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ACADEMIC PAPER

At the Crossroads: Exploring the Relationship Between Financial Decisions and Firm Performance of Distressed Firms in the Pakistan Stock Exchange

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ABSTRACT

The primary aim of this study is to assess the influence of financial decisions on the financial performance of distressed firms in Pakistan. Specifically, the research delves into three pivotal financial decisions: dividends, capital structure, and investment choices. Utilising balance sheet analyses published by the State Bank of Pakistan, relevant data were gathered for companies listed on the Pakistan Stock Exchange. The sample for this investigation comprises 185 non-financial firms listed on the PSX over the past eight years (2010-2017), utilising panel data. Regression analysis using the Ordinary Least Squares (OLS) technique was employed to examine the relationships. The results reveal that the dividend policy significantly and positively impacts return on assets, while its effect on return on equity is found to be insignificant. The study also explores the impact of capital structure on the performance of distressed firms, indicating an insignificant and negative effect on return on assets. Additionally, a highly significant positive relationship is identified between taxes and both returns on assets. Concerning return on equity, a negative and highly significant association is observed between long-term debt and ROE. Furthermore, the investigation examines the effects of over- and under-investment on firm performance in distressed firms. The findings suggest that over-investment has a significant and positive impact on return, while under-investment demonstrates a significant and positive effect on return on assets and an insignificant positive impact on return on equity. This study contributes to the understanding of the impact of over and under-investment on firm performance, an aspect not previously explored in distressed firms.

KEYWORDS
Dividend Policy, Capital Structure, Over and Under-investment, Firm Performance.

JEL Classification: G15, D53, L25

1. INTRODUCTION

A corporation must make numerous decisions throughout its lifespan, with the most fundamental ones being those pertaining to financial matters. The phrase used to describe these judgments relating to money is 'judgments Financing judgements'. Financial executives must make three crucial determinations, namely dividends, which entail the allocation of profits made by the organisation. The manager's main consideration is whether to keep or distribute profit to shareholders in the form of dividends. The study conducted by Chira et al. (2008) illustrates that dividends have no impact on firm performance. Companies that distribute substantial dividends mitigate their risk and exert control over the stock, as dividends are regarded as an indicator of future earnings or profits (Bulgurcu, 2012). Several research papers have explored the topic of dividend policy, although the findings regarding corporate dividend policy remain inconclusive. Nevertheless, these policies confer resilience and serve as an indication of prosperity for the advancement of a business (Çam & Özer, 2022). This study focuses on the correlation between dividend payments and the financial performance of a company.

The capital structure decision includes the critical decisions about when, where and how a business should acquire funds. The two primary sources of funding are financing through debt and equity. Sources of debt financing are bond issuance and long-term note payables. Common stock, preferred stock or retained earnings (RE) are equity financing. The first work on capital structure was done in which they gave the irrelevance theory that capital structure (CS) does not affect firm performance in a perfect market.

To understand the significance of company investors' shareholders, you must look at the company's financial position. Performance is an old French word "parfournir", which means to bring through, to carry out, or to do. A company's financial performance indicates a firm's efficiency and the utilisation of resources to increase its operation (Sadaa et al., 2023). The extent of a company's performance can depend not only on the efficiency of its resource utilisation but also on the market in which it functions.

Financial distress is tenure in finance, which indicates the state of the company when it cannot meet or fulfil its financial obligations. Financial distress can lead large companies to bankruptcy if they cannot be comforted. The Asian financial crisis of (1997-1998) triggered a sharp drop in the stock exchange prices. Also, it reduced the value of currencies of several countries/ economies (Asian), disturbing the world economy (Umoru & Osemwegie, 2016). This investigation uncovers that firms with low monetary influence are vastly improved than firms with higher influence. Besides, the emergency extends the unwanted connection between budgetary misery and firm execution. During such emergencies, firm execution was more regrettable with a higher impact.

We found a gap in the study and, after all, filled this gap by using different methodological approaches and tools. We investigate the impact of different financial decisions on distressed firms' performance that was not explored before in Pakistan's scenario. We also do empirical analysis using the SEM tool, which is the contribution of this study and is a valuable implication for higher-level managers of reputed firms in Pakistan.

2. LITERATURE REVIEW

2.1 Effect of Dividend Policy on Firm Performance

The most debated topic in the corporate finance literature concerns the behaviour of dividend policy, which still holds a prominent place in established and emergent markets (Luo, 2022). Research has been conducted regarding the problems associated with the dividend policy but has failed to give a clear picture of the behaviour of dividends in the firms (Yuan et al., 2022). Decisions based on business benefits are essential to the company's strategy. Profit, which is essentially the benefit of investors due to their danger and speculation, is controlled by several societal factors (Karim et al., 2014). Therefore, regardless of the excellent dividend study, business executives and financial economists still face what was once described as a dividend mystery with elements that do not seem to fit (Munangi & Bongani, 2020; Raza et al., 2021). The dividend policy is the regulation and strategy that a company/firm chooses to pay dividends to shareholders (Amahalu et al., 2017). Weber et al. (2010) contended that the profit choice did not influence the estimation of a company dependent on specific suspicions and was, along these lines, not noteworthy. In any case, the conventional astuteness that suspicions are changed guards the requirement for a well-

overseen profit arrangement, as it can aggravate stock costs and investor riches (Ho & Hsu, 2010). This contention depends on two suppositions: first, the financial specialist has no assessment inconvenience to get profits; furthermore, organisations can raise capital market assets for new speculations without paying the expenses of issuing them. Exhibitors in the subsequent school accept that profits are savage for the typical investor on account of the duty prevention they make, bringing about lower esteem. Finally, a few individuals from the third gathering contended that profits are unmistakably significant since investors like them (Huang & Ho, 2020).

In their study, Meissner and Wulf (2017) explored the correlation between the financial position and profitability of companies. They conducted their investigation using a sample of 25 companies listed on the Sri Lanka Stock Exchange, employing the Altman Z-Score model for bankruptcy analysis. He concluded that only 4 of those companies, with 25 companies going bankrupt, are in the near future. He also states that ratios of earnings/total assets, the market value of total equity/book value of debt, and sales/total assets are most important in measuring the financial position of listed companies. Balasubramnian and Sargent (2020), in their work on corporate governance and firm performance by taking data from the period (2007-2011) with samples of 28 manufacturing companies, initiate that the performance measure of firm is not associated with determinants of corporate governance. This regression model exhibited that corporate governance has no effect on companies' return on equity (ROE) and return on asset (ROA).

2.1.1 Dividend Signaling Theory

This theory was used by Umoru and Osemwegie (2016). From empirical studies, they concluded that having extended dividend payments increases the share costs; similarly, lower dividend payments reduce percentage costs. He preferred dividend fees over capital profits (Ogboi & Unuafe, 2013). The idea of signalling affirms that the dividends want to replicate the manager's superior internal data about the company's future profit situations. Future benefits and the activation fee may be changed at any time; therefore, administrators use the dividends as a device to sign their higher records on the adjustments in the profit conditions (Ogboi & Unuafe, 2013). Signalling idea thought also conjectures that higher profits produce preferable advantages over typical, generally speaking, execution and, hence, - lead to a higher market estimation of the organisation (Kosmidou et al., 2020). There are numerous research and interesting situations for profit. Umoru and Osemwegie (2016) contend that when there are asymmetries of realities among offices and open-air investors, it is genuinely conceivable to set up a sign job for profits.

2.1.2 Agency Theory

Seth (2018) perhaps suspects the presence of an agency problem, and in light of this, it's a source of inspiration for economists to encourage the factors of the organisational principle. Smith predicted in his work "The Wealth of Nations" that if an organisation runs through the managers or individuals who are not actual proprietors of a business enterprise, then there might be a risk of struggle among actual owns and managers of the agency who are running for genuine proprietors as there is the threat that they may be now not running for owners benefit. Seth (2018) gave the concept of agency theory. They proposed a theory that a company's governance is grounded on the conflicts of interest between the company's owner (shareholders), its managers and creditors.

2.1.3 Bird in Hand Theory

The bird-in-the-hand theory of dividend policy (Ozuomba et al., 2016) suggests that investors are daring individuals inclined toward profit instalments rather than long-haul capital increases. Investors believe profit instalments are increasingly sure that future capital additions - thus a "winged animal in hand is worth more than in the bramble. - Shareholders would not acknowledge the proposition of having diminished profit payouts to expand future additions. Generally, financial specialists are chance disinclined and inclined to close to future profits. This is the reason for close contention in the venture (Heuver & Berndsen, 2022); investors typically follow up on the rule that a flying creature inside the hand is well worth more than two inside the hedge. For this, they are happy to pay a premium higher than the profit rate for the stock.

H1: *Dividend policy positively affects firm performance in financially distressed firms.*

2.2 Effect of Capital Structure on the Performance of Firm

Capital structure is imperative; this is the organisation's level of cash put resources into the business. The capital structure of any organisation demonstrates the vast effect and conceivable result of the organisation's income; it additionally decides the profit that will go to the investors of the business. Ogboi and Unuafe (2013) suggest that the value of a company/firm is not affected by the capital structure it uses in perfect market assumptions. -The capital structure is how a company finances its general activities and progress through various sources of benefits. -Debts come from long-term bond issues or notes. At the same time, equity is categorised as ordinary shares, retained earnings, preferred shares, and short-term debt, such as working capital requirements, are also considered part of the capital. Generally, two types of capital exist: social and borrowed (Umoru & Osemwegie, 2016). Both have their own merits and demerits, and a considerable portion of the intelligent management of companies and executives is trying to determine the perfect capital structure regarding the risk/benefit ratio for shareholders. Many indicators of the capital structure influence the performance and benefits of the business. Previous reviews show an optimistic association between short-term debt and total debt and yield while having an undesirable effect on long-term debt performance through return on capital (Ahmeti & Prenaj, 2015). Chen et al. (2021) found an undesirable relationship between leverage and performance, which appears according to the magnitude of the relationship between earnings before taxes and taxes and total assets (Ali et al., 2022), where no critical effect was found between the decisions of the capital structure and performance. Studies that analyse the impact of financing options on returns and profits tend to use the absolute determinants of the capital structure. Romanian organisations rely more on debt when they need an extension, but they try to save their fixed resources on internal resources.

2.2.1 Free Cash Flow Theory

The free cash flow (FCF) hypothesis of capital structure experiences the ill effects of circularity, static nature, and powerlessness to account appropriately for development and hazards. The former FCF models, as depicted or created by Chebbi et al. (2021), Goel et al. (2015) and Luo (2022), bring about the expense of duty shield equivalent to either cost of unturned value (resources) or cost of obligation. They additionally suggest the insignificance of the capital structure approach or corner arrangement. However, capital structure matters in uncommon strategies at particular kinds of gatherings. The lack of connections among various capital shape hypotheses is dangerous and blasting. Ahlerup et al. (2016) show that the pecking request idea can't clarify the high portion of reasonableness at small and youthful associations; anyway, it performs well everywhere firms.

H2: *Debt positively affects firm performance in financially distressed firms.*

2.3 Effect of Over and Under-Investment on the Performance of the Firm:

Firms acquire their goals with the right funding on time. However, managers act as agents and make key decisions on behalf of those shareholders (Louati et al., 2015). Here, investment is split into situations of investment and under-investment to peer its effect on firm performance in distressed companies. This study is conducted to measure the firm's investment behaviour that permits defining whether firms in distress have a higher tendency to over- or under-invest. When firms spend money on negative NPV projects over investment, under-investment occurs when companies put money into high-quality NPV projects (Auriol et al., 2021). The over-investment trouble arises when managers do not forget the firm as a resource to boom their very own capital, misuse their decision-making energy by choosing tasks with terrible gift costs that might grow their very own non-public earnings and at the same time, lower and harm shareholders and debt holders wealth in line with (Abdelsalam et al., 2021; Arora & Chakraborty, 2021; Khedmati et al., 2021). Under-investment may arise due to managers' lazy and ignorant behaviour in discovering new investment opportunities (Menyeh, 2021).

Based on the work of Cabrera-Paniagua and Rubilar-Torrealba (2021), agency cost of free cash flow, they investigated over and under-investment by studying the relationship between investment and free cash flow of a firm. The consequences showed that when companies have a lower boom possibility, there's a fantastic relation between investment and cash flows, indicated as over-investment. While the increased opportunity is higher, a negative relationship between company cash flow and funding

suggests an under-investment (Huang, 2022).

The theory of over-investment of obligation announced a significant relationship between speculation and influence, demonstrated over-investment and showed a poor connection between venture and influence under-investment (Habtoor, 2020). Hence, we can guarantee that organisations with low development probability and a positive connection between speculation and influence advocate over-investment, - even as firms with high development plausibility and negative connection between venture and influence propose under-investment. Previous empirical findings display the unwanted effect of over-investment and under-investment on the typical overall performance of the company (Ekinci & Poyraz, 2019; İncekara & Çetinkaya, 2019; Shafique & Ahmad, 2022; Vitkova et al., 2022). Second, bankruptcy laws can affect company financing and investment capacity. -On the one hand, Gupta and Kashiramka (2020) have a significant factor in the behaviour of funders in financing finances in each of them (influences on recovery rates, the maturity of transactions and the required guarantee). On the other hand, the orientation of the banks of the bank (oriented towards the debtor or creditor) can lead to non-optimal investment (Ozuomba et al., 2016). These investment problems may be the basis of the low resilience obtained during the procedure (Ogboi & Unuafe, 2013).

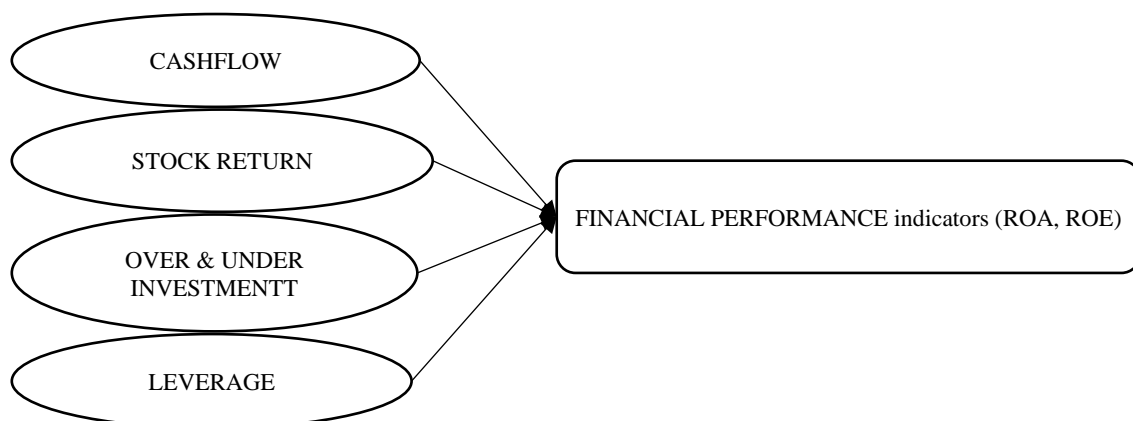**H3$_a$:** *Over-investment adversely impacts the performance of financially distressed firms.*
H3$_b$: *Under-investment adversely affects the performance of a financially distressed firm.*
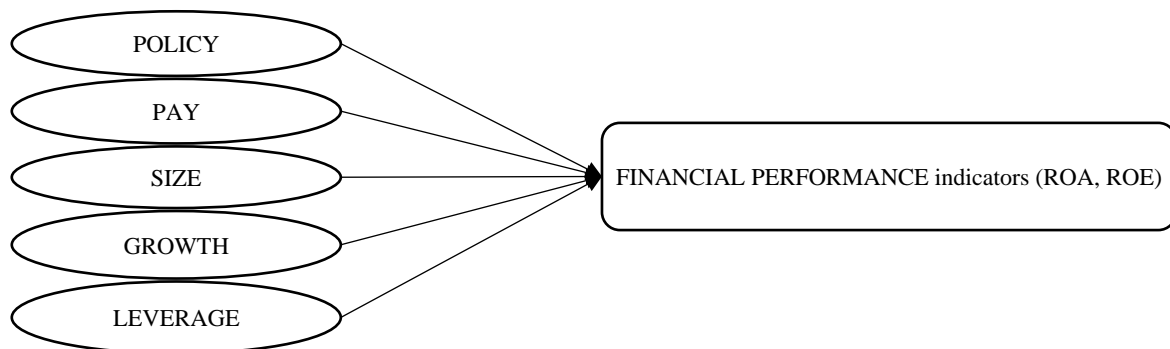
Figure 1: Conceptual Framework of Dividend Policy.
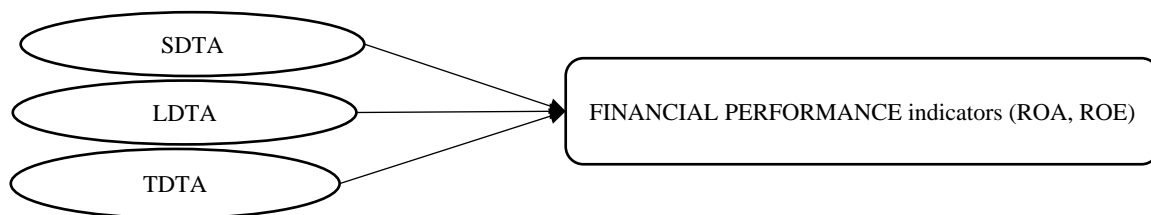
Figure 2: Conceptual Framework of Capital Structure.

Figure 3. Conceptual Framework of Over and Under Investment.

3. DATA AND METHODS

The sample for this study comprises 185 non-financial firms listed on PSX over the most recent eight years (2010-2017). The study aims to examine the impact of financial decisions on the performance of distressed firms. The sample selection adhered to the following criteria:

- The firms are present throughout the sample.
- Availability of share prices throughout observed years.

3.1 Distressed Firms (Z-Score)

Initially, manufacturing firms will be categorised into stressed and non-distressed entities using the Altman Z Score discriminate model, as proposed by Altman (1968). This classification will be based on each firm year within an industry, deeming a company stressed if it attains a score below three and non-stressed if the score is equal to or exceeds three. The fit function escapeis $Z = X1 + X2 + X3 + X4 + X5$

Where, $X1 = working\ capital/total\ assets.$
$X2 = retained\ earnings/total\ assets.$
$X3 = earnings\ before\ interest\ and\ tax/total\ assets.$
$X4 = market\ value\ equity/book\ value\ of\ total\ liabilities.$
$X5 = sales/total\ sales.$
$Z = overall\ index$

Table 1: Selected PSX-listed Distressed Firms from Different Sectors.

Sr. No.	Sectors	Number of firms
1	Glass and Ceramics	6
2	Oil and Gas Exploration Companies	2
3	Food and Personal Care Products	7
4	Power Generation and Distribution	6
5	Oil and Gas Marketing Companies	5
6	Engineering	8
7	Textile Weaving	6
8	Transport	2
9	Leather and Tanneries	4
10	Automobile Assembler	8
11	Woolen	4
12	Technology and Communication	3
13	Banaspati and Allied Industries	2
14	Automobile Parts and Accessories	6
15	Textile Spinning	35
16	Cable and Electrical Goods	5
17	Tobacco	2
18	Miscellaneous	12
19	Textile Composite	10
20	Chemicals	8
21	Cement	10
22	Paper And Board	6
23	Synthetic And Rayon	9
24	Fertiliser	4
25	Sugar And Allied Industries	10
26	Pharmaceuticals	5
27	Refinery	2
Total Number Of Firms		185

Source: work by the authors

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3.2 Data Sources
This study employs a secondary data approach and collects data from the companies financial statements. Financial statements published by the State Bank of Pakistan were used in order to gather the relevant data required for the companies taken from Pakistan stock exchange. The data is considered reliable as the state's central bank collects these figures for different companies. The years that were observed for the data were from 2010-2017. Nevertheless, figures for 2010 were sacrificed to calculate the lag and change (difference) of different variables.

3.3 Variables and Measurements
3.3.1 Dependent Variables
This research investigates the influence of financial decisions on the performance of distressed firms within the context of non-financial entities in Pakistan. The key performance indicators encompass return on assets (ROA), return on equity (ROE), and profit margin. Nevertheless, our study examines performance in two scenarios. Firstly, we assess how efficiently a firm utilizes its assets to generate profit, using return on assets (ROA) as an independent variable. Secondly, we appraise the extent of shareholder equity for the firm, utilizing return on equity (ROE) as a performance measure. The subsequent section outlines the dependent variables and their proxies for our study.

Return on Asset
This is the ratio which shows relation between the earnings and assets of the company. Heuver and Berndsen (2022) stated that return on assets (ROA) is a ratio that measures the amount of profit generated from the optimal utilisation of firm assets. Ju and Zhao (2009) stated that return on asset is a measure to check the effectiveness of a firm in generating profit or revenue by utilising its assets. Return on asset is a ratio which gives a good or bad indication about the management of a firm in executing cost control or management of its assets (Ongore & Kusa, 2013).
It is computed as,
Return on asset = totsl net income / total assets

Return on Equity
Return on equity is a commonly utilized concept employed by companies, managers, and analysts to evaluate a firm's performance concerning shareholders' capital. Also referred to as the profitability of the business, it mirrors the profitability of the firm's own capital, with studies suggesting that a higher Return on Equity (ROE) ratio is associated with increased profit growth. The importance of ROE as an indicator of profitability is evident, as it assesses management efficiency in creating wealth for shareholders. Nevertheless, a comprehensive analysis of profitability, especially in the context of return on equity, presents a demanding and intricate task (Hassan et al., 2016; Louati et al., 2015; Sadaa et al., 2023).
It is computed as,
Return on equity = Total net income / total owner's equity

Table 2: Names of Research Variables.

Variable Name	Measurement
R.O.A	Total income/Total assets
R.O.E	Total income/Total owner's equity

Source: work by the authors

3.3.2 Independent Variables
The informative factors incorporate profit approach and payout proportion; it can be determined as profit per share separated by income per share. Moreover, this investigation has diverse other control factors that may have an effect on the estimation of the firm as opposed to profit arrangement. The logarithm of complete resources is utilised as an intermediary of firm size to deal with the measure of the associations among test firms. The company's influence is figured as the complete obligation proportion partitioned by the book estimation of benefits. Luo (2022) clarify that obligation is a

regiment component that diminishes agency issues among investors and the board. The association's future assumptions openings likewise influence the company's esteem. Following are the names of factors and their intermediaries by which factors are estimated: The free factors for capital structure are three obligation proportions, the proportions of absolute liabilities, long haul liabilities and momentary liabilities to add up to resources, and the value proportion, determined as the proportion of complete value to add up to resources (TOTD,). Just a solitary one of these autonomous factors will be utilised in the relapse models.

Dividend Policy
Dividend policy measures the ultimate distribution of firms earning between retained earnings that would be reinvested and cash dividend payments made to shareholders. Dividend policy means guidelines every firm or management follows in the declaration of dividends. It decides the proportion of earnings that has to be paid and how much to retain. Bulgurcu (2012) said that the firm's value is affected by the choice of dividend policy. Dividend policy must be chosen based on the objective of the firm. Such policy should be adopted if it will maximise the worth of the firm to its shareholders.

Over Investment
Over investment occur when a firm invest in negative NPV projects (Briseño-García, 2022; Türegün, 2022; Wang & Lou, 2020). Delen et al. (2013) had a totally different hypothesis about over-investment, which they named over-investment of debt. They predicted that overinvestment occurs when debt and investment have a positive relation.

Under Investment
Under-investment happens when administrators firms put resources into NPV ventures, which, whenever contributed, could demonstrate profoundly gainful speculation ventures. Kang and Kim (2019) have shown that administrative conduct of diminished endeavours and hazard shirking are the primary reasons for under-investment. Some administrators are not spurred enough to discover, assess and subsidise a few significant venture openings. - They would prefer not to put a lot of endeavour into finding and actualising these speculations, prompting under-investment (Oh et al., 2021). These administrators are portrayed as Passive supervisors. Teirlinck (2017) accurately clarified the hypothesis of under-investment.

Table 3: Measurement of Research Variables.

Dividend Policy	Variable Names	Measurement
	Pay out	**Dividend per share to dividend earning per share.**
Capital Structure	LGTD	Long-term liability to total asset ratio.
Investment Decisions	Over Investment And Under Investment	$Investment_{i,t} = \alpha_0 + \beta_1 Growth_{i,t-1}$ $+ \beta_2 Leverage_{i,t-1} + \beta_3 Cash_{i,t-1}$ $+ \beta_4 size_{i,t-1} + \beta_5 Return_{i,t-1}$ $+ \beta_6 Age_{i,t-1} + \beta_7 Investment_{i,t-1}$ $+ Industry\ Effect + Years\ Effect$ $+ \varepsilon_{i,t}$

Source: work by the authors

3.3.3 Control Variables
This examination has numerous other control factors that might affect the firm's value other than dividend policy. The logarithm of total assets (TAs) is utilised as a proxy of firm size to deal with the measure of the company among test firms. The firm leverage is calculated as the total debt ratio divided by the book value of an asset. Alqahtani et al. (2022) clarify that debt is a controlled system that relieves agency issues among investors and executives. The company's value is likewise influenced by the organisation's future investing opportunities. The determinants of capital structure will execute as control factors to clarify a greater variance in performance indicators.

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Table 4: Descriptions of Control Variables.

Over/Under Investment	Stock returns I, t-1	-Stock returns = (stock return t-1 – stock return t-2)/ stock return t-1-
	Cash Flow i, t-1	-Cash flow = CF after operating activities t-1 / total assets t-1-
	Leverage I, t-1	Long-term Debt= (long-term debt / total asset) t-1
Dividend	Policy	The ratio of the asset's market value to the asset's book value.

Source: work by the authors

3.4 Regression Models
3.4.1 Effect of Dividend Policy on the Performance of Firm
A model for dividend policy is used to analyse the regression analysis of the research variables. These variables are written in the form of mathematical equations that are given below:

$$ROA_{it} = \alpha_i + \beta_1 Policy_{it} + \beta_2 Pay_{it} + \beta_3 Size_{it} + \beta_4 Levg_{it} + \beta_5 Growth_{it} + e_{it}$$
$$ROE_{it} = \alpha_i + \beta_1 Policy_{it} + \beta_2 Pay_{it} + \beta_3 Size_{it} + \beta_4 Levg_{it} + \beta_5 Growth_{it} + e_{it}$$

- Effect of Capital Structure on the Performance of Firm
Thus, the study attempts to determine some variables persuading corporate performance on panel data over 2010 to 2017. Return on asset (ROA) and return on equity (ROE) will be regressed on a group of variables:

$$ROA_{it} = \alpha_i + \beta_1 CapStr_{it} + \beta_2 Tang_{it} + \beta_3 Tax_{it} + \beta_5 Liquid_{it} + e_{it}$$
$$ROE_{it} = \alpha_i + \beta_1 CapStr_{it} + \beta_2 Tang_{it} + \beta_3 Tax_{it} + \beta_5 Liquid_{it} + e_{it}$$

Here, α_i denotes the unidentified intercept specific to each firm, while t (t = 2010 - 2017) signifies the years under examination. The βs represent the coefficients for each independent variable, and € denotes the error term. "Cap Str" refers to the four capital structure ratios.

3.4.2 Effect of Over and Under-Investment on Firm Performance
Lastly, to calculate the effect of over and under-investment on firm performance, we generated the interface terms of over and under-investing firms to distinctly checked the effect of over and under-investment on a firm's performance.

$$ROA_{it} = \alpha_i + \beta_1 Size_{it} - 1 + \beta_2 Leverages_{it-1} + \beta_3 Overinvestment_{it-1} + \beta_4 Underinvestment_{i-1} + industry\ effects_{it}$$
$$ROE_{it} = \alpha_i + \beta_1 Size_{it} - 1 + \beta_2 Leverages_{it-1} + \beta_3 Overinvestment_{it-1} + \beta_4 Underinvestment_{i-1} + industry\ effects_{it}$$

Where α_i is the unknown intercept for every firm, t (t = 2010 - 2017) represents the years analysed, and the βs are the coefficient of every independent variable—size= size of the firm, leverage= leverage of the firm's assets.

4. DATA ANALYSIS
4.1 Descriptive Statistics

Table 5: Descriptive Statistics.

Variables	Observations	Mean	Std. Dev.
Roa	1295	0.3743	0.0737
Roe	1295	0.9186	0.1482
Policy	1295	0.5485	0.5600
Pay	1295	0.2142	0.2683
Capstr	1295	0.2403	0.1962
Liquidity	1295	8.2540	12.1086
Investment	1295	0.0322	0.6566
Tax	1295	0.1617	0.1912
Tangibility	1295	0.7218	0.2643
Size	1295	15.4393	1.3076
Leverage	1295	0.0010	0.0013
Growth	1295	0.0381	0.1851
Cash Flow	1295	0.0305	0.0387
Age	1295	3.5392	0.3849
Return	1295	0.1546	0.4360
Residuals	1295	0.0334	0.0248

Source: Author work

Table 5 provides a summary for a research study, offering a glimpse into the mean values of each variable. The mean for Return on Assets (ROA) is 0.0374, while the mean for Return on Equity (ROE) is 0.0918. The average value for the dividend policy is 0.548, indicating that 50% of firms listed on the Pakistan Stock Exchange pay dividends, with a standard deviation of 56%. This variability suggests that if firms adopt a dividend policy to attract shareholders for investment, it is likely to have a positive correlation with ROA. The payout ratio, standing at 0.21, implies that 20% of firms are currently paying dividends. The average debt ratio is 24%, and the mean value for sub-optimal investment is 3.3%. It is crucial to note that this study incorporates several control variables that may impact the firm beyond the scope of the dividend policy.The firm's size is taken as the control variable, which computes the the logthe firm's total assets of the firm. Firm size remarkably affects a firm financial performance (Danso et al., 2019). This justifies the reason behind the introduction of firm size as the control variable in this study. Here we have seen a highly positive relation between firm size and the financial performance of firms in distressed firms.

Leverage is computed as the total debt ratio divided by the asset's book value. Our study's leverage value is 0.001. leverage as the variable control measure or testifies to the role of debt. According to agency theory, firms with higher leverage are expected to have low agency costs, which reduces the firm's efficiency and improves firm performance. This theory predicts a positive relation between debt and performance."

"Here, the capital structure shows a long-term debt ratio, also known as gearing ratio, as an independent variable is about 0.24. These results are partially consistent with the theoretical proposal of Türegün (2022), who argued that financially distressed firms could have a problem of over and under-investment. Regarding our control variables in terms of sub-optimal investment, cash flow shows a positive and significant relationship, which means that firms with higher cash flow have a greater chance to over-invest (San Martin-Reyna & Duran-Encalada, 2012). One may also point out that even those diversified firms will hold cash during the crisis. This can help them to cope with uncertain situations prevailed."

Asset tangibility this ratio computes non-current assets to total. Ni et al. (2022) and Teirlinck (2017) found that a high fraction of tangible assets (plant and equipment) affects the financial performance of the firm. Literature favours a positive relation between these two variables."

Table 6: Common Effect Models for Dividend Policy on Firm Performance in Distressed Firms.

Variables	ROA	ROE
Pay	0.0003	0.0028
	(0.0007)	(0.0165)
Policy	0.0362***	0.0934
	(0.0030)	(0.0683)
Size	0.0126***	0.0219
	(0.0024)	(0.0550)
Leverage	-21.720***	-125.38
	(2.3480)	(52.3191)
Growth	0.1621***	0.8852
	(0.0162)	(0.3630)
Adj. R^2	0.30	0.01
F stat	24.49***	2.04**

P<1***   P<5**   P<10*

4.2 Impact of Dividend Policy on Firm Performance in Distressed Firms
The influence of dividend policy is apparent in its noteworthy and positive impact on return on assets, though it demonstrates an insignificant positive effect on return on equity. Moreover, additional control variables examined in this study unveil their effects on firm performance. Leverage reveals a substantial and negative correlation with both performance measures—return on assets and return on equity. The strong and positive association between firm growth opportunity and size further underscores their impact on firm profitability. The adjusted R2 value

signifies the percentage of variation clarified by the explanatory variables in the dependent variable. In this context, the adjusted R2 value suggests that 30% of the variation in return on assets for distressed firms is accounted for by the explanatory variables. Likewise, for return on equity, the R2 value indicates that only 36% of the variation is explicated by the independent variables employed in the study, underscoring the factors genuinely influencing the dependent variable.

Table 7: Common Effect Models for Capital Structure on Firm Performance in Distressed Firms.

Variables	ROA	ROE
Capital Structure	-0.0157	-1.824***
	(0.1989)	(0.3946)
Liquidity	0.0005	-0.0089
	(0.0003)	(0.0067)
Tax	0.1311***	0.9881***
	(0.0169)	(0.3353)
Tangibility	-0.0870*** (0.0138)	-0.3330
		(0.2740)
Adj. R^2	0.1470	0.0302
F Stat	(9.53)	(2.75)

P<1*** P<5** P<10*

Capital structure shows that it has an insignificant and negative effect on return on asset and a significant negative effect on return on equity. Furthermore, tax show a highly significant positive relation with both return on asset and equity, indicating a tax benefit for firms. -Tangibility refers to the availability of asset a firm have to utilise and earn profit tangibility has negative relation with return on asset and return on equity in the distressed firm which indicates that the firm does not utilise the availability of assets. This can affect their profitability, too; liquidity negatively affects return on equity. If firms liquidate their assets in distressed firms, this will change the mind of shareholders to invest in the firm, which will directly lower the profitability of the firm. Still, in the case of return on asset, the relation between return on asset and liquidity is positive, which means that if a firm liquidates its assets and invests in profitable projects, it might have a positive effect on the firm's performance.- The higher value of adjusted R^2 shows that explanatory variables much better explain dependent variables."

Table 8: Common Effect Models for Over-Investment on Firm Performance in Distressed Firms.

Variables	ROA	ROE
Size	0.0021	0.0046
	(0.0019)	(0.0039)
Leverage	-5.5069**	-3.5697
	(2.233)	(4.630)
Residual	1.4475***	2.3101***
	(0.1579)	(0.3275)
Adj. R^2	0.2993	0.2391
F Stat	(21.77)	(14.96)

P<1*** P<5** P<10*

Over-investment shows that it has a significant and positive effect on return on assets and also on return on equity. The above results show the negative impact of leverage on both performance measures, which means that if managers in distressed firms, based on leverage, invest in negative NPV projects for short-term gain, this will lead to bankruptcy of firms in the long run when they will be unable to return the amount. Somehow the size also has a positive relation with these performance measures."

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Table 9: Common Effect Models for under-investment on Firm Performance in Distressed Firms.

Variables	ROA	ROE
Size	-0.0102	-0.0119
	(0.0080)	(0.0230)
Leverage	-2.3133	25.4499
	(8.2947)	(23.8050)
Residual	2.7282***	3.5150
	(0.8856)	(2.5416)
Adj. R^2	0.1514	0.1624
F Stat	(2.17)	(1.08)

P<1*** P<5** P<10*

Here leverage and size show negative relation with under-investment, which indicates that a firm whose investment lies on leverage short-term gains to save the firm from bankruptcy will be in a problematic situation in future. The negative relation of firm size also predicts a decline in performance.

Table 10: Correlation Matrix for the Impact of Dividend Decisions on Firm Financial Performance.

	1	2	3	4	5	6	7
WROA	1						
WROE	0.6770	1.0000					
WPOLICY	0.5938	0.4232	1.0000				
WPAY	0.5050	0.3856	0.4735	1.0000			
WSIZE	0.2475	0.2518	0.1477	0.2515 1.0000			
WLEV	-0.4245	-0.2368	-0.4803	-0.3692 -0.0277	1.0000		
WGROWTH	0.3373	0.2537	0.1099	0.1161 0.1399	-0.0738	1.0000	

Where, Pay = dividend payout ratio; Policy= dividend policy; ROA=return on asset, ROE= return on equity, SZ=size, LEV= leverage, growth

According to Table 10, there is a positive relationship between financial decision indicators and firm performance indicators. It also mentioned that this relationship is significant between variables. It shows that the performance of the firm has increase, and it is a good sign for stock exchange of Pakistan.

Table 11: Correlation Matrix for the Impact of Capital Decisions on Firm Financial Performance.

	WROA	WROE	WCAPSTR	WTANG	WTAX	WLIQUID
WROA	1					
WROE	0.6770	1.0000				
WCAPSTR	-0.2309	-0.1597	1.0000			
WTANG	-0.2587	-0.1592	0.3689	1.0000		
WTAX	0.2514	0.1387	-0.0958	-0.1035	1.0000	
WLIQUID	0.1368	0.0649	-0.550	-0.4049	0.0538	1.0000

Where CAPSTR = total debt ratio; tang= tangibility; ROA=return on asset, ROE= return on equity, WTAX=tax, WLIQ=liquidity

Table 11 shows that there is a negative impact of WCAPSTR, and WTANG on firm performance. It means that the firm's performance has declined due to the negative response of decision indicators. All decision indicators showed a positive and significant relationship with the firm's financial performance.

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Table 12: Correlation Matrix for the Impact of Over-Investment on Firm Financial Performance.

	WROA	WROE	SZ-1	LEV-1	RES
WROA	1				
WROE	0.7620	1.0000			
SZ-1	0.2625	0.2615	1.0000		
LEV-1	-0.3240	-0.2287	-0.0583	1.0000	
RES	0.3134	0.2266	0.2895	-0.3811	1.0000

Where RES=over investment residuals; ROA=return on asset, ROE= return on equity, SZ-1=size: LEV-1=leverage

Over-investment positively impacts a firm's financial performance, and it enhances the firm's value. Leverage negatively impacts firms' financial performance, showing the intensity of converting inventory into cash is low.

Table 13: Correlation Matrix for the Impact of Under-Investment on Firm Financial Performance

	WROA	WROE	SZ-1	LEV-1	RES
WROA	1				
WROE	0.0848	1.0000			
SZ-1	0.0190	0.1696	1.0000		
LEV-1	-0.3360	0.0761	0.2298	1.0000	
RES	0.3300	0.0325	-0.1695	-0.2952	1.0000

Where RES=over investment residuals; ROA=return on asset, ROE= return on equity, SZ-1=size: LEV-1=leverage

Underinvestment positively impacts a firm's financial performance and enhances its value. Leverage negatively impacts firms' financial performance, showing the intensity of converting inventory into cash is low.

5. CONCLUSION

The primary aim of this study is to explore the impact of financial decisions on the performance of distressed firms enlisted on the Pakistan Stock Exchange. These financial decisions encompass dividend policy, capital structure, and investment decisions. The study utilizes panel data, and the OLS technique is employed for the analysis of this panel data. The outcomes of this investigation reveal that dividend policy significantly and positively influences return on assets, signaling a crucial avenue for attracting capital through positive signals to external investors. Both return on assets and return on equity exhibit positive and highly significant relationships with firm growth opportunity and size, thereby endorsing pertinent dividend theories.

The effect of capital structure on firm performance in distressed firms is also investigated with data from recent years (2010-2017). The findings show that Capital structure has an insignificant and negative effect on return on assets. -Furthermore, tax shows a highly significant positive relation with both returns on assets. Tangibility negatively relates to return on asset and equity in the distressed firm. -Regarding ROE, the results show a negative and highly significant relation between long-term debt and ROE. -For control variables, the liquidity and tangibility effect negatively affects ROE. -However, our results show that firms are not utilising their assets correctly and don't have enough internal funds to make profitable investments as they are already stressed."

This indicates that managers in distressed firms prefer short-term gains and start investing in negative NPV projects, which is helpful for these firms in attracting investors to make more investments in the firm. The statistical coefficient of leverage shows a negative relation, which means that firms already stressed relying more on debt may face problems in future, lowering the firm's performance. On the other hand, investment also significantly and positively affects ROE. The instant investment plans of managers attract investors to invest as firms benefit from over-investment in the short run. Here, leverage is negatively related to ROE.

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Under-investment shows a significant and positive effect on return on assets and an insignificant positive impact on return on equity. Under-investment occurs when managers decide to invest in positive NPV projects, which are unsuitable for firm performance in the long run when these investments are based on debt. This will reduce investors' interest in taking a risk and investing in a firm, reducing the firm's performance in the shareholders' context.

REFERENCES

Abdelsalam, O., Elnahass, M., Batten, J. A., & Mollah, S. (2021). New insights into bank asset securitization: The impact of religiosity. *Journal of Financial Stability*, *54*, 100854.

Ahlerup, P., Baskaran, T., & Bigsten, A. (2016). Government impartiality and sustained growth in Sub-Saharan Africa. *World Development*, *83*, 54-69.

Ahmeti, F., & Prenaj, B. (2015). A critical review of Modigliani and Miller's theorem of capital structure. *International Journal of Economics, Commerce and Management (IJECM)*, *3*(6), 914-924.

Ali, S., Rehman, R. U., Sarwar, B., Shoukat, A., & Farooq, M. (2022). Board financial expertise and foreign institutional investment: the moderating role of ownership concentration. *Review of International Business and Strategy*, *32*(3), 325-345.

Alqahtani, J., Duong, L., Taylor, G., & Eulaiwi, B. (2022). Outside directors, firm life cycle, corporate financial decisions and firm performance. *Emerging Markets Review*, *50*, 100820.

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The journal of finance*, *23*(4), 589-609.

Amahalu, N., Okoye, E. I., Nweze, C., Chinyere, O., & Christian, O. (2017). Effect of Capital Adequacy on Financial Performance of Quoted Deposit Money Banks in Nigeria. In *2017 International Conference on African Entrepreneurship and Innovation for Sustainable Development (AEISD)* (pp. 841-862).

Arora, J., & Chakraborty, M. (2021). Does the ease of reading of financial disclosures influence investment decision? *Economics Letters*, *204*, 109883.

Auriol, E., Delissaint, D., Fourati, M., Miquel-Florensa, J., & Seabright, P. (2021). Betting on the lord: Lotteries and religiosity in Haiti. *World Development*, *144*, 105441.

Balasubramnian, B., & Sargent, C. S. (2020). Impact of inflated perceptions of financial literacy on financial decision making. *Journal of Economic Psychology*, *80*, 102306.

Briseño-García, A. (2022). Board interlocks and Corporate Social Responsibility data in the Mexican Stock Exchange. *Data in Brief*, *42*, 108231.

Bulgurcu, B. K. (2012). Application of TOPSIS technique for financial performance evaluation of technology firms in Istanbul stock exchange market. *Procedia-Social and Behavioral Sciences*, *62*, 1033-1040.

Cabrera-Paniagua, D., & Rubilar-Torrealba, R. (2021). A novel artificial autonomous system for supporting investment decisions using a Big Five model approach. *Engineering applications of artificial intelligence*, *98*, 104107.

Çam, İ., & Özer, G. (2022). The influence of country governance on the capital structure and investment financing decisions of firms: An international investigation. *Borsa Istanbul Review*, *22*(2), 257-271.

Chebbi, K., Ammer, M. A., & Hameed, A. (2021). The COVID-19 pandemic and stock liquidity: Evidence from S&P 500. *The Quarterly Review of Economics and Finance*, *81*, 134-142.

Chen, W.-D., Chen, Y., & Huang, S.-C. (2021). Liquidity risk and bank performance during financial crises. *Journal of Financial Stability*, *56*, 100906.

Chira, I., Adams, M., & Thornton, B. (2008). Behavioral Bias Within The Decision Making Process. *Journal of Business & Economics Research (JBER)*, *6*(8), 11-20.

Danso, A., Lartey, T., Amankwah-Amoah, J., Adomako, S., Lu, Q., & Uddin, M. (2019). Market sentiment and firm investment decision-making. *International Review of Financial Analysis*, *66*, 101369.

Delen, D., Kuzey, C., & Uyar, A. (2013). Measuring firm performance using financial ratios: A decision tree approach. *Expert systems with applications*, *40*(10), 3970-3983.

Ekinci, R., & Poyraz, G. (2019). The effect of credit risk on financial performance of deposit banks in Turkey. *Procedia Computer Science*, *158*, 979-987.

Goel, U., Chadha, S., & Sharma, A. K. (2015). Operating liquidity and financial leverage: Evidences from Indian machinery industry. *Procedia-Social and Behavioral Sciences*, *189*, 344-350.

Gupta, J., & Kashiramka, S. (2020). Financial stability of banks in India: does liquidity creation matter? *Pacific-Basin Finance Journal*, *64*, 101439.

Habtoor, O. S. (2020). The moderating role of ownership concentration on the relationship between board composition and Saudi bank performance. *The Journal of Asian Finance, Economics and Business (JAFEB)*, *7*(10), 675-685.

Hassan, M. K., Unsal, O., & Tamer, H. E. (2016). Risk management and capital adequacy in Turkish participation and conventional banks: A comparative stress testing analysis. *Borsa Istanbul Review*, *16*(2), 72-81.

Heuver, R. A., & Berndsen, R. J. (2022). Liquidity coverage ratio in a payment network: Uncovering contagion paths. *Latin American Journal of Central Banking*, *3*(1), 100046.

Ho, S. J., & Hsu, S.-C. (2010). Leverage, performance and capital adequacy ratio in Taiwan's banking industry. *Japan and the World Economy*, *22*(4), 264-272.

Huang, H.-Y., & Ho, K.-C. (2020). Liquidity, earnings management, and stock expected returns. *The North American Journal of Economics and Finance*, *54*, 101261.

Huang, J. (2022). Corporate social responsibility and financial performance: The moderating role of the turnover of local officials. *Finance Research Letters*, *46*, 102497.

İncekara, A., & Çetinkaya, H. (2019). Liquidity risk management: A comparative analysis of panel data between Islamic and conventional banking in Turkey. *Procedia Computer Science*, *158*, 955-963.

Ju, M., & Zhao, H. (2009). Behind organizational slack and firm performance in China: The moderating roles of ownership and competitive intensity. *Asia Pacific Journal of Management*, *26*, 701-717.

Kang, S., & Kim, A. (2019). Employee stock ownership and financial performance in European countries: The moderating effects of uncertainty avoidance and social trust. *Human Resource Management*, *58*(6), 641-655.

Karim, M. A., Hassan, M. K., Hassan, T., & Mohamad, S. (2014). Capital adequacy and lending and deposit behaviors of conventional and Islamic banks. *Pacific-Basin Finance Journal*, *28*, 58-75.

Khedmati, M., Sualihu, M. A., & Yawson, A. (2021). Does religiosity matter for corporate labor investment decisions? *Journal of Contemporary Accounting & Economics*, *17*(2), 100264.

Kosmidou, K., Kousenidis, D., Ladas, A., & Negkakis, C. (2020). Regulation of capital flows: Effects on liquidity and the role of financial reporting quality. *Journal of Economic Behavior & Organization*, *175*, 86-97.

Louati, S., Abida, I. G., & Boujelbene, Y. (2015). Capital adequacy implications on Islamic and non-Islamic bank's behavior: Does market power matter? *Borsa Istanbul Review*, *15*(3), 192-204.

Luo, D. (2022). ESG, liquidity, and stock returns. *Journal of International Financial Markets, Institutions and Money*, *78*, 101526.

Meissner, P., & Wulf, T. (2017). The effect of cognitive diversity on the illusion of control bias in strategic decisions: An experimental investigation. *European Management Journal*, *35*(4), 430-439.

Menyeh, B. O. (2021). Financing electricity access in Africa: A choice experiment study of household investor preferences for renewable energy investments in Ghana. *Renewable and Sustainable Energy Reviews*, *146*, 111132.

Munangi, E., & Bongani, A. (2020). An empirical analysis of the impact of credit risk on the financial performance of South African banks. *Academy of Accounting and Financial Studies Journal*, *24*(3), 1-15.

Ni, Z., Fang, L., Liu, H., & Lu, X. (2022). Performance and risk of energy industrial firms with stock pledge in China. *Finance Research Letters*, *46*, 102410.

Ogboi, C., & Unuafe, O. K. (2013). Impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria. *Journal of emerging issues in economics, finance and banking*, *2*(3), 703-717.

Oh, C. H., Shin, J., & Oetzel, J. (2021). How does experience change firms' foreign investment decisions to non-market events? *Journal of International Management*, *27*(1), 100802.

Ongore, V. O., & Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. *International journal of economics and financial issues*, *3*(1), 237-252.

Ozuomba, C., Anichebe, A., & Okoye, P. (2016). The effect of dividend policies on wealth maximisation–a study of some selected plcs. *Cogent Business & Management*, *3*(1), 1226457.

Raza, S. H., Zaman, U., Iftikhar, M., & Shafique, O. (2021). An experimental evidence on eco-friendly advertisement appeals and intention to use bio-nanomaterial plastics: Institutional collectivism and performance orientation as moderators. *International Journal of Environmental Research and Public Health*, *18*(2), 791.

Sadaa, A. M., Ganesan, Y., & Ahmed, M. G. (2023). The effect of earnings quality and bank continuity: the moderating role of ownership structure and CSR. *Journal of Sustainable Finance & Investment*, *13*(1), 366-386.

San Martin-Reyna, J. M., & Duran-Encalada, J. A. (2012). The relationship among family business, corporate governance and firm performance: Evidence from the Mexican stock exchange. *Journal of Family Business Strategy*, *3*(2), 106-117.

Seth, A. (2018). Agency Theory. In M. Augier & D. J. Teece (Eds.), *The Palgrave Encyclopedia of Strategic Management* (pp. 28-31). Palgrave Macmillan UK.

Shafique, O., & Ahmad, B. S. (2022). Impact of corporate social responsibility on the financial performance of banks in Pakistan: Serial mediation of employee satisfaction and employee loyalty. *Journal of Public Affairs*, *22*(3).

Teirlinck, P. (2017). Configurations of strategic R&D decisions and financial performance in small-sized and medium-sized firms. *Journal of Business Research*, *74*, 55-65.

Türegün, N. (2022). Financial performance evaluation by multi-criteria decision-making techniques. *Heliyon*, *8*(5), e09361.

Umoru, D., & Osemwegie, J. O. (2016). Capital adequacy and financial performance of banks in nigeria: empirical evidence based on the fgls estimator. *European Scientific Journal*, *12*(25), 295-305.

Vitkova, E., Vankova, L., & Kocourkova, G. (2022). Assessment of the Regional Current Liquidity in the Construction Industry of the Czech Republic. *Procedia Computer Science*, *196*, 699-707.

Wang, X., & Lou, T. (2020). The effect of performance feedback on firms' unplanned marketing investments. *Journal of Business Research*, *118*, 441-451.

Weber, O., Scholz, R. W., & Michalik, G. (2010). Incorporating sustainability criteria into credit risk management. *Business strategy and the environment*, *19*(1), 39-50.

Yuan, G. X., Zhou, Y., Liu, H., & Yan, C. (2022). The framework of CAFE credit risk assessment for financial markets in China. *Procedia Computer Science*, *202*, 33-46.