THE DETERMINANTS OF FINANCIAL STRUCTURE IN THE ALGERIAN ENTERPRISES:
A COMPARATIVE STUDY BETWEEN THE SMEs AND LARGE COMPANIES

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Abstract:

The aim of this work is to identify the determinants of the financing structure of the Algerian companies, using the financial statements of 83 large companies and 165 SMEs over the period 2008-2010. This is done through a comparative study between SMEs and large companies in order to verify the existence of a size effect and, subsequently, test the homogeneity of Algerian SMEs in terms of mode of financing. The results of our research indicate that the Algerian SMEs and large companies have almost the same determinants of financial structure, i.e. the debt rate, the rate of sustainable growth and profitability. The undercapitalization of SMEs has negative repercussions on their financial structure and, consequently, on their growth.

Keywords: Financial structure, SMEs, Large compagnies, Algeria.

JEL Code: G32.

Introduction:

The work of Modigliani and Miller is the starting point for a reflection on the abundant issue. According to the thesis of neutrality, these authors showed that the presence of imperfections in the market due to the deductibility of financial expenses taxable income, firms prefer debt to equity. A company through debt will, therefore, seek to

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maximize its value maximum advantage of tax savings. The cost model failure tempers this theory by posing the problem of bankruptcy costs that limit the horizon of indebtedness of the company. This is the point of equalization between tax benefits and costs of failure.

Following the work of Modigliani and Miller (1958, 1963) on the impact of financial structure on firm value, several theoretical and empirical studies have examined the determinants of the financial structure of for-profit organizations (Fama and French, 2000; Hovakimian et al., 2001) small and medium enterprises (SMEs) (Sogorb-Mira, 2005; Lopez-Gracia and Sogorb-Mira, 2008; McBhaird and Lucey, 2010; Degryse et al., 2010; Vanacker and Manigart, 2010) and non-profit organizations (Wedig et al., 1996; Denison, 2009, Smith 2010). According to the theoretical predictions of the two main theories of corporate finance, namely the theory of compromise (DeAngelo and Masulis, 1980; Myers, 1984; Fischer et al., 1989) and the theory of hierarchical financing (Myers, 1984; Myers and Majluf, 1984), the evolution of the financial structure of a company can be explained by its profitability, its size and risk profile. In the field of microfinance, De Sousa-Shield and Frankiewicz (2004), Fernando (2004) and Fehr and Hishigsuren (2006) show from a few case studies, the evolution of the financial structure of MFIs can vary according to their degree of maturity and their institutional life cycle. However, this relationship has not been the subject of empirical investigation.

Unlike Titman and Wessels (1988), Antoniou et al. (2008) and Aggarwal and Kway (2009), who feared the risk respectively by the standard deviation of operating income, the volatility of cash flows and the Altman Z-Score to study its impact on the financial structure. Some recent work see the score at the end of the rating process as an indicator of the risk profile and estimate its influence on the evolution of the financial structure of banks (Ferri et al., 2001; Ferri, 2004) and non-business financial (Kisgen, 2006; 2009). To date, only one study (Hartarska and Nadolnyak, 2008) examined the relationship between notation and the evolution of the financial structure of MFIs.

The emphasis is on the influence of the choice of rating agency on the evolution of the financial structure of MFIs. It appears from this study that the choice of rating agency affects the ability of MFIs to adjust their financial structure. In non-profit organizations, the emphasis is on the role played by the voluntary disclosure of financial

and accounting information on reducing information asymmetries between firms and investors (Parsons, 2003; Buchheit and Parsons , 2006; Parsons, 2007). On a purely empirical basis, most studies on the financing choices of firms and in the present case, SMEs focus on the search for predictors of these choices.

Generally, financial theory identifies several variables that can explain the financing choices of firms. Size, profitability, asset tangibility and growth opportunities are important determinants of the choices that appear in the recurring majority of empirical studies (Bourdieu and Colin Sedillot 1993; Rajan and Zingales, 1995; Kremp, Stoss and Gerdesmeier 1999; Suret and Carpentier, 1999; Gaud and Jani, 2002; Drobetz and Fix, 2003; Croquet and Heldenbergh 2008, etc.). However, other factors also help to understand how companies establish their financing choices. We propose to establish a list by comparing the different views of financial theories about the interactions of these factors on the choice of corporate finance and more specifically SMEs.

Our work aims to identify the determinants of Algerians corporate financing structure between 2008 and 2010. This, by making a comparative study between SMEs and large companies to verify the existence of a size effect and, subsequently, test the homogeneity of Algerian SMEs in terms of mode of financing.

Methodology:

Petty and Bygrave (1991), while recognizing that the size, the sector of activity and profitability may influence the financial characteristics of SMEs, propose to group them into two broad categories in order to better characterize their differences:
• Those which are small and will remain so because the nature of the business and the industry in which they operate favor the size of these companies.• Those which are small because they are new and have not yet gone through the various stages of their development to bring them to maturity. These have the potential to become large and they are able to be potentially growing SMEs.

Hence, we recognize that not all SMEs evolve at the same rhythm, and that not all that are small become large (in fact, most SMEs remain small).

In this research we are interested in companies belonging to the second group, i.e. growth SMEs (GSMEs) and the effect that growth

may have on financial structures. It seems that growth creates different tensions in companies, which have a significant impact on, among others, the financial indicators related to liquidity and financial structure. The main objective of this research is to analyze the various financial behaviors of SMEs to sustain their financial structures.

After presenting a model for determining the financial structure adapted to the particularities of SMEs, we analyze how these companies have changed the parameters of the financial structure taking into account their financial and economic environment.

Finally, in order to identify whether the measured financing behaviors are specific to SMEs, we compare them with a group of large companies with a similar evolution pattern in their activity level. For this reason, our analysis begins with a discriminant analysis to test the distinction between SMEs and large companies in terms of the parameters defining their financial structures. This is followed by a statistical analysis of multiple linear regressions to build a statistical model determining the relationship between the financial structure (as dependent variable) and its factors (as explanatory variables).

Regarding the significant differences between SMEs and large companies, we refer to the field study "*La croissance soutenable du chiffre d'affaires des entreprises: Stratégies financières et effet de taille*" conducted by Robert B., Josée St, Jaques B. and which was carried out on a sample of 158 industrial SMEs and 104 manufacturing companies.

Also, in this study, a comparative analysis between the two types of companies was conducted in terms of the adopted financial strategies to record growth rates in order to test the extent of the impact of size and discussed the possibility of providing a model to determine the sustainable growth rate that can be compatible and adaptable to the specificities of SMEs.

This study was based on the assumption that growing SMEs will change their financial structure in the short-term, while growing large companies will change their financial structure in the long term. The study found that changing the financial structure in the short term or long term is dependent on the managers' financial preferences. Other results of the study found that in order to support growth, SMEs adopt financial strategies different from those adopted by large companies; moreover, SMEs will considerably change their initial strategies compared to large companies to face the pressures that are generated

by growth. The authors note that these results remain valid if we also take into account the rhythm of growth in the companies under study. This study also found that SMEs prefer short-term funding resources rather than the long-term funding ones.

The study sample and its specifications:

The study population is represented by the Algerian economic companies operating in various fields (manufacturing, commercial, services...). To reflect the characteristics and specificities of society, we have chosen 300 economic companies divided into large companies and SMEs in different economic sectors. Also, these companies are diverse in terms of geographical areas, legal form and financial behavior. The study was based on the financial and accounting information (financial statements) of these companies during the period 1998/2010, where the foregoing financial variables were calculated. To investigate their significance, these variables were subjected to preliminary statistical tests that showed a significant dispersion due to the unreliability of 52 financial statements of the companies under study, which led to their exclusion from the sample. The final number of observations was reduced to 248 companies divided into 165 SMEs and 83 large companies.

The mathematical model and hypotheses:

Proceeding from the results of previous studies[1], and to reveal the effect of size on the determinants of the financial structure of the Algerian economic companies, this section will identify the most important factors affecting the financial structure and its relationship to financial leverage. These factors are: the size of the company; profitability; amount of guarantees; growth rate; and the level of previous debt. These factors can be formulated in the following mathematical model:

$$FS_t = C + b1 \times D_{t-1} + b2 \times S_t + b3 \times P_t + b4 \times L_t + b5 \times G_t + b6 \times W_t$$

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[1] Such as the work of Patrik BAUER, 2004; Jasir Ilyas, 2001; Husni Ali Khrawish & Ali Husni Khraiwesh, 2010, Abdelkader Abdalla & Assadik Babker, 2002, Shuetrim, G., P. Lowe et S. Morlings,1993; Mc Bhaidr, C., Lucey, B., 2010 .

Where:

FSt: is the rate of financial structure for the current period, which is measured by dividing the banking and financial debt to the capital equity. This rate represents the dependent variable in the mathematical model proposed. Note that this rate is calculated through the accounting values of the banking and financial debts of all terms.

Dt-1: is the rate of the debts for the previous period, which is measured by the rate of debts of the company at the beginning of the year. We expect a negative relationship between the financial structure for the current period (t) as a dependent variable and the debt rate in the previous period (t-1) as an independent variable, since an increase in borrowing leads to an increase in financial risk, which inhibits the willingness of the funding parties in financing the company.[2]

St: i the size of the organization in the current year, which can be measured by the logarithm of total assets. For this same purpose also, we can use one of the indicators used in the organizational standard for the classification of companies and which takes the size scale into account, and among these indicators: sales, added value, the number of workers and total assets. We expect the relationship between size and the financial structure to be positive because size is an indicator of the degree of solvency, which is regarded as a contributing factor in borrowing at more favorable terms in large companies compared to SMEs. Many studies have proved that SMEs, which are not managed by their owners, are exposed to high agency costs and bankruptcy, especially when exposed to financial problems and difficulties (Titman and Wessels 1988, Ferri and Jones 1979, Chung 1993).

Pt: is the return on assets (ROA) of the company in the current period; and it is considered as an indicator of profitability. It is determined by dividing the Earnings before Interest and Taxes (Operating income) on the employed capital (or the total assets). According to the pecking order theory in the use of funding sources (Myers & Majluf 1984), we expect an inverse relationship between profitability and the financial

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[2] Another (A. Abdalla & A. Babker, 2002) belief assumes that the relationship can be positive in case there is enough liquidity, in addition, solvency can attract additional funding resources. We prefer however the first belief because there are no rating agencies in the Algerian financial market.

structure because companies that yield low profitability and face investment opportunities will resort to external financing, starting with borrowing before using capital equity, which leads to a high level of debt. On the other hand, companies that generate high-profits and which want to exploit available investment opportunities will resort to self-financing through the reinvestment of gained profits, which in turn leads to a low level of debt.

Lt: indicates the degree of liquidity of the company for the current period and is measured by dividing current assets on short-term liabilities. The latter is an indicator of the balance between assets and liabilities in terms of time period and value. We expect to reach a positive relationship between the degree of liquidity and leverage as increased level of assets' liquidity is an indication of the company's ability to meet its obligations in due time, especially short-term obligations.[3]

Gt: is the rate of growth of the company for the current period and is measured in several ways, including the rate of the growth of the assets' accounting value or the sales. We shall, however, rely on the sustainable growth rate, which is the result of multiplying the rate of return on equity (ROE) and the rate of retained profits as follows: G = ROE * (1-d)

Where:

G: sustainable growth rate
ROE: return on equity
d: the rate of dividend distribution

We expect to find a negative relationship between the growth rate and the financial leverage rate as the sustainable growth is the result of

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[3] According to the packing order theory and the information asymmetry hypothesis however, a negative relationship between liquidity and financial leverage can be reached, because companies with high liquidity tend to regularly use it in funding their investments which in turn leads to low debt level.

the effectiveness of self-financing, which leads companies not to resort to external resources.[4]

Wt: represents the amount of guarantees corresponding to loans which can be measured by the density of real assets in total assets. As assets are often funded by long-term resources, we expect a positive relationship between guarantees, expressed by real assets, and the rate of financial leverage; because these assets are considered guarantees for the creditors' rights in case the company is subject to financial difficulties or bankruptcy.

1. The distinction test between large companies and SMEs in terms of the determinants of financial behavior

To test the existence of a distinction between large companies and SMEs in terms of the determinants of the financial behavior, we use the discriminant analysis method to detect whether there are statistical differences between the two groups and to find the rule that classifies an observation (company) within a group based on its characteristics. Therefore, there are two distinction scores: 1 for large companies and 2 for SMEs.

After checking that the assumptions and the conditions on which the discriminant analysis is based are met, and after testing the distinction between the two groups, the result of the proposed classification is shown in the following table:

Table N°1**: Classification Results** [a]

DS			Predicted Group Membership		Total
			LC	SMEs	
Original	Count	LC	70	13	83
		SMEs	8	157	165
	%	LC	84,3	15,7	100,0
		SMEs	4,8	95,2	100,0
a. 91, 5% of original grouped cases correctly classified.					

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[4] In other words, a negative relationship between the two variables can be reached, where retained profits will be exhausted by future investment opportunities leading the company to seeking other external funding resources.

Such that:
LC: Large Companies
SMEs: Small and Medium Enterprises
DS: Discrimination

From this table, it is clear that:

- The classification quality is 91.5%, which is a high percentage indicating that SMEs are characterized by specificities related to the financial behavior that distinguishes them from large companies.
- 84% of large companies and 95.2% of SMEs are correctly classified.
- The overall error percentage is 08%

Therefore, on the basis of the financial variables related to the determinants of financial behavior, there is a statistical difference between SMEs and large companies in Algeria. The question that arises in this regard is: ***Which of the proposed variables in the analysis are really distinctive in the two groups?*** In other words: ***What causes the difference between large companies and SMEs in terms of the determinants of financial behavior?***

To answer this question, we use the Stepwise method (algorithm), which identifies the variables first as they come in and step-by-step.

Table N° 2**: Variables Entered/Removed**[a,b,c,d]

| | | Wilks' Lambda | | | | | | | |
| | | | | | | Exact F | | | |
Step	Entered	Statistic	df1	df2	df3	Statistic	df1	df2	Sig.
1	St	0,501	1	1	246,000	244,545	1	246,000	0,000
2	Lt	0,478	2	1	246,000	133,859	2	245,000	0,000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.
a. Maximum number of steps is 18.
b. Maximum significance of F to enter is .05.
c. Minimum significance of F to remove is .10.
d. F level, tolerance, or VIN insufficient for further computation.

Table N°3: **Variables in the Analysis**

Step	Tolerance	Sig. of F to Remove	Wilks' Lambda
1 St	1,000	0,000	
2 St	0,944	0,000	0,995
Lt	0,944	0,001	0,501

After 18 tests based on the Stepwise method, and also, based on the values of the statistic Wilks' Lambda and Fisher's F statistic, it is clear that the first distinguishable variable in the two groups is the size variable St, followed by the liquidity variable Lt, where the exact value F of the variables included in the model is statistically significant at all known significant levels, which means that these variables differ substantially within the study sample. Therefore, the large companies and SMEs are subjected to the analysis, form two separate groups with distinct characteristics. So, the separation of the groups' hypothesis and its ability to be identified are realized.

After these results it is possible to ask the following basic question:

Is it possible to find a mathematical formula that expresses the distinction between large companies and SMEs based on the variable of size and liquidity?

We seek to find a mathematical equation for the most dispersed line in the variables of size and liquidity around it and this is what we call the discriminant function, where the latter expresses the factoring axis is saturated with the largest number of variables (correlation) and the highest amount of variation in the variables correlated with it (Eigenvalue). The following table shows the characteristics of Eigenvalue:

Table N°4**: Eigenvalues**

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	1,093[a]	100,0	100,0	0,723

a: First 1 canonical discriminant functions were used in the analysis.

By using the first discriminant function, we note that the coefficients of correlation between size and liquidity in large companies and SMEs are high and expressive of a strong correlation, reaching 72.3%, as well as a high variation total that expresses this

function. Therefore, the economic and financial meaning of this function can be derived from finding a relationship between size and liquidity.

We used in the analysis the logarithm of real assets as a criterion to measure the size of the companies. We also used the rate of current assets and short–term liabilities to denote the degree of liquidity in companies. Proceeding from the fact that size is an indicator of the degree of solvency, which is an essential criterion in attracting external funding resources (especially long-term), it could be argued that the extracted discriminant function shows ***the ability of companies to meet their obligations*** (in the case of the continuous or interrupted activity).

The discriminant functions are subject to testing by using, among others, Wilks' Lambda statistic which is an indicator of the amount of unexplained variation in the scores of a distinction, and the more the value of this statistic is small, the better the results of the analysis are. Unlike the Chi-square value in which the higher it is, the more it indicates the function's distinction quality. The following table shows the results of this test:

Table N° 5**: Wilks' Lambda**

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	0,478	180,925	2	0,000

This test shows that the Chi-square value is significant at the level of 05%, and this confirms the previous result, as the difference between large companies and SMEs is not arbitrary, but rather a fundamental difference based on the value of Chi-square statistic, which reaches 180.925, and is significant at 05%. The extracted discriminant function has the following form:[5]

$$Z = -0.309 \, L_t + 1{,}027 \, S_t$$

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[5] Coefficients have been taken from the table of Standardized Canonical Discriminant Function Coefficients.

2. Results of statistical analysis

We seek to build a standard model to see whether there is a correlation between the proposed variables and the financial structures of the companies concerned by the present study. Thus, testing the model is on two levels, the economic test (theoretical) and the statistical test (quality features). For this purpose, we use Econometric Views program.

2.1 Estimation of the Statistical Model for Large Companies

LS // Dependent Variable is FSt
Sample: 1- 83
Included observations: 83

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.503292	3.996250	-0.626410	0.5329
Dt-1	0.518603	0.074171	6.991997	0.0000
Gt	1.327331	0.303404	4.374801	0.0000
Wt	1.207837	0.434669	0.496099	0.6213
Lt	0.008020	0.039238	0.204404	0.8386
Pt	-0.031529	0.969129	-0.032533	0.9741
St	0.032126	0.149671	0.214644	0.8306

R-squared	0.788319	Mean dependent var	1.650919
Adjusted R-squared	0.768562	S.D. dependent var	8.633714
S.E. of regression	4.153506	Akaike info criterion	2.939324
Sum squared resid	1293.871	Schwarz criterion	3.172465
Log likelihood	-231.7538	F-statistic	39.90098
Durbin-Watson stat	2.670468	Prob (F-statistic)	0.000000

Statistical validation of the model of Large Companies

The statistical validation model is made on the basis of its coefficients significance analysis and its residual fitness. The p-value of the variables Dt-1 and Gt are less than 5%, so these variables are significant at the 5% level. Regarding the other variables, the p-values are greater than 5%. These variables are not significant at 5% level.

To investigate the significance of the global model, we apply Fisher's test. This test reveals, at least, if one of the explanatory variables explain the financial structure. The Large Companies model is globally significant because the obtained Fisher's probability (0.00000 for Large Companies) is less than 5%.

2.2 Estimation of the statistical model for SMEs

LS // Dependent Variable is FSt
Sample: 1-165
Included observations: 165

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.776575	0.187057	-4151554	0.0001
Dt-1	1.000675	0.000695	1440.411	0.0000
Gt	0.030082	0.002582	11.64997	0.0000
Wt	1.012808	0.012875	0.994827	0.3214
Lt	-0.000106	0.000155	-0.683372	0.4954
Pt	0.229980	0.045233	5.084333	0.0000
St	-0.004003	0.010102	-0.396259	0.6925

R-squared	0.999948	Mean dependent var	-0.485851
Adjusted R-squared	0.999945	S.D. dependent var	31.42433
S.E. of regression	0.232100	Akaike info criterion	-2.873902
Sum squared resid	8.457671	Schwarz criterion	-2.723311
Log likelihood	10.97206	F-statistic	429441.5
Durbin-Watson stat	1.409937	Prob (F-statistic)	0.000000

Regarding the statistical testing:

- The attached statistical probability t-statistic for the three variables: the debt rate in the past period, the rate of growth and profitability is less than the significance level 05%, and this means that these variables are significant at this level, and vice versa for the other variables. The Adjusted R-squared indicates a significance of independent variables included in the model as its value reaches 99.99%.
- The attached statistical probability F, suggests the presence of at least, one significant explained variable, for being less than the 05% significance level. This means that the Adjusted R-squared is actually significant in identifying the dependent variable's behavior, which leads to statistically accepting this model. The following table summarizes the results of the previous statistical analysis:

Table N°6**: Relationship and signification of the estimated model**

	Relationship		Signification	
	SMEs.	LC.	SMEs.	LC.
Dt-1	P	P	sig.	sig.
Gt	P	P	sig.	sig.

Wt	P	P	not sig.	not sig.
Lt	N	P	not sig.	not sig.
Pt	P	N	sig.	not sig.
St	N	P	not sig.	not sig.

Econometric model validation

Note that our data are neither a panel data nor a time series, and the main objective of the two built models is not prediction but it is to test the financial theory hypotheses in the Algerian enterprises. To accomplish this study we used mainly two econometric tests, heteroskedascticity test and normality test errors.

1. Heteroskedasticity Test

1- For large enterprises:

$$LM = nR^2 = 83 \times 0,323416 = 26,84351 < \chi^2_{0,05}(23) = 35,17$$

$$F^* = 1,226206 < F^{0,05}_{23;59} = 1,757$$

According to White test, the Lagrange multiplier (LM) is less than X^2 at 5% level. Thus, the calculated Fisher statistic is less than its theoretical statistical value at 5%. Therefore, we accept the null hypothesis; the residuals are homoskedastic at 5% level.

2- For SMEs:

White and Fisher statistics show the absence of heteroskedasticity errors, based on the same previous tests, where:

$$LM = nR^2 = 165 \times 0,203285 = 33,5420 < \chi^2_{0,05}(27) = 40,11$$

$$F^* = 1,672 < F^{0,05}_{27;137} = 5,14119$$

The normality test errors

For both models, the normality test errors of the two equations shows that the Jarque-Bera statistic (JB) is less than X^2 on the threshold of 5%, which confirms the assumption of normally distributed errors.

3. Discussion, analysis of the results and test of hypotheses

To study the determinants of the financial structure, we thus, proceed with the interpretation of the results obtained in the two models (Large Companies and SMEs) for the different variables studied in order to assess the conformity of results with financial theory.

In the case of Large Companies, the results show that the retained explanatory variables, namely the D_{t-1} and G_t explain 77% of the behavior of the financial structure in the study period, and this rises to 99% for SMEs. All estimated coefficients of SMEs have not the expected signs except W_t, while the most ones of Large Companies have the expected signs except D_{t-1} and G_t.

Taking in an account practical considerations and the contributions of financial theory on the subject of the financial structure, the independent variables included in the model explain - in theory - the financial structure, in addition to other variables not included in the model, as evidenced by the emergence of the constant with a value other than zero, which refers to the rate of the financial structure in the absence of independent variables. According to this model, the financial structure, in the absence of all the independent variables, takes the value -2.50, as it is possible to accept this situation if equity capitals for the company are negative (the case of successive losses) or a negative debt net (the case of Excess). We can justify the presence of other explanatory variables by the absence of dividend rate, as we have assumed the absence of dividends in all companies part of the study, as well as the presence of other factors not included in the model[6]. Most of the independent variables' coefficients were positive. This refers to the existence of a direct correlation, except for the profitability variable which refers to the existence of an inverse

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[6] That there are other explained variables not included in the model can be explained by the fact that there is no data about them or that they cannot be counted or the belief that their impact on the dependent variable is insignificant.

relationship, and this is acceptable in scientific terms, since companies with high profitability will resort to self-financing if faced with investment opportunities, which results in low debt rate.

The economic interpretation of the model of SMEs matches, to a large extent, the model of large companies, but a third of the coefficients indicate an inverse relationship between its independent variables and the financial structure of SMEs. These variables took the form of liquidity and size. As to the inverse relationship between liquidity and the financial structure, it can be accepted under the hypothesis of information asymmetry and in accordance with the pecking order principle, as companies with high liquidity tend to use it to finance investments, which leads to a decrease of the level of debt. The inverse relationship between size and financial structure is possible to be accepted if we take into account the specificity of SMEs, as the latter tries to inflate its standards size as much as possible for the sake of attracting long-term funding resources. However, they remain insolvent in the banks and financial institutions' regard, which leads to weak financial structures. We have also noted that the financial structure, in the absence of all the independent variables, takes the value -0.78 for the same reason mentioned in the case of the model of large companies.

The financial structure changes directly with the rate of debt for the last period Dt-1 in large companies and SMEs. This relationship is characterized by the statistical significance at the level of 05%. This result is inconsistent with the assumption that increased debt leads to an increase of the level of financial risk which inhibits the willingness of the funding parties in financing companies. This result could mean that the increase in the debt rate of Algerian economic companies may be a positive sign for banks that such companies have the ability to attract funding resources, and then can be considered as an indication of the high solvency. This interpretation could be strengthened by the willingness of companies to reach a targeted financial debt in the hope of an access to funding privileges based on their good credit reputation[7]. This result can, therefore, be accepted if the funding

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[7] This result concord with a study by Ozkan (2001) about the determinants of the financial structure in British companies. It also concords partially with a result obtained by Abdalla (1994) in his research on the determinants of the financial structure in Kuwaiti manufacturing and services companies.

relationship between banks and economic companies is characterized by normal practices, especially when it comes to the public sector.

The financial structure changes directly with the size for large companies and inversely for SMEs. In both cases, this variable (Size) is insignificant at the level of 05%. Thus, the hypothesis that has been developed in the context of our work is partially accepted. This can be explained by the fact that large companies are often characterized by high solvency, which is the result of large size (the number of workers, the total of real assets, turnover (sales)...), so it is natural that the size of these companies provides better funding opportunities. As for the fabric of SMEs, the inverse proportionality between its financial structure and its size is due to the fact that at the outset these companies have usually a weak initial capitalization and have weak guarantees, which deprives them of possibilities to grow and develop[8]. So, as a counter-reaction, these companies try to inflate their growth and size information as much as possible in the hope of attracting external funding resources (loans), but they nevertheless, remain, due to their small size, characterized by low solvency regarding funding parties(banks, for example). We can add to this interpretation the inverse relationship between the size and bankruptcy costs, noting that the latter are high in SMEs compared to large companies.

The relationship between the financial structure and profitability is direct and significant at the level of 05% for SMEs, and seems to take an inverse direction and not significant at the same level for the large companies. Thus, the hypothesis put forward regarding profitability variable can be realizable in the case of large companies and not so, in the case of SMEs. In fact, according to the pecking order theory (Myers & Majluf 1984), companies resort to internal sources of financing primarily to retain control and financial independence as well seeking reduced costs of funding. Accordingly, companies with high profitability, and seeking to exploit available investment opportunities, will resort to self-financing through the reinvestment of gained profits, which results in low debt rate. On the other hand, companies with low profitability will resort to external financing

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[8] This result can be explained by *finance gap* problem, which describes a situation where a company has reached a stage in its development where it uses all resources of short-term funding, but has not reached the size enabling it to obtain long term financing, either by financial institutions or by an access to stock market.

starting with borrowing before using their equity capital, which leads to a high level of debt. Therefore, we can explain the difference between large companies and SMEs in terms of the nature of the relationship between financial structure and profitability by the fact that Algerian SMEs, especially those founded recently, are weak in self-financing, in addition to having a high profitability. The reason for this is that their economic profits are high in comparison to the available and owned, and sometimes funded by leasing means and tools. This is what makes the financial structures of these companies greatly sensitive to the achieved level of profitability. Thus, the logic of the pecking order may not be compatible with the specificity of Algerian SMEs.

The relationship between financial structure and liquidity has a direct positive correlation in large companies and is the inverse in SMEs, but this relationship is not significant in both cases. If we accept this inverse relationship, the interpretation that can be put forward is that under the logic of the pecking order, companies resort to self-financing if they have a high liquidity rate which leads to a low debt rate. This is looking closely to the case of SMEs we find that they are usually characterized by low self-financing and low liquidity, which in turn forces them to borrowing as an appropriate resource in this case. As for the direct correlation that characterizes large companies, this can also be accepted from Jensen's (1986) viewpoint, where liquidity is a basic index of the company's ability to meet its payment obligations on due time, making the financial leverage process easier for these companies. However, it must be noted that this relationship, in the case of our study, is not significant at the 05% level.

The relationship between the possibility of growth and the financial structure has a direct positive correlation in large companies and SMEs and is statistically significant at 05% level. This is not compatible with the proposed hypothesis, as it is expected that future investment opportunities would lead to the exhaustion of self-financing (retained earnings), pushing the company to seek external funding resources. On the other hand, the sustainable growth is a result of the effectiveness of self-financing; which lead companies to not decking external resources. Therefore, this result can be justified by the fact that possible high sustainable growth rates in Algerian

economic companies, especially SMEs, is an indicator of their ability to borrow and be indebted.

The relationship between the amount of guarantees and the financial structures is positive for all companies under study; this relationship, however, is not significant at 05% level. This positive relationship is expected because the more there is an increase in the amount of real and tangible assets (an indicator of solvency for banks), the more there are better opportunities for companies to obtain long-term loans. What draws attention, however, is non-significance of this relationship. The appropriate interpretation for this result could be the fact that most Algerian SMEs resort primarily to self-financing as the result of the difficulty they face in obtaining long-term loans (finance gap problem). For large companies, it can be said that they do not need to offer enough guarantees to obtain long-term loans, because they are mostly public companies, i.e. they belong to the public sector.

Conclusion:

The results of our research indicate that the Algerian SMEs and large companies have almost the same determinants of financial structure, i.e. the debt rate, the rate of sustainable growth and profitability. Even though, the discriminant analysis has revealed that SMEs and LC are two separate groups in terms of financial behavior at 91.5% (quality classification), the model presented here indicates that the size and liquidity are two main factors of classification. Moreover, in accordance with the assumptions put forward in the study, it seems that in face of the tensions generated by the financing needs (Expansion and Growth), SMEs will change their financial structures more *significantly* than large companies. These conclusions are also valid if we take into account the pace of business growth. The pace of growth, however, affects the choice of factors to be modified, since the high-growth companies do not vary the same parameters as those with a low growth rate. SMEs seem to prefer short-term funding resources rather than long-term ones. These findings may be explained by the financing problems of SMEs in Algeria, which essentially take the form of initial under-capitalization. For this reason, these companies remain insolvent regarding the banks. The undercapitalization of SMEs has negative repercussions on financial structures and, consequently, the growth of the companies concerned.

The results obtained are consistent with those of a survey on the obstacles on the development of the private sector in Algeria, made by Ecotechnics (1999) on a sample of 314 companies. This survey indicates that 80% of SMEs are self-financed, while the financial structures of the rest are divided between equity capital and debt, and only 07% of the latter had the possibility of financing themselves through a loan at its inception.

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