the study including:

- Dividend Payout
- Dividend Intensity

6.3. INDEPENDENT VARIABLES

- Managerial ownership
- Individual ownership
- Operating cash flow
- Cash flow sensitivity

Cash flow sensitivity is indeed an important independent variable that plays a significant role in determining the dividend payout of a firm. Khurana et al. (2006) have proposed a measure to assess the sensitivity of established businesses to cash flows. They utilize the variation of annual cash assets to total assets as an alternative indicator. The available literature suggests that firms facing financial constraints may aim to raise funds for investing in advantageous future ventures. As a result, a negative relationship is expected between cash flow sensitivity and dividend payout.

6.4. CONTROLLED VARIABLES

Apart from these variables some controlled variables were also used to conduct the study like:

- Size
- Leverage
- Profitability

6.5. REGRESSION MODELS

The study employs three models to analyze the impact of certain factors on dividend payout. The first model focuses on the ownership structure, which includes three proxy measures: managerial ownership (MNG), individual ownership (IND), and real estate management and mediation. Additionally, three controlled variables, namely size (SZ), leverage (LVRG), and profitability (PRFT), are included to complete the model. To estimate the impact of ownership on dividend payout, the regression equations for the two models are as follows:

Model A

Model for Dividend Payout (DPO):

$$DPO = \alpha + \beta1(MNG) + \beta2(IND) + \beta3(SZ) + \beta4(LVRG) + \beta5(PRFT) + \varepsilon$$

Model for Dividend Intensity (DIVINT):

$$DIVINT = \alpha + \beta1(MNG) + \beta2(IND) + \beta3(SZ) + \beta4(LVRG) + \beta5(PRFT) + \varepsilon$$

In these equations, α represents the intercept, and $\beta1$ to $\beta5$ are the coefficients for the corresponding variables. ε denotes the error term or residual. The models will help in understanding how managerial ownership, individual ownership, size, leverage, and profitability influence dividend payout and dividend intensity.

Model B

In this model, the impact of cash flow characteristics will be investigated using two indirect measures: operating cash flow (OCF) and the sensitivity of cash flows (SCF). Along with these measures, three other variables, namely size (SZ), leverage (LVRG), and profitability (PRFT), will be included in the analysis to control for their influence on dividend payout and dividend intensity. To check the robustness of the results, dividend intensity will be used as a dependent variable. The regression equations for Model B are as follows:

Model for Dividend Intensity (DIVINT):

$$DIVINT = \alpha + \beta1(OCF) + \beta2(CFS) + \beta3(SZ) + \beta4(LVRG) + \beta5(PRFT) + \varepsilon$$

Model for Dividend Payout (DPO):

$$DPO = \alpha + \beta1(OCF) + \beta2(CFS) + \beta3(SZ) + \beta4(LVRG) + \beta5(PRFT) + \varepsilon$$

In these equations, α represents the intercept, and β1 to β5 are the coefficients for the corresponding variables. OCF refers to operating cash flow, CFS stands for cash flow sensitivity, and ε denotes the error term or residual. The models will help determine how the cash flow characteristics (OCF and CFS) along with size, leverage, and profitability influence dividend payout and dividend intensity.

Model C

This joint model aims to analyze the combined effect of ownership structure and cash flow characteristics on dividend behavior. It includes both the ownership variables (MNG and IND) and the cash flow characteristics (OCF and CFS) along with size (SZ), leverage (LVRG), and profitability (PRFT) as control variables. The regression equations for the joint model are as follows:

Model for Dividend Payout (DPO):

$DPO = \alpha + \beta1(MNG) + \beta2(IND) + \beta3(OCF) + \beta4(CFS) + \beta5(SZ) + \beta6(LVRG) + \beta7(PRFT) + \varepsilon$

Model for Dividend Intensity (DIVINT):

$DIVINT = \alpha + \beta1(MNG) + \beta2(IND) + \beta3(OCF) + \beta4(CFS) + \beta5(SZ) + \beta6(LVRG) + \beta7(PRFT) + \varepsilon$

In these equations, α represents the intercept, and β1 to β7 are the coefficients for the corresponding variables. MNG and IND represent managerial ownership and individual ownership, respectively. OCF stands for operating cash flow, and CFS refers to cash flow sensitivity. SZ denotes the size of the firm, LVRG represents the leverage ratio, and PRFT indicates the profitability of the firm. ε represents the error term or residual.

By analyzing the joint effect of ownership structure and cash flow characteristics, the model will provide insights into how these factors together influence dividend payout and dividend intensity of the firms under study.

Table 1: Variables of the Study

Symbol	Variable description	Proxy	Expected Relationship
Dependent Variables			
DPO	Dividend paid per share/Net Earnings per Share	Dividend Behavior	
DIVNT	Total Dividend/Total Assets	Dividend Behavior	
Independent Variables			
MNG	Proportion of shares held by Directors and Executives	Managerial Ownership	Negative (-)
IND	Proportion of shares held by Individuals	Individual Ownership	Negative (-)
OCF	Operating Cash flow/Total Assets	Operating Cash	Positive (+)
CFS	Δ Cash Balance/Total Assets	Cash flow sensitivity	Negative (-)
SZ	Log of Assets	Size	Positive (+)
LVRG	Total Liabilities/Total Assets	Capital Structure	Negative (-)
PROFT	Earnings Per Share	Profitability	Positive (+)

7. RESULTS AND ANALYSIS

Table 1 presents descriptive statistics for the dependent variable (Distribution of Dividend) and seven independent variables, which include individual cash and property management, high profitability, interest, and cash flow density. The study period covers the years from 2004 to 2008 and focuses on the banking sector of Pakistan. A sample of 20 banks, including commercial, investment, and Islamic banks, was used to conduct the study. Notably, the data were collected for all banks regardless of whether they were in profit or loss during the study period. This approach allows for a comprehensive analysis to be conducted, taking into account various financial conditions of the banks in the sample. The table presents the descriptive analysis of two dependent variables: Dividend Payout (DPO) and Dividend Intensity (DIVINT), along with seven independent variables mentioned above.

The average mean value of dividend payout for the banks over the five-year period (2004 to 2008) is 0.31.

The maximum mean value of dividend payout is recorded in the year 2007, with a value of 0.5639, indicating that banks paid out higher dividends in that year. The minimum mean value of dividend payout is recorded in the year 2005, with a value of 0.1955, suggesting lower dividend payments in that year.

The average mean value of dividend intensity over the five-year period is 0.008. The maximum mean value of dividend intensity is observed in the year 2008, with a value of 0.023, indicating higher dividend intensity in that year., with a value of 0.0035. The results show that dividend intensity had a growing trend over the years from 2004 to 2008, with increasing values indicating higher dividend intensity over time. Some banks that are newly established may choose to retain funds instead of paying dividends to invest in profitable ventures to enhance their business. Additionally, some companies that were experiencing losses during the study period may have preferred to retain funds to avoid liquidity or bankruptcy risks, leading

them to avoid paying dividends. These factors could contribute to the variations in dividend payout and dividend intensity observed in the study.

The independent variable "Owned by its management" refers to the ownership of the company's shares by its managerial staff. The average value of this variable over the five-year period is 0.094, indicating that, on average, about 9.4% of the company's shares are owned by its management.

The maximum mean value of managerial ownership is observed in the year 2008, with a value of 0.136, indicating higher managerial ownership in that year.

The minimum mean value of managerial ownership is recorded in the year 2008, with a value of 0.0632, suggesting lower managerial ownership in that year. A decreasing trend in managerial ownership is evident during the years 2004 to 2008. This decline may be due to some banks having no managerial ownership during this period, with a significant portion of their shares held by the government of Pakistan, state bank of Pakistan, and other associated companies. After that, a growing trend in managerial ownership is evident. These variations in managerial and individual ownership over the years may have implications for the company's dividend policy and decision-making processes.

The independent variable "Operating Cash Flow" represents the cash generated from a company's core business operations. The average mean value of operating cash flow over the five-year period is 0.062, indicating that, on average, operating cash flow contributes to about 6.2% of the company's total cash flow.

The maximum mean value of operating cash flow is observed in the year 2008, with a value of 0.1192, indicating higher cash flow generation in that year. The minimum mean value of operating cash flow is found in the year 2007, with a value of 0.0031. This low value may be due to heavy cash outflows during that year. There is an increasing trend in operating cash flow during the years 2004 to 2008, suggesting improved cash generation from core business activities.

The maximum average mean value of cash flow sensitivity is evident in the year 2005, with a value of 0.04758, indicating higher sensitivity to changes in operating cash flow in that year. The minimum value of cash flow sensitivity is observed in the year 2008, with a value of 0.01084, indicating lower sensitivity to changes in operating cash flow in that year.

The independent variables "Size" and "Leverage" are important factors that can influence a firm's dividend behavior. Size represents the total size of the company, and its average mean value over the study period is 12.38. This indicates that, on average, the companies in the sample have a size of approximately 12.38 units.

The maximum mean value of size is observed in the year 2005, with a value of 12.85, indicating a larger average size of companies in that year. The minimum mean value of size is recorded in the year 2005, with a value of 12.015. This suggests a slightly smaller average size of companies in that year.

The maximum mean value of leverage is observed in the year 2005, with a value of 0.921, indicating higher levels of debt financing used by companies in that year. The minimum mean value of leverage is recorded in the year 2008, with a value of 0.809. This suggests relatively lower levels of debt financing in that year. The trend in leverage does not show a clear pattern over the study period. Both size and leverage can play a role in determining a firm's dividend policy. Larger companies may have more resources and stability to pay dividends, while companies with higher leverage may face higher interest costs and, therefore, may be more cautious in paying dividends. Understanding the impact of these variables on dividend behavior can provide valuable insights into the dividend decision-making process of the banks included in the study.

The final independent variable, "Profitability," is a crucial factor that can significantly impact a firm's dividend behavior. Profitability represents the company's ability to generate profits relative to its revenue and expenses. The average mean value of profitability over the study period from 2004 to 2008 is 45.42.

The maximum mean value of profitability is observed in the year 2008, with a value of 14.393, indicating relatively higher profitability of companies in that year. The minimum mean value of profitability is recorded with a value of 5.97. This suggests a lower average profitability of companies in that year. There is a decreasing trend in the mean value of profitability during the years 2004 to 2008, which indicates that the companies' profitability may have declined over this period. Profitability is a critical factor that can influence a firm's ability to pay dividends. Companies with higher profitability may have more surplus funds available to distribute to shareholders in the form of dividends. Conversely, companies with lower profitability may face financial constraints and may be less likely to pay dividends to preserve cash for operational needs.

By analyzing the impact of profitability on dividend behavior, researchers can gain insights into how a company's financial health and performance influence its dividend payout decisions during the study period from 2004 to 2008.

Table 3 presents the correlation analysis of different banks listed at the Karachi Stock Exchange over the period of 2004-2008. The results show various correlations between the dependent variable, dividend payout (DPO), and the independent variables.

There is a strong negative correlation between dividend payout and leverage, with a correlation coefficient of -0.510, which is significant at the 0.01 level. This indicates that highly leveraged firms, which rely heavily on debt financing, tend to avoid paying dividends to mitigate the risk of solvency or bankruptcy.

Managerial ownership has a positive correlation with dividend payout, but the correlation is not very strong. However, the result is not significant, suggesting that managerial ownership may have some influence on dividend payout, but it is not statistically significant. Size is positively correlated with dividend payout, but the correlation is not very strong. The relationship between size and dividend payout is not statistically significant.

Individual ownership is positively correlated with dividend payout, but the correlation is not statistically significant. This suggests that individual ownership may have some impact on dividend payout, but the relationship is not strong enough to be considered significant. Operating cash flow is negatively correlated with dividend payout, but the correlation is not statistically significant. This implies that the level of operating cash flow does not have a significant influence on dividend payout decisions.

Table 2: Descriptive Statistics

Year	DPO				DIVNT			
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
2004	0	0.52	0.1955	0.18668	0	0.01	0.0035	0.00397
2005	0	0.63	0.2036	0.21288	0	0.02	0.0047	0.0048
2006	0	0.66	0.26	0.21304	0	0.02	0.005	0.00522
2007	-0.06	2.8	0.5639	0.7487	0	0.02	0.0058	0.00654
2008	0	0.74	0.3057	0.23369	0	0.21	0.023	0.06178
Year	MNG				IND			
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
2004	0	0.36	0.1108	0.12901	0.06	0.49	0.2025	0.15913
2005	0	0.36	0.0931	0.13639	0.04	0.51	0.1906	0.16769
2006	0	0.36	0.0632	0.11672	0.04	0.51	0.1642	0.13539
2007	0	0.27	0.0668	0.093	0.01	0.58	0.1796	0.1826
2008	0	0.7	0.1361	0.21915	0.03	0.49	0.1887	0.16278
Year	OCF				CFS			
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
2004	-0.1	0.14	0.0487	0.06338	-0.07	0.1	0.0144	0.04758
2005	-0.01	0.2	0.0539	0.06417	0	0.17	0.0404	0.04625
2006	-0.03	0.17	0.0868	0.06193	-0.04	0.03	0.0044	0.02052
2007	-0.12	0.09	0.0031	0.04998	-0.02	0.03	0.0031	0.01528
2008	0.03	0.26	0.1192	0.08061	0	0.03	0.0103	0.01084
Year	SZ				LVRG			
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
2004	10.33	13.27	12.015	0.82706	0.87	0.97	0.921	0.02798
2005	9.39	13.36	12.155	1.04923	0.62	0.94	0.88	0.08766
2006	9.59	13.54	12.341	1.04382	0.67	0.94	0.882	0.07513
2007	11.35	13.61	12.558	0.68901	0.08	1	0.85	0.23753
2008	12.11	13.76	12.85	0.57887	0.07	0.94	0.809	0.2517

Year	PROFT			
	Minimum	Maximum	Mean	Std. Deviation
2004	0.21	17.92	8.1131	5.10881
2005	2.99	44.83	14.393	11.3019
2006	0.72	22.09	9.1233	6.72427
2007	-3.23	22.25	5.9731	7.25464
2008	0.37	22.42	7.8136	7.3977

Cash flow sensitivity is negatively correlated with dividend payout, but the correlation is not significant. This indicates that the sensitivity of cash flows does not play a significant role in determining dividend payout decisions. Profitability is negatively correlated with dividend payout, but the correlation is not statistically significant. This suggests that profitability does not have a significant impact on dividend payout decisions. There is a positive correlation between dividend intensity and managerial ownership, with a correlation coefficient of 0.062, which is significant at the 0.01 level. This indicates that firms with higher managerial ownership tend to have a higher dividend intensity. While dividend intensity shows positive correlations with individual ownership, size, and leverage, none of these correlations are statistically significant. This suggests that these variables do not have a significant impact on dividend intensity.

Dividend intensity is negatively correlated with operating cash flow, cash flow sensitivity, and profitability, but none of these correlations are statistically significant. This implies that these variables do not play a significant role in determining dividend

intensity. Overall, the correlation analysis provides insights into the relationships between dividend payout, dividend intensity, and various independent variables. However, the lack of statistical significance in some correlations indicates that further analysis and exploration may be needed to fully understand the factors influencing dividend behavior in the banking sector at the Karachi Stock Exchange during the study period. Table 2.2 highlights that there is no strong relationship among the independent variables, with the highest correlation coefficient of 0.385 existing between Operating Cash Flow and Cash Flow Sensitivity. This indicates that there is no significant multicollinearity issue among the independent variables. Multicollinearity occurs when two or more independent variables are highly correlated with each other, which can create challenges in interpreting regression results and identifying the unique impact of each variable on the dependent variable. In this case, the relatively low correlation coefficients between the independent variables suggest that they are not highly correlated with each other, and there is no significant multicollinearity problem. This is a positive finding as it allows for a more accurate analysis of the individual impact of each independent variable on dividend payout and dividend intensity. Researchers can have confidence in the results and interpretations of the regression analysis without concerns about multicollinearity influencing the outcomes.

Table 3: Correlation Analysis

Correlations									
		DPO	DVINT	MNG	IND	OCF	CFS	Sz	LVRG	PRFT
DPO	Pearson Correlation	1								
	Sig. (2-tailed)									
DVINT	Pearson Correlation	.711**	1							
	Sig. (2-tailed)	0								
MNG	Pearson Correlation	0.062	.669**	1						
	Sig. (2-tailed)	0.702	0							
IND	Pearson Correlation	-0.013	0.276	0.235	1					
	Sig. (2-tailed)	0.935	0.063	0.134						
OCF	Pearson Correlation	-0.097	-0.023	-0.02	0.157	1				
	Sig. (2-tailed)	0.462	0.861	0.901	0.298					
CFS	Pearson Correlation	-0.112	-0.023	0.096	0.067	.385**	1			
	Sig. (2-tailed)	0.399	0.862	0.543	0.656	0.002				
Sz	Pearson Correlation	0.038	0.086	0.142	-0.172	-0.15	-.314*	1		
	Sig. (2-tailed)	0.776	0.509	0.371	0.252	0.243	0.02			
LVRG	Pearson Correlation	-.510**	0.001	0.256	0.214	0.041	0.03	0.228	1	
	Sig. (2-tailed)	0	0.995	0.102	0.152	0.758	0.81	0.08		
PRFT	Pearson Correlation	-0.096	-0.082	-0.235	-0.183	0.105	.354**	0.136	-0.008	1
	Sig. (2-tailed)	0.466	0.532	0.134	0.225	0.422	0.01	0.297	0.95	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The study conducted on the banking sector of Pakistan investigated the impact of seven explanatory variables (managerial ownership, individual ownership, operating cash flow, cash flow sensitivity, size, leverage, and profitability) on dividend payout and its intensity. Three Ordinary Least Square (OLS) regression models were used for analysis. In Model A, the focus was on the impact of ownership structure, along with three controlled variables (size, leverage, and profitability), on dividend payout and its intensity.

In Model B, the emphasis was on examining the impact of cash flow characteristics, including operating cash flow and cash flow sensitivity, along with three other variables (size, leverage, and profitability), on dividend payout and its intensity.

Lastly, Model C analyzed the combined effect of both ownership structure and cash flow characteristics on dividend payout and its intensity. Through these three models, the researchers aimed to gain insights into how ownership structure and cash flow factors influence dividend behavior in the banking sector of Pakistan. The use of OLS regression allows for a

comprehensive and robust analysis, enabling a better understanding of the factors affecting dividend decisions in this specific industry.

In Table the results of regression model 1 (a) are presented, which includes five explanatory variables (managerial ownership, individual ownership, size, leverage, and profitability) along with the dependent variable, dividend payout. The coefficient of determination (R-squared) is 0.381, indicating that approximately 38% of the variation in dividend payout can be explained by the independent variables. However, the adjusted R-squared value of 0.293 suggests that a lower proportion of the variation is explained when accounting for the number of independent variables.

Table displays the value of the "F" statistic for regression model 1 (a), which is 4.315 over the five-year period from 2004 to 2008. The statistically significant F-statistic at the 1% level confirms the validity of the estimation model.

Table 3.1 (c) provides the Beta values and t-values of regression model 1 (a). Leverage is the only independent variable with a negative Beta value of -0.669, and it is statistically significant at the 1% level. This indicates that leverage has a significant negative impact on dividend payout. On the other hand, all other independent variables, including managerial ownership, individual ownership, size, and profitability, have positive Beta values, but they are not statistically significant. This means that only managerial ownership has a statistically significant impact on dividend intensity.

Overall, the results of regression model 1 (a) suggest that managerial ownership and leverage are important factors influencing dividend payout in the banking sector of Pakistan during the study period.

Table 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.618[a]	0.381	0.293	0.3942

a. Predictors: (Constant), PRFT, LVRG, IND, MNG, Sz

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.353	5	0.671	4.315	.004[a]
	Residual	5.439	35	0.155		
	Total	8.792	40			

a. Predictors: (Constant), PRFT, LVRG, IND, MNG, Sz

b. Dependent Variable: DPO

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.564	1.171		0.482	0.633
	MNG	0.983	0.63	0.228	1.561	0.128
	IND	0.435	0.433	0.143	1.005	0.322
	Sz	0.086	0.097	0.148	0.882	0.384
	LVRG	-1.663	0.368	-0.669	-4.515	0
	PRFT	0.001	0.011	0.009	0.053	0.958

a. Dependent Variable: DPO

8. CONCLUSIONS

In this article, various aspects related to dividend policy and its determinants in the context of different research studies has been discussed. Several research papers were mentioned, each focusing on different factors that influence dividend policy decisions of firms. Linter's seminal paper in 1956 laid the foundation for subsequent research on the determinants of dividend policy. It revealed that existing dividend rates and changes in earnings are significant factors influencing dividend policy. Dhrymes and Kurz (1967) analyzed the influence of investment decisions, financing decisions, and dividend policy on firms. They found that dividend decisions are influenced by financing and investment decisions. Ghosh (2008) examined the effects of past dividend policy, future prospects, leverage, and profitability in India's growing economy. The study found that future price increases with an increase in firm leverage, while it increases with increasing firm profits. Various studies explored the impact of tax considerations on dividend policy. Hines and Hubbard (1990) concluded that tax considerations influence the timing of dividend repatriation by U.S. multinational companies. The joint model analyzed the combined effects of ownership structure and cash flow characteristics on dividend behavior in the banking sector of Pakistan. The models examined the influence of managerial ownership, individual ownership, cash flow sensitivity, size, leverage, and profitability on dividend payout and intensity. Descriptive analysis of the data showed trends and averages of dividend payout and dividend intensity

over the study period. It revealed increasing or decreasing trends in certain variables, depending on the year and the financial situation of the firms. In conclusion, dividend policy is a complex area influenced by various factors, including managerial ownership, individual ownership, cash flow characteristics, size, leverage, and profitability. The research studies presented in this chat provide valuable insights into the determinants of dividend policy in different economic contexts and regions. Understanding these factors can help firms make informed decisions about their dividend payout policies, considering their financial health and growth prospects.

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