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Article

A Hand in Glove Theorem of Dividends and Earnings: Evidence from the Financial Sector of Pakistan

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ARTICLE DETAILS	ABSTRACT
	Purpose: The available literature on various sectors to examine the impact of earnings on dividend payments, indicates that still, extensive research lacks in the financial sector of Pakistan. The rationale behind paying higher dividends has been observed in emerging countries like Pakistan to maintain a strong financial footing. This study aims to investigate various factors that can influence dividend payouts. **Design/Methodology/Approach:** ARDL approach has been used to establish a long-term impact of selected variables on dividend payouts. Data of 50 financial listed firms for 2000-2021 has been used to subsume the impact of earnings-related variables on the dividend payouts of the financial companies of Pakistan. **Findings:** Results indicate that market capitalization, ROA, EPS, and firm size have a significant and positive impact on dividend decisions, while leverage generates a significant inverse impact on dividend declarations. The study also indicates discretionary accruals (a factor in earnings management under IAS) do not impact dividends significantly. ROE has no impact on the volume of dividends due to the specific nature of the firms under study. **Implications/Originality/Value:** The study demonstrates a conjecture that the financial sector must maintain its dividends not only to retain its old stakeholders but also to recruit new ones.

Introduction
Among the key decisions, the financial managers cogitate dividend policy is one of them. To be precise, a dividend refers to the *monetary benefit* received by shareholders on the capital invested. It is from the annual profits earned by the firm or may be kept as *retained earnings* for the sake of re-

investment; sometimes called *plow back of profits* (Kajola, Adewumi & Oworu, 2015). The practice of paying dividends has transformed over the past decade. Firms earn a high percentage of earnings and distribute lower dividends (in the form of cash, stock, scrip, and property dividend) to their residual investors (Gormsen, N., & Koijen, R., 2020).

Earnings management is the key determinant of dividend policy. The related investigations propose that firms that distribute dividends are less inclined to manipulate their earnings since dividends can be utilized as a tool to alleviate the conflict between management and shareholders (Charteris, A., & Chipunza, K. J., 2020).

The matter of earnings is of significant importance due to pandemic diseases. Organizations sell out their obsolete assets & eliminate excess stock (property dividends) and adopt new tools to manage their earnings. Sometimes, *'white elephant organizations'* that pay dividends *by fits & starts*, take money from *reserve accounts (general reserve account or dividend equalization reserve account)* to show that earnings have positive look and also use other complex techniques (called scrip dividend) to balance earnings (Tahtamouni, A., 2020).

Various experts have focused on the *combination model* of Johansen, and the *causality test* of Granger was applied to explain the long-term and short-term components of the variables; market value per share (MVPS), earnings per share (EPS), and dividend per share (DPS). The results show that dividend per share (DPS) was related to per-share market cost (MPS), whereas per-share earnings (EPS) don't have a critical impact on per-share market value. Some companies concentrate on *reinvestment of dividends (plow back of profits)* instead of paying to investors; ultimately, it will build the efficiency of firms (Ahmed F, Advani, & Kanwal, 2018).

Problem Statement/Research Justifications
Numerous elements affect dividend policy as the size of the firm, age of the enterprises, taxes, firm growth rate, controlling mechanisms, degree of financial leverage, profitability, and uncertainty but again, the key independent variable of this research is earnings management. Besides many variables, in this study, only a few variables are considered. The present paper is mainly concerned with an arena of concern and troubling questions that exist in scholarly literature. It is mainly concerned with the dividend behavior of the financial sector of Pakistan; which has been highlighted in a few studies. The impact of accruals under GAAP, leverage, size or volume of firms, market capitalization, and profits on the dividend policy of financial companies have not been investigated jointly to find out the long-run affiliation amongst the said variables. The real-time gap exists to investigate the influence of the said variables on dividends in the financial sector of Pakistan.

Rationale of the Study
There is an insufficient number of studies that have investigated the connection between *earnings management (EM) and dividend policy*; especially in the financial sector of Pakistan. Research gaps in terms of scope, policy-making & theoretical expansion exist in the current literature with special reference to Pakistan; supported by an extensive literature review, showing the financial sector (Insurance & Investment companies, Leasing Companies, banks, Modarabas, Securities Institutions) of Pakistan has not been analyzed extensively rather they have been studied individually. The present research is done to investigate the impact of EM (Accruals), especially operating leverage, profits (ROE/ROA), and market capitalization (Mkt Cap) on dividend policy in the financial sector of Pakistan.

Significance of the Study
Stakeholders need to be quick and accurate in their basic decision-making so they can enhance their stakes positively not only in quantitative terms but also in qualitative terms. The present research talks about the financial institutions of Pakistan through which all the interested parties will have a clear idea about the organization's progress, profitability, and dividend policies. By recognizing the *wealth maximization perspective*, this study shall give a wider picture of the nature of the financial

sector and its dividend strategies; which have always been critical to prompt and rational decision-making.

Last but not the least, the present research endeavor has focused on *owner's wealth maximization* through the delicate tool of dividend management.

The present paper is organized as: Section 2 contains an overall review of the given literature on the concept of dividend policies. This section has been divided into various parts to cover the relevant studies to support the exogenous variables. Section 3 covers the methodology used in the paper. Section 4 describes the data, methodologies, and data analysis. Section 5 describes the results, discussion, and future recommendations.

Literature Review

Dividend strategy has been a major element of conflict in the financial sector; this has been proven by various examinations of dividend arrangements (Sarwar, Kutan, Ming & Husnain, 2020; Sarwar, Ming & Husnain, 2020). The puzzle starts with Miller & Modigliani (1985), and Jones Model, (1991) in the last century, and some worth mentioning studies in the last two decades, like (Hussainey, Mgbame, & Chijoke-Mgbame, 2011). Some of the variables that have a direct impact on dividend payouts via earnings management have been analyzed in the present study.

Earnings Management & Dividend Payouts

Earnings management is pivotal for all the clients who use the firm's information and earnings manipulation. It can hugely affect financial markets & the real economy. Hussainey, Oscar Mgbame, and Chijoke-Mgbame, (2011) tested the relation between dividend policy and volatility of share prices in the United Kingdom. They chose 123 English firms and the time frame of their research expanded from 1998 to 2007. Their study originated from (Baskin, 1989). Same as Baskin (1989), they applied analyses of multiple regression for checking the connection between dividend payout, dividend yield, and share price. They further added firm size, debt level, volatility in earnings, and growth levels, as explanatory factors in their research (Baskin, 1989; Tahtamouni, A., 2020). Ahmed, Advani, & Kanwal, (2018) investigated that the dividend approach to a great extent in the corporate sector, is related to components like future efficiency, ownership structures, & executives' qualities. It has been researched that a positive association between dividends and income exists (Marito, B. C., & Sjarif, A. D., 2020).

Size of Firms & Dividend Payouts

Cohen & Zarowin, (2010) has pointed out a bunch of reasons to conclude a negative link between firm size and earnings management. Large-sized firms have comparatively effective internal control & reporting system which facilitated publishing more reliable information to all the stakeholders. This gave an ability to the top management to manipulate company profits (Tahtamouni, A., 2020; Gormsen, N. J., & Koijen, R. S., 2020). The size of a firm can be measured by the log of total assets (Zh, Husnain, Ullah, Khan & Ali, 2022). Extensive research was conducted in Sri Lanka by Vijitha & Nimalathasan, (2014) about the volume (size) of the companies by incorporating the various variables like price-earnings ratio (P/E ratio), book value per share (BV), ROA, ROE, EPS as independent variables and established a positive and significant impact on dividend payments. Boateng, Asongu, & Tchamyou, (2018) pointeout d that the theory of information asymmetry has advocated that mega-firms have lesser information disruption based on strong governance, controlled mechanisms, and strong reporting system.

Return on Assets/Equity/Investment & Dividend Payouts

Experts have examined the link amid numerous determinants of dividend payout in Malaysian listed companies. The sample of the study which consists of one hundred (100) companies was randomly selected from Bursa Malaysia from 2002 until 2005. The study revealed that ROA and ROE showed a strong positive link with the dividend policy. The firm leverage showed a strong negative link with the dividend policies of sampled listed firms (Septiani, M., Ariyani, N., & Ispriyahadi, H., 2020; Marito, B. C., & Sjarif, A. D., 2020).

Kajola, Adewumi, & Oworu, (2015) examined the factors that influence firms. The study was based on high dividend payments covering the period from 2005 to 2014. The results indicated that financial firms are directly influenced by their liquidity, profits, and size while non-financial firms are influenced by ROA & ROE. The sample consists of 100 companies out of 854 listed ones on Bursa Stock Exchange. The study concluded a positive significant impact of liquidity, firm size (log of total assets), and investment opportunities on dividend policies (Aprilyani, I., Widyarti, M., & Hamida, N., 2021).

Leverage & Dividends Payouts

In the finance literature, it is a well-documented fact that capital structure had been one of the contributing factors to a company's performance (Sarwar, Ming, Husnain & Naheed, 2018). Conversely, the assumption of perfect capital markets given by Miller & Modigliani, (1985) stated that the future performance of any company is independent of capital structure. Still, some of the studies have found opposite results; a positive significant association between debt and dividends has been investigated by Vijitha, P., & Nimalathasan, B. (2014). Experts concluded that decisions on financial policy are based conjointly on capital structure designing and setting dividend policy. In one extreme, if the firm uses high leverage and low equity, most of the control is in the hands of investors. If the firms use low leverage and high equity, fewer dividends should be paid and more control lies with managers (Mengyun, Um-e-Habiba, Husnain, Sarwar, & Ali, 2021). Sarwat, Kashif, & Godil, (2019) have found an adverse impact of leverage on company profits. Leverage was analyzed by experts indicating a significant and negative correlation with equity (Septiani, M., Ariyani, N., & Ispriyahadi, H., 2020).

Accruals & Dividend Payouts

Earnings management has been classified into two main categories i.e., *accrual-based* and the second is *real-based earnings* as researched by Schipper (1989) and Healy & Wahlen (1999). Accruals must be handled under the guidance of generally accepted accounting principles or standards (GAAP/GAAS). It is always a tough task to calculate accruals due to violation of GAAP/GAAS, by the auditors. In the present research, a modified cross-sectional Jones Model (1991) has been used (Siladjaja, M., & Anwar, Y., 2020; Chen, N. Y., & Liu, C. C., 2019).

Accrual-based earnings management is the "use of GAAP to control the profits of companies by manipulating the rules of accounting". Accruals sometimes lie in the hidden cushion, i.e., the cash flow stream will make it easy for the management to manipulate the financial data rather than increase the income smoothing that comes from accruals (Siladjaja, M., & Anwar, Y. 2020; Shah, R., & Shome, S., 2019). The studies indicated a positive and significant link between EM & a company's sales level in Malaysian Firms. At the same time, negative and significant relationship was reported by Abbadi, Hijazi, & Al-Rahahleh (2016) in Iran.

Market Capitalization & Dividend Payouts

A well-synchronized financial system facilitates higher economic growth, better resource allocation, and significant and sustainable growth (Husnain & Akhtar, 2016). Literature highlights formal studies which have documented the magnitude, intensity, and extent of several factors that directly contribute to market capitalization in oil and gas sector (Ahmed, Coulibaly, and Zlate, 2017; Charteris, A., & Chipunza, K., 2020).

By checking the impact of bank loans, deposits volume, bank size, rate of inflation, GDP, and market capitalization on the company's profits; expressed via ROA, ROE, ROCE, EBIT, and operating margins, the experts have concluded a strong impact of all these factors towards a higher rate of profits which will result in higher dividends. Ayyagari, Demirguc-Kunt, & Maksimovic (2017) concluded a positive link between capitalization and bank performance. They resolved that all the financial institutions pay less borrowing cost i.e., *dividends* due to higher capitalization and expensive external financing. Shah & Shome (2019) has concluded that a positive & direct link exists between market capitalization and bank performance.

Justification of Present Study

Though the area of research is not a new one in corporate finance, still, a gap exists where a study has the potential to cover most of the market players in the financial sector of Pakistan. The present study is a *rat race* on the part of the researcher to cover the said gap by using updated data after the impact of Covid-19; to have a clearer understanding of dividend decisions of the financial sector of Pakistan that are not only *bread-winners* but also act as *hand in glove* for the non-financial sector.

Research Methodology

This study is based on a quantifiable research method. It is extracted from general to specific by taking the data of Pakistani financial market. After an extensive literature review, it is found that there are few studies involving this sector. The data has been taken from the financial sector including Commercial Banks, Insurance Companies, Leasing Companies, Modarabas, and Investment banks. These organizations are listed on Pakistan Stock Exchange and their financial statements are available (2000-2021) on their official websites.

Sample Data

Sectors chosen for the present research endeavor are as under: -

[i]   Commercial Banks: 20 of the commercial banks listed on the Pakistan Stock Exchange have been included in the present statistical analysis.

[ii]   Leasing Companies: 06 of the leasing companies have been taken out of 10 listed leasing companies. The remaining 04 organizations were excluded from the analysis due to the non-availability of relevant data.

[iii]   Insurance Companies: Insurance companies have good repute regarding the payment of dividends in Pakistani markets. There are 29 listed insurance companies but the data of only 17 companies was available and had been added to the analysis.

[iv]   Investment Banks/Securities: 07 investment banks/securities companies have been taken into the present research endeavor based on data availability.

The objective of this study is to investigate the connection between earnings management (profits, leverage, market capitalization) and dividend policies (dividend payouts & dividend yield ratio) in the financial sector of Pakistan. Panel data for the years 2004-2021 has been used to apply ARDL bound testing approach Pesaran et al., (2001). ARDL approach is comparatively a new method to replace the classical co-integration approach. It is called the best econometric model as a general unrestricted dynamic approach along with the Least Square Model of regression analysis and F-statistics by using E-views.

Conceptual & Statistical Model

The discussion in the above section of 'the review of the literature gives birth to the following proposed conceptual framework: -
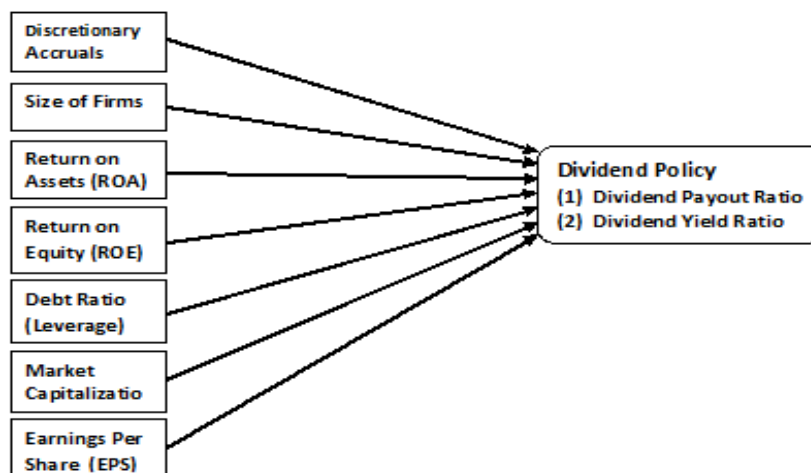

Figure-01   Conceptual Framework

To test the hypothesis, the following statistical model has been developed: -

$$DPO = \beta_0 + \beta_1(DAC) + \beta_2(SOF) + \beta_3(ROE) + \beta_4(ROA) + \beta_5(DTE) + \beta_6(M.Cap.) + \beta_7(EPS) + \mu \dots \text{[Eq. 1]}$$

Application of Jones' (1991) Abnormal Accruals Model

In the present study, Modified Jones Model (1991) has been used based on its absolute values of residuals. This model is termed '*Jones' abnormal accruals*' model; a basic measure of EM. This model denotes 'accruals' as the *changes* in working capital and depreciation expenses. The two variables in the model directly relate to the changes in current assets and fixed assets i.e. plant, and equipment. Statistically, accruals can be estimated with the following formula: -

$$TAccri_t = b0 + b1DREVi_t + b2PPEit + 4i_t \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\text{ [Eq. 2]}$$

Here, in the above equation, 'TAccr' denotes total accruals in year *t's* for any given firm '*i*'. While *DREV* denotes the "changes occurred in the company's revenue growth and PPE' is the market value of its plant & equipment. Jones' model will be estimated by using the cross-sectional data of every company. In the present study, the positive statistics mean '*income increasing manipulation*' while negative statistics refer to '*deflated reported incomes.*

Data Stationarity & Non-Stationarity

Experts state that as the series of data set reverts to its long-run Mean, the stationary times series shocks will be surely tempora and ry, and its effects shall eliminate themselves. Any stationary time series takes three topographies: -

$$\text{Mean } (Y_t) = \text{is constant for all 't'}$$
$$\text{Variance } (Y_t) = \text{is constant for all 't'}$$
$$\text{Covariance } (Y_t, Y_{t+1}) = \text{is constant for all 't'}$$

Resultantly, statistics of time series, if assumed to be stationary entail persistency in three forms i.e. Covariance, Variance & Mean respectively in the reverse order. Non-Stationarity shall ultimately recoil bogus outcomes. Some statisticians prethe fer subsequent *rule of the flick* for bogus regression (If $R^2 > DW$ *statistics*, at the moment reversion necessity).

Unit Root Tests

The variables, tested with a causality test must be checked for their stationarity first. In the study, the conventional ADF tests, KPSS (1992), and Dickey-Fuller GLS de-trending test developed by Elliot & Harackiewicz, (1996) are used. The present research used the ARDL bounds test that is based upon the assumption that variables are I(o) or I(1). It is mandatory to apa ply unit root test to determine the *order of integration*. Ultimate success is to ensure that none of the variables is stationary at I(2) to avoid *spurious results* due to confounding factors and cannot depict the true interpretation of the F-statistic (Pesaran, Shin, & Smith, 2001).

$$X_t = y\, X_{t-1} + e \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{ [Eq. 3]}$$

Whereas, it denotes a white-noise procedure and (y) < 1, shows a stationarity state, three probable scenarios exit as:-

$$(!y! < 1) = \textit{if series is stationary}$$
$$(!y! > 1) = \textit{if series is explosive}$$
$$(!y! = 1) = \textit{if unit} - \textit{root exists, non-stationarity}$$

By summing up the above in nutshell, the following two equations are the basis of calculating unit-root based on taking the difference on both sides: -

$$X_t - X_{t-1} = \gamma X_{t-1} - X_{t-1} + e_t$$
$$\Delta X_t = e_t \quad \dots\dots\dots\dots\dots\dots\dots\dots\text{ [Eq. 4]}$$

Co-Integration & Auto-regressive Distributed Lag Approach

The ultimate ambition of co-integration is to conclude long-run associations amid predictors. The sequence of variables Y_t & X_t indicates stationarity at the initial change of I(1) and from the co-integration reversion shows at the level I(o), as mentioned by Hanson (1995). This research aims to trace the long-run connections between exogenous & endogenous Johansen's co-integration method is preferred if the integration order is identical. By concluding the entire discussion concerning this paper, the integration order of exogenous variables resides at I(o) & I(1), hence ARDL method is a desirable technique to be used.

$$Y_t = \alpha_0 + \sum_{j=0}^{q} \beta_j L^j X_t + \sum_{j=0}^{p} \gamma_j L^j Y_t + e_t \quad \dots\dots\dots\dots\text{ [Eq. 5]}$$

In the above statistical model, 'L' denotes 'Lag operative', while "$L^j = X_{t-j}$" is an influential archetypal of the predictors and subsequent 'lag orders'. The ARDL technique incorporates 'co-integration' as error correction model (ECM) of the ARDL standard. In the explanation of ARDL Bounds Testing regarding the model statistically, β_1, β_2, β_3, β_4, β_5 denote short-term dynamics, while 'γ's denotes the long-term links among the variables. ARDL method has been classified into two phases i.e., in phase one, *F-statistics* become 'functional' to check 'co-integration'. Secondly, *F-statistics* become equated with *F-tabulated values* as discussed by Pesaran, Shin, & Smith, (2001).

Results & Discussion

The analysis begins with *descriptive statistics,* given in Table-1, that displays descriptive statistics about DPO, DACC, TACC, SOF, ROE, ROA, DTE, MCAP, and EPS. The range DPO is [234.30–(71.32)=305.62], which shows a higher *range of volatility* (Hussainey, Oscar Mgbame, & Chijoke-Mgbame, 2011).

	Table-1		**Descriptive Analysis of Financial Variables**				
	DPO	SOF	ROE	ROA	D.T.E.	M.CAP	EPS
Mean	23.05	9.633	6.511	1.32	304.85	1393.71	5.45
Median	25.52	9.518	8.161	1.11	381.58	1209.44	1.75
Maximum	234.03	14.802	740.53	45.54	6148.3	3409.01	200.8
Minimum	-71.32	4.382	-283.13	-51.77	-1091.5	1.000	-91.9
Std. Dev.	30.54	2.739	17.421	7.57	70.02	41.86	21.79
Skewness	1.712	0.129	1.963	-1.26	1.989	4.865	1.758
Kurtosis	5.041	1.725	4.635	3.55	4.088	5.234	5.811
Observation	7700	7700	7700	7700	7700	7700	7700

The mean/median indicate that the distribution of DPO is closer to *symmetry*; the SD explains a small variation; while skewness showed data is *highly skewed* and lies within the acceptable range. The kurtosis of 5.041>3.00; shows the data is 'leptokurtic or leptokurtotic'. The next indicator is SOF, having a small range of variation. The mean/median are almost the same which indicate the data is *symmetrical* & free from outliers. The SD explains small variations; the resultant size of the firms contributes positively to dividend payouts (Sarwat, Kashif, & Godil, 2019). The skewness, indicates that the distribution is *perfectly symmetrical*. The Kurtosis of 1.725<3.00 shows the data is 'platykurtic'.

The mean & median of ROE indicate that the distribution is '*asymmetrical*'. The skewness indicates that ROE is positively skewed and the kurtosis shows 'Leptokurtic' distribution (Margaritis & Psillaki, 2010; Shah, R., & Shome, S., 2019). The results show that ROE is not relevant in dividend decisions. Table-01 shows that the range of ROA is comparatively less flexible compared to ROE. The mean>median, which indicates that data has *no outliers*; hence data is '*symmetrical*'. The skewness, indicating that ROA is *negatively skewed*. The kurtosis is 17.56; hence data is 'Leptokurtic'. The indicators show good signs to establish a significant impact on dividends (Ahmed, Advani, & Kanwal, 2018; Sarwat et al. 2019).

The range of DTE is higher; which indicates that the *debt/equity ratio* has a significant and dynamic impact on dividends (Ahmed, Coulibaly, & Zlate, 2017). The use of debt in capital structure can affect dividend decisions in multiple ways. The mean>median, indicates data is '*symmetrical*' with no outliers. The SD of DTE=70.03 is higher compared to ROA, ROE, SOF & DPO, explaining that a higher debt/loan can influence dividends more significantly. The skewness indicates DTE is positively skewed and kurtosis 4.088>3.00 shows that the data is Laptokurtic. All indicators highlight that DTE is a *leading variable* that can change DV by making changes in the capital structure (Marito, B. C., & Sjarif, A. D., 2020).

The values of MCAP for mean>median, indicate that the distribution is '*symmetrical*'. The skewness=4.86 & kurtosis=5.23 indicate that data is *positively skewed*, the data is *Laptokurtic*

(Boateng, Asongu, Akamavi, & Tchamyou, 2018). Results show market capitalization is the major contributor in framing dividend policies.

The mean and median of EPS show stability, lesser variability, and more smoothness. The range of EPS [200.80-(91.900)=292.70]; shows a narrow range; compared to MCAP, DTE, and ROE. The SD is lower; explaining that EPS has a significant impact dividend policy. The skewness indicates that EPS is positively skewed; kurtosis shows that the data is *Laptokurtic* (Siladjaja, M. K., and Anwar, Y., 2020). Hence, EPS shows a significant positive impact on dividend declaration and payments.

Table-2 indicates the range of TASS that is higher; and indicates assets have a significant and dynamic impact on dividends. The maximum tangible assets in capital structure can affect dividends; especially in the form of property dividends. The mean of TASS is 1996.80, very higher; which indicates distribution is '*symmetrical*' & there are no outliers, denoting no need for winsorization. The SD of TASS is the highest in IVs; explaining that TASS can influence dividends directly and significantly in multiple ways (Margaritis & Psillaki, 2010). Results highlight that TASS is the *leading variable* that can change dividend policies by making desirable changes in the capital structure of the financial entities.

Table-2 Descriptive Analysis of Discretionary and Non-Discretionary Accruals

	TASS	TACC	CTASS	NDACC	DACC
Mean	1996.80	84.98	9.90	21.24	186
Median	1860.00	77.00	6.00	24.02	221
Maximum	2684.02	2556.00	4702.00	4708.00	2102
Minimum	-80.00	-3815.00	-2664.00	-2664.00	-8523
Std. Dev.	40.50	41.56	21.30	36.40	28.08
Skewness	3.01	-1.09	-0.741	-2.64	1.366
Kurtosis	3.69	5.75	3.705	2.05	2.239
Observation	7700	7700	7700	7700	7700

Accruals have been analyzed in (i) discretionary (DACC) & (ii) non-discretionary accruals (NDACC) in Table-2. The *modified Jones Model* was used to minimize *measurement error* by applying discretion in scale; that is preferable to standard Jones and industry model. The results show that NDACC has a wider range of variations. Similarly, NDACC has more fluctuation, shown by SD [36.40]; showing a higher impact on dividend announcement (Cohen & Zarowin, 2010; Vijitha & Nimalathasan, 2014; Ben Amar, & Jarboui, 2018).

Results of Granger Causality and ARDL Bound Testing
Table-3 covers the causality results. It shows uni-directional or bi-directional links between the variables. Here, discretionary accruals, size of firms, and market capitalization indicate the presence of bi-directional causality with DPO with p-value<10%. The table indicates strong causality runs from discretionary accruals to DPO with a p-value of 0.03 (Madyoningrum, A. 2019). Size of the firm does granger cause DPO at a p-value of 0.07. DPO does grange cause ROE at a p-value of 0.03 uni-directionally. ROA does granger cause DPO at 10%. DTE called *leverage ratio* does granger cause DPO at 0.033 uni-directionally. While market capitalization does granger cause DPO and causality run in either direction.

Table-4 is the core of the study. It shows auto-regressive distributed lag results of the under-study variables. The table indicates that LNDAC(-1) has a significant impact on DPO with a coefficient of 2.18. The size of the firms becomes highly significant as the number of lags increases with positive coefficients of 1.34 & 4.53. The return on assets (LNROA) has a strong positive impact on DPO with a coefficient of 2.95. The return on equity (LNROE) does not significantly impact DPO. The leverage ratio has shown a significant negative impact on DPO with coefficients of -2.19 and -1.04.

Table-3   Results of Granger Causality

Null Hypothesis:	Obs	F-Statistic	Prob.

LN_DAC does not Granger Cause LN_DPO	22	2.3965	0.0313
LN_DPO does not Granger Cause LN_DAC		3.0017	0.0612
LN_SOF does not Granger Cause LN_DPO	22	3.1949	0.0704
LN_DPO does not Granger Cause LN_SOF			0.0959
LN_ROE does not Granger Cause LN_DPO	22	1.2638	0.3756
LN_DPO does not Granger Cause LN_ROE			0.0348
LN_ROA does not Granger Cause LN_DPO	22	0.9796	0.0754
LN_DPO does not Granger Cause LN_ROA			0.9581
LN_DTE does not Granger Cause LN_DPO	22	0.7026	0.0339
LN_DPO does not Granger Cause LN_DTE			0.3583
LN_MCAP does not Granger Cause LN_DPO	22	2.3857	0.0152
LN_DPO does not Granger Cause LN_MCAP			0.0648
LN_EPS does not Granger Cause LN_DPO	22	0.7611	0.6311
LN_DPO does not Granger Cause LN_EPS			0.1901

The analysis of Table-4 indicates its DW-stats of 1.92 and adj. R^2 of 0.85 indicate the results under ARDL Bounds Testing are more valid. The Mean, SD & S.E. of Reg. also indicate that model has predicting power (Feizal, D. A., Sudjono, S., & Saluy, A. B., 2021).

Table-4   Results of ARDL for DP

Variable	Coefficient	Std. Error	t-statistics	Prob*
LNDPO	0.4849	0.2512	1.9441	0.0768
LNDPO(-1)	0.2005	0.2755	1.1779	0.0253
LN_DAC	1.1431	1.1748	0.9529	0.3433
LNDAC(-1)	2.1812	1.2437	-1.9808	0.0485
LN_SOF	1.3378	0.6097	2.1635	0.0483
LNSOF(-1)	4.5259	1.9304	2.3187	0.0363
LNROA	2.9529	1.9102	-0.1804	0.0509
LN_ROE	-2.7583	1.3198	-2.0137	0.1088
LN_ROE(-1)	-1.0668	3.2432	-0.3001	0.7622
LN_DTE	-2.1916	2.2125	-0.9045	0.0448
LNDTE(-1)	-1.0432	1.5003	0.0399	0.0342
LN_MCAP	-0.9574	1.0293	-0.9398	0.0353
LNEPS	1.5254	1.0231	0.9575	0.1757
C	0.2955	1.7570	0.8754	0.0057
R-squared	0.94506	Mean dependent ar	1.9917	
Adjusted R-squared	0.85019	S.D. dependent var	0.4196	
S.E. of regression	0.07283	Akaike info criterion	-0.2917	
Sum squared resid	0.48722	Schwarz criterion	0.3892	
Log-likelihood	16.6211	Hannan-Quinn criteria.	-0.1255	
F-statistic	13.1201	Durbin-Watson stat	1.9214	

Graphical & Mathematical Diagnostics

Table-5 indicates the results of the Wald test, indicating the explanatory model variables are contributing significantly. The table shows that the value of a parameter is not zero which means no variable should be removed from the statistical model, all the explanatory variables are adding something to the model. Table-6 shows the results of Breusch-Godfrey, which can detect auto-correlation up to any predesignated order compared to DW-stats, which is restricted to detect only first-order auto-correlation. The Breusch–Godfrey serial correlation LM test is applied which is the test for autocorrelation in the errors of a regression model. The null hypothesis of this test is *'that there is no serial correlation.*

Table-6 shows that 'LM test is used to detect serial correlation with the number of lags set at '2'. Since the calculated value of Breusch-Godfrey LM {117.67} exceeds critical value of $\chi^2(2)$, we accept Null hypothesis of no serial correlation up to lag 2. The probability Obs*R-squared statistic represents the probability of rejecting the null hypothesis i.e., no serial correlation (Septiani, M., Ariyani, N., & Ispriyahadi, H., 2020).

Table-5   **Results of Wald Test**

Equation:			
Test Statistic	Value	d.f.	Probability
F-statistic	72.56646	-1487	0.005
Chi-square	72.56646	1.0101	0.007

Table-6   **Results of Presence of Serial Correlation**

Breusch-Godfrey Serial correlation LM Test:			
F-Statistic	75.61994	Prob. F(2485)	0
Obs*R-squared	117.6659	Prob. Chi-Square(2)	0

Figure-2 contains the graph that shows the symmetry between the actual, and the residuals; that means the model is a good fit. The residuals are normally and independently distributed. This graph shows the fitted values indicate that the pattern of fitted and actual observations is the same. It means the closeness of actual and fitted values directly impacts the residuals of fitted model. Due to the closeness of actual and fitted observations, the residuals are normally & independently distributed (Farrukh, K., & Shams Khakwani, M., 2017).

Figure-03 indicates that standardized residuals & DPO residuals can be seen respectively, depicting the model as a good fit. It can also be seen that the standardized residuals and DPO residuals from 1 to 250 observations are showing the same pattern and normality, but from the scale (250 to 350), observations are showing a little bit of fluctuation.
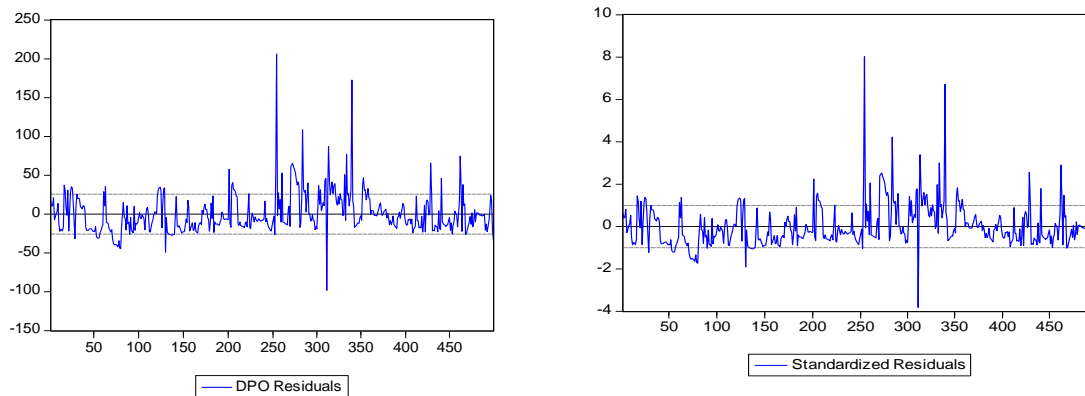

Figure-2   **Graphical Presentation of Standardized Residuals**

After scaling of 350 to 500 till the end of the scale, again the pattern is the same and normal. Both graphs are showing the same pattern which tells us that the *fitted model* is significant.
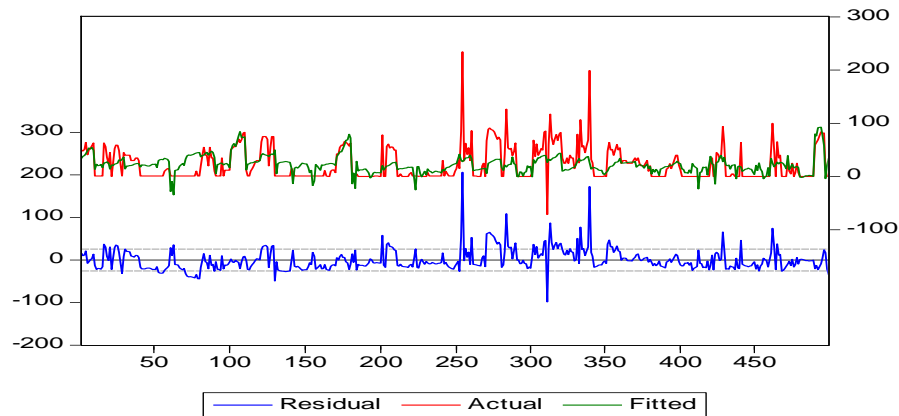
Figure-3   Symmetric Graphical Presentation of Residuals

Conclusion & Policy Implications

The purpose of this study is to find out the impact of various explanatory variables on the dividend policies of financial companies listed on the Pakistan Stock Exchange. The research indicates that *discretionary accruals* harm *dividend payouts* though not significantly. The value of the coefficient indicates its impact on forecasting. It directly affects almost revenues and expenses. Companies must handle the volume of accruals by applying GAAP & IAS to make the financial performance of financial companies more desirable as investigated by international researchers. This is advisable for companies to use this delicate tool for *window-dressing* financial statements. The size of the firm, irrespective of its nature of business plays a significant role in dividend decisions as supported by previous studies.

Return on the asset does contribute significantly and is an eye-opening result in the case of financial firms. At the same time, ROE does not contribute significantly to the firms; denoting that financial firms have to sacrifice their major profits for the sake of maintaining goodwill, solvency and liquidity in the financial markets, as supported by (Farrukh, Irshad, & Shams Khakwani, 2017). The role of debt has always been of great concern for business concerns. In the present research, the results indicate that debt decisions do not impact financial companies positively; rather the mixture of debt and equity maximizes the owner's wealth.

Earnings are considered a direct/significant contributor to dividend decisions. The coefficient of earnings shows a *routine donor* in the case of financial enterprises. The reason is whatever the circumstances; the financial firms must stick to their dividend decisions (Abbadi, Hijazi, & Al-Rahahleh, 2016). Last but not the least, market capitalization has gained importance for financial companies.

Limitations of the Study

In the present study, the researcher has focused on the financial sector of Pakistan only. Still, Modarabas & Close Ended Mutual Funds can become a part of this study in future. Moreover, the data availability in Insurance, Investment & Securities sectors can make future research more authentic and reliable.

A separate study for each financial sector can be conducted with the comparative study. In future, the study can include a comparative analysis of the Pakistani financial sector with other emerging/frontier countries of the world. The inclusion of *control variables* shall make the results more result-oriented, logical, and rational to the future directions for the financial sector of Pakistan in particular, but it will be a milestone for emerging countries in general.

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