

Determinants of Dividend Policy and its Impact on Firm's Value: An Evidence of Automobile Sector in Pakistan

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Abstract: Research on a company's dividend policy is crucial because it ultimately affects the growth and performance of the company. The study's objective is to determine the variables that affect dividend policy, and both micro and macroeconomic indicators have been selected. Dividend policy is an important factor that successfully mediates the connection between certain economic variables and the firm value. Data were gathered from five publicly traded automobile firms in Pakistan for the years 2011 to 2021. The stock price valuation of automobile companies has been determined using the Linear Regression Model for relationship analysis of variables and the Sobel test method for the mediation impact of dividend policy. The study's findings demonstrate that economic variables like micro and macro include a most important impact on the dividend policy, and the results of the Sobel technique and findings on the stock prices of Pakistan's automobile firms confirm these findings.

Key Words: Dividend Policy, Stock Price, Dividend Yield, Retain Earnings, DPR, Taxation Policy, Inflation, Linear Regression, Sobel Test

Introduction

Dividend policy is a crucial instrument used by a company's management to find out the number of dividends to paid investors as well as the total sum set aside for future investments (Lee, 2009). In a corporate firm, the dividend policy plays a very essential role in the firm's growth, market share price and the shareholders' investment reserve for future investments. The focus of the payout policy is on the timing and quantity of dividend payments to investors. It is critical for a company to develop a dividend policy that maximizes the market value of its stock. The growth in business also ensures that these companies' dividend payments will be consistent and smooth in the future (Lintner, 1956). They went on to say that dividend payouts cause share price volatility (Gorden,

1963). A company's dividend policy is very important since it demonstrates its strength and gives information about its growth potential (Black, 1976). The management of any firm determines whether to distribute profits to shareholders as dividend payments or to keep them for internal operations. Companies typically the payment of dividends to shareholders when they are profitable (Ahmed, Nazir & Abbas, 2021).

A financial choice that specifies how a company's earnings or a portion of its earnings will be dispersed among its shareholders is known as a dividend distribution policy, according to business jargons (Business Jargons, 2016). 2017). The corporation has the freedom must choose whether to keep some of its profits to reinvest in the company and boost the share price or to give them out as dividends.

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(Motley, 2017). The investor's decision to invest is determined by the dividend payment ratio (Omodero & Amah, 2017). According to the "bird in the hand" argument, investors be further focused on what they are receiving right now and don't give much thought to net asset value or earnings in the future (Sourav Hansda, 2020). The major focus of the payout procedure is on the timing and quantity of dividend payments to investors. It is critical for a company to develop a dividend policy that maximizes the market value of its stock. In corporate firms, the dividend policy plays a very essential role in the firm's growth, market share price also the shareholders' investment reserve for future investments. There is no correlation between dividend payout and firm value because the only value can be increased if investments in high-yielding projects are made with retained earnings (Nisar Ahmad, Mohsin Nazir, Naseer Abbas, March 2021). The management of any firm determines whether to distribute profits to shareholders as dividend payments or whether to keep them for internal operations. Companies, typically when profitable businesses, provide dividends to their stockholders. Different definitions of dividends have been offered. (Nisar Ahmad, et al. 2021). Given that shareholders invested in the company by purchasing shares, dividends represent a return on their investment (Maheshwari, 1999). Furthermore, contemporary dividend policies address a variety of concerns, including recruiting investors, improving the firm's market value, and deciding whether or not to buy back shares and distribute dividends (Hashemijoo, et al., 2012).

Literature Review

Gosh et al. (1989) found that every company listed on the NYSE (Stock Exchange of New York) and the ASE (Stock Exchange of America) had decreased or even stopped paying dividends over the time in question (1962-1984). This led to the conclusion that investors choose cash dividends over reinvesting earnings in initiatives that look to be long-term investments questionable. As a result, investors prefer cash returns over capital gains in risky enterprises.

Nisar et al. (2021) discuss the relationship between a company's dividend distribution strategy and its automobile sector's

commercial performance in Pakistan. Their data imply that dividend payment policy and profitability have a positive association. Relates to the size, growth, and leverage of the sector.

Ahmed, Abdullah & Idrees (2020) the dividend policy's effect on share (stock) prices is investigated. The random result demonstrates that among the variables earning per share, dividend payment %, and profit on equity, share market value is statistically associated. The dividend disbursement percentage increased by 1%, resulting in a 0.5858 per cent increase in share market value. A 1% change in earnings per share stock causes a 1.4219 per cent change in share market prices. Increases in the value of profit on equity of 1% generate a decline in the market value of 0.996 per cent, resulting in the opposite situation. It was suggested that businesses keep a close eye on the market on a regular basis, as market expansion will affect share prices.

Hamad Raza, et al. (2020) state this study's goal is to examine the effects of company-specific variables of share prices on non-financial enterprises listed on the PSX in the Automobile Sector (PSX). According to the findings, firm-specific factors (EPS and P/E ratio) have a positive substantial impact on a firm's share price in Pakistan. This study adds to the existing literature and discussion of the elements that affect a company's share price in an emerging market with a focus on the automobile sector in the Pakistan stock exchange.

Dr D. Rajasekaran and Dr N. Sumathy (2019) one of the most complicated parts of finance is dividend policy. The study examined ten variables, including liquidity, size, price earnings, retained earnings, profitability, and the previous year's dividend policy. The findings revealed that liquidity, size, price earnings, retained earnings, profitability, and the previous year's dividend policy all seem to have a significant impact on dividend policy.

Soomro et al. (2019) state that the study's goal was to observe the result of corporate dividend practices on the value of their stock. Based on data availability, Ten years' worth of panel data (2006-2015) was gathered from 14 chosen businesses in the area. Dividend Yield and Retention Ratio have a significantly negative link to Profit after Tax and Earnings

per Share, however, show a solid and favourable association with the market price. However, no proof of the Return on Equity's Effect on Market Price has been established. The outcomes of this study were inconsistent when it came to key drivers like dividend yield and retention ratio. To support the Dividend Relevance theory, they did not match each other reciprocally.

Mohammed ShahwarAlam and Raheel Gohar (2018) The study's goal was to figure out what elements influence a company's dividend payout policy and whether that policy is stable based on last year's dividend and current earnings. However, there was a high correlation between dividend payout and the previous year's dividend. It was also discovered that these companies do not have a consistent dividend policy.

Herawati. Aty and FirlyIrradha Fauzia (2018) the purpose of this investigation was to ascertain how the subsector of automotive and component-listed companies' debt-to-equity ratio, the current ratio, and the asset return all affect the dividend payout ratio. Indonesia Stock Exchange from 2012 to 2016. The modified R-Square value of the research resulted in a value of 68.69 per cent. With regression coefficients of -0.065189 and 0.679691 , the results suggest that the DPR is greatly impacted by the debt-to-equity ratio and return on assets. 0.037200 is the regression coefficient; the current ratio has little to no impact on the dividend payout ratio.

Farrukh, et al. (2017) the goal of this investigative study be in the direction of determining the Conflict between Pakistan's dividend policy and shareholder wealth and corporate performance. This study's factors include corporate performance, the wealth of shareholders and dividends policy. Dividend yield and dividend per share are indicators of dividend policy. Shareholder wealth is represented by earnings per share and the share price. A metric used to evaluate a company's success is the return on equity. It has been established that the dividend policy is beneficial to both shareholder wealth and company growth.

Maha et al. (2016) investigated the results of a company's dividend policy on market capitalization in Pakistan's automobile industry. The data suggest that the sub-factors of dividend policy and market capitalization

have a favourable but weak link, whereas there is no connection between dividend yield and share price or trading volume.

Ozuomb et al. (2016) this research piece analyzes how dividend regulations impact share worth and thus shareholder prosperity. This study's objective is to assess the outcome of dividend policies based on public market value firms in Nigeria, empirically investigate the link between dividend payout and information asymmetry, and inspect the results of various dividend policies on shareholder wealth. This study demonstrates the importance of dividends and further establishes that public limited company payout policies have an impact on shareholder wealth in Nigeria.

Mula Nazar Khan et al. (2016) the main goal of this learning is to see if dividend policy has an impact on company presentation in Pakistan. Return on assets, dividend policy, and sales growth all have a favourable relationship, according to the findings. The majority of the research's findings are comparable to those of earlier studies. The leverage and dividend payout ratio is very high. Negative relationship through return on equity, according to the findings.

Research Methodology

To achieve the goal of this study, a strictly quantitative approach to research methodology was adopted. By preserving the link of effect and cause among the variables and advancing the research, the quantitative approach aids in the setting of the research's goals and theories in the real world.

The study has been investigating about automobile industry in Pakistan on 5 listed companies trading on the PSX. The secondary data has been analyzed in the study to explain the factors that determine dividend policy and how they affect a company's worth. The source of the data is the financial assessment reports of non-financial institutions from the SBP and the company's official website, the period from 2011 to 2021. A simple Linear Regression method has been applied for impact analysis with the help of the SPSS tool. Further, to examine the mediating role of dividend policy Sobel test has been used with the help of the Sobel test calculation method.

Measurements and Estimation

Based on the following research that emphasized the influencing role of economic factors in dividend policies and the ultimate effect on firms' value, the study's estimation and analysis are included similarly to those (Nisar A., Mohsin N. and Nasir A.;2021). Based on the basic Equation:

$$Y = \alpha + \beta(X1) + \beta(X2) + \dots + e$$

Equations for Micro Indicators

$$DPR = \alpha + \beta(AOC) + \beta(EAR) + \beta(LIQ) + e \dots \text{Equ (1)}$$

$$DY = \alpha + \beta(AOC) + \beta(EAR) + \beta(LIQ) + e \dots \text{Equ (2)}$$

$$RE = \alpha + \beta(AOC) + \beta(EAR) + \beta(LIQ) + e \dots \text{Equ (3)}$$

Equations for Macro Indicators

$$DPR = \alpha + \beta(IRP) + \beta(TP) + \beta(INF) + e \dots \text{Equ (4)}$$

$$DY = \alpha + \beta(IRP) + \beta(TP) + \beta(INF) + e \dots \text{Equ (5)}$$

$$RE = \alpha + \beta(IRP) + \beta(TP) + \beta(INF) + e \dots \text{Equ (6)}$$

The Equation for Dividend Policy and Stock Price

$$\text{Stock price} = \alpha + \beta(DPR) + \beta(\text{Divi Yield}) + \beta(RE) + e \dots \text{Equ (7)}$$

Explanation of Variables

DPR = Dividend pay-out Ratio

DY = Dividend Yield

RE = Retain Earnings

AOC = Age of Corporation

EAR = Earnings

LIQ = Liquidity

IRP = Interest rate policy

TP = Taxation policy

INF = Inflation

SP = Stock price

Results and Discussions

The Calculation for Micro Indicators of Equation 1

Table 1. Model Summary of Equation 1

Model Summary ^b									
R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
				R Square Change	F	Changed	df1 df2		Sig. F Change
.541 ^a	.293	.252	41.2463316	.293	7.052	3	51	.000	1.848

a. Predictors: (Constant), Liquidity, Age of corporation, Earnings

b. Dependent Variable: DPR

Table 1 indicated dividend payout Ratio (DPR) as the dependent variable and age of the corporation (AOC), Earnings (EAR), and Liquidity (LIQ), as separate variables. The independent factors illustrate the overall change in the dependent variable DPR.

Model Summary The R-squared is assessed at 29%, which explains that the

variables in the model have a moderately strong association with one another. While the F-statistics is 7.052, the estimated value of prob (0.000) is statistical. The serial correlation of various variables in this model is explained by the Durbin-Watson statistic, whose value is 1.848.

Table 2. ANOVA of Equation 1

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35992.665	3	11997.555	7.052	.000 ^b
	Residual	86764.253	51	1701.260		
	Total	122756.918	54			

a. Dependent Variable: DPR

b. Predictors: (Constant), Liquidity, Age of corporation, Earnings

Table 3. Coefficients of Equation 1

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	14.176	22.505		.630	.532	-31.005	59.358
	Age of corporation	-.045	.800	-.007	-.056	.956	-1.651	1.562
	Earnings	6.882E-006	.000	.591	4.451	.000	.000	.000
	Liquidity	-3.442	1.136	-.407	-3.031	.004	-5.722	-1.162

Table 3 demonstrates the ratio of the variables' correlation coefficients. In contrast, the coefficient of the EAR is positive with a value of 6.882 T Static (4.451) and the Probe value shows (0.000) statistically significant with DPR. The correlation of LQR is negatively significant with DPR with a value (-3.442), T statistic (3.031) and Prob value (0.004). However, the coefficients of AOC are (-.045) negative and statistically Non-significant with DPR.

Findings

From the results of objective 1, it is observed that the overall model explains a moderate among the independent and dependent

variables with a significant probe value (0.000). Hence the Alternative Hypothesis for objective one is accepted which suggests a significant relationship between variables.

Moreover, the coefficient explains that with the increase in earnings automobile firms tend to pay a dividend to their shareholders which seems like an efficient corporate practice. It is also observed that the inverse significant relationship of Liquidity and Payout ratio, explains that to maintain higher liquid position companies hold the decision to pay a dividend.

The Calculation for Micro Indicators of Equation 2

Table 4. Model Summary of Equation 2

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.558 ^a	.311	.271	40.7121510	.311	7.687	3	51	.000	1.927

a. Predictors: (Constant), Interest rate policy, Taxation Policy, Inflation

b. Dependent Variable: DPR

Table 1 indicated dividend yield (Dividend Yield) as the dependent variable and age of the corporation (AOC), Earnings (EAR), and Liquidity (LIQ), as separate variables. The overall modification of the dependent variable and the independent variables exhibit Dividend Yield.

Model Summary The R-squared is estimated as 31%, which explains that the model's relationships between the variables are moderately strong. While the F-statistic is 7.968, the estimated value of prob (0.000) is statistically significant. The serial correlation of various variables in this model is explained by the Durbin-Watson statistic, whose value is 1.178.

Table 5. ANOVA of Equation 2

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38225.477	3	12741.826	7.687	.000 ^b
	Residual	84531.441	51	1657.479		

Total 122756.918 54

a. Dependent Variable: DPR

b. Predictors: (Constant), Interest rate policy, Taxation Policy, Inflation

Table 6. Coefficients of Equation 2

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
	(Constant)	26.122	21.120				1.237
Taxation Policy	1.173E-005	.000	.498	4.018	.000	.000	.000
Inflation	-2.083	2.696	-.139	-.773	.443	-7.496	3.329
Interest rate policy	.113	3.160	.006	.036	.972	-6.232	6.458

a. Dependent Variable: DPR

The table demonstrates the ratio of the variables' correlation coefficients. In contrast, the coefficient of the EAR is positive with a value of 0.082 T Statistic (4.728) and the Probe value shows (0.000) statistically noteworthy along with Dividend Yield. The correlation of LQR is negatively significant with Dividend Yield with a value (-39450.271), T statistic (-3.080) and Prob value (0.003). However, the coefficients of AOC are (-5196.319) negative and statistically significant with Dividend Yield.

Findings

This table presents the dependent variables'

statistical results for Dividend Yield and other independent variables i.e. Liquidity, the Age of the corporation and Earnings. The Dependent's response to independent variables was provided by this analysis. The coefficient of dividend yield explains that with a high liquid position, firms tend to decrease dividend liquidity, indicating that companies prefer to increase dividend yield that a rising liquid position. Similar to equation 1 earning shows that with increased income, firms decide to raise cash dividends related to the market value per share.

The Calculation for Micro Indicators of Equation

Table 7. Model Summary of Equation 3

Model	Model Summary ^b				Change Statistics				Durbin-Watson	
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2		Sig. F Change
1	.522 ^a	.273	.230	480742.4443202	.273	6.378	3	51	.001	1.167

a. Predictors: (Constant), Interest rate policy, Taxation Policy, Inflation

b. Dependent Variable: Divi Y

Table 1 indicated retained earnings (RE) as the dependent variable and age of the corporation (AOC), Earnings (EAR), and Liquidity (LIQ), as separate variables. The independent variables illustrate the overall change in the dependent variable RE.

Model Summary The R-squared is estimated as 72%, which explains that the

model's relationships between the variables are moderately strong. While the F-statistic is 44.693, the estimated value of prob (0.000) is statistically significant. The serial correlation between The variables in the model is explained by the Durbin-Watson statistic, whose value is 0.972.

Table 8. ANOVA of Equation 3

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4422383239165.879	3	1474127746388.626	6.378	.001 ^b
	Residual	11786778186318.852	51	231113297770.958		
	Total	16209161425484.730	54			

a. *Dependent Variable: Divi Y*

a. *Predictors: (Constant), Interest rate policy, Taxation Policy, Inflation*

Table 9. Coefficients of Equation 3

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	143006.856	249388.070		.573	.569	-357660.586	643674.298
Taxation Policy	.135	.034	.498	3.912	.000	.066	.204
1 Inflation	-15328.542	31836.978	-.089	-.481	.632	-79243.943	48586.860
Interest rate policy	9630.363	37318.376	.046	.258	.797	-65289.403	84550.129

a. *Dependent Variable: Divi Y*

The table demonstrates the ratio of the variables' correlation coefficients. In contrast, the coefficient of the EAR is positive with a value of 3.610 T Static (8.141) and the Probe value shows (0.000) statistically significant with retained earnings. The correlation of LQR is positively significant with Retain earnings with a value (955425.243), T statistic (2.933) and Prob value (0.005). However, the coefficients of AOC are (428688.354) positively and statistically non-significant with retained earnings.

Findings

This table presents the dependent variables' statistical results for Retain Earnings and other independent variables i.e. Earnings, the Age of the corporation and Liquidity. This analysis

showed how The impact of independent variables on the dependent variable. The coefficient of equation 3 explains as a result of increasing net income more money is allotted to retain earnings, after any money is used for debt payment, business investment or dividend. Retain earnings have been directly impacted by net income. It is also observed from the findings that Liquidity has a positively significant relationship with retained earnings which indicated that a bank's profitability increases if it holds certain liquid assets; nevertheless, there is a limit beyond which owning more In all other respects being equal, having liquid assets lowers a bank's profitability. Additionally, this rise in profitability ultimately has a favourable impact on retained earnings.

The Calculation for Macro Indicators of Equation 1

Table 10. Model Summary of Equation 1

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson
						F	Changedf1	df2	Sig. F Change	
1	.565 ^a	.319	.279	465185.5835051	.319	7.968	3	51	.000	1.178

a. *Predictors: (Constant), Liquidity, Age of corporation, Earnings*

b. *Dependent Variable: Divi Y*

Table 1 indicated dividend payout Ratio (DPR) as the dependent variable and Interest rate policy (INP), Taxation policy (TAP), and Inflation (INF), as separate variables. The independent factors illustrate the overall change in the dependent variable DPR. The R-squared, which was evaluated at 31% in the model summary, explains that the variables in

the model have a moderately strong association with one another. While the F-statistic is 7.687, the estimated value of prob (0.000) is statistically significant. The serial correlation among the variables in using the model as a guide, Durbin-Watson statistic, whose value is 1.927.

Table 12. ANOVA of Equation 1

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5172882443336.328	3	1724294147778.776	7.968	.000 ^b
	Residual	11036278982148.402	51	216397627100.949		
	Total	16209161425484.730	54			

a. Dependent Variable: Divi Y

a. Predictors: (Constant), Liquidity, Age of corporation, Earnings

Table 13. Coefficients of Equation 1

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	267241.099	253818.958		1.053	.297	-242321.723	776803.920
Earnings	.082	.017	.616	4.728	.000	.047	.117
1 Age of corporation	-5196.319	9025.987	-.068	-.576	.567	-23316.744	12924.106
Liquidity	-39450.271	12809.577	-.406	-3.080	.003	-65166.570	-13733.971

a. Dependent Variable: Divi Y

The table demonstrates the ratio of the variables' correlation coefficients. In contrast, the coefficient of TP is positive with a value of 1.173 T Static (4.018) and Probe value shows (0.000) statistically noteworthy together DPR. The correlation of INF is negatively non-significant with DPR with a value (-2.083), T statistic (0.773) and Prob value (0.443). However, the coefficients are (0.113) positively and statistically significant with DPR.

Findings

This table presents the dependent variables' statistical results for DPR and other independent variables i.e. interest rate policy, taxation policy and inflation. Independent factors' influence on the dependent variable was provided by this analysis.

The Calculation for Macro Indicators of Equation 2

Table 14. Model Summary of Equation 2

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
					R Square Change	F Change	df1	df2		Sig.
1	.851 ^a	.724	.708	11829813.9215791	.724	44.693	3	51	.000	.972

a. Predictors: (Constant), Liquidity, Age of corporation, Earnings

b. Dependent Variable: Retain Earnings

Table 1 indicated dividend yield (Dividend yield) as the dependent variable and Interest rate policy (INP), Taxation policy (TAP), and Inflation (INF), as separate variables. The overall modification of the dependent variable and the independent variables illustrate dividend yield.

Model Summary The R-squared is

estimated as 27%, which explains that the model's relationships between the variables are moderately strong. In contrast to the F-statistic of 0.001, the estimated probe value (0.001) is statistically noteworthy. The serial correlation between the variables in According to the Durbin-Watson statistic, the model is explicable, whose value is 1.167.

Table 15

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-11788750.328	6454694.970		-1.826	.074	-24747091.193	1169590.537
Earnings	3.610	.443	.675	8.141	.000	2.720	4.500
1 Age of corporation	428688.354	229533.654	.140	1.868	.068	-32119.685	889496.393
Liquidity	955425.243	325751.530	.246	2.933	.005	301451.758	1609398.728

a. Dependent Variable: Retain Earnings

The table shows the coefficient connection between the variables. Whereas the coefficient of TP is positive with a value of 0.135 T Static (3.912) and Probe value shows (0.000) statistically significant with Dividend yield. an indicator of INF is positively non-significant with Dividend yield with value (9630.363), T statistic (0.258) and Prob value (0.797). However, the coefficients are (-15328.542) negatively and statistically non-significant

with Dividend yield.

Findings

This table presents the dependent variables' statistical results for Dividend Yield and other independent variables i.e. interest rate policy, taxation policy and inflation. Independent factors' influence on the dependent variable was provided by this analysis.

The Calculation for Macro Indicators of Equation 3

Table 15. Model Summary of Equation 3

Model Summary ^b										
Model	R Square				Change Statistics					
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.341 ^a	.116	.064	21183336.1230182	.116	2.240	3	51	.095	.774

a. Predictors: (Constant), Intrest rate policy, Taxation Policy, Inflation

b. Dependent Variable: Retain Earnings

Table 1 indicated Retain earnings (RE) as the variable of dependent and the variables of independent being interest rate policy (INP), taxation policy (TAP), and inflation (INF). The independent variables illustrate the overall

change in the dependent variable RE. The R-squared, which was evaluated at 11% in the model summary, explains that the variables in the model have a moderately strong association with one another. While the F-

statistic is 0.095, the estimated probe value (0.001) is statistically significant. The serial correlation between the variables in The

Durbin-Watson model explains the phenomenon statistic, whose value is 0.774.

Table 16. ANOVA of Equation 3

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3015553527497320.000	3	1005184509165773.400	2.240	.095 ^b
	Residual	22885420194339068.000	51	448733729300766.060		
	Total	25900973721836388.000	54			

a. *Dependent Variable: Retain Earnings*

b. *Predictors: (Constant), Interest rate policy, Taxation Policy, Inflation*

Table 17. Coefficients of Equation 3

Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		
	B	Std. Error	Beta			Lower Bound	Upper Bound	
1	(Constant)	16944438.587	10988984.595		1.542	.129	-5116868.539	39005745.713
	Taxation Policy	3.508	1.519	.324	2.309	.025	.458	6.557
	Inflation	1129210.176	1402858.065	.165	.805	.425	-1687144.908	3945565.260
	Interest rate policy	-1777666.152	1644389.241	-.212	-1.081	.285	-5078915.304	1523583.001

a. *Dependent Variable: Retain Earnings*

The coefficient correlation between the variables is shown in the table. In contrast, the correlation of TP is positive with a value of 3.508 T Static (2.309) and the Probe value shows (0.025) statistically noteworthy along with RE. The coefficient of INF is positively significant with RE with a value (1129210.176), T statistic (0.805) and Prob value (0.425). However, the coefficients of INP are (-1777666.152) negatively and statistically significant with RE.

statistical results for retain earnings and other independent variables i.e. taxation policy, inflation and interest rate policy. Independent variables' impact on the dependent variable was provided by this analysis. Because they have an impact on the overall balance between various uses of funds in the economy, retained earnings are significant for the transmission of monetary policy. The concept allows for the utilization of funds for both savings and consumption.

Findings

This table presents the dependent variables'

The Calculation for Dividend Policy and Stock price of Equation 1

Table 18. Model Summary of Equation 1

Model Summary ^b											
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson	
						F Change	df1	df2	Sig. F Change		
1	.898 ^a	.807	.796	203.3129292	.807	71.070	3	51	.000	1.144	

a. *Predictors: (Constant), Retain Earnings, DPR, Divi Y*

b. *Dependent Variable: Stock Price*

Table 1 indicated Stock price (SP) as the dependent variable and Retain earnings (RE), Dividend yield and (DPR) are independent

factors. The independent variables illustrate the overall change in the dependent variable, stock price. The R-squared, which was

evaluated at 80% in the model summary, explains that the variables in the model have a moderately strong association with one another. While the F-statistic is 71.070, the

estimated value of prob (0.000) is statistically significant. The serial correlation between the variables in the model is explained by the Durbin-Watson statistic, whose value is 0.144.

Table 19. ANOVA of Equation 1

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8813230.831	3	2937743.610	71.070	.000 ^b
	Residual	2108143.506	51	41336.147		
	Total	10921374.337	54			

a. Dependent Variable: Stock Price

b. Predictors: (Constant), Retain Earnings, DPR, Divi Y

Table 20. Coefficients of Equation 1

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
		1	(Constant)	78.896			33.793	
	DPR	6.332	1.340	.671	4.727	.000	3.643	9.022
	Divi Y	.000	.000	-.447	-3.145	.003	-.001	.000
	Retain Earnings	1.676E-005	.000	.816	13.213	.000	.000	.000

a. Dependent Variable: Stock Price

The coefficient correlation between the variables is shown in the table. In contrast, the correlation of DPR is positive with a value of 6.332 T Static (4.727) and the Probe value shows (0.000) statistically significant with a Stock price. The correlation of Dividend yield is positively significant with Stock price with a value (0.000), T statistic (-3.145) and Prob value (0.003). However, the coefficients of Retain earnings are (1.676.005) positively and statistically significant with a Stock price.

Findings

This table presents the dependent variables' statistical results for Stock value and other independent variables i.e. DPR, Dividend Yield

and Retain Earnings. This analysis showed how independent variables affected the dependent variable. Whenever a stock dividend is announced, the price of the shares normally increases. A stock dividend raises the number of shares outstanding while keeping the company's value constant, which lowers the book value per common share and consequently the stock price. The results showed that dividend yield and price volatility, as well as yield and DPR, have a very strong positive relationship. If the price of the company's shares rises, the retention of earnings allows the stockholder to opt to realize capital gains rather than dividends, which are subject to a tax rate that is considerably more modest.

Sobel test

Table 21. Taken from the Sobel Test

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson
						F Change	df1	df2	Sig. F Change	
1	.839 ^a	.807	.704	247.0642257	.704	125.919	1	53	.000	.617

a. Predictors: (Constant), Dividend Policy

b. Dependent Variable: Stock Price

Table 22. Taken from the Sobel Test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7686215.562	1	7686215.562	125919	.000 ^b
	Residual	3235158.775	53	61040.732		
	Total	10921374.34	54			

a. Dependent Variable: Stock Price

b. Predictors: (Constant), Dividend Policy

Table 23. Taken into Sobel Test

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	122.223	38.731		3.156	.003	44.538	199.908
	Dividend Policy	1.718E-005	.000	.839	11.221	.000	.000	.000

a. Dependent Variable: Stock Price

Table 24. Taken from the Sobel Test

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson
						F Change	df1	df2	Sig. F Change	
1	.857 ^a	.734	.724	11542132.95067	.734	71.700	2	52	.000	1.254

a. Predictors: (Constant), Macro Variables, Micro Variables

b. Dependent Variable: Stock Price

Table 25. Taken from the Sobel test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.910E+16	2	9.552E+15	71.700	.000 ^b
	Residual	6.927E+15	52	1.332+14		
	Total	2.603E+16	54			

a. Dependent Variable: Dividend Policy

b. Predictors: (Constant), Macro Variables, Micro Variables

Table 26. Taken from the Sobel test

Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		
	B	Std. Error	Beta			Lower Bound	Upper Bound	
	(Constant)	1109973.384	1882138.101				.590	.558
1	Micro Variables	5.589	.504	1.042	11.095	.000	4.579	6.600
	Macro Variables	-3.834	1.020	-.353	-3.760	.000	-5.881	-.1.788

a. Dependent Variable: Dividend Ploicy

Table 27. Taken from Sobel test

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson
						F Change	df1	df2	Sig. F Change	
1	.839 ^a	.789	.781	210.2860387	.789	97.488	2	52	.000	1.769

a. Predictors: (Constant), Macro Variables, Micro Variables

b. Dependent Variable: Stock Price

Table 28. Taken from Sobel test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8621922.96	2	4310961.498	97.488	.000 ^b
	Residual	2299451.341	52	44220.218		
	Total	10921374.34	54			

a. Dependent Variable: Stock Price

b. Predictors: (Constant), Macro Variables, Micro Variables

Table 29. Taken from the Sobel test

Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		
	B	Std. Error	Beta			Lower Bound	Upper Bound	
	(Constant)	74.647	34.291				2.177	.034
1	Micro Variables	9.268E-005	.000	.844	10.098	.000	.000	.000
	Macro Variables	1.485E-005	.000	.067	.799	.428	.000	.000

a. Dependent Variable: Stock Price

Description of Sobel Analysis

This test was carried out using the Sobel test procedure, which was taken from sources like Goodman (1960), Sobel (1982), Baron and Kenny (1986), MacKinnon, Warsi, and Dwyer (1982), among others (1986) are some examples

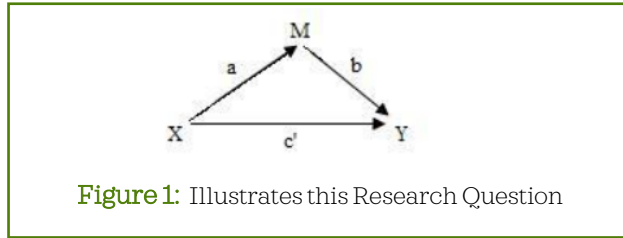
(1995). The variance's third-term estimate in the denominator is left out of the Sobel test equation. As a result, it does not alter the superfluous under the premise that $sa + sb$ result is vanishingly little, Baron and Kenny (1986) suggest using the Aroian form of the Sobel test. The third term is subtracted in the

Goodman version of the test to obtain an impartial approximation of the inconsistency of the mediated effect, although occasionally this unfavourable outcome results in a negative variance estimate. In a Monte Carlo simulation, the Sobel test and the Aroian test appeared to work the best.5.4.3Sobel test

This test is used as a mediating role of dividend policy and the other hand is also calculated regression of the economic factors. In my study dividend policy play a role as a

mediating, which affected firms' value that's why this test is used in this analysis.

To what extent are participants' Stock Prices (Y) related to Micro and Macro variables (X), and is this relationship mediated by participants' Dividend Policy (M)? Or does participants' dividend Policy affect the relationship between their Economic variables (Micro and macro variable) and the Stock Prices of automobile firms?



Sobel Test Equation

Equ.....(2)

Sobel test

$z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$ Equ..... (1)

Goodmantest

$z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2 - s_a^2*s_b^2)$
Equ.....(3)

Aroian test

$z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2 + s_a^2*s_b^2)$

For the Testing Mediating Role of Dividend Policy

Table 30. Micro variables as (IDV) to Stock Price (DV)

	Input	Tests	Test statistic:	Std. Error:	P value
a,	-3.834	Sobel test	-3.75882353	1.5236	0.0001707
b,.	1.718	Aroian test	-3.75882353	1.75236	0.00017071
S,a	1.020	Goodmantest	-3.75882353	1.75236	0.00017071
Sb	0.000				
	Input		Test statistic		P value
Ta	-3.760	Sobel test	3.5651702		0.00036362
Tb	11.221	Aroian test	3.55250962		0.00038158
		Goodmantest	3.57796712		0.00034628

Source: study source

The Sobel analysis Micro factors and Dividend Payout are statistically significant in the value of the stock because they have a substantial association with dependent and independent variables both when the mediator variables are present and when they are not. The table shows the necessary ratio calculation as a trial toward observing if the mediator's no direct influence

of the independent variable on the variables of dependent is significantly different from zero.

Sobel Test Interpretation Micro Factors

Findings

Sobel test was utilized to examine if dividend Policy mediated the relationship between

Economic variables (Micro and Macro) and Stock Prices of automobile firms.

First, results of the test with the help of regression results taken from table No:3 for an independent variable to Mediator (micro to dividend policy) and then from Mediator to Dependent variable (Dividend policy to Stock price) and show that selected Micro variables

were a statistically significant predictor of Dividend policy and hence Dividend policy plays significantly mediating role between micro and stock price with values (T stat = - 3.7588, standard error = 1.752, t =, p. value 0.0001707). The results confirmed that dividend policy mediates the relationship between Micro variables and Stock prices of automobile firms.

For the Testing Mediating Role of Dividend Policy (Macro)

Table 31. Macro variables as (IDV) to Stock Price (DV)

	Input	Tests	Test statistic:	Std. Error:	P value
a,	5.589	Sobel test	11.08928571	0.865872	0
b.,	1.718	Aroian test	11.08928571	0.865872	0
S,a	0.504	Goodmantest	11.08928571	0.865872	0
Sb	0.000				
	Input		Test statistic	P value	
Ta	11.095	Sobel test	7.88952019	0	0.01553333
Tb	11.221	Aroian test	7.872596	0	0.01592676
		Goodmantest	7.90540984	0	0.01514412

Source: study source

In the Sobel analysis, there was a substantial link between the dependent and independent variables in both the presence and absence of the mediator factors, indicating that the stock prices of automobile companies and macro variables such as dividends are statistically significant. The table shows the computation of the critical ratio is a test to determine whether the not direct effect of the mediator on the variables of dependent on the variables of independent differs considerably from zero.

confirmed that dividend policy mediates the significant relationship between Macro variables and Stock prices of automobile firms.

Sobel Test Interpretation Macro Factors Findings

Sobel test was utilized to examine if dividend Policy mediated the relationship between Economic variables (Micro and Macro) and Stock Prices of automobile firms.

First, results of the test with the help of regression results taken from table No:3 for IV to Mediator (macro to dividend policy) and then from Mediator to Dependent variable (Dividend policy to Stock price) and show that selected Macro variables were a statistically significant predictor of Dividend policy and hence Dividend policy plays significantly mediating role between micro and stock price with values (T stat = 11.0892, standard error = 0.8658, t =, p. value 0.000) The results

Limitation & Future Direction

The study is limited to only 5 automobile firms in Pakistan. The data is not available in the form the researcher needed. Time constraint in a dividend policy determines how the corporation distributes dividends to the shareholders. The dividend policy of a corporation serves as a guide to choosing the amount, frequency, and pattern of dividend distribution. The study can further explore additional factors that impact a company's dividend policy, such as profitability, growth rate, funding accessibility, size of the company, liquidity, dividend history of the company, and industry trends in dividends, which can be pursued in the future.

Conclusion

The study's goal is to examine the mediating impact of Dividend Policy between Micro as well as macro variables and Stock prices of automobile firms. The research first determined the impact of Micro and Macro

variables on Dividend Policy then further assessment has been done through the testing of dividend policy and its influence on the stock value of the automobile firms. Finally, with the help of the Sobel test, the mediating role of dividend policy on stock prices determines taking economic indicators such as selected Micro and macro variables. The data for the present research was gathered from the financial stability assessment reports of the nonfinancial institution from State bank statistical data from 2011 to 2021.

It is observed from the findings that the age of the corporation has no influence on all three cases such as dividend payout ratio and dividend yield and retain earnings. However, higher earnings indicate payout decisions and dividend yield which appeared to be an efficient corporate practice of automobile firms, along with a positive influence on retain earnings decisions which can be taken from a higher profitability ratio.

Besides, Liquidity indicated a negatively significant impact on both DPR and DY which shows that to maintain higher liquid position firms hold the decision to payout and hence decrease the dividend yield. Conversely, any

adjustments or changes in net income will have a direct positive influence on the Retained earnings balance.

It is observed from the result that liquidity and retain earnings have positive results rather than negative this explains that automobile firms highly rely on international financing which keeps a high ratio of money in that bank account.

The findings also observed that amongst the selected variables such as Inflation, Interest rate and tax policy. The tax has been positively significant in dividend policy, but such results only support the view According to When the investment time horizon and other considerations are taken into consideration, shareholders favour equity appreciation over dividends according to the tax difference theory of dividend policy since capital gains are really taxed at lower rates than distributions.

Finally, it is also observed from the overall analysis that there are some economic indicators that determine the dividend policy of a firm which ultimately influences the value of the firm.

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