

# The effects of Dividend Policy on Capital Structure of companies in Cameroon

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#### Abstract

This study is aimed at examining the effects of dividend policy on the capital structure of firms. Linear regression is carried out via a three-stage triple least square method using secondary data on a sample of 444 firms. The results show that dividend policy has a negative effect on capital structure and consequently when dividend increases the level of debt falls. On the other hand, capital structure has a positive effect on dividend policy implying that when a firm resorts to debt it pays more dividends. However, the results are not the same in all the sectors of activity. In the primary sector, capital structure is influenced by financial profitability liquidity, size, tangibility of assets, asset growth, cash flow and tax. In the secondary sector, capital structure is negatively affected by dividend policy and positively by size. While in the tertiary sector, capital structure is significantly influenced by dividend policy.

**Keywords:** Dividend policy, optimal financial structure, financial profitability, financial leverage **Classification JEL** : G32 **Paper type** : Empirical Research



# 1. Introduction

When shareholders invest in firms by contributing capital, they expect to receive ownership deeds in the form of new shares and capital gains in the form of dividends (Barneto and Gregorio, 2012). The dividend is a payment made to those who have shares in a firm. The payment of dividends is based on a decision taken by the firm within the framework of its dividend policy. According to Lease et al (2000), dividend policy is all the rules followed by managers of a firm to pay dividends to shareholders. These rules can lead to three situations: the payment of all the profit to shareholders, pay a fraction or do not pay (Abbas et al., 2016). Despite the existence of several studies on dividend policy, the debate remains open (Moradi., 2010). This is due to the fact that deciding on the amount of profit to pay as a dividend is one of the major financial decisions taken by managers of a company and a good understanding of dividend policy is important in other areas of finance (Allen and Michael, 1995).

This is referred to as the dividend irrelevancy theory of Modigliani and Miller (1961). We have the bird in the hand theory (Gordon, 1959), the agency cost and free cash flow theory (Easterbrook, 1984), the signalling and the asymmetric information theory (Miller and Rock, 1985) and the tax and customer effect of dividend theory (Elton and Gruber, 1970). About these theories studies in Cameroon have shown that dividend policy enables to reduction of conflicts of interest between the majority and minority shareholders and between shareholders and managers (Therese, 2020).

According to Doing Business the position of Cameroon with regards to ease of access to credit decreased from the 68th in 2017 (World Bank, 2018) to the 73rd in 2018 (World Bank, 2019). Also, 40.7% of managers in Cameroon confirmed that access to finance was the main obstacle to the activities of SMEs in 2009 (NIS, 2009) and 42.9% in 2016 (NIS, 2016). More than 80% of firms and small and medium-sized firms, in particular, go bankrupt during the first five years of existence mainly due to issues of financing. Thus, the choice of an appropriate financial structure remains a key factor accountable for the success of firms (Mfopain, 2015). The issue of the financing decision of firms is an irrefutable problem since each firm would like to have a less risky and costly capital structure that maximizes shareholders' wealth (Almahadin and Oroud, 2019). It is in this light that several theories have tried to explain the impact that capital structure can have on shareholder wealth.

Several studies show that dividend policy and capital structure have a mutual influence. In other words, capital structure determines dividend policy and inversely dividend policy also determines capital structure (Al-Najjar, 2011). The choice of the proportion of equity and debt that make up the capital structure as well as the portion of profit that would be kept for investment or paid in the form of dividends is an important financial decision in the firm (Chukwuebuka and Okonkwo, 2020). The alignment of capital structure and dividend policy to the strategy of the firm is an important task that requires a critical analysis since capital structure and dividend policy have a direct impact on the value of the firm (Rehman, 2016).

In Cameroon, it is seen that some firms pay dividends for example the Cameroon Brewery Company Plc paid the sum of 15 billion Fcfa to its shareholders in the form of dividends in 2018. In the same light, The Cameroon Palm Company paid 11 billion as a dividend in 2020. The International Bank for Savings and Credit (BICEC) had a net profit of 14 billion and distributed dividends of 11 billion francs CFA and Afriland First Bank paid a dividend of 1.7 billion Francs CFA. On the other hand, some firms did not pay any dividends, such as Ecobank which did not pay dividends between 216 and 2020 as well as the Cameroon Glass Company (SOCAVER) that a profit of 97.294 billion France CFA but did not pay dividends.

Therefore, this paper has the dual aim of verifying whether the capital structure of firms in Cameroon could explain their dividend policy decisions and equally see to what extent dividend policy would enable to have a satisfactory capital structure for enterprises.



# 2. Literature Review

Some authors examine the determinants of dividend policy and identify income, investment opportunities, liquidity, corporate culture and debt (Jensen, 1986; Kim and Gu, 2009; Moradi., 2019). It is seen that debt explains dividend policy. Other studies look at the relationship between dividend policy and capital structure (Gul, 1999; Franc Dabrowska, 2009; Aggarwal and Kyaw, 2010) and the relationship between dividend policy and financial leverage (Emamalizadeh et al., 2012).

Others examine the existence of an endogenous relationship between one hand dividend policy and capital structure (Al-Najjar, 2011; Abbas et al., 2016; Liu and Xie, 2020) and on the other hand dividend policy and financial leverage (Ghasemi, 2018; Orajekwe et al. (2020). In Cameroon, several studies have examined dividend policy in different ways (Wambe et al., 2022; Mai Django, 2020): we have Wamba et al. (2020) who highlight the fact that indebtedness is a factor that influences the distribution of dividends in enterprises in Cameroon. The same result was obtained by Wambe and Tsapi (2013) who found that debt has an influence on the frequency of distribution of dividends in Cameroon.

Given the discussions above, we can notice that on one hand the studies that have tested the simultaneous impact between dividend policy and capital structure were carried out in a context where there is a financial market and mostly in Western and Asian countries and the results of the studies in these countries are not unanimous. Then in Cameroon, not only have the studies analysed dividend policy and capital structure separately but they use a very small sample of firms and essentially primary data. So it is in this light that we use secondary data in our study. The relation between dividend policy and capital structure can be explained by the fact that when firms have a low profit and do not want to reduce dividends, they can borrow to pay dividends to shareholders. On the contrary, Moradi (2019) used data on Teheran firms quoted on the stock exchange from 2000 to 2008 and suggested that the debt ratio has a negative impact on dividend policy. (Orajekwe et al. ,2020) found that there is a significant relationship between long-term debts and dividends paid and between total debt and dividends paid. But on the contrary, there is no relation between dividends paid and short-term debts.

In the same vein, Abbas et al. (2016) carried out an endogeneity test between capital structure and dividend policy using a panel of 100 manufacturing firms in Pakistan from 2006 to 2011 and suggested the existence of an inverse causal relation between dividend policy and debt and conclude that dividend policy has a positive influence on debt and debt has a positive influence on dividend policy. Ghasemi et al. (2018) equally studied the relationship between the decision to distribute dividends and debt policy using a sample of 267 Malaysian firms from 2006 to 2014 and showed that when a dividend is treated as an endogenous variable it has a positive influence on debt. On the contrary, it suggests that debt has a negative influence on dividends. It concludes that in the Malaysian context the fact that firms pay dividends makes them resort to debt and on the other hand when firms have high debts, they pay lesser dividends. Liu and Xie (2020) developed a capital structure model by integrating dividend policy and taxes on personal income. And the model shows that dividend reduces the fiscal advantages related to the contracting of debts. The effect of dividend policy, sales growth and liquidity on capital structure was studied in Indonesia by Karismawati and Suarjaya (2020) on 88 firms listed on the exchange. They use a multiple linear regression model to show that dividend policy and sales growth have a positive and significant effect on the capital structure of firms whereas liquidity has a negative influence on capital structure. El-Halaby (2018) studied the determinants of capital structure and dividend policy of 91 Saudi Arabian firms in the nonfinancial sector listed on the Tadawal stock exchange from 2012 to 2016 and the model shows that capital structure is affected positively by the size of the firm and negatively by liquidity, the tangibility of assets and the dividend of the previous year. Likewise, Zou and Bai (2022)



studied the impact of dividend policy and financing strategies on the speed of adjustment of capital structure. They equally explore the relation between the distribution of dividends and financing behaviour using a dynamic adjustment model and find that firms pay dividends in cash, the adjustment speed of capital structure is faster and the pattern of dividend distribution conflicts with the need for financing.

In Africa, Mfopain (2015) studied the determinants of capital structure of 62 small and medium enterprises in Cameroon and shows that profitability (measured by the net income/asset ratio) and the rate of dividend distribution (dividend paid/profit shared) are the determinants of the financial structure of SMEs in Cameroon. It suggests that the rate of dividend distribution has a negative effect on financial leverage.

Akhmadi and Januarsi, (2021) examined the effects of dividend policy on sustainable and responsible investments in Indonesia and the results show a positive direct relationship between profitability and firm value but the relationship becomes stronger with a higher dividend policy ratio.

Akram Budagaga (2017) examines the impact of dividend payments on the value of firms listed on the Istanbul Stock Exchange (ISE) by adapting the residual income approach based on Ohlson's (1995) valuation model. The findings show a positive significant relationship between dividend payments and the value of firms.

Eryomin and al. (2021) assessed the impact of dividends on the market value of the company using data from company reports and statistics from the Moscow Exchange. The results show that dividends have a positive effect on capitalization only if the policy is based on the residual principle.

Enebrand Adam and Tobias Magnusson (2018) investigate how the relationship between firm performance and stock price is affected by the level of dividends a firm pays by conducting a correlation and regression analysis that is performed on data collected on middle and large capitalization firms listed on the Stockholm stock exchange from 2007-2017. The findings indicate that the stock price of high dividend-yield firms is more dependent on financial performance compared to low dividend-yield firms.

Rehman Obaid Ur (2016). investigates the impact of capital structure and dividend policy on firm value of KSE non-financial listed firms using cross-sectional time series regression analysis for the period 2006-2013 in Pakistan using a fixed effect Model to measure the disparities of intercepts for each group considering fixed coefficient for independent variables and fixed variance among groups of the panel data and the results show that capital structure and dividend policy has a significant impact on firm value.

El-Halaby Sherif and Mohammed Alzunaydi (2018) investigate the main factors determining the dividend payout policy and the capital structure and suggest that the capital structure is positively affected by the firm size, but negatively affected by liquidity, tangible assets, and lagged dividends. However, other variables such as profitability, the current dividend payout ratio, growth opportunities, and life cycle are found to have no impact on the capital structure decision.

Jun Jiang and Komain Jiranyakul (2013) compare the decision on dividend payout of listed firms in two stock markets using fixed effect estimates. The results show that factors that can explain the dividend payout of firms in the New York Stock Exchange poorly explain the dividend payout of firms in the Shanghai Stock Exchange. It provides evidence of the difference in dividend policy of firms between advanced and emerging stock markets.

# 3. Methodology

## **3.1. Description of variables used in the study**

The dependent variable used in this study is capital structure. It is measured by the debt /equity



ratio (Mfopain, 2015) In fact the ratio compares the amount of financial debts to equity capital. When this ratio is greater than 0.5, then debt is more than equity.

The independent variable is the dividend policy.

We use the dividend distribution rate to measure it. It is calcuindicesws: Dividend paid<sub>n</sub>/Earnings after interest and tax n-1 as used by Maladjian and El Khoury

(2014) and Abbas et al. (2016).

The dividend paid is calculated using the following formulae:

Dividend paid<sub>n</sub> = Net Earnings  $_{n-1}$  + Retianing earnings $_{n-1}$  - Retianing earnings $_n$  - $Total reserves_n + Total reserves_{n-1}$ 

Nature	Coding	Formulae	authors
Dividend Policy	Div Paid	Formulae         Dividend paid_n         NetEarnings $n-1$ Dividend paid_n =	Maladjian El Khoury (2014)
		Net Earnings $_{n-1}$ +	Mfopain (2015)
		Retianing earnings <sub><math>n-1</math></sub> +	Abbas et al. (2016)
		Retianing earnings <sub>n</sub> -	
		Total reserves $n^+$	
		Total reserves $n-1$	
Capital structure	DE ratio	Debt	Mfopain (2015)
Suprai Structure	DETutio	$\frac{1}{Equity}$	Fisseha (2010)
Financial	ROE	Net earnings	Kazmierska-jozwiak
profitability		Equity	(2015)
1 0		Equity	Ghasemi et al. (2018)
Size	size	Ln (total assets)	Kazmierska-jozwiak
			(2015)
		<b>—</b> 11 .	Ghasemi et al. (2018)
Tangibility of assets	Asset tang	Tangible asets	Ghasemi et al. (2018)
Crearth of a sector	A	Total assets	Ahmad and Wardani
Growth of assets	Asset growth	$\frac{Total\ assets_n - Total\ assets_{n-1}}{m}$	(2014)
		Total assets $_{n-1}$	(2014) Wahjudi (2018)
Tax savings	Tax savings	Annual depreciation	DeAngelo and
	1 un su rings	Total asssets	Masulis (1980), Afiq
		10141 4355015	et al. (2008) and Shan
			and Khan (2007)
			Chishti et al. (2016)
Self financing	Clflow-to-sales	Cash flow	Bourdieu Colin-
		CA	Sedillot (1993)
Taxes	Taxes	In come trave	Weerasinghe et al.
		Income tax	(2018)
Ownership	Foreign share	<u>Net income</u> Foreign shares	Weerasinghe et al.
structure (foreign		Total shares	(2018)
ownership)		i otat shures	(2010)
Financial leverage	leverage	Total debt	Weerasinghe et al.
		Total assets	(2018)
Life cycle	Life cycle	Retianed Earnings	Botoc and Pirtea
-	-	Total assets	(2014)

#### Table 1: list of variables

Source: The authors

## **3.2. Description of sample**

## 3.2.1. Sample of the study

Initially, we had a database from 2013 to 2017. In this database, we had 960 enterprises in 2013



and 1500 for the other 4 years. After the first analysis of the data, we noticed that 2013 had a lot of missing values. We cancelled this year. Then we calculated the dividend for the three remaining years (2015, 2016 and 2017). We could not calculate the dividend in 2014 since the calculation considers the income of the previous year. After this calculation, we noticed that there were enterprises with negative dividends which is not feasible. Then we made a matching for the three years to retain only firms with dividends more than or equal to zero for the three years. Thus, we found 444 firms that respected this condition. Then we calculated the mean of the variables for the three years to take the evolution into account.

## **3.2.2.** Characteristics of the Sample

As mentioned above, we have a sample of 444 firms. To describe the sample, we decomposed it into several categories.

	Size		Sector of activity				
		Primary	Secondary	Tertiary			
SMEs	Number	11	30	342	383		
	Percentage	2.48	6.76	77.03	86.26		
LE	Number	03	20	38	61		
	Percentage	0.68	04,5	08.56	13.74		
Total	Number	14	50	380	444		
	Percentage	03.15	11.26	85.59	100		

#### Table 2: Characteristics of the sample according to size and sector of activity

Source: authors analysis

From the table above it is seen that SMEs are more than LE (about 86% as against 13%). In addition, we have 14 (3.15%) firms in the primary sector, 50 (11.26%) in the secondary sector and 380 (85.59%) in the tertiary sector. Moreover, 77% of the enterprises are SMEs and are in the primary sector.

Siz	e	Firms wi	Firms with 100% local ownership			Firms with some foreign ownership			hip
				Sector	of activi	ty			
		Primary	secondary	Tertiary	Total	Primary	Secondary	Tertiary	Total
SMEs	Number	08	24	308	340	03	06	34	43
	Percentage	02.22	06.65	85.32	94.18	03.61	07.23	40.96	51.81
LE	number	0	04	17	21	03	16	21	40
	Percentage	0	01.11	04.71	05.82	03.61	19.28	25.3	48.19
Total	number	08	28	325	361	06	22	55	83
	Percentage	02.22	07.76	90.03	100	07.23	26.51	66.27	100

Table 3: Categories according to size, sector of activity and the origin of ownership

Source: authors analysis

There are 361 firms entirely owned by local investors. In this group, SMEs represent 94.18% that is 340 SMEs. Large firms represent 5.82% that is 21 LEs; 08 (02.22%) are in the primary sector, 28 (07.76%) in the secondary sector and 325 (90.03%) in the tertiary sector. Most of the enterprises are SMEs and are in the primary sector.

On the other hand, 83 enterprises have foreign ownership. We have almost the same number of SMEs and LE (that is 43 and 40) with foreign ownership. Most of the enterprises are SMEs in the tertiary sector (40.96%). The SMEs in the primary and secondary sectors are the lowest in number (03.61% and 07.23% respectively).

The table below shows the classification of our sample according to the nature of ownership. In this categorisation we have enterprises with 100% shares owned by the government of Cameroon (27 enterprises) and on the other hand those with at least one private investor (417 enterprises). Among the enterprises that have private investors, most represent SMEs (86.57% as against 13.43% for LE). Also, the tertiary sector is highly represented with 85.13% as against



11.51% and 03.36% for the secondary and tertiary sectors respectively. In addition, most of the SMEs are in the tertiary sector (76.98% as against 02.64% and 06.95% respectively for the other two sectors). The same for LE (08.15% as against 0.72% and 04.56% for the other two sectors respectively).

	Enterprises with private ownership			Enterprises with public ownership						
Size			Sector of activity							
		Primary	secondary	Tertiary	Total	Primary	secondary	Tertiary	Total	
TIME	number	11	29	321	361	0	01	21	22	
	Percentage	02.64	06.95	76.98	86.57	0	03.7	77.78	81.48	
LE	number	03	19	34	56	0	01	04	05	
	percentage	0.72	04.56	08.15	13.43	0	03.7	14.81	18.52	
Total	number	14	48	355	417	0	02	25	27	
	Percentage	03.36	11.51	85.13	100	0	07.41	92.56	100	

Source: authors analysis

As for enterprises owned entirely by the state none is in the primary sector but just like the others most of them are in the tertiary sector and are SMEs (77.78%).

Finally, we categorised our sample according to capital structure with the help of the debt-toequity ratio. We divided it into two groups. The first group represents those with debt that is less than or equal to equity. The 396, that is 352 (88.89%) SME and 44 (11.11%) LE. In addition, 11 (02.78%) are in the primary sector, 37 (09.34%) in the secondary sector and 348 (87.88%) in the tertiary sector.

Nevertheless, 48 enterprises have a capital structure that is dominated by financial debts. In this sub-sample, 64.48% represent SMEs and most equally belong to the tertiary sector (66.67%).

## **3.3. Method of data analysis**

To empirically verify the relation between foreign ownership, the variation in value and the insolvency of the firm, we make a simplified representation in the form of a mathematical equation of this relation. The elements of this equation represent the variables measuring these concepts. This representation is called a model (Bourbonnais, 2015). Moreover, these equations are generally linear with parameters. These parameters have to be estimated using estimation methods. The estimation can be done manually when the data is small but when the data is much it is preferable and more optimal to use software.

## **3.4. Specification of the model**

Generally, to study the linear relation between an endogenous variable (or dependent variable) and one or several exogenous (or independent variables) we use linear regression models which can be simple or multiple (Bourbonnais, 2015).

In this paper, we study the relationship between dividend policy and capital structure. Specifically, we want to study on one hand the influence of dividend policy on capital structure and the other hand the influence of capital structure on dividend policy. This leads to two dependent variables and consequently, we use the simultaneous equation model. The general model is specified as follows;

Equation 1: the general structural model of the simultaneous equation model

 $y_{i1} = \alpha_{21}y_{i2} + \alpha_{31}y_{i3}... + \alpha_{M1}y_{iM} + \beta_{11}x_{i1} + \beta_{21}x_{i2} + \cdots + \beta_{k1}x_{ik} + \varepsilon_{i1}$  $y_{i2} = \alpha_{12}y_{i1} + \alpha_{32}y_{i3}... + \alpha_{M2}y_{iM} + \beta_{12}x_{i1} + \beta_{22}x_{i2} + \cdots + \beta_{k2}x_{ik} + \varepsilon_{i2}$ ....

 $y_{iM} = \alpha_{1M}y_{i1} + \alpha_{3M}y_{i3} + \dots + \alpha_{M-1m}y_{iM} + \beta_{1M}x_{i1} + \beta_{2M}x_{i2} + \dots + \beta_{kM}x_{ik} + \varepsilon_{i3}$ With

 $y_{it}$  (t = 1, ....,M) being the endogenous variables,  $x_{ij}$  (j=1,....,k), the exogenous variables



 $\varepsilon_{i1}(t = 1, ..., M)$  the error terms, M the number of equations of the model and i the number of firms

From the variables of the study, our model is specified as follows Equation 2; specific model to be estimated

 $\begin{aligned} div_p ay_{i1} &= \alpha_{21} DE_r atio_{i2} + \cdots \beta_{k1} Ratio_{ik} \cdot + \varepsilon_{i1} \dots \dots \dots (i) \\ DE_r atio_{i2} &= \alpha_{12} div_p ay_{i1} + \cdots \beta_{k1} Ratio_{ik} \cdot + \varepsilon_{i2} \dots \dots \dots (ii) \\ \end{aligned}$ Where :

•  $div_pay_{i1}$  and  $DE_ratio_{i2}$  represent respectively the rate of dividend distribution (that measures the dividend policy) and the financial leverage (that measures the capital structure):

Ratio<sub>it</sub> (t = 1, ..., 12) represens all the control variables After specifying the model we are going to precise the method of estimation to be used.

## 3.4. Method of estimation

To estimate the simultaneous equation model we use methods that estimate one equation at a time such as the ordinary least square, instrumental variables estimations of equation systems such as the triple least square, and the maximum likelihood with complete information and estimation by the generalised method (Greene, 1997).

Individually the methods of estimating equations are simple to apply, but give results with incomplete information since the information it contains is in the other equations (Greene, 1997). Thus, we are going to use a method of estimation of equation systems. We have chosen the triple least square method since it combines the double least square and the generalised least square (Bourbonnais, 2015) and produces consistent and high-content information.

## 4. Presentation of results

The estimated model is globally significant at 1% since the probability of significance is less than 0.01 (0.0000). Thus, globally the dependent variables enable to explanation of dividend policy and capital structure. In addition, capital structure and dividend policy mutually explain each other.

Equation	Obs	Perms	RMSE	"R-sq"	Chi 2	F
DE_ratio	443	9	3438266	-1.6389	39.40	0.0000
div_pay	443	10	221639	-0.4735	43.23	0.0000

Table 5: Summary results of all the sample

Source: authors analysis

When variables are taken individually all are not significant. As for variables that are supposed to explain capital structure, the most significant ones are; dividend policy (significant at 1%), size (significant at 1%) and cash flow (significant at 5%). Thus, we can say that capital structure is influenced negatively by dividend policy and positively by size and cash flow. Therefore, an increase in the rate of dividend distribution of 1% leads to a fall in the debt/equity ratio by 1.69%. An increase in the cash flow ratio by 1 % leads to an increase in the debt/equity ratio by 0.35%.

As for dividend policy, the significant variables are capital structure (significant at 10%), the ratio of financial profitability (significant at 5%), the liquidity ratio (significant at 10%), the financial leverage (significant at 1%) and taxes paid (significant at 10%). We can then say that dividend policy is influenced positively by capital structure, the ratio of financial profitability and the tax/income ratio. Thus, an increase of 1% of the capital structure ratio leads to an increase in the rate of dividend distribution by 0.82%. An increase in the financial profitability ratio by 1% leads to an increase in the rate of dividend distribution by 0.041%.



The dividend policy is influenced negatively by general liquidity and leverage. An increase in the current asset/current liability ratio leads to a fall in the rate of dividend distribution by 0.0044%. Therefore, an increase of 1% in the debt/total asset ratio leads to a fall in the rate of dividend distribution by 0.38%. Based on the above we can write the estimated equations as follows:

# $$\begin{split} DE_{ratio} &= a - 1.699 div_{pay} + 0.0587 size + 0.35 cl flow to sales + \varepsilon \\ div_{pay} &= a + 0.827 DE_{ratio} + 0.041 ROE - 0.044 CUrrent_{ratio} + 0.38 leverage + \varepsilon \end{split}$$

The first equation shows that dividend policy has a negative influence on capital structure. Therefore, when the dividend increases the debt level falls. This may justified by the agency theory since dividend is an alternative means of controlling the manager in addition to debts. This can also be explained by the fact that when firms pay high dividends commitments towards the payment of interest on loans reduce.

This result is similar to that of Al-Najjar (2011) in Jordan by studying the relationship between dividend policy and capital structure. It is equally similar to that of Mfopian (2015) who studied the determinants of financial structure of 62 small and medium enterprises in Cameroon. Our results are contrary to that found by Franc-Dabrowska (2009) in Poland in which he shows that dividend policy had a negative influence on equity and a positive influence on debt. It is also in opposition to the conclusions of Abbas et al. (2016) in Pakistan, De Ghasemi et al. (2018) in Malaysia and Karismawati and Suarjaya (2020) in Indonesia.

We can then validate our first hypothesis that 'dividend policy has a negative influence on the capital structure of firms in Cameroon.

Moreover, we have found other variables that enable us to explain capital structure. Thus, the size of the enterprise has a positive influence on capital structure. In order words, the larger the firm the easier it has access to debt. There was equally a positive influence of cash flow on capital structure. This is explained by the fact that if the firm realises a high cash flow it will have the possibility of repaying its debt and consequently will easily have access to debt from its lenders.

The second equation shows that capital structure has a positive influence on dividend policy. In order words, when the enterprise resorts to debts it pays more dividends. This can be explained by the fact that when the enterprise decides to finance itself by debt it pays more dividends. This result contradicts the conclusions of the pecking order theory. According to this theory, firms prefer personal funds over other forms of financing followed by debt. Hence, a firm will borrow only when the retained earnings are not enough. When retained earnings are small it means profit was equally small and consequently, the firm will not pay dividends. Thus, it is difficult to think that capital structure has a positive influence on dividend policy. However, there are enterprises with stable dividend policies and a target rate of dividend. In such a situation the enterprise must first use part of the profit to pay dividends to shareholders before retaining the rest.

Our results conform with those of Chang et al., (1990) who suggest that dividend policy is influenced positively by financial leverage. They are equally similar to those of Eriotis and Vasilou (2003) in Greece and Pattiruhu and Paais (2020) in Indonesia. Our results are also similar to those of Wamba et al. (2020) who used data from Cameroon to show that debt has a significant influence on the dividend policy of firms.

Nevertheless, our conclusions are contrary to those of Jensen et al. (1992) in America, Moradi et al. (2009) in Iran, Kazmierska-Jozwiak (2015) in Poland, Alaeto (2020) in Nigeria as well as Wambe (2013) in Cameroon. Given the results we reject the second hypothesis that "capital structure has a negative influence on dividend policy".

In our model, we found other variables that influence dividend policy. Notably, profitability, liquidity and leverage. Financial profitability has a positive influence on dividend policy and this means that when the profitability requested by the shareholders increases, the rate of



dividend distribution also increases. An increase in profit could lead to an increase in dividends. The general liquidity has a negative influence on dividend policy. An increase in the general liquidity ratio can be explained by an increase in current assets concerning current liabilities. This could mean that the firm is capable of settling its current liabilities with its current assets. However, it could also signify the existence of working capital requirements. If the firm has high working capital requirements it will be less likely to pay dividends. The leverage ratio has a positive influence on dividend policy. One can deduce that if the enterprise is solvent vis a vis lender it will have no problems paying dividends.

#### 4.1. Results in the primary sector of activity

Equation	Obs	Perms	RMSE	"R-sq"	Chi 2	F
DE_ratio	13	9	0.1377959	0.8530	68.77	0.0000
div_pay	13	10	0.0657351	0.8977	90.92	0.0000

 Table 6: Summary results in the primary sector

Source: authors analysis

As concerns the primary sector, we find that globally the two equations are significant at 1% (P=0.000). The individual variables which influence capital structure significantly are; financial profitability (at 5%), liquidity (at 1%), size (at 5%), tangibility of assets (at 1%), asset growth (at 5%), cash flow (at 1%) and tax (at 1%). An increase in the profitability ratio by 1% leads to a rise in the capital structure ratio by 0.0827%. A 1% increase in the liquidity ratio leads to a 0.0751% fall in the capital structure ratio. A 1% rise in the ratio of asset tangibility leads to a 0.721% fall in the capital structure ratio. A 1% rise in the asset growth ratio leads to a 0.532% rise in the capital structure ratio. A 1% rise in the cash flow ratio leads to a 1.279% fall in the capital structure ratio. A 1% rise in the cash flow ratio leads to a 1.279% fall in the capital structure ratio. A 1% rise in the cash flow ratio leads to a 1.279% fall in the capital structure ratio. A 1% rise in the cash flow ratio leads to a 1.279% fall in the capital structure ratio.

Regarding dividend policy, we did not find any significant individual variable. Thus, capital structure has no influence on dividend policy in the primary sector. Therefore, the estimated equation of the model is

 $\begin{aligned} DE\_ratio &= 0.0827ROE - 0.0751current\_ratio + 0.0658size - 0.721asset\_tang \\ &+ 0.532asset\_growth - 1.279clflowtosales - 3.467taxes + \varepsilon \end{aligned}$ 

## 4.2. Results in the secondary sector of activity

With regards to enterprises in the secondary sector, we find that globally the two equations are significant. The dividend policy equation is significant at 1% (P=0.0000) while that of capital structure is at 10% (P=0.0000).

Equation	Obs	Perms	RMSE	"R-sq"	Chi 2	F
DE_ratio	50	9	0.356464	-0.9669	16.09	0.0000
div_pay	50	10	0.1674534	0.4486	55.88bbcbc	0.0000

Table 7: Summary results in the secondary sector

Source: authors analysis

## 4.3. Results in the tertiary sector of activity

In the enterprises of the tertiary sector, the two equations are globally significant. In order words, the variables used enable us to explain the ratio of capital structure and the rate of dividend distribution. The variables that individually influence capital structure significantly are; the rate of dividend distribution (at 5%), size (at 1%) and cash flow (at 5%). Precisely, capital structure has a significant and negative influence on the rate of dividend distribution and a positive influence on size and cash flow. A 1% increase in the rate of dividend distribution leads to a fall in the capital structure ratio by 1.251%. A 1% increase in size leads to an increase



in the capital structure ratio by 0.040% and a rise in the cash flow ratio by 1% leads to an increase in capital structure ratio by 0.295%.

Equation	Obs	Perms	RMSE	"R-sq"	Chi 2	F
DE_ratio	380	9	0.2742671	-1.0308	32.56	0.0002
div_pay	380	10	0.2144372	-0.5529	21.74	0.0165

Table 7:	Summary	results in	the tertiary sector
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Source: authors analysis

The variables which influence dividend policy significantly are; the ratio of capital structure (at 10%), the general liquidity ratio (at 10%) and leverage (at 5%). Capital structure has a positive influence on dividend policy. A 1% rise in the ratio of capital structure leads to a 0.860% increase in the rate of dividend distribution. The general liquidity has a negative influence on the rate of dividend distribution. A 1% Increase in the liquidity ratio leads to a 0.0041% fall in the rate of dividend distribution. The leverage has a negative influence on dividend policy and a 1% rise in the leverage ratio leads to a 0.336% fall in the rate of dividend distribution. We can then write the estimated equation as follows;

DE\_ratio =  $\alpha - 1.251 div_{pay} + 0.040 size + 0.295 cl flow to sales + \varepsilon$ Div\_pay = 0.860DE\_ratio -0.0041 current\_ratio - 0.336 leverage +  $\varepsilon$ 

## **5.** Discussion

Lets recall the estimation equation in the primary sector:

 $DE\_ratio = 0.0827 ROE - 0.0751 current\_ratio + 0.0658 size - 0.721 asset\_tang$ 

 $+ 0.532asset\_growth - 1.279clflowtosales - 3.467taxes + \varepsilon$ 

It is noticed that there is no relation between dividend policy and capital structure. This result is similar to that of Mauris and Rizal (2021) who showed that in Indonesia the influence of debt on dividend policy is not significant. The results suggest that managers may assume that companies in Cameroon have lower liability and pay higher dividends. The government should provide a variety of sources of finance for enterprises that could be alternatives to commercial bank loans.

Moreover, capital structure is influenced by other variables such as financial profitability, liquidity, size, the tangibility of assets, asset growth, cash flow and taxes which is in line with (Sherif El-Halaby et al., 2018) who found that capital structure is positively affected by firm size but negatively affected by liquidity, tangible assets and lagged dividend.

The equations estimated in the primary sector are;

 $DE_ratio = \alpha - 1.879 div_pay + 0.0948 size + \varepsilon$ 

$$iv_pay = \alpha + 0.043size + \varepsilon$$

In the secondary sector, dividend policy has a negative influence on capital structure. Dividend policy is used as an alternative means of controlling debt. Size equally explains the dividend policy of firms in this sector. In other words in this sector, we find that capital structure is not influenced by dividend policy but it is influenced by size. In the tertiary sector, the estimated equations are:

DE\_ratio = 
$$\alpha - 1.251 div_{pay} + 0.040 size + 0.295 cl flow to sales + \varepsilon$$

 $Div_pay = 0.860 DE_ratio - 0.0041 current_ratio - 0.336 leverage + \varepsilon$ 

In the tertiary sector, we find that dividend policy influences capital structure. We equally find that capital structure influences dividend policy. This conforms with the results found in the whole sample and by our hypotheses. This result can be influenced by the number of enterprises in the tertiary in our sample (380 out of 444).

Thus, in the tertiary sector dividend policy has an influence on capital structure and how the firm distributes dividends influences behaviour towards debt. Also, the size and cash flow have



a positive influence on capital structure. Large firms can easily have access to credit since they have a certain reputation that facilitates access to debt. Cash flow has a positive influence on capital structure in the sense that, if the firm generates cash flows it would be able to settle its debts. Chang et al., (1990), Eriotis and Vasillou (2006) in Greece and Pattiruhu and Paais (2020) in Indonesia also found that size and cash flow have a positive influence on dividend policy. This may imply that when a firm resorts to debt it pays more dividends. In Cameroon, Temomo et al., (2020) used a qualitative study to show that debt has a significant influence on the dividend policy of firms.

Dividend policy has a positive influence on capital structure in the sense that the firm can contract debts if the income it gets from the investments funded by the debt is high. Consequently, the profit of the firm will increase and dividends will equally increase. Another explanation could be that the firm contracts debts to pay dividends when it does not have enough available liquidity. Moreover, we find that dividend policy is negatively influenced by general liquidity.

# 6. Implications

Given that dividend policy has a negative influence on capital structure and that capital structure has a positive influence on dividend policy we can propose that shareholders should endeavor to contract more debts. Contracting debts enable shareholders to have the possibility of receiving dividends and consequently control the manager. It also enables shareholders to have information on the factors to be taken into account to forecast the dividend policy of the firm.

Managers should equally propose a stable dividend policy to shareholders so that it can attract investors as an alternative to borrowing from banks.

Financial institutions play an important role in the determination of the capital structure of firms. They are equally stakeholders in the information on the dividend policy of the firm. So this study enables them to identify some determinants which can influence the financing decision of the enterprise which can be taken into consideration when evaluating the loan application of the firm.

Some of the limitations of this study include: First if we had precise information on the dividend paid by firms, we would have calculated the dividend ourselves with the help of profit and retained earnings. This calculation could be biased if the firm increases capital by ploughing back profit and we did not consider this in this study. Also given that our sample is mostly made up of SMEs, our results can be conferred mostly to SMEs. Thus, it would be laudable to study this relation within the framework of large firms with a more consistent database.

# 7. Conclusion

From empirical studies, we notice that studies that have studied the influence of dividend policy and capital structure simultaneously were carried out in a context where there is a financial market and mostly in Western and Asian countries and the results are not unanimous. Also, in Cameroon studies were not only carried out on dividend policy and capital structure separately, but on samples of very small firms using primary data. Thus, in this paper, we used secondary data to examine the relation between dividend policy and capital structure. To achieve our objective, we used the three-step triple least square method to present simultaneous equations and estimate the model. The three-step triple least square method is a combination of double and generalized least square methods and enables to obtaining of consistent results.

The results show that dividend policy has a negative influence on capital structure. Thus, when dividend increases the level of debt falls. These results were confirmed by the findings of Al-Naijar (2011) in Jordan, Mfopain (2015) in Cameroon. But the results contradict those of



Franc-Dabrowska (2009) in Poland, Abbas et al., (2016) in Pakistan, Ghassemi et al., (2018) in Malaysia and De Karismawati and Suarjaya (2020) in Indonesia.

We equally found other variables that explain capital structure namely size and cash flow. Capital structure has a positive influence on dividend policy implying that when a firm resorts to debts it pays more dividends. This result conforms with the conclusions of the theory of compromise and is similar to the findings of Chang et al., (1990), Eriotis and Vasillou (2006) in Greece and Pattiruhu and Paais (2020) in Indonesia, Temomo et al., (2020) who used a qualitative study to show that in Cameroon debt has a significant influence on the dividend policy of firms. However, our results contradict those of Jensen et al., (1992) In America, Moradi et al., (2009) in Iran, Kazmierska-Jozwiak (2015) in Poland, Alaeto (2020 in Nigeria. The results are not the same in all sectors of activity.

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