

# Enterprises Performance and Financial Structure in a Context of Non-Financial Market: The Case of Cameroon

Fatime Zahara Tahir Abderaman School of Accounting, Dongbei University of Finance and Economics

#### CHEN YAN

School of Accounting, Dongbei University of Finance and Economics

#### **Abstract**

The aim of this study is to appreciate the discriminate character of the financial market of organizations behavior in expressions of funding. The theoretical model of (Modigliani- Miller, the theory of Trade–Off and Pecking-Order} and then the empirical work on the structure of property (including proponents of the thesis of non-neutrality) recognize that the stock market performance points (he structure of Sharpe, the ratio of Maris and then Tobin Q<sub>3</sub>) are only sensitive for financial structures and possessions. In adjunction, obligation discipline a leader by the financial market has therefore becomes a variable of indirect action used by shareholders to suitable cost. In the context of without financial markets such as Cameroon, it revolved out that, total performance which is mainly focused on shareholders is independent of the financial structure, and the in height condensation of capital through a positive marginal effect on the overall value of the companies. This result approves the assumption of neutrality of accounting performance indicators, and strengthening the inequitable type of the financial market in the behavior of companies in expressions of funding. The nonattendance of this market concerning minus debt, more condensation of capital for an internally verification system, in accordance to forecasts of the concepts of the agency, the privileges of ownership and indications

Keywords: Cameroon, Enterprise, Financial structure, Performance, Non-financial market

#### 1. INTRODUCTION

The evolution of the means of business financing denotes the strategic character of the financial structure. This development extends to the entire of financial strategic behaviour that allows the company or enterprise to exercise its activity, which is, to acquire its assets. Whatever the diversity of elements that it is composed of, the aggregation of this evolution distinguishes the debt of equity. So, a debate often opposes on the question of researchers about the dosage of debt- equity for a best value of the enterprise. Thus, the concept of value did not obtain the unanimity; over the years, it was metamorphosed. Indeed, the enterprise successively has been assimilated to a box black, to an entity of contractual type and finally to a partnership organization<sup>2</sup>. In parallel, its value is corresponded respectively to the profit, in the shareholder value and to the partnership (Caby and Hirigoyen, 2001). In addition, Leland and Pyle (1977) shows that the value of a business is more correlated with the capital share owned by the leading shareholder<sup>3</sup> and because of this situation, it is in conjunction with the financial structure. These observations could be considered in the financial structure, debt and equity and the ownership structure. In terms of the link between ownership structure- performances is used to analyse its empirical studies, but that is not univocal. One group of people support the thesis of neutrality (Demsetz and Lehn 1985); Charreau (1991); Jacquemin and Ghellin (1978), on the other hand, there were some researches made by different scholars in support of non-neutrality, Mourgues (1987), Djelassi (1996), Leech and Leahy (1991) This thesis of non-neutrality corroborates the pessimistic forecasts of the relationship agency on the support for the performance of the Adam Smith (1776), Berle and Means (1932), Jensen and Mackling (1976).

The objective of this research is to check the discriminant character of the financial market in the enterprises behaviour regarding the choice of funding. 39 unlisted companies in Cameroon were sampled and analysed for three-year period, ranging from 2013-2016, After the analysis, it turns out that, the performance [shareholder and overall] is independent of the financial debt, but marginally dependent of the high

<sup>&</sup>lt;sup>1</sup> Hirigoyen and Jobard (1997) In the French case, the traditional instruments of financing [equity, corporate credits, et.] and the new instruments such as non-voting priority dividend shares, bonds a share warrant purchase, the operating credits resulting from the application of the Daily Act.

<sup>&</sup>lt;sup>2</sup> Like a black box, the company is the only one single actor for the classical school, mechanics way, the maximum profit of the entrepreneur from a production functions. The contractual enterprise is considered as a node of contracts or, in a generalized agent relationship, divergences of interest between the main external [shareholder / creditor] and their internal agents (officers / shareholders, employees) diverting the last fundamental objectives of maximizing of the wealth and the first considered as the residual creditor. The partnership between enterprises considers all those who bring resources [manager, employees, customers, shareholders, creditors, suppliers, public] as the residuals creditors and consequently realized the surplus beneficiaries; Their remuneration are above the cost of opportunity, i.e. the price of the resources provided in a competitive market.

<sup>3</sup> This correlation highlights the notion of governance, i.e. the set of external mechanisms [labour markets, goods and services, financial,

This correlation highlights the notion of governance, i.e. the set of external mechanisms [labour markets, goods and services, financial COB] and internal [board of directors, ownership structure] of control Managerial attitudes in an agency relationship.



concentration of the capital.

Before describing the followed methodology and the results obtained, it is useful to give a brief presentation of the theoretical framework of our study.

#### 2. THE FRAMEWORK ANALYSIS, STRUCTURE FINANCIAL / PERFORMANCE

This research is located in the framework of many studies carried out on the financial structure, on the stricter sense of the debt-equity, and the ownership structure.

## 2.1. THE DOSAGE OF DEBT-EQUITY AND THE PERFORMANCE<sup>4</sup>

In rupture with financial orthodoxy preoccupied about financial<sup>5</sup> balance, the model of Modigliani and Miller (1958) triggered a real scientific revolution and focused on the value for the enterprises. The *Trade-Off theory* and the *Pecking Order theory* give the best explanation of the metamorphosis of financial behaviour of the firms. Thereby, the models of compromise can be distinguished from the hierarchy.

#### 2.1.1. THE MODELS OF COMPROMISE

It is obvious that, no privilege is agreed to the debt or in the equity. Only the opportunities that offer one or the others allow adjustment. Registered in this logic, the Modigliani- Miller model and the theory of the Trade- Off can be quoted.

#### a) MODIGLIANI-MILLER (MM) MODEL: AMBIGUITY OF OPTIMAL FINANCIAL STRUCTURE:

Two stages denote the elaboration of this model, founded on the perfection of market: The initial stage 1958, without tax incidence, with null impact for the leverage of debt {compensation of the expectancy positive effect of expected equity by the negative effect of financial risk}. Thus, the financial structure is neutral in considering of the company value; The stage of 1963, with tax incidence, with tax deductible of financial expenses {DiTc; with D, the perpetual debt; i; the risk - free interest rate, Tc, the Rate of tax on the enterprises}, debt always has a positive effect on the value of the enterprises whatever its level. The optimal structure of the enterprises is not determined or it corresponds to what is obtained with a maximum level of indebtedness, just to say an unrealistic situation of a company without equity or more precisely without social capital.

#### b) TRADE-OFF THEORY: EXISTENCE OF AN OPTIMAL FINANCIAL STRUCTURE.

It is the result of the Myers (1984). It also includes two stages of development.

- The initial stage of static Trade-Off theory, which introduced to MM, the incidence of the bankruptcy <sup>4</sup> cost and leads to the determination of an optimal debt ratios. In this case, the increase of debt leads, in addition to the leverage effect to financial without impact on the value of the company, the bankruptcy cost has negative impact. So that, a reduction in the value compared to the MM;
- The Revisited stage which takes account of agency costs to respond to acerbic
- criticism<sup>7</sup> addressed at the previous stage. The agency relationship leads to two categories of cost Jensen and Meckling (1976), the equity agency costs, i.e. expenditures made by shareholders to inflect at their causes, the deviation of the opportunistic leaders; the cost of the debt agency or expenses incurred by creditors to discipline, for their cause, the shareholders {including leader}. The use of indebtedness is a means of discipline by the financial market leaders, just to say that from one side, when the cost of the equity agency decreases, so, from other side the value of the company increases. At the same time, this indebtedness has been created by the agency costs of the debt that decrease the value of the company. Ultimately, the company value depends on the balance of these two contradictory effects due to the indebtedness.

In sum, the virtue of indebtedness is attenuated. The target debt ratio, determined the optimal financial structure and hence the maximum value of the firm is located at the level of the positive maximum deviation between the positive effect on the equity of the agency costs and the negative effect on the debt agency costs.

## 2.1.2. THE MODEL OF HIERARCHY: THE RESIDUAL CHARACTER OF THE DEBT

It is derived from the work of Myers (1984) and Myers & Majlul (1984). This is also known as the Pecking-Order theory or theory of cherry picking (Hyafil, 1995), this model provides a decreasing financing preference, thus:

Self-financial  $\longrightarrow$  debts, {including hybrid securities}  $\Longrightarrow$  and emissions of the new actions.

The model leads to the conclusion that, the target debt ratio is not important because the debt is a residual

 <sup>4.5</sup> According to financial orthodoxy, the viability of a financial structure is measured by the financial equilibrium according to the principle that jobs must be financed by resources of the same maturity. This one guarantees the working capital to finance the working capital requirement and hope for a cash flow.
 6 The bankruptcy of a company is the judiciary process that follows the failure. It generates direct costs [fees of counsel, the provisional

The bankruptcy of a company is the judiciary process that follows the failure. It generates direct costs [fees of counsel, the provisional administration before liquidation or reorganization ...], and indirect [loss of customers and suppliers as a result of loss of confidence, decline in the business figure, etc...]. The failure is the company's state

<sup>&</sup>lt;sup>7</sup>Harris and Raviv (1991), Rajan and Zingales (1995), Kester (1986) etc. Show that more or less specific character of the assets is a determinant element of costs of the bankruptcy and also the financial structure [confirmation of the thesis of Williamson O.E.,



needed during the expansion period and the necessary investment for the profitable projects. Thus, the present value of positive net is superior to the self- financing needed for external funding {surplus of necessary investment on self- financing} being that the debt limit is asymptotic for a company that can also appeal to the new shares

The hierarchy of funding sources, beyond the strategic partition of own funds (distinction self- financing action news) better explains the differences in intra-industry debt<sup>9</sup> and justifies the inability to honour its debt service. Therefore, there will be a reaction to share prices linked to a transposition of substitution of debt-equity<sup>10</sup> despite many disagreements on the optimal financial structure in global term of debt and equity<sup>11</sup>.

These models re-launched the debate on the question and some of their weaknesses discover the answers in the analysis of the ownership structure.

#### 2.2. THE OWNERSHIP STAKES STRUCTURE OF THE PERFORMANCE RESEARCH.

For the agency relationship, the empirical studies oppose the analytical managerial purposes to family and controlled enterprises<sup>12</sup> Adams Smith (1976) and Berle, Means (1932). In recent times, the relationship of ownership structure performance has increased the number of favourable empirical studies either for the neutrality or the non-neutrality of the thesis.

#### 2.2.1 THE THESIS OF STRUCTURE NEUTRALITY OF OWNERSHIP-PERFORMANCE

Seeking the link between the index of concentration<sup>13</sup> and performance, Demsetz and Lehn (1985) conclude that, the structure of the capital detention is endogenous to the profit maximization process, and that, all the structures have the same environmental aggressiveness that led them to the same goal. Partially, this thesis is confirmed by

Charreau (1991) when he establishes that, the performance of the equity is indifferent to the organizational form. Jacquemin and Ghelin (1978) confirmed it for major French companies.

## 2.2.2 THE THESIS OF NON-NEUTRALITY PROPERTY STRUCTURE-PERFORMANCE

It is registered in the logic of rights property or the logic of the primacy of individual interests in the behaviour of the social partners. In accordance with forecasts of Adams Smith, Berle and Means as well as Jensen and Mackling, the favourable empirical works distinguish two principal meanings which are cohabiting the convergence of interests between managers and owners when holding or controlling a non-significant part or anything. The leader cannot do something without external control and therefore search performance rooting when the officers, owners or agents, own or control a significant share of capital, avoiding the external control and seek their own interests {or those of their constituents by transfer of wealth}: Thus, the performance is compromised <sup>14</sup>.

The empirical works are, among others <sup>15</sup>, those of: Djelassi (1996) which, in the case of French companies listed, establish a positive relationship between performance and controlled companies at shareholder holding between 0 and 20% of the capital {convergence} and a negative relationship beyond 20% {rooting} Morck, Schleifer and Vishny (1988). In the case of U.S companies, when the main shareholder has between 0 and 5% of property, there is a positive relationship with the performance [convergence], whereas between 5 and 20% is negative [rooting] and beyond 25% is a positive [convergence]

These studies (1-1 and 1-2) in the fragmentary, are carried out in an environment with a financial market. In this context, Debt, and Property structure discipline the leaders. Only stock performance indicators are sensitive to the financial structure and the ownership structure in the face of the neutrality of accounting indicators<sup>16</sup>.

#### 3. LITERATURE REVIEW

Many literature reviews about enterprises performance and financial structure in a non-financial market are still

<sup>5 8</sup>Why these preferences? Self-financing avoids the market, provides information on strategic projects, justifies themselves to investors, increases the organizational surplus for employees as a result of an economy on dividends; the debt in relation to the issue of the new shares has positive informative content (see Leland and Pyle (1977) and Ross (1977) for more details on signal theory), With, moreover, the enlistment of these shares by the existence of the emission premiums.

enlistment of these shares by the existence of the emission premiums.

<sup>9</sup> It is understood that the assumptions of such an explanation, namely the constancy of the rate of growth and the rigidity of the dividend policy, are unrealistic, especially at the term.

<sup>&</sup>lt;sup>10</sup> When the company prefers debt to equity it increases stock prices to attract debt and declines in the opposite case.

The virtue of the debt is decreasing from MM to Trade-Off and Pecking-Order. Latter, recourse to debt is prior to the issuance of new shares, while the Trade-Off infirm that the companies have intangible assets [service business] which, because of their very high indirect bankruptcy costs, they prefers the new actions to the debt. In addition, the Trade-Off provides for a high debt ratio for mature firms, since the abundant cash flows largely cover the few possible profitable projects [NVA>0] Free cash flow or surplus resources on the investment of profitable projects.

<sup>&</sup>lt;sup>12</sup> At first, there is separation of the diffuse ownership and of the decision [agent relationship]; Secondly, a family or an individual holds the largest share of social capital and can appoint a leader whom it dominates. The agency relationship is attenuated; thirdly, another company holds the large share of capital and appoints a manager. The agency relation is in the latter case of form and not of substance.

<sup>13</sup> The index used by Demsetz and Lehn is given by the logarithmic expression LC = Log {C / [100-C]], C being the percentage of capital

<sup>&</sup>lt;sup>12</sup>The index used by Demsetz and Lehn is given by the logarithmic expression LC = Log {C / [100-C]], C being the percentage of capital held by the main shareholder. Leahy J. [1991] uses the same index.



available. In terms of structure and size, the financial structure mentions the whole connection of a difference between the sources of long-term enterprises funds. In addition, it's alluding to the part of long-term capital debts and then capital equity.

It is important to note that, most part the foreign theory about the term capital structures are the trade-off theory, MM theory, incentive theory, asymmetric and the debt level which is added to correlation. However, it shows that corporate liabilities have a positive and more advantageous effect on increasing enterprise performance.

Moreover, after Modigliani and Miller (1958) MM revolutionary theory, both domestic and researchers abroad, have done a large amount of theoretical and empirical studies of the financial structure. Concerning the experience of the outside world, financing in relation to borrowing does not necessarily lead to inefficient activities.

Ross's (1977) signaled that using hypothesis retained for financing debt is information theory, whereas Masulis (1983) established that enterprises performance and<sup>6</sup>an extraordinary pleasant assets quality below the circumstance of steady investment. Thus, the highest quality of enterprise is the debt ratio, therefore, the value of ratio and also the liabilities of the company have a positive correlation.

Observation undertaken abroad reveals that, the aspect of the corporate governance structure, such as the structure of the property and the characteristics of the board has an influence on the performance of the company. Shleifer, Vishny, Morck, and Steen Pedersen and other researchers, have demonstrated that the attendance of the big shareholders to few extents in good opinion of the enterprises profession inducement and the ownership consolidation of positive effort are correlated with the corporate accomplishment. Fama (1980) explained that the level of market competition can adjust common attitude and will make less the free cash flow of the enterprise and to eliminate competition.

Griffith (2001) indicated that the increasing of the concurrence of product market led to an increasing in overall levels of effectiveness and the rates growth, Therefore, in a perfect competitive market, when the enterprise does not widen its earnings, it can particularly put the enterprise in harsh agency situation. Perez, Gonzalez and Guadalupe (2011) indicated that, an improvement in the intensity of competition leads to a decrease in evaluation of the private profit of control by management.

In addition, Hoberg et al. (2014) showed that, firm's financial tactics are significantly made by the threats and the dynamics of performance market. Indeed, competition of the asset market affects enterprise policy. Xin Yu (1998) and then Lu Zheng-fei, checked the datum of shanghai stock market in 1996 on the fundamental statistics system. They finalized that, there is a significant negative correlation to the profitability of the firm and the debt ratio of the firms. The study of Zong-wei and Cong-lai, (2004) confirmed a constructive correlation between the value of the firm and the rate of financing of the loan. Therefore, the coefficient of this correlation is low, by virtue of the fact that, the financing ratio of the loan to increase the value of the firm is not apparent.

## 3.1. RESEARCH QUESTION

This study is characterized by the absence of stock market performance indicators, because of the lack of financial markets<sup>17</sup>. Nevertheless, lack of indicators has compelled us to ask the following questions:

- 1. What are the account indicators used in our research?
- 2. Are these account indicators neutral?
- 3. If yes, will the account indicators carry on being neutral?
- 4. If no, what will they be in a financial structure, which includes debt, equity and ownership structure?

## 4. RESEARCH METHOD

The samples used for the research were 39 unlisted companies in Cameroon. These companies are of different sizes and can be divided into three different sectors as indicated in table 1 below.

Table n°1: Sectorial distribution of the firms

| Business sectors | Primary | Secondary | Tertiary | Total |
|------------------|---------|-----------|----------|-------|
| Effectives       | 15      | 22        | 2        | 39    |
| %                | 33.4    | 61.5      | 5.1      | 100   |

<sup>&</sup>lt;sup>6</sup> <sup>14</sup> This negative nexus between the rooting of managers and the performance of the company can be called into question in a managerial undertaking. Indeed, in order to take root in the context of an agency relationship, managers usually make specific investments linked to their know-how that is beyond the control of shareholders. Consequently, these managers, who thus increase their managerial capital in this firm, have an interest in not being licensed and avoiding any conflict with the shareholders by aligning themselves with the objectives of maximizing the value of the last.

the Marris ratios [stock market capitalization / net book value], the Sharpe measure [[expectancy of the profitability stock market/ rate of return without risk] / standard deviation of stock market profitability]. As for the generally insensitive accounting indicators, there is the economic rate of return, the operating rate of return.

<sup>&</sup>lt;sup>15</sup> Read also the theory of Holderness and Sheehan (1988); Leech and Leahy (1991); and then Mourgues, (1987).

<sup>&</sup>lt;sup>16</sup> The main indicators stock market sensitive are, the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at its list in (at head, which is the sensitive are the Tobin Q [market value of the firm], the Marie at the



Exclusively, quantitative data were issued by the Statistical Statements and Tax Declarations {SSTD} of the companies and filled with the Direction of the Statistics and National Accounting {DSNA}. The data has to do with the exercises undertaken during the years stated; 2013/14, 2014/15, 2015/16<sup>19</sup>.

The hypothesis, definition of the variables and then the presentation of the analysis model are the main points of this methodology.

#### 4.1 HYPOTHESIS

With regard to the predictions of the theory and taking into account the context within the financial market pertaining to this study, the following two hypotheses were formulated.

HI: The enterprise performance in Cameroon is positively sensitive to the high concentration of capital. Indeed, Jensen and Meckling (1976) show that spread out shareholding cannot play a positive role effect on performance if the financial market is very active. <sup>20</sup> obviously, in the case of its absence, it is logical to predict a concentration of capital for an internal and strong monitoring, and favourable performance.

H2: The financial debt doesn't explain anything in company performance. Without financial market, potential creditors would be reluctant and enterprises with low debt ratio will either perform or otherwise

#### 4.2 THE DEFINITION OF VARIABLES

From our secondary databases, we calculated variables of performance and on the other hand, we calculated the variables of financial structure or explanatory variables of performance.

#### 4.3 THE PERFORMANCE VARIABLES

The current debate about the measure of performance is based on two approaches: the shareholder approach that suffers from a partiality, and the partnership approach that is difficult to quantify<sup>21</sup>. In fact, the first, set as an objective of the firm seeking for a value that allow shareholders who are considered to be unique responsible to have the rights residual decision-making to make profits, i.e. the rights of no specified elements, and then written in contracts. The second assign the rights of these residual decision-making to all providers of resources by setting as a goal of the company, and the achievement of a shared value by all stakeholders [Manager, employee, customer, provider, creditor, shareholders, public] <sup>22</sup>. Therefore, most of the empirical works mentioned above have singled out the indicators of performance related to the remuneration of the shareholders of those relating to the overall value of the company.

According to this logic, and in view of realities and the constraints associated with the availability of the data, we considered two performance ratios which are: Operating Result/ Equity; the ORE Added Value / Turnover; the AVT.

#### 4.4 THE VARIABLES OF FINANCIAL STRUCTURE

We have identified five variables related to the debt- equity arbitration, to the investment policy, and to the ownership structure. However, the variable V5 relative to the ownership structure and which respect the procedure of measurement of the concentration of capital<sup>23</sup> is subdivided into three variables depending on whether the concentration is low [L51], medium [M52], or high [H53].

Below are the variables:

V1: DLMT/E long debts and medium term / equity 24

V2: STD/TA short-term debts <sup>25</sup> / total assets

V3: GI/TA gross immobilisations / total assets

V4: GI/LTDMT gross immobilisations / long- term debt and medium term

L51=M/C if M/C < 20 percentage [%] if C = 20 percentage [%] if M/C < 20 percentage [%] M52=0 percentage [%] if M/C < 20 percentage [%] if M/C < 20 percentage [%] if M/C < 50 percentage [%] if M/C = 50 percentage [%]

## 4.5 THE ANALYSIS MODEL

We established two models, depending on whether the dependent variable is the result of exploitation on the equity [model 1] or the variable is the value added on the turnover [model 2]. We can therefore write:

<sup>7 21 1998.</sup> Charreaux defines the shareholder value as the surplus of pension offer to shareholders Compared to their opportunity costs.



Model 1 
$$\longrightarrow$$
 ERE= f [V a], a= 1 to 5

Model 2 
$$\longrightarrow$$
 VAT= f [V a], a= 1 to 5

After testing the correlations of between the explanatory variables year by year, we performed the multiple regressions<sup>26</sup> for each of the two models on a yearly basis.

#### 5. RESULTS

The correlation of Pearson adequate to our quantitative data shows an independence of the explanatory variables, because even the apparently significant correlation to the threshold of 1% between V2 and V3 of the following table 2 is in a whole not considered.

Table n°2: correlation of Pearson at the threshold of 1% between explanatory variables.

| Year    | Variable [s]   | V3             |
|---------|----------------|----------------|
| 2013/14 | No correlation |                |
| 2014/15 | No correlation |                |
| 2015/16 | V2             | -0,540 [0,000] |

The independence between the explanatory variables was established; we continued the study by introducing all in a multiple<sup>27</sup> regression.

About the results of the model 1 are given in the table 3 below

Table n°3: The multiple regression model 1 [ERE is the dependent variable]

| Year    | Retained variable | Sign. Model | Beta    | R <sup>2</sup> adjusted | $R^2$ | F     | DW    |
|---------|-------------------|-------------|---------|-------------------------|-------|-------|-------|
| 2013/14 | V1                | A           | -0.718a | 0.465                   | 0.536 | 7.611 | 1.521 |

TN: a: significant at threshold 1%; b: significant at threshold 5%.

| 2014/15  | No explanatory | No explanatory variables are significant |   |       |       |       |       |  |  |
|----------|----------------|--|---|-------|-------|-------|-------|--|--|
| 2015 /16 | V2             | 0,798a                                   | a | 0,354 | 0,256 | 3,614 | 1,787 |  |  |
|          | V3             | 0,472b                                   |   |       |       |       |       |  |  |

Model 2 results are given in the table n° 4 following.

Table 4: the multiple regression according to the model 2 [the VAT is the dependent variable]

| Years   | Retained variable | Beta    | Sign. Model | R <sup>2</sup> | $\mathbb{R}^2$ | F     | DW    |
|---------|-------------------|---------|-------------|----------------|----------------|-------|-------|
|         |                   |         |             |                | Adjusted       |       |       |
| 2013/14 | V2                | -0,415a | b           | 0,326          | 0,254          | 3,206 | 2.161 |
|         | V3                | 0,311b  |             |                |                |       |       |
|         | V5.3              | 0,331b  |             |                |                |       |       |
| 2014/15 | V2                | -0,448a | a           | 0,434          | 0,347          | 5,044 | 2,218 |
|         | V3                | 0.372b  |             |                |                |       |       |
|         | V5.3              | 0,406a  |             |                |                |       |       |
| 2015/16 | V2                | -0,702a | A           | 0,484          | 0,405          | 6,179 | 1,817 |

TN: a: significant at threshold 1%; b: significant at threshold 5%.

In view of Table 3, the variable V1 is the only variable that, in 2013/14, explains in inverse way the variable ERE with a threshold of 1%. In other words, there is a negative relationship for this year between the debt rate and the riches of shareholders. Thus, the indebtedness appears as a hindrance to the blossoming of the

Charreaux and Desbrieres (1998) define the partnership value as being 'the difference between sales evaluated at the price of the opportunity and the sum of the opportunity costs for the different contributors'

and the sum of the opportunity costs for the different contributors'
<sup>22</sup> Several differences can be detected between the two approaches which are however closer that separate.

a) The shareholder approach privileges the finance then the partnership [stakeholder] approach considers the company as a conjunction of tangible and intangible resources.

b) In the first the shareholders are the only ones whose in the random remuneration occurs last, after all the other partners have been remunerated at their cost of remuneration or of opportunity established in the competitive market of each resource contributed.. Performance therefore appears to be the only way for remunerate, also the shareholders at this cost. The second calls into #question those residual decision-making rights attributed only to shareholders. Indeed, all partners bear the residual risk because a loss of employment [manager, employees] or customer / supplier [supplier, customer, and creditor] entails a loss of remuneration from the once formerly well-valued experience. As an example, in terms of the specific human capital of employees, The study by Topel R., [1991] shows that the loss of employment costs an employee 10-15% lower remuneration in the new job as a result of idiosyncratic and systemic risks.

The shareholders' contribution is marginal according to the partnership approach because they can diversify their risk by cession, transferring or negotiating their divisible securities. This is not the case for other stakeholders.

23 We adopted the concentration measure of Djelassi M., [1996] and Charreaux G., [1991]. 30% and 50% correspond to the minority and the

<sup>&</sup>lt;sup>23</sup> We adopted the concentration measure of Djelassi M., [1996] and Charreaux G., [1991]. 30% and 50% correspond to the minority and the majority of blocking in France 20% is arbitrary for the authors but remains the threshold from which the service of Industrial Statistics in France considers the acquisition of foreign holdings.

<sup>&</sup>lt;sup>24</sup> Equity includes share capital, reserves, carry-forwards and equipment subsidies. They may be lower for a given period to the share capital in the event of significant carryovers to new deficit anterior.

<sup>&</sup>lt;sup>25</sup> The short-term debt includes supplier debts, bank overdrafts; value added tax and other indirect taxes payable.

<sup>&</sup>lt;sup>26</sup> Almost all of the above empirical studies have used the multiple regressions with Pearson correlation tests [Charreaux and Demsetz, and then Lehn and Djalassi ...]..



shareholders. With the absence of the financial market, the increase of the debt rate leads to a financial extraversion of the firm which has no disciplinary impact [No reduction in agency costs of equity] but on the contrary, it leads to cost [interest and miscellaneous charges related to the debt] which are unfavourable to the remuneration of equity. In 2014/15, the riches of shareholders were completely independent of the financial structure.

However, in 2015/16, there were debts exploitation [V2] and fixed assets [V3] which positively explained the richness of shareholders. The former, constituting of short-term means of financing [supplier debts, value added tax (AVT) and other indirect tax to be paid, bank overdrafts ...) in view of their importance. This would lead to an increase in the economic profitability [and thus a positive financial leverage effect] following the acquisition of the new immobilizations.

Table n° 4 shows the overall richness of the company and these:

<sup>8</sup> Sensitive, in the opposite way, to operating debts [V2], indeed, the coefficients of V2 are all negative, increasing the absolute value between 2015 and 2016 and significant at the threshold of 1%. Short-term debts are thus destructive of value. About the basic data, these debts are in most case superiors to the circulating assets. The resulting in a financial imbalance, both at the level of the Working Capital Fund, as well as the need of Working Capital fund <sup>28</sup>.

- Weakly sensitive to gross immobilizations <sup>29</sup>. At 5% threshold, the increasing of gross immobilizations led to increase overall performance between 2014/15 and 2015/16 (respective coefficients of 0.311 and 0.372). By observing the raw data, we notice that this increase in gross immobilizations results from the acquisition newer products.
- Sensitive to high concentration of capital, [V53], 5% threshold in 2015/16 and 1% threshold in 2016/17 with respective coefficients of 0.331 and 0.406. The high concentration, as a means of internal control with the absence of the financial market, proves to be relatively effective in creating other value of the firm financial structure.
  - In total and notwithstanding these few insignificant relationships on the whole Companies in Cameroon argued that, the neutrality of accounting indicators of the performance vis-à-vis the better understand this reality, it is necessary to analyse successively the structure of the debts and that for ownership of the companies studied.

The analysis of the structure of the financial debts of the companies studied. It emerges from two observations that:

- 1. Companies in Cameroon tend to finance with minimum financial debt. Over the three years, financial debts represent barely 35% of own funds. In addition, of the 39 enterprises, financial debts are zero for 14 companies in 2013/14, for 13 in 2014/15 and for 16 in 2015/16. The major industries are the most concerned [10/14 in 2013/14, 10/13 in 2014/15, 12/16 in 2015/16], especially when they are on foreign control firms [9/14 in 2013/14, 8/13 in 2014/15, 8/16 in 2015/16].
- 2. the banking financial system being in permanent restructuring following an economic crisis, the lack of mutual trust between the environment and banking, amplified by a growing informational asymmetry, the debtor's high rates and instability of shareholders and executives of banks, among others, cannot favour a intermediate indebtedness.

Long-term financial debt is therefore neutral in the exploitation of the performance because the shareholders, to control internally and to share without annuities referee, prefer an equity financing. We can speak, conversely of Modigliani and Miller, of a zero-debt financing with respect to the opacity that the ownership structure represents. The theory of MM and the results obtained in Cameroon are not however contradictory thus the first concludes in an environment with financial market and the latter in a context without this market <sup>30</sup>. Hypothesis 2, according to which the financial debt does not explain the performance of the enterprise, is thus validated.

The theory of MM and the results obtained in Cameroon are not however contradictory thus the first concludes in an environment with financial market and the second with a context without this market <sup>30</sup>. In view of hypothesis 2 which said that the financial debt does not justify the performance of the enterprise, is so confirmed.

<sup>8 27</sup> in all the companies in the sample, there is a high concentration of social capital. These results in the constancy of the variables V51 and V52 with respective values of 20 and 30 and the non-zero values of v53. For this reason, the SPSS 10.1 software used has delete the variables V51 and Xz52 in the analysis of the two models [see appendix]

<sup>28</sup> The short-term debt being greater than the current assets, the permanent capital is lower than the fixed assets and the working capital is negative. On the other hand, instead of a working capital requirement, there is a surplus in working capital because the short-term debts exceed the inventories and operating receivables.

<sup>29</sup> The immobilizations used in this work are raw. On the plan of a financial analysis, they show an advantage over a net valuation because the amortizations are, among other things reason, means of previous financing prior to the replacement of the tools of production for which they were constituted.



The analysis of the ownership structure

It is done in terms of concentration and the identity of the main shareholder. The banking financial system being in permanent restructuring followed by economic crisis, the lack of mutual trust between the environment and banking, amplified the growing informational asymmetry, the high rates of debtors and instability of shareholders and executives of banks, among others, cannot be in favour of intermediate indebtedness. Long-term financial debt is therefore neutral in the exploitation of the performance because the shareholders, to control internally and share without annuities referee, prefer a financing equity.

We can speak, conversely of Modigliani and Miller, of zero-debt financing with respect to the opacity that the ownership structure represents.

In term of concentration if there is a common trait feature of enterprises studied, it is the high concentration of social capital in the hands of a single shareholder. indeed, V53 being non-zero and its average over the three years being 33.75%, this means that, with average, the principal shareholder of the sample holds 83.75% <sup>31</sup> of the capital. In addition, more than 50% of the companies, the principal shareholder owns more than 90% of the capital with minority shareholders holding less than 2%<sup>32</sup>. This reinforces the forecasts of Jensen and Meckling according to the diffusion of capital which is favourable only in the presence of a very active hypothesis 1, that the firm's performance in Cameroon is positively sensitive to concentration of capital, is confirmed about as the overall value of the company but is not valid for the richness of the shareholders in terms of the identity of the main shareholder.

<sup>9</sup>The last is either a foreign private enterprise or a natural or legal person of Cameroonian nationality. In the case of a foreign company, the share of the capital is at least 95%. This company, which is generally multinational, is at default to a disciplinary financial market and controls the management of its subsidiary by the group's internal market. When it comes from a private person Cameroonian, the enterprise is more assimilated to a family<sup>33</sup> who maintains its network of trust through an umbilical or relational<sup>34</sup> core whose stability depends on the level of the company's control, reflection of its social share.

#### 6. DISCUSSION

Our study reveals several subjects which can be discussed.

Taking the case of tontine in to consideration, Cameroonians don't appreciate the tontine and don't recognize it as community's correspondent customs and also the stock exchanges value of Douala and Libreville do not offer liberal opportunities of financing disintermediated trade-off. A subsidiary in Cameroon reacts to the financial market at the headquarters or the one of the receiving territory. In other words, there is an impact of the Douala stock exchanges on financing of the interim operations of the local subsidiaries. The distribution of capital between equity and borrowed funds is not a problem and the companies take enough risk to invest with financial means.

This research presents some limitations which are related to the sample size and its sectorial distribution in respect to the limit number of variables and the years of study. These limitations are as a result of data unavailability and also, debts are the only factor which allows the enterprises to increase their assets and the lack of debts can have bad impact on the enterprises.

## 7. CONCLUSION

The objective of this research is to appreciate the discriminating character of the financial market in the behaviour of organizations in areas of financing choices. If the stock-market of the performance indicators (Tobin's Q, Marris's ratio, Sharpe's index, etc.) are sensitive to financial debt and to the concentration of capital in a financial market context, the two main results, far from deviating from these conclusions, are confirmed in a

<sup>9 30</sup>The economy due to the tax deductibility of financial expenses, which remains valid in Cameroon, would be less important than the costs generated by a bank indebtedness in a optics or the bank do not discipline in any way the managers of the enterprise eventually indebted.

<sup>31</sup> This figure is obtained by adding the three averages of 20% of 30% and 33.75% respectively for V51, V52, V53; V51 and V52 being

constant and equal to 20 and 30% during the three years of study.

Furthermore, in these so-called company controlled transfers of wealth was the majority shareholder by rooting of leaders (Johnson S. et al, 2000, speak of siphoning) does not prevent not to heavily minority shareholders of stay as long as too long in the business their objectives generally non-financial resources related to organizational learning, the diffusion of a new technology a... will be achieved (Hamel G. et.) 1989 etc.

<sup>&</sup>lt;sup>32</sup> The presence of strongly minority shareholders denotes the strategic value of such shareholders who are either private national when the principal shareholder is a foreign private company or the latter when the principal shareholder is a private Cameroonian. The minority shareholder has a strategic investment that the surplus on the investment value materialise recherché complementarity and that stabilizes the structure of property (For more details on the strategic of the minority shareholder value, we can see the authors Caby and Mestre 2001 pp. 10 - 14).

<sup>&</sup>lt;sup>33</sup> Mtanios and Paquerot 1999 show that the concentration is an effective way to control because if dispersal of the shareholder, in the context French, individual shareholders behave in stowaways

<sup>&</sup>lt;sup>34</sup>Allouche, and Amann 1998, p. 144 talk about company familiste or to society of defiance, for the mean of a society whose family is the basis of economic organization. In Cameroon, generally, principals have relationships of family or ethical with shareholder private Cameroonian citizenship.



context without financial market like Cameroon.

It was discovered that, indebtedness has no influence on the performance of companies, whether in terms of enriching the shareholders or in terms of the overall value of the company. The concentration of capital has positive effect on the overall value of the enterprise compared to the theory and the empirical works, in this regard, our results are different but corroborates.

Moreover, we can notice that the absence of the financial market is at the origin of the lack of stock-market indicators of the performance, which is formerly sensitive to the financial structure and the ownership structure in the first works. In addition, the wealth of shareholders would therefore happen by the appropriate adjustments of their portfolio in the financial market by diversification of their risk, propitious to additional gains. By detain global shareholder value, the theory of neutrality exceeds the overall value. Therefore, there is a relative convergence between the high concentration of capital and performance.

Companies in Cameroon that have large subsidiaries, foreign groups or companies under the right-of-way of Cameroonian family are strongly concentrated and refractory to the financial indebtedness. We can always speak of hierarchical financing at self - financing almost sufficient in a situation where the financial debt is marginalized and the issuance of new shares non – existent in view of the constancy of social capital and the stability of the ownership structure. Generally, this study confirms the discriminant character of the financial market because without stock-market indicators the financial structure cannot explain the performance.

#### 8. RECOMMENDATIONS

For future research, we advise to meet most of the tontine groups which finance Cameroonian family enterprises to check their financial report. This action will contribute to avoid many errors and to get more appropriate data. The procedure of getting a credit is very important, so it will be useful to meet the shareholders to discuss about the actions used to recover all their funds.

Again, future research can also include the enterprises financing by public sector and the comparisons between the two sectors can help the enterprises with real problems. It will be important to work on the impact of Douala stock exchanges on financing of the interim operations of the local subsidiaries. The research could be extended to Yaounde, which is the capital of Cameroon.

#### REFRENCE

Allouche J., Amann B (1998) • Confidence: an explication of the performances of family enterprise • *Economies and societies, Management Sciences Series, no 8/9, p.129-154.* 

Adam Smith (1776). The Business of Nations, the Cannan Edition in New York.

Means C.G. and Berle A.A. (1932) Intimate Estate and The New Corporation, MacMillan, New York...

Caby J., Hirigoyen G. 2001, value creation of the enterprise, 2nd issue of publication, *the Economica-Paris*, p.197.

Charreaux G. (1991), Ownership organisation, agency relationship and financial performance, *Economic Review*,  $n^{\circ}3$ , p.521-552.

Desbrieres P. and Charreaux G. (1998). 'the Enterprise administration: partnerships worth opposite to stockholder worth', *Economic, Accounting, plan. Volume. 1. N° 2, p. 57-88* 

<sup>10</sup>Charreaux G. (1991), 'The organization of the performance of the firm's commercial centre and the Bank',  $N^{\circ}$  34, p. 46-54...

Lehn K. and Demsetz H. (1985) 'The organisation of the Corporate possession of property: Originator and Results', *the Journal of Political Economy*, N°6, page.1155-1177.

Djelassi M. (1996) "Organisation of ownership, agency relationship and performance of French firms" *Journal of society Statistics of Paris*, V. 137, No. 3, page n°.51-77.

Glais M. (1984) the financial diagnosis of the company, Economical, Paris.

Goffin R. (1999) Principles of modern economic, 2nd publication, Economical-Paris, page. 664.

Hamel G., et al. (1989), 'work together accompanying your contestant and then victory', the Review of Harvard Business, page.133-139.

Raviv A. and then Harris M., (1991), 'The Approach of Principal Organization' *Journal of Finance*, tome *n*°46, page.297-355.

Pyle D and then Leland H., (1977). 'Financial Intermediation, of Information Irregularity and Commercial Organization', the Journal of Finance, tome. 32, n°2, page.371-384

Meckling W.H. and Jensen M.C., (1976). The Approach of the Companies Management conducting, Property,

<sup>&</sup>lt;sup>35</sup> Where the capital is not detained at 100% by only one, it is strongly shared of disproportionate between the Cameroon and foreigners. If the majority shareholder is Cameroon, the minority is stranger and vice versa. In 5 company studied, the minority shareholders have to up to 0.5% of the capital; in 6, they have between 0.5 and 10%. The stability of a structure of property is a sign of complementarity and intangible contributions of minority shareholders and reflects a win-win game between the various shareholders.



- Form and Organization Price' Financial and Economics Journal, v.3, page. 305-360
- Sheenan D.P and Holerness C.G., (1988) The Mission of Plurality Shareholders in Advertising Tenuous Cooperation An Utilization Examination and Determination', *Financial and Economics Journal*, N°20, page.317.
- Leech D., Leahy J. (1991) .Property Form, Command Type Categorization and The Accomplishment of Abundants British Firm' *The Journal of Economic, volum.101, page.1418-1437*
- Jobard J.P. and Hirigoyen G., (1997) 'Financing of the company: recent evolution and new prospects', *In Encyclopedia of Management, 2eme edition, Economical, Paris, page.1356-1373.*
- Johnson S, et al. (2002). covered passageway' Review America Economic, v. 99, page.22-27.
- Hyafil A., (1995). 'Financial structure: distinct theories, choices that converge ", *Journal of Management, page.55-64*.
- Kester C. (1986), 'The Capital Property Form: A parallel of US and Japonese production Business Organization' *Financial Management, n°15, p.5-16.*
- Ghellin E and Jacquemin A., (1978) 'Property, control and profitability of larg French companies', Journal of Political Economy, Vol. 18, n°3, page.383-403
- Williamson O.E (1988). The Enterprise Governance and Enterprise Finance' the Journal of Finance, V.63, n°3, page. 567-591.
- Ross S.A. (1977). 'The Resolution of Monitory Form Motivation-Indicated Theory' *Bell Journal of Economics*, *N°8, page.23-40*.
- Topel R.C. et al (1991). 'Wages Rise with Job Seniority, Specific Capital, Wages and Mobility' *Political and Economic Journal*, V. 99, N°1, page, 145-176.
- Zingales L. and Rajan R.G., (1995). 'what do we hear undertand in this principal form? Few proof From worldwide Datum' *Finance Journal*, *Volume.50*, *Number 5*, *page*, *1421-1460*.
- Modigliani F., Miller M.H. (1963). the Price of the essential: a Correction and Allied Revenue Tax, *Journal of American Economic*. V. 53, N°3, page.433-443.
- Modigliani F., Miller M.H. (1958). 'The Approach of the Placement and The Price of Capital Corporate Finance', *Journal American Economic.*, V. 68, N°3, page.261-297.
- Morck R. Schleifer A., and then Vishny R. W. (1988). Organization Property and Market Appraisal: An Practical Examination and Determination, *Financial and Economics Journal*, V. 20, page.293-315.
- Myers S., Majluf N. (1984). Placement Decision though the Companies Has New Financier Doesn't Have and Corporate Financing', *Financial and Economics Journal*, N°13, page. 187-221.
- Majluf N. and Myers S., (1984), 'The Principal Organization of the Puzzle', *Review of finance,V.39, N°3,page.* 575-221.
- Mtanios R., Paquerot M. (1999). 'Property structure and underperformance of firms on the spot market of an empirical study, the second market and the monthly settlement' Finance, Control, Strategy, *V.2*, *N*°2, *page*. *157-179*.
- Mourgues N. (1987). 'For the economic profitability of the companies is it dependent on the structure of distribution of capital? A test verification of agency costs', *Orleanais Institute of Finance*



## **ANNEX (MAIN RESULTS)**

Regression 13/14 the ERE and the dependent variable.

## Warning

TN: for both models, the following variables are constants or have missing correlations: V5 1, V5 2, they will be deleted from the analysis.

Summary of the model [a, b]

| Summary of the model [u, v] |   |               |       |          |                     |            |        |              |  |  |  |  |
|-----------------------------|---|---------------|-------|----------|---------------------|------------|--------|--------------|--|--|--|--|
|                             | R   |               |       |          | Standard estimation | Change i   | in the | Statistic of |  |  |  |  |
|                             |   |               |       |          | estiliation         | Statistics |        | _            |  |  |  |  |
|                             |   |               | R-two | R- two   | Error               |            |        | Durbin -     |  |  |  |  |
|                             |   |               |       | adjusted |                     |            |        | ATSON        |  |  |  |  |
|                             |   |               |       | adjusted |                     |            |        | AISON        |  |  |  |  |
|                             |   |               |       |          |                     |            |        |              |  |  |  |  |
| Model                       | Year=   | Year -=       | :     |          |                     | Variable   | ddI    | Year =       |  |  |  |  |
|                             | 2013/14   | 2013/14       |       |          |                     | of F       | 2      | 2013/14      |  |  |  |  |
|                             | [selected]  | [no selected] |       |          |                     |            |        |              |  |  |  |  |
| 1                           | 731 [a]   | 006           | 535   | 466      | 27446220634992      | 7,612      | 34     | 1,520        |  |  |  |  |
| a: Predi                    | a: Predicted value: [constant], V5/3, V1= 10/8, V3=11/7, V2= 9/10, V4= 8/11                   |               |       |          |                     |            |        |              |  |  |  |  |
| b :Unles                    | b :Unless otherwise stated, statistics are based only on observations for which YEAR= 2013/14 |               |       |          |                     |            |        |              |  |  |  |  |
| c: dene                     | endent variab   | le: Y1 = 3/7  | •     |          |                     |            |        |              |  |  |  |  |

Only the variable V1 is significant at the threshold of 1% with a standardized coefficient of 0.781.

Regression 14/15 ERE and the dependent variable.

|           | R                              |                               | R-<br>two | R- two adjuste | Standard<br>estimation<br>Error | Change in statistics | the      | Statistic of<br>Durbin -<br>ATSON |
|-----------|--------------------------------|-------------------------------|-----------|----------------|---------------------------------|----------------------|----------|-----------------------------------|
| Model     | Year=<br>2014/15<br>[selected] | Year -= 2014/15 [no selected] |           | d              |                                 | Variable of F        | ddI<br>2 | Year = 1997/98                    |
| 1         | 271 [a]                        | 056                           | 072       | -066           | 26308899653618<br>7             | 521                  | 34       | 1,993                             |
|           |                                |                               |           |                | 3/7, V4= 11/8, V2= 9            |                      |          |                                   |
| b:Unless  | s otherwise st                 | ated, statistic               | s are ba  | ased only or   | n observations for w            | hich YEAR= 20        | 14/15    |                                   |
| c: depend | dent variable:                 | Y1 = 3/7                      |           |                | ·                               | ·                    |          |                                   |

Summary of the model [a, b]

No explanatory variable is significant at the threshold of 5%.

Regression 15/16 ERE and the dependent variable.

|           |                          |                              | Sun       | nmary o   | t the model     | [a, b].                         |                      |          |                                      |
|-----------|--------------------------|------------------------------|-----------|-----------|-----------------|---------------------------------|----------------------|----------|--------------------------------------|
|           | R                        |                              |           | R-<br>two | R- two adjusted | Standard<br>estimation<br>Error | Change in statistics | n the    | Statistic<br>of<br>Durbin -<br>ATSON |
| Mod<br>el | Year= 2015/16 [selected] | Year<br>2015/16<br>selected] | _=<br>[no |           |                 |                                 | Variable<br>of F     | ddI<br>2 | Year = 1998/99                       |
| 1         | 596 [a]                  | serectea                     |           | 353       | 257             | 1,70383513175<br>035            | 3,615                | 34       | 1,786                                |
| a: Pred   | licted value: [co        | nstant], V5/                 | '3, V1    | = 8/9,    | V3 = 10/7,      | V2=12/9, V4= 11/8               | 8,                   | •        |                                      |
| b :Unle   | ess otherwise sta        | ated, statisti               | cs are    | based o   | only on obse    | ervations for which             | YEAR= 20             | 15/16    |                                      |
| c: depe   | endent variable:         | Y1 = 3/7                     |           |           |                 |                                 |                      |          |                                      |

The variable V2 is significant at the 1% threshold with a standardized coefficient of 0.798 and the variable V3 at the 5% threshold with a standardised coefficient of 0.472..

c: dependent variable: Y1 = 3/7

c: dependent variable: Y1 = 3/7



Regression 13/14 VAT and the dependent variable

|           | R   |                               | R-two     | R- two      | Standard<br>estimation<br>Error | Change is statistics | n the    | Statistic<br>of<br>Durbin -<br>ATSON |  |  |
|-----------|---|-------------------------------|-----------|-------------|---------------------------------|----------------------|----------|--------------------------------------|--|--|
| Model     | Year=<br>2013/14<br>[selected]  | Year -= 2013/14 [no selected] |           |             |                                 | Variable<br>of F     | ddI<br>2 | Year = 1968/97                       |  |  |
| 2         | 573 [a]   | 561                           | 325       | 226         | 123362462109                    | 3,206                | 34       | 2,161                                |  |  |
| a: Predic | a: Predicted value: [constant], $V5/3$ , $V3 = 9/7$ , $V1 = 11/8$ , $V4 = 10/8$ , $V4 = 8/11$ , |                               |           |             |                                 |                      |          |                                      |  |  |
| b :Unless | otherwise sta   | ted, statistics               | are based | only on obs | servations for which            | YEAR= 20             | 13/14    |                                      |  |  |

## Summary of the model [a, b]

The variable V2 is significant at the 1% threshold with a standardized coefficient of -0.414, the variable V3 at the 5% threshold with a standardized coefficient of 0.311 and the variable V5\_3 at the threshold of 5% with a standardized coefficient of 0.331

Regression 14/15 VAT and the dependent variable.

| Regression 14/13 VAT and the dependent variable. |   |                 |           |               |                      |            |       |           |  |  |
|--|---|-----------------|-----------|---------------|----------------------|------------|-------|-----------|--|--|
|  | R   |                 |           |               | Standard             | Change in  | n the | Statistic |  |  |
|  |   |                 |           |               | estimation           | statistics |       | of        |  |  |
|  |   |                 | R-two     | R- two        | Error                |            |       | Durbin    |  |  |
|  |   |                 |           | adjusted      |                      |            |       | -         |  |  |
|  |   |                 |           |               |                      |            |       | ATSON     |  |  |
|  |   |                 |           |               |                      |            |       |           |  |  |
| Model  | Year=   | Year -=         |           |               |                      | Variable   | ddI   | Year =    |  |  |
|  | 2014/15   | 2014/15         |           |               |                      | of F       | 2     | 1967/98   |  |  |
|  | [selected]  | ſno             |           |               |                      |            |       |           |  |  |
|  |   | selected]       |           |               |                      |            |       |           |  |  |
| 2  | 657[a]  | 591             | 434       | 346           | 126465212114         | 5,043      | 34    | 2,228     |  |  |
| a: Predic  | a: Predicted value: [constant], $V5/3$ , $V3 = 10/7$ , $V2 = 8/9$ , $V4 = 9/10$ , $X2 = 10/9$ , |                 |           |               |                      |            |       |           |  |  |
| b :Unless  | otherwise sta   | ted, statistics | are based | d only on obs | servations for which | YEAR= 20   | 14/15 |           |  |  |

## Summary of the model [a, b].

The variable V2 is significant at the 1% threshold with a standardized coefficient of -0.449; the variable V3 at the threshold of 5% with a standardized coefficient of 0.372 and the variable V5\_3 at the threshold of 1% with a standardized coefficient of 0.406.

#### Regression 15/16 VAT and the dependent variable.

Summary of the model [a, b]

| Summary of the model [a, b] |  |                               |     |   |                     |                          |          |                                      |  |  |  |
|-----------------------------|--|-------------------------------|-----|---|---------------------|--------------------------|----------|--------------------------------------|--|--|--|
|                             | R  |                               |     | R-two R- two adjusted Standard estimation Error |                     | Change in the statistics |          | Statistic<br>of<br>Durbin -<br>ATSON |  |  |  |
| Model                       | Year=<br>2015/16<br>[selected]   | Year -= 2015/16 [no selected] |     |   |                     | Variable<br>of F         | ddI<br>2 | Year = 1968/99 9                     |  |  |  |
| 2                           | 685 [a]  | 486                           | 474 | 415   | 212362828516        | 6,199                    | 34       | 1,827                                |  |  |  |
|                             |  |                               |     |   | 0/8  V2 = 9/10,  V4 |                          |          |                                      |  |  |  |
| b:Unles                     | b:Unless otherwise stated, statistics are based only on observations for which YEAR= 2015/16 |                               |     |   |                     |                          |          |                                      |  |  |  |
| c: depen                    | dent variable:   | Y1 = 3/7                      |     |   |                     |                          |          |                                      |  |  |  |
| ·                           | 11 776   |                               |     |   |                     |                          |          |                                      |  |  |  |

The variable V2 is significant at the 1% threshold with a standardized coefficient of -0.7