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DETERMINANT OF DIVIDEND PAYOUT RATIO ON FERTILIZER SECTOR

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Abstract
A dividend is a portion of a company's income that is paid to shareholders once a year. The dividend policy decides how much of the profit will be shared, and this is sometimes a disagreement between companies and shareholders. This study explores the factors that influence the dividend payout ratio in Pakistan's fertilizer sector. This study used secondary source of quantitative data which were taken from audited annual financial reports of selected companies from 2014 to 2024. The data analyzed by descriptive statistics and regression with a method of Panel Ordinary Least Squares (POLS). This aim of this study to measure the impact of various independent variables (Earning per share, Profitability (ROE), Liquidity, Leverage, and retained Earnings) on the dividend payout ratio. The results indicate that Profitability (ROE) has a statistically significant effect on the dividend payout ratio, suggesting that more profitable companies are more likely to distribute higher dividends.
Keywords: Determinants, Dividend Payout Ratio, Fertilizer Sector, Pakistan

INTRODUCTION:

The agriculture sector is very important for Pakistan's Economy, its making up to 24% of GDP and employing about 37.4% of the workplace in FY 2024 (Economic Survey), and contributing approximately 0.8% to the National GDP in CY2024 and about 3.9% to the Large-Scale Manufacturing (LSM) segment, which itself forms a major part of the industrial sector. Since agriculture depends heavily on fertilizers, it is important for Pakistan to invest in fertilizer sector. A strong fertilizer industry helps increase agricultural productivity and supports food security. The fertilizer sector has a big impact on the important crops like wheat. Rice. And sugarcane, which are important for Pakistan's economy and jobs in rural areas. Here are some large companies like FFC, EFERT, FFBL and FATIMA fertilizers companies of Pakistan, we collected data from FFC, EFERT and FATIMA fertilizer companies. Since FFC and FFBL have now merged, so we have used only FFC's data, this merger was approved by the boards of both companies and was officially announced by Lahore High Court, Rawalpindi Bench, under a legal process called the "Scheme of Arrangement" as per Companies Act, 2017.

In the modern business world, companies often face a tough choice: should they give their profits to shareholders as dividends or use that profit to grow the business? When a company makes a profit, it can either reinvest the money to expand or share some of it with shareholders. Dividends can ne given as cash or extra shares (Ross, Westfield, & Jordan. 2003). The Dutch east India Company was the first to regularly pay dividends (Ahmed & Javid,2009). Since then many companies have followed this idea to keep shareholders happy. However, some believe that putting all profits back into the business can lead to more growth in the future.

Hence, the dividend decision is a critical aspect for firms, involving the determination of how much of their earnings will be distributed to shareholders, the rate of distribution, and the portion to be retained for business growth (Watson & Head, 2010). Many companies use dividends as a financial signal to convey stability and growth potential to external stakeholders. While higher dividend payouts can drive up stock prices, they may reduce the funds available for reinvestment (Tadele, 2017). Consequently, dividend policy is a strategic decision that impact both invest returns and the firm's financial health, encompassing the payment ratio and the method of cash distribution to shareholders (Temesgen, 2016). Over the past six decades, dividend payout decisions have remained a prominent topic of study in finance, engaging investors, corporate leaders, financial analysts, and academics. Since the 1950s, debates around the influence of dividend policy on a firm's value and other corporate payout decisions have persisted across both developed and emerging markets (Muhammed, 2012).

The question of why companies distribute Dividends and formulate dividends policies has been a focus point of modern business research since the introduction of irrelevance theory of Miller and Modigliani (1961). This groundbreaking theory posited that dividend payments do not affect shareholder's wealth. In response, various theories emerged to explain investor preferences for dividends. Contrasting the MM theory, the bird-in-hand theory argues that investors favor dividends over uncertain capital gains. Meanwhile, the residual dividend theory suggests that firms should only distribute dividends if no profitable investment opportunities are available (Myers& Majluf, 2013). Despite extensive empirical research in the field, there is still no definitive consequences on the key factors influencing a firm's dividend payout policy order relationships between these factors.

Fertilizer Sector:

Fertilizers, natural or artificial, are substances that contain chemical elements which improve growth and productiveness of plants. Fertilizers enhance the natural fertility of the soil or replace chemical elements taken from the soil by previous crops. Crops absorb nutrients from the soil, leaving it nutrient deficient for the next planting cycle necessitating replenishment through fertilizers. If fertilizers are not used, over time the soil will become so nutrient deficient that crop yields will be affected thereby, putting global food security at risk.

Pakistan, an agricultural-driven nation, relies significantly on fertilizers to boost crop yields and ensure food security for its growing population. The fertilizer industry processes raw materials into nutrients-rich products, primarily Nitrogen, Phosphorous, and Potassium. Key fertilizers produced and distributed in the sector include urea, diammonium phosphate (DAP), and nitrophos, supported by a network of major producers and distributors. Nitrogen-based fertilizers play a vital role in promoting plant growth, enhancing the green color of leafy crops, and improving the quality of cereal grains. Ammonia, a critical component, is created by combining air and hydrogen derived from natural gas under high pressure and temperature. This ammonia is further processed into nitric acid to produce nitrate fertilizers, such as ammonium nitrate. Urea is formed by reacting ammonia with liquid carbon dioxide, and granular urea is produced by mixing urea and ammonium nitrate in water, which is then granulated. Phosphorus-based fertilizers aid in seed and root development and accelerate plant maturity. These fertilizers originate from phosphate rock, which is treated with sulfuric acid to create phosphoric acid. The phosphoric acid is then combined with ammonia to produce Monoammonium or Diammonium Phosphate (MAP/DAP). Potassium-based fertilizers, commonly known as potash, enhance drought resistance, strengthen root systems, and improve disease resilience. Derived from potash rock, these fertilizers undergo a series of chemical processes to transform into their final usable forms.

The fertilizer market is driven by several factors but is primarily driven by the changes in the population which directly impacts the demand for food. The world population has grown by 0.91% over 2023-24 now standing at 8 billion; projected to grow to 8.5 billion by 2030 and will only continue to increase, hence more mouths to feed every year. The agricultural industry is vital to Pakistan's economy as it contributed 24% to the GDP and employed around 37.4% of the total labor force in FY 2024, according to the recent Economic Survey. The agricultural sector grew by 6.25% in FY 2024 which consequently led to a growth of domestic urea and DAP offtake by 2% Y/Y and 40% Y/Y, respectively in FY2024. Correspondingly, the production of urea and DAP increased by 9% Y/Y and 28% Y/Y respectively, in FY2024. The fertilizer sector is categorized as a Large-Scale Manufacturer (LSM) contributing 3.9% to the LSM growth during FY 2024. The total fertilizer offtake was approximately 9.5 MMT in 11MFY2024 compared to 8.5 MMT in 11MFY2023 and the market capitalization of the 4 major listed fertilizer players stood at Rs. 608billion in 2024. The sector is dominated by a few key players namely: Fauji Fertilizer Company Limited (FFC), Engro Fertilizers Limited (EFERT), Fauji Fertilizer Bin Qasim Limited (FFBL) and Fatima Fertilizer Company Limited

(FATIMA). In this research, we collected data from FFC, EFERT and FATIMA fertilizer companies. Since FFC and FFBL have now merged, so we have used only FFC's data, this merger was approved by the boards of both companies and was officially announced by Lahore High Court, Rawalpindi Bench, under a legal process called the "Scheme of Arrangement" as per Companies Act, 2017.

LITERATURE REVIEW:

several studies on the factors influencing dividend policy in various industries, nations, and contexts, emphasizing important conclusions and approaches. Agency expenses, which result from conflicts of interest between principals (stockholders) and agents (management), are frequently reduced by dividend distributions. U.S. studies that looked at 234 manufacturing and 266 service organizations found that industry type and corporate tax were favorable factors that determined dividend payout, whereas growth and profitability were negatively connected. Profit, market-to-book value (BV), and tax had the most effects on manufacturing enterprises, whereas sales growth, profit, and the debt-equity ratio (DER) had the biggest effects on service firms.

According to studies done in Malaysia throughout a variety of time periods, factors including ownership structure, quick ratio, return on equity (ROE), tax, GDP, and leverage all had a big impact on dividend payments. Firm size, earnings, investment, and GDP all showed positive relationships, whereas ownership structure and leverage showed negative correlations. Similarly, in Sri Lanka, a study on 191 firms used logistic regression and fixed-effect panel models to identify investment opportunities, profitability, free cash flow, size, corporate governance, and earnings as critical factors influencing dividends.

Using a modified Litner model, a research of 1,101 companies in Nigeria from 1984 to 2020 revealed that dividend payouts were highly impacted by size, growth, and profit after tax. Growth, cash dividends, return on equity, and investment growth were all found to be positively correlated in 131 companies studied in Tehran between 2007 and 2020. Between 2005 and 2009, size, risk, and profitability were statistically significant factors that influenced dividend policies in the United Arab Emirates. Research on Ghanaian enterprises found that leverage, liquidity, tangibility, and maturity were important determinants, while studies conducted on 174 firms in Pakistan between 2005 and 2010 showed that tax, size, profitability, and investment prospects were crucial drivers.

Common factors that influence dividend policy in all situations include market-to-BV ratios, firm size, profitability, growth and investment prospects, and leverage. According to Chetty and Saez (2010), tax laws have a big impact on dividend distributions, and tax evasion frequently results in higher payouts. These findings align with prominent theories such as signaling, life cycle, pecking order, and catering theories, demonstrating the complex interplay between firm-specific and macroeconomic variables in shaping dividend policies globally.

Dividend Irrelevance Theory:

(Miller & Modigliani, 1961) created theory. As the name suggests, it demonstrated that a company's dividend policy had no bearing on its value. Put otherwise, a company's dividend policy has no bearing on its value, regardless of how much it distributes. These academics contend that a company's worth is only based on its ability to generate profits.

Black and Scholes (1974) investigated the relationship between dividends and stock price in order to test the MM irrelevance theory of dividends, but they found no connection. They ultimately came to the conclusion that dividend policy had no bearing on business value. Financial scholars and practitioners have opposed the MM thesis, arguing that it is predicated on ideal capital market assumptions that do not exist in the actual business world, in contrast to irrelevance theory.

The "Bird-in the Hand Theory:

Gordon (1959) developed the "Bird-in-the-Hand" theory, which challenges the Miller and Modigliani (MM) claim that a company's worth is correlated with its dividend payments. The adage "one bird in hand is worth more than two in the bush," which suggests that investors choose equities that pay

dividends now rather than those that hold onto revenues for future payments, sums up the principle. This inclination results from the unpredictability of future dividends and capital gains (Gustav & Gairatjon, 2012), which makes payouts important to a company's worth.

By highlighting that the majority of businesses use cautious financing techniques and match their dividend payments with an ideal payout ratio, Lintner (1962) bolsters the argument. Changes in the company's profits frequently affect deviations from this ratio; higher profits usually translate into higher payouts. Companies may, however, lower their dividend payment ratio in order to decrease risk if future profits are uncertain. This demonstrates how dividend policy, present profitability, and future uncertainty interact.

Signaling Theory:

Signaling theory addresses the issue of asymmetric information within a company, highlighting that potential investors often have limited knowledge about stock quality (Akerlof, 1970). It suggests that financial information carries both positive and negative investment signals, with negative signal typically exerting a greater impact (Spence, 1973). This insight has encouraged companies to focus on releasing compelling financial reports, while investment managers share private information to reduce information asymmetry (Ross, 1977).

In other study, the dividend payout ratio-defined as the proportion of profits returned to investors as dividends-was analyzed alongside factors influencing management's dividend distribution decisions. A sample of primary consumer goods companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2021 was studied using multiple linear regression analysis. The findings revealed that the cash ratio and return on equity significantly impact dividend payouts, while the leverage ratio and total assets turnover have no effect.

Further research focused on consumer goods companied listed on the IDX between 2017 and 2020. This study examined the effects of return on equity, cash ratios and managerial ownership on dividend payouts. Using a purposive sampling method, 15 companies were selected from a pool of 53. The results indicated that return on equity and managerial ownership have a significant positive effect on dividend payout ratios, whereas the cash ratio, although positive, was not statistically significant. Collectively, return on equity, cash ratio and managerial ownership significantly influence dividend payouts.

The debate over dividend policy remains unresolved in modern corporate finance, often described as a puzzle due to the inherent conflicts of interest between shareholders and corporate managers. A comprehensive review of 62 published studies between 2004 and 2022, focusing on dividend determinants in manufacturing industries, highlights the variability of these factors across companies. Manufacturing sectors such as metal, automotive, electronics, textiles, chemicals, and food and beverage exhibit diverse determinants of dividend payouts. This variability underscores that the issue of dividend policy continues to pose challenges in contemporary corporate finance.

Dividends represent the portion of a company's profits distributed to investors and shareholders as a reward, aiming to enhance shareholder wealth. Dividend policy refers to the strategy adopted by a company's management when deciding on dividend payments, specifically the amount and frequency of cash distributions to shareholders over time (Lease et al., 1999). Numerous researchers have explored the "dividend puzzle" through various studies. This analysis examines Liquidity, Profitability, Leverage, Retained Earnings, Sales growth as key factors influencing dividend payout decisions.

Dhungana and Devkota (2022) observed that larger firms tend to pay higher dividends, and a positive correlation exists between a firm's dividend payment history and subsequent payouts. Their robustness check, achieved by altering variable proxies, revealed that financial service authorities should not mandate a uniform dividend policy across the industry.

Arshad et al. (2022) found that dividend payout ratios are negatively influenced by factors such as retained earnings to total equity, liquidity, asset growth, firm debt, and sales growth. Similarly, bhatt (2021) concluded that market power, as a proxy for competition helps mitigate agency conflicts. Dividend payout in banking sector. Instead, competition helps mitigate agency conflicts. Dividend payouts in banking are negatively affected by asset growth but positively impacted by factors like firm size and leverage, with profitability playing a relatively minor role. This research broadens understanding of the factors influencing dividend decisions in the banking industry.

Ali et al. (2021) demonstrated that profitability strongly and positively affects dividend payments in Kenyan deposit-taking SACCOS, supporting the dividend preferences theory, which states that investors prefer companies that distribute dividends promptly over those that retain profits. Similarly, Shahid et al. (2023) highlighted that profitability and financial leverage have a significant and positive impact on dividend policy.

Dissanayake and Dissabandara (2021) found that the presence of women on boards, larger board sizes, and CEO duality significantly increase the likelihood of dividend payments. In contrast, factors such as the size of the audit committee, the number of board meetings, and board independence negatively influence dividend decisions. However, Widyasti and putri (2021) argued that corporate governance, as measured by the number of Audit Committee members, does not affect dividend policy.

Ramadani and Jumono (2020) revealed that factors like debt ratio, cash position, and net call money significantly and positively impact the dividend payout ratio, while the loan-to-deposit ratio and return on assets have a significant negative impact. Similarly, Martin and Panggabean (2020) concluded that sales growth the investment opportunity set do not significantly affect the dividend payout ratio, whereas the cash ratio positively and significantly influences it.

Dividend Payout Ratio (DPR).

Retained earnings are the portion of a company's post-tax profits that are kept rather than being paid out as dividends to investors. The dividend payout ratio (DPR) is a ratio that compares the amount of net earnings paid out as dividends to the total profit. The percentage of the company's profit given to shareholders in the form of cash dividends is represented by the DPR (Siti, 2021). DPR is the ratio of dividends paid to net revenue, according to Mustafa (2017). Because it tells investors about the percentage of profits used for operational expansion and the fraction given to shareholders, understanding DPR is crucial.

From the standpoint of an investor, a greater DPR is favorable since it signifies a larger dividend distribution. But for the business, it means less money for internal investment, which could hinder its expansion. To optimize the company's stock price, the optimal dividend policy strikes a balance between present dividend payments and potential future growth. While a lower DPR indicates that profits are being reinvested in the company, resulting in lesser dividend distributions, a high DPR indicates that more profit is distributed as dividends.

Earnings per share:

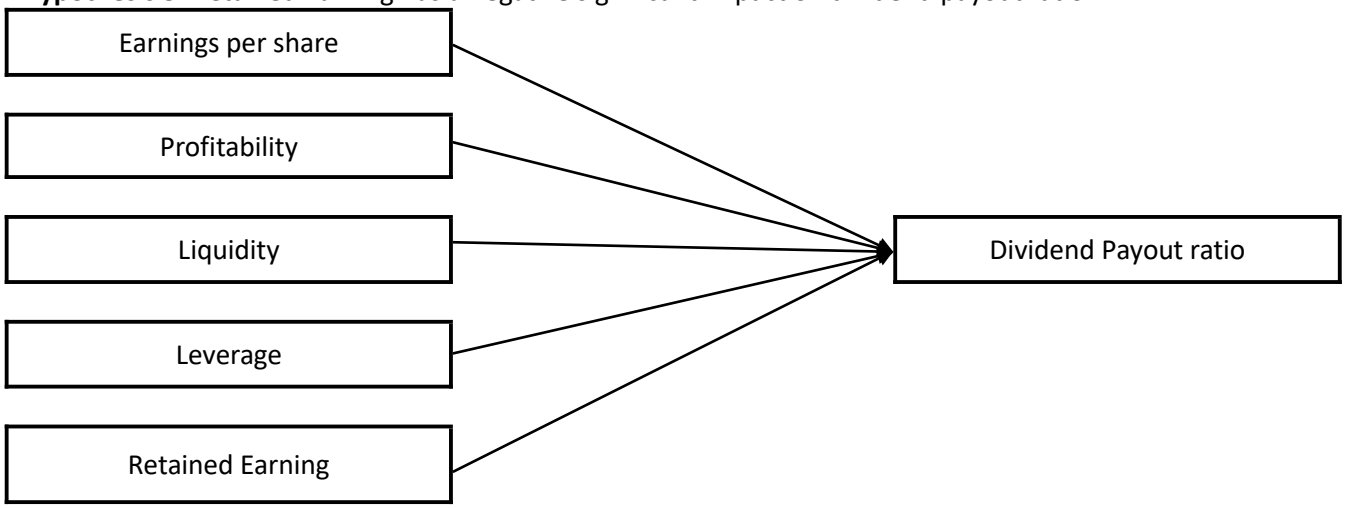
Earnings Per Share (EPS) represents the expected return a shareholder earns per share. A higher EPS generally indicates a stronger dividend policy (Bilal and Jamil, 2015). Derived from a company’s net profit, a higher EPS tends to attract more investors to purchase shares (Saleema et al., 2020), which can lead to increased stock price volatility (Shah and Noreen, 2016). Company earnings are typically divided between retained earnings and dividends, with higher earnings supporting a favorable dividend policy and allowing companies to distribute dividends (Kumaraswamy et al., 2017). After distributing dividends, retained earnings can be used for internal financing, enabling business expansion while keeping debt levels manageable. However, Das (2017) argued that EPS does not significantly impact dividend policy. Mature companies, in particular, may not rely heavily on EPS and often follow established dividend payout patterns, preferring alternative indicators over EPS for

shaping their dividend policies.

Hypothesis 1: Earning Per Share has a positive significant impact on dividend payout ratio.

Profitability:
Numerous studies have identified factors that influence the dividend payout ratio. A recent study by Sarumpaet and Suhardi (2019) indicated that profitability and liquidity positively affect the dividend payout ratio. Profitability is crucial in determining a company's dividend strategy. When investment opportunities and debt ratios are low, higher earnings tend to increase the likelihood of paying more dividends. However, in some cases, higher profits can negatively impact dividend payments (Arif & Akbar, 2013).
Hypothesis 2: Profitability has a positive significant impact on dividend payout ratio.
Liquidity:
Liquidity reflects a firm's ability to fulfil its payment obligations, with cash flow serving as an essential indicator of the company's available income. The liquidity ratio is often employed as a proxy to explore the connection between dividend policy and cash flow (Eng et al., 2013). According to Jiang et al. (2017), stock liquidity enhances transparency and motivates insiders to issue dividends. Their findings also suggest that the positive correlation between stock liquidity and dividend payouts effectively mitigated.
Hypothesis 3: Liquidity has a positive significant impact on dividend payout ratio.
Leverage:
Komrattanapanya and Suntrauk (2013) noted that using high levels of debt financing exposes companies to financial risk. Debt obligations and interest payments reduce the company's ability to generate residual income for dividend payments. As a result, high leverage negatively impacts the amount of dividend paid (Tahir et al., 2020). Moreover, high levels of debt can legally restrict dividend distributions. Companies with higher leverage ratios, particularly banks, often face greater regulatory pressures (Eng et al., 2013). In Malaysia, Mui and Mustapha (2016) and john and Muthusamy (2010) found that leverage and dividend payout ratios have an insignificant relationship.
Hypothesis 4: Leverage has a negative significant impact on dividend payout ratio.
Retained Earnings:
Companies retain earnings to fund business expansion and capitalize on investment opportunities. A portion of the annual profit is retained, with the specific amount determined by the company's board of directors. From a theoretical perspective, the amount of earnings retained reduces the funds available for distribution to shareholders. Previous studies by scholars such as Onail (2009), Huda & Farah (2011), and Tadele (2017) have found a negative correlation between retained earnings and dividend Payout.

Hypothesis 5: Retained Earning has a negative significant impact on dividend payout ratio.



METHODOLOGY

This section explained how the research was carried out. The main purpose of this study is to find out which factors have the biggest impact on the Dividend Payout Ratio in Pakistan's fertilizer sector. For this purpose, three top fertilizer companies were selected: FFC, EFERT, and FATIMA. To meet the study's objective, annual reports from the years 2024 to 2014 were reviewed. These companies were chosen based on the availability of their data, which was directly downloaded from their official websites.

In short, this paper aims to understand what affects dividend payouts. To do this, multiple regression analysis was used to predict the effects of different factors. The study applied Panel Least Squares Models to examine the relationship between the dividend payout (the dependent variable) and several other factors (the independent variable), including Earnings per Share, Profitability, Liquidity, Leverage, Gross Profit, Retained Earnings, And Previous Year's Dividend.

Equation Model:

$DPR_{i,t} = \alpha + \beta_1 PROF_{i,t} + \beta_2 LIQ_{i,t} + \beta_3 LEV_{i,t} + \beta_4 RE_{i,t} + + \varepsilon i,t$

The equation descriptions are as follows:

α: Constant
DPR: Dividend payout ratio
PROF: Profitability
LIQ: Liquidity ratio
LEV: Debt to equity/Leverage
RE: Retained Earning
Ɛ: Error term
i: Sample unit of panel
t: Time of period

Measurement and Expected sign of the study variables

	Variables	Measurement	Expected sign
Dependent variable	Dividend payout ratio	$\frac{\text{Annual dividend paid}}{\text{net income after tax and legal reserve}}$	
Independent variables	Earnings Per Share	$\frac{\text{Net Income}}{\text{Weighted average shares outstanding}}$	Positive
	Profitability	$\frac{\text{Net Income}}{\text{Total Equity}}$	Positive
	Liquidity	$\frac{\text{Current Asset}}{\text{Current Liabilities}}$	Positive
	Leverage	$\frac{\text{Total Liability}}{\text{Total Assets}}$	negative
	Retained Earnings	$\frac{\text{Retained income after dividend}}{\text{Income after tax and interest}}$	negative

RESULTS AND DISCUSSION

Descriptive Statistic:

Descriptive statistics referred to the analysis, summary and presentation of findings related to a data derived from sample or population. Descriptive statistics make an easier to understand and visualize data, they help present the data clearly, for easier to interpret and draw conclusions through it. This Section analyzes and discusses the main findings of the study, by descriptive statistics and regression analysis. The regression analysis presented investigates the factors influencing the Dividend Payout Ratio in the fertilizer sector of Pakistan, using panel data from three selected companies: FFC, EFERT and FATIMA over the period 2014 to 2024. The model applies the Panel Least Squares method, incorporating key financial variables such as Earnings per Share, Gross Profit, Leverage (Debt-to-Equity Ratio), Liquidity (Current Ratio), Profitability (Return on Equity), and Retained Earnings.

Descriptive Statistics

	N	Mean	Median	Maximum	Minimum	Std. Deviation
Dividend payout ratio	33	0.544488	0.530000	0.980000	0.000000	0.296212
EPS	33	12.39364	11.35000	45.49000	4.410000	7.824912
Leverage	33	0.513599	0.545049	0.900000	0.110000	0.232182
Liquidity	33	1.019697	1.000000	1.610000	0.660000	0.214658
Profitability	33	0.349394	0.360000	0.700000	0.130000	0.151429
Retained Earnings	33	10.44272	10.37879	11.72131	9.468697	0.598308

The descriptive statistics provide an overview of variables used in this study across 33 observations from 2014 to 2024. The mean value of Dividend payout ratio is 0.544488, median is 0.530000 with a Maximum value 0.980000 and Minimum value 0.000000 and Standard deviation of Dividend payout ratio is 0.296212.

The independent variables of this study, EPS have mean 12.39364, median is 11.35000, with maximum value 45.49000, Minimum value is 4.410000 and Standard deviation of EPS is 7.824912. The mean of leverage is 0.513599, median is 0.545049 with maximum value 0.900000 and minimum value 0.110000 and Standard deviation is 0.232182. Liquidity mean is 1.019697, median is 1.000000 with a maximum value 1.610000 and minimum value 0.660000 and standard deviation is 0.214658. The profitability mean is 0.349394, median is 0.360000 with a maximum value 0.700000, minimum value 0.130000 and standard deviation is 0.151429. The last independent variable is Retained earnings have a mean: 10.44272, median: 10.37879 with a maximum value 11.72131, minimum value is 9.468697 and standard deviation is 0.598308.

Correlation Analysis

Correlation Probability	DIVIDEND ...	EANINGS ...	LEVERAGE...	LIQUIDITY ...	LOG RETAI...	PROFITABIL...
DIVIDEND PAYO...	1.000000 -----					
EANINGS PER S...	0.138330 0.4427	1.000000 -----				
LEVERAGE DEB...	0.278927 0.1160	0.276896 0.1188	1.000000 -----			
LIQUIDITY CUR...	-0.050987 0.7781	0.090849 0.6151	0.073084 0.6861	1.000000 -----		
LOG RETAINED ...	-0.333466 0.0579	0.347669 0.0474	-0.091794 0.6114	0.611375 0.0002	1.000000 -----	
PROFITABILITY ...	0.510478 0.0024	0.606738 0.0002	0.352580 0.0442	-0.367059 0.0356	-0.405436 0.0192	1.000000 -----

The Correlation Analysis of the variables are examines the relationship between the dividend payout ratio and independent variables, among all the variables profitability (ROE) shows a strongest and most statistically significant positive correlation with the dividend payout ratio, with a correlation coefficient of 0.5105 and a P-value of 0.0024. Retained earnings has a moderate negative correlation with dividend payout (0.3335) with a P-value of 0.0579. other variables like EPS, Leverage and Liquidity are also show very weak or insignificant relation with dividend payout ratio.

Regression test:

The results of the Panel Ordinary Least Squares (POLS) regression model aim to identify the determinants of the dividend payout ratio for a panel data sample from the years 2014 to 2024 across 3 cross–sections (Companies), with total of 33 balanced observations. The dependent variable in this model is Dividend payout ratio and the independent variables are tested, including EPS, Gross profit, Leverage (Debt to Equity Ratio), Liquidity (Current ratio), Retained Earnings and Profitability (ROE).

Dependent Variable: DIVIDEND PAYOUT RATIO
Method: Panel Least Squares
Date: 06/27/25 Time: 19:51
Sample: 2014 2024
Periods included: 11
Cross-sections included: 3
Total panel (balanced) observations: 33

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EANINGS PER SHARE	-0.014196	0.012543	-1.131778	0.2677
LEVERAGE DEBT TO EQUITY RATIO	0.091907	0.213423	0.430634	0.6702
LIQUIDITY CURRENT RATIO	0.426321	0.275979	1.544759	0.1340
LOG RETAINED EARNING	-0.029900	0.154454	-0.193587	0.8479
PROFITABILITY ROE	1.567857	0.669628	2.341386	0.0268
C	0.002942	1.594474	0.001845	0.9985

R-squared	0.381766	Mean dependent var	0.544488
Adjusted R-squared	0.267278	S.D. dependent var	0.296212
S.E. of regression	0.253555	Akaike info criterion	0.256496
Sum squared resid	1.735838	Schwarz criterion	0.528588
Log likelihood	1.767814	Hannan-Quinn criter.	0.348047
F-statistic	3.334550	Durbin-Watson stat	2.425455
Prob(F-statistic)	0.017907		

Among all variables, only Profitability (ROE) found to have a statistically significant effect on the dividend payout ratio, with a positive coefficient of 1.6384 and a p-value of 0.0335. this indicates that an increase in ROE leads to an increase in dividend payout ratio, highlighting profitability as a key factor influence dividend payout decision. Other variables like EPS, leverage, liquidity and retained earnings were not statistically significant as all have p-value above the conventional 0.05 threshold, as EPS have negative coefficient (-0.0146) with a p-value of 0.2666, that's why no meaningful effect on dividend payout ratio.

The whole model has an R-squared value of 0.3835, indicates that approximately 384% of the variation in the dividend payout ratio is explained by the included variables. The Adjusted R-squared is slightly lower at 0.2413, accounting for the number of predictors in the model. Even though individual variables were not significant on their own, the overall model is still statistically meaningful. This is shown by the F-statistic of 2.696 with a P-value of 0.0359.

CONCLUSION:

The purpose of this study is to examines the key factors that influence the dividend payout ratio in Pakistan's fertilizer sector by quantitative data by using secondary resources in which three major companies are selected FFC, EFERT and FATIMA (FFBL are excluded caused this is merged with FFC), over the period 2014 to 2024. The analysis combined descriptive statistics, correlation analysis and Panel Ordinary Least Squares (POLS) regression to identify the impact of several financial independent variables like EPS, Gross Profit, Leverage, Liquidity, Retained Earnings and Profitability (ROE). Both the correlation and regression analysis consistently highlighted profitability (ROE) as the only variable with a statistically significant and positive relationship with dividend payout ratio. While the variables EPS, Gross profit, Leverage, Liquidity and retained earnings have weak or no consistent effect on dividend decisions cause their P-values are exceeding from the conventional threshold 0.05. The overall regression model demonstrated statistical significance, as shown by the F-statistic (2.696, P = 0.0359), and about 38.4% of the variation in dividend payout (R-squared = 0.3835).

DEDICATION:

This research is dedicated to all individual and entities, particularly investors who seeking opportunities in this sector and farmers whose efforts form the backbone of its developments. It is important to clarify that this work has been conducted solely for informational and developmental purposes, with no political agenda, affiliation, or influence involved. The intent is to provide objective

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