



The Nexus between Dividend Policy and Financial Gearing of Listed Non Financial Companies in Tanzania

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Abstract: Abstract This paper intends to explore the relationship between dividend policy and financial gearing of listed non-financial companies in Tanzania. A case study of seven (7) non-financial companies listed at Dar es Salaam Stock Exchange (DSE) was used to assess this phenomenon. Unbalanced panel data from these companies' annual reports were used, covering 2002 to 2018. Generalized linear regression analysis was used to examine the phenomenon mentioned above with Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) to select the most appropriate models. The results from generalized linear regression analysis indicated that companies with higher dividend payouts have lower gearing. Further results show that higher dividend payouts are associated with a lower cost of debts as debt providers deem these companies to be stable and less risky. So this study urges profitable firms to pay out dividends as a sign of financial strength which eventually reduces the cost of debt. But caution must be taken by financial managers to ensure that a sufficient amount of internal funds are retained after paying dividends for future endeavours.

Keywords: *Dividend policy, financial gearing, DSE, generalized linear regression*

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INTRODUCTION

Dividend policy is one of the most important and sensitive decisions that a financial manager is faced with. Over the years, scholars have managed to write about issues related to dividend policy. The pioneers of this topic were [Miller and Modigliani \(1961\)](#) who proposed the “Irrelevance Hypothesis” which asserts that there exist no relationship between firm value and dividend payouts. The other works such as those by [Black \(1976\)](#) that established the “dividend puzzle” further add some valuable insights into the matter.

Dividend policy involves deciding whether the company will either pay dividends or not, and if it contemplates paying dividends, the portion of profits that will be paid out must be decided. If the company decides to pay no dividends then it can use these profits as an internal source of financing to invest in long term endeavors such as acquisitions, fixed assets purchase e.t.c. This may possibly help the company to reduce gearing levels as there wouldn't be much need to seek excessive external finances i.e., issuing bonds, debentures ([Weston & Brigham, 1981](#)).

If the company decides to pay dividends then a portion of its cash flows that would have been retained in order to provide additional internal financing to the company will be paid out which will eventually increase demand for external financing which may increase risk ([Sang, Shisia, Gesimba, & Kilonzo, 2015](#)). This is why firms are urged to pay dividends when they don't have immediate lucrative projects to commit funds to.

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On the contrary, dividend payment can be beneficial to the firm as it is a sign of financial strength which is essential for attracting investors and share price (Bhaduri, 2002). Furthermore high dividend payouts are associated with a lower cost of debt as debt providers deem a firm with high dividend payouts to be financially stable hence less risky (Jabbouri & El Attar, 2017).

Statement of the Problem

The pecking order theory depicts that the financial manager usually follows a hierarchy when contemplating about the source of financing to utilize when making investments. At the top of the hierarchy is internal financing generated from retained earnings, followed by debt financing and at the bottom of the hierarchy is equity financing i.e., issue of shares. The information asymmetry, risk and finance costs increase when moving downwards through the hierarchy (Donaldson, 2000; Myers & Majluf, 1984). According to this theory, financial managers prefer internal financing i.e., retained earnings because it is less risky and less expensive as opposed to external financing.

The choice of internal financing to fund long term investments is highly likely to intertwine with company's dividend policy. This is attributed to the fact that company's choice whether to pay dividend or not has a bearing on the amount of retained earnings that the company intends to reinvest by reducing it which may probably make it insufficient to cater for the needs of the potential project (Pandey, 2008). This may force the company to opt for assistance through external financing which may potentially increase gearing. On the other hand, high dividend payouts can be associated with less gearing especially when the firm is extremely profitable and stable hence generating sufficient internal financing. So this study sets out to explore further whether there is a link between dividend policy and gearing and establish whether high dividend payouts are associated with lower cost of debts.

Research Objectives

The main objective of this study is to investigate the nexus between dividend policy and gearing in Tanzania listed companies. The specific objectives were as follows;

- a) To examine the relationship between dividend payouts and financial gearing.
- b) To assess whether dividend payouts influence cost of debt.

Significance of the Study

This study intends to shed some light on the issues related to how firms' dividend policy affects both gearing and cost of debt. The findings will be beneficial to financial managers to enable them to make better dividend decisions keeping in mind that these particular decisions have a bearing on firm's debt levels. Furthermore, the study will enhance financial managers understanding of how dividend decisions they make have implications on the cost of obtaining debts from creditors.

LITERATURE REVIEW

Jabbouri and El Attar (2017) examined the connection between high dividend payout and agency cost of debt in 65 Moroccan companies. The study covered a period from 2004 to 2015 and the findings revealed that high dividend payouts are associated with low agency costs of equity and low information asymmetries. Furthermore, debt providers charge lower cost for extending loans to firms that pay high dividends which indicates a negative correlation between dividend payouts and cost of debt.

A study by Sang et al. (2015) examined the relationship between dividend payouts and capital structure of 16 non financial firms listed at Nairobi Stock Exchange (NSE) covering a period (2007-2011). The study discovered a significant negative linkage between dividend payouts and financial leverage. It was further observed that there exists a weak negative relationship between accumulated profits and dividend payouts.

Abbas, Hashmi, and Chishti (2016) explored how dividend payouts relate to firm's capital structure as well as factors influencing dividend policy and capital structure of 100 manufacturing firms in Pakistan. The study covered a period (2006-2011) and generated the results which seem to indicate that dividend policy is positively correlated with firm's capital structure. As dividend payouts increase so is debt levels within these observed companies.

Cooper and Lambertides (2018) evaluated whether large dividend payouts increase dividends of companies listed in the Center for Research in Securities Prices in the period (1979-2010). The findings of the study showed that companies that have increased dividend payouts over the years have also resulted into high gearing. This is attributed to the fact

that increasing dividend payouts creates shortage of finances for investment purposes hence forcing the companies in question to resort to debt financing.

Another study by Setia-Atmaja (2010) assessed if board independence affects debt and dividend policies of Australian family controlled companies as well as listed ones. The study covered the period (2000-2005) and the findings revealed that family controlled companies have higher dividend payouts which resulted into higher debt levels as opposed to listed companies. This was explained by the presence of more independent directors in boards of family controlled companies who influence dividend decisions.

METHODOLOGY

Types of Data

This study made use of secondary data from the annual reports of listed non financial companies in Tanzania. These reports were obtained from DSE directory.

Study Period

The research covered a period from 2002 to 2017 using a total of seven (7) non financial companies listed at DSE. However the study period was unbalanced as it was difficult to get annual reports dating back to 2002. The companies that were incorporated in this study were; Tanzania Portland Cement Company (TPCC), Tanga Cement Company (TCC), Tanzania Breweries Ltd (TBL), Swissport, Precision Air, Tanzania Oxygen Ltd (TOL) and Tanzania Cigarette Company (TCC).

Type of Research

This is a quantitative research, the dividend policy and gearing phenomenon was examined using panel data that were analyzed quantitatively using the various econometric tools that are discussed in the data analysis section.

Research Variables

The variables that were used in this study together with their description are presented in Table 1 below;

Table 1 DESCRIPTION OF VARIABLES

No.	Independent Variables	Description
1.	Dividend per Share (DPS)	= Total Dividend/No of Subscribed Ordinary Share
2.	Dividend Payout Ratio (DPR)	= Dividends Paid/ Net Income
	Control Variables	
1.	Company Size (CS)	= Logarithm of Total Assets
2.	Company Growth (CG)	= Percentage Change in sales
3.	Liquidity (LQ)	= Current Assets – Inventories and Receivables Current Liabilities
	Dependent Variables	
1.	Gearing Ratio (GR)	= Long Term Interest Bearing Debts Long Term Interest Bearing Debts + Equity
2.	Debt to Equity Ratio (DER)	= Total Debts/Equity
3.	Cost of Debt (K)	= Interest Expense Short Term & Long Term Debts
4.	Interest Expense	= Logarithm of Interest Expense

Source: Field data (2019)

The Econometric Model

The specified model is as follows;

$$\text{Model 1: } GR_i = \alpha + \beta_1 DPR_i + \beta_2 DPS + \varepsilon$$

$$\text{Model 2: } DER_i = \alpha + \beta_1 DPR_i + \beta_2 DPS + \varepsilon$$

$$\text{Model 3: } Kd_i = \alpha + \beta_1 DPR_i + \beta_2 DPS + \varepsilon$$

$$\text{Model 4: } i_i = \alpha + \beta_1 \text{DPR}_i + \beta_2 \text{DPS} + \varepsilon$$

Where;

DPS = Dividend per Share

GR = Gearing Ratio

DPR = Dividend Payout Ratio

DER = Debt to Equity Ratio

Kd = Cost of Debt

i = Interest expense

ε = Error term

β = Coefficient of Independent variable(s)

α = Constant

Data Analysis

Data analysis tools were applied according to the research objectives as follows;

Objective 1: To examine the relationship between dividend policy and financial gearing.

In this objective, financial gearing as a dependent variable was represented by two (2) ratios namely; Gearing and DER which generates two (2) models. The study made use of Generalized Linear Regression Analysis (Nelder & Wedderburn, 1972) to analyze data pertaining to this objective. This model has become central to statistical analysis compared to the original linear regression models such as ordinary, probit e.t.c.

Then for each of the two (2) models, the AIC (Akaike, 1973) and the BIC (Schwarz et al., 1978) models were also employed to choose the most appropriate model to represent the relationship between dividend policy and gearing. Both criteria intend to test for goodness of fit as well as model complexity and the model with the lowest AIC and BIC values is usually considered to be more appropriate in explaining the relationship between variables (Akaike, 1978).

Objective 2: To assess whether dividend policy influences cost of debt.

This was also assessed using generalized linear regression analysis by controlling the effects CS, CG and LQ. The cost of debt and interest expense was used as the dependent variables and AIC and BIC were used to choose the most appropriate model.

RESEARCH FINDINGS AND RESULTS

Descriptive Statistics

The study variables were described in terms of mean, standard deviation, variance, skewness and Kurtosis. The results are presented in Table 2 below;

Table 2 DESCRIPTIVE STATISTICS

	Mean	Standard Deviation	Variance	Skewness	Kurtosis
Revenue Growth	0.1399676	0.2124457	0.0451332	0.7479389	5.780549
Firm Size	10.73863	0.8967838	0.8042211	1.071522	3.864808
Gearing	0.1816814	0.2032284	0.0413018	2.568575	9.124156
DER	1.47015	3.843691	14.77396	5.053022	30.85304
Interest Expense	6.629118	3.831611	14.68125	1.078232	2.354186
Cost of Debt	0.023649	0.039468	0.0015577	4.484441	30.53079
LQ	1.277069	1.030877	1.062708	1.592555	6.136123
Dividends per Share	143.2266	184.6103	34080.97	1.845283	6.142704
Dividend Payout	0.3664912	0.403043	0.1624437	0.5933939	1.918035

Source: Field data (2019)

The results presented in Table 2 above show the descriptive statistics for the variables used to explain the dividend policy and gearing phenomenon. Special attention can be directed towards standard deviation for most variables which

seems to be higher; this may indicate that the selected companies vary significantly when it comes to the selected variables due to factors such as sector, size, years of operations e.t.c.

Data for all variables are skewed towards the positive side which is usual because most of the variables' data are positive in nature e.g., gearing, DPS. The Kurtosis values which assess the shape of the normal distribution are all positive and relatively higher for DER as well as cost of debt which indicates that the distributions for all variables in question are leptokurtic i.e., too tall

To Examine the Relationship between Dividend Policy and Financial Gearing

This was the first objective of the study; generalized linear regression analysis was conducted by first using GR as a dependent variable and then DER. Sales growth, firm size and LQ were incorporated as control variables. The results are presented as follows;

Generalized Linear Regression Analysis for the Relationship between Dividend Policy and GR (Model 1)

The results for this test are presented in Table 3 below;

Table 3 GENERALIZED LINEAR REGRESSION ANALYSIS RESULTS FOR THE RELATIONSHIP BETWEEN DIVIDEND POLICY AND GR

Generalized Linear Models		No. of obs	79			
Optimization: ML		Residual df	73			
		Scale parameter	0.02884			
Deviance	2.10505	(1/df) Deviance	0.02884			
Pearson	2.10505	(1/df) Pearson	0.02886			
Variance function	V (u) = 1	(Gaussian)				
Link function	g (u) = u	(Identity)				
		AIC	-0.6353			
Log likelihood	31.0957	BIC	-316.86			
GR	Coef.	Std. Err.	z	p > z	(95% Conf. Interval)	
Dividend payout	-0.2579	0.06294	-4.1	0.000	-0.3812	-0.1345222
DPS	-0.0002	0.00013	-1.32	0.186	-0.0004	0.0000807
LQ	-0.0538	0.01971	-2.73	0.006	-0.0924	-0.0151856
Revenue growth	-0.115	0.09192	-1.25	0.211	-0.2951	0.0651945
Firm size	0.05766	0.02536	2.27	0.023	0.00795	0.1073729
_cons	-0.2343	0.27215	-0.86	0.389	-0.7677	0.299132

Source: Field data (2019)

The results from Table 3 indicate that both dividend payout and DPS have negative relationship with GR. However dividend payout exhibits significant relationship as opposed to DPS as indicated by its *p* value which is less than 0.05. This supports the school of thought that support the fact that firms with high dividend payouts has lower financial gearing.

Generalized Linear Regression Analysis for the Relationship between Dividend Policy and DER (Model 2)

The results for this test are presented in Table 4 below;

Table 4 GENERALIZED LINEAR REGRESSION ANALYSIS RESULTS FOR THE RELATIONSHIP BETWEEN DIVIDEND POLICY AND DER

Generalized Linear Models		No. of obs	79
Optimization: ML		Residual df	73
		Scale parameter	11.83579
Deviance	864.013	(1/df) Deviance	11.83579
Pearson	864.013	(1/df) Pearson	11.83579
Variance function	V (u) = 1	(Gaussian)	
Link function	g (u) = u	(Identity)	
		AIC	5.381915
Log likelihood	-206.59	BIC	545.043

DER	Coef.	Std. Err.	z	p > z	(95% Conf. Interval)	
Dividend payout	-3.5317	1.27516	-2.77	0.006	-6.030943	-1.032415
DPS	-0.0021	0.00256	-0.84	0.401	-0.007161	0.0028675
LQ	-1.0468	0.39927	-2.62	0.009	-1.829389	-0.2642796
Revenue growth	-3.4128	1.86226	-1.83	0.067	-7.062797	0.2371406
Firm size	1.1191	0.51387	2.18	0.029	0.1119231	2.126266
_cons	-7.131	5.51372	-1.29	0.196	-17.93771	3.675663

Source: Field data (2019)

The generalized linear regression results presented in Table 4 above also show that both dividend payout and DPS exhibit negative relationship with DER. However the nature of the relationship is significant only for dividend payout as explained by its p value of 0.006 which is less than 0.05 level of confidence.

AIC and BIC Results for Model Selection

Based on the analysis, two (2) models were developed and it was crucial to select the model that most appropriately represents the relationship between dividend policy and gearing. The AIC and BIC values for model 1 which uses GR as a dependent variables had the least values of both AIC and BIC which indicates that model 1 is more appropriate to explain this phenomenon. Judging by these results, an argument can be made those companies with high dividend payouts tend to have less long term debts in their capital structures.

To Assess Whether Dividend Policy Influences Cost of Debt

This was the second objective of this study and it intends to explore the connection between dividend policy and the cost of debt incurred by the company. The study used two (2) different dependent variables namely; cost of debt and interest expense and the analysis was as follows;

Generalized linear regression analysis for the link between dividend policy and cost of debt (model 1): The results for this test were presented in Table 5.

The results presented in Table 5 above show that dividend payout exhibits a negative relationship with cost of debt while the other representative of dividend policy namely DPS portrayed a positive relationship with the aforementioned dependent variable. However dividend payout is the only variable to portray a significant relationship with cost of debt as explained by its p value that is less than 0.05 confidence interval.

Table 5 GENERALIZED LINEAR REGRESSION ANALYSIS RESULTS FOR THE RELATIONSHIP BETWEEN DIVIDEND POLICY AND COST OF DEBT

Generalized Linear Models		No. of obs	79
Optimization: ML		Residual df	73
		Scale parameter	7.874833
Deviance	574.8627812	(1/df) Deviance	7.874833
Pearson	574.8627812	(1/df) Pearson	7.874833
Variance function	V (u) = 1	(Gaussian)	
Link function	g (u) = u	(Identity)	
		AIC	4.974459
Log likelihood	-190.4911431	BIC	255.8931

Cost of debt	Coef.	Std. Err.	z	p > z	(95% Conf. Interval)	
Dividend payout	-2.038106	1.04013	-1.96	0.050	-4.076716	0.0005035
DPS	0.002899	0.00209	1.39	0.165	-0.001191	0.006989
Revenue growth	-1.527354	1.51902	-1.01	0.315	-4.504576	1.449869
LQ	0.5709232	0.41916	1.36	0.173	-0.250609	1.392456
Firm size	-2.570983	0.32568	-7.89	0.0000	-3.209301	-1.932664
_cons	4.327021	4.49745	0.96	0.336	-4.487815	13.14186

Source: Field data (2019)

Generalized linear regression analysis for the relationship between dividend policy and interest expense (model 2): The results for this analysis are presented in Table 6 below;

Table 6 GENERALIZED LINEAR REGRESSION ANALYSIS RESULTS FOR THE RELATIONSHIP BETWEEN DIVIDEND POLICY AND INTEREST EXPENSE

Generalized Linear Models		No. of obs	79
Optimization: ML		Residual df	73
		Scale parameter	7.874833
Deviance	773676342	(1/df) Deviance	7.874833
Pearson	773676342	(1/df) Pearson	7.874833
Variance function	V (u) = 1	(Gaussian)	
Link function	g (u) = u	(Identity)	
		AIC	19.08699
Log likelihood	-747.9362	BIC	77.74084

Interest expense	Coef.	Std. Err.	z	p > z	(95% Conf. Interval)	
Dividend payout	-477.8808	1206.66	-0.4	0.692	-2842.884	1887.122
DPS	8.982645	2.42091	3.71	0.0000	4.237757	13.72753
Revenue growth	247.2527	1762.22	0.14	0.888	-3206.64	3701.145
LQ	-170.9654	486.266	-0.35	0.725	-1124.03	782.0991
Firm size	1065.998	377.822	2.82	0.0050	325.4812	1806.515
_cons	1194.176	5217.52	0.23	0.819	-9031.966	11420.32

Source: Field data (2019)

The results from Table 6 depict the fact that dividend payout relates negatively to interest expense while DPS

portrayed a positive relationship with the dependent variable in question. However only DPS exhibited a significant relationship with interest expense as explained by its p value that is less than 0.05 level of confidence.

AIC and BIC results for model selection: Again, the most appropriate model among the two (2) that both assess the relationship between dividend policy and cost of debt was selected by utilizing AIC and BIC. Model 1 which uses cost of debt as the dependent variable has lesser values of both AIC and BIC as opposed to model 2 that uses interest expense as the dependent variable hence it is more appropriate to explain the phenomenon at hand.

CONCLUSION AND RECOMMENDATIONS

The issue of dividend policy and how it affects gearing has been widely researched and it has been able to generate contrasting views. Some researchers e.g., (Abbas et al., 2016; Endang & Risal, 2017; Hussain & Md Rus, 2017; Nuriansyah, Juniar, & Redawati, 2017) have empirically established that dividend policy increases gearing while others such as Sang et al. (2015) are opposed to this point of view. The results from this study have shown that companies with high dividend payouts tend to have less gearing. This is based on the belief that only stable companies can manage to give out high dividend payouts, while low payouts are associated with firms with relatively higher gearing. Firms with higher dividend payouts tend to be more profitable which means that they have ample internal funding to reward their shareholders and invest in profitable projects which reduces the need for external financing. It has also been observed that dividend payouts influences cost of debt, with higher payouts reducing the price charged by debt providers as they deem these firms to be more financially stable hence less risky.

So this study makes an argument that when a firm is profitable and stable, it should pay out dividends because it is a sign of financial strength and helps to reduce cost of debt. But caution must be taken by financial managers to ensure that enough internal funds are retained after paying dividends for investing in profitable investments which may keep gearing at a low level.

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