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INTERDEPENDENT STRUCTURE OF DEBT CAPITALIZATION AND EARNINGS MANAGEMENT IN THE MENA COUNTRIES

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Abstract

The results of this research tend to confirm that ownership structure has an effect on the conflicts between the majority and the minority shareholders through borrowing. It seems, however, that the context in which the studies were conducted determines the way of such impact. More precisely, since these studies were conducted in a country of civil or customary law, they have established respectively nonlinear relationship between the capital concentration, on the one hand, and the majority and minority shareholders' conflicts measured by the earnings management, on the other. The objective of our research is to study the interdependence between capital structure and debt and the impact of this relationship on the conflicts between the minority and the majority shareholders approached by the earnings management of the listed companies of the MENA region. The study is conducted on a sample of listed companies over the period 2003-2006. Despite the valuable researches devoted to the study of the efficiency of the governance mechanisms, most studies prefer to focus essentially on the conflicts of interest between the shareholders and managers, and do not foresee any case where the investors are in conflict with each other. However, and as noted by Le Maux, J (2003, p.11), "shareholders' disputes are by no means negligible", current events have taught us about on many occasions. The analysis of the earnings management in the context of the agency inevitably requires considering the mechanisms of corporate governance as a means of controlling and reducing this practice. Therefore, we devote this research to the study of the different incentives to the earnings management in a first section and how this concept reflects the degree of conflicts between the majority and the minority shareholders in a second section.

SECTION I: The stimuli to the earnings management.

We develop in what follows the reasons that make the controlling shareholders manage earnings at the expense of the minority shareholders.

1. The financing method and the system of governance: shareholder model versus partnership model

The shareholder model of governance is prevailing in the Anglo-American countries. The system of 'financial reporting' is based on a conceptual framework that places the shareholders in a privileged position. The financial market plays a vital role in funding the firms. Therefore, the funding in the Anglo-American countries is dominated by equity and there is a greater separation between the managers and the

owners. The leaders in these countries are expected to manage the accounting results in response to the pressure from a dynamic capital market.

However, in the Euro-continental countries partnership governance is carried out by various partners of the firm such as banks, employees, governments, major customers and suppliers, etc.. In the Euro-continental countries, the demand on the accounting results is much more influenced by the wish of the agents to meet the information needs of the creditors, governments and employees rather than by the needs for disclosure. The Euro-Continental governments have long protected the large companies against the strict control by the financial markets (Bertin, Jaussaud and Kanie, 2002). Given the importance of the capital provided by the banks, the leaders would be less concerned about meeting the need of the individual and the minority shareholders for information.

Similarly, in the MENA region, company funding remains largely based on bank loans. Even if the current trend is to give greater priority to investors, it is unlikely that the mode of corporate funding in the MENA region will be similar to that of the Anglo-American companies as shareholding is not widespread among the public and ownership structure remains largely of a domestic nature.

In this context, previous studies have shown that the leaders manage the results during the company's stock market listing (Friedlan, 1994 ; Teoh, Welch et Wong, 1998 ; Teoh, Wong and Rao, 1998) or at a subsequent increase in the capital through a public offering (Teoh, Welch and Wong 1998; Ragan, 1998). Hence the following hypothesis:

H1: The controlling shareholders would have even more incentives to excessively manage upward the results so that the operations and introduction of a capital increase through a public offering are more frequent.

2. The legal system: the relationship between the tax and the accounting rules

The legal system in the Anglo-American countries is common law. This has an impact on the company law which, traditionally, does not prescribe rules for the companies about how to behave and how they should prepare their financial statements to produce the accounting profit. There is a separation between the accounting standards and the tax rules in the way that the accounting benefit is determined according to the accounting standards while the taxable income is determined according to the tax rules. The accounting profit and the taxable income are independent.

On the other hand, the Euro-continental countries have a written legal accounting system. Accounting is largely a branch of the written law of the commercial companies. A crucial role of financial accounting in the Euro-continental countries would determine the amount of tax owed to the government. The accounting and tax regulations are linked. Therefore, the accounting profit and the taxable income are tightly connected.

Meanwhile the MENA is a zone of written law. The accounting system that preceded the reform was related to the Euro-continental model. The new accounting system for most of the MENA countries followed the Anglo-American track. It has developed a conceptual framework that set a goal to meet the investors' needs. Accounting would, at least conceptually, be independent of taxation. However, the accounting practices of the MENA companies remain strongly attached to the tax rules despite the enactment of an accounting law.

In this context, the tax levies represent a means by which the political agents may act by imposing additional costs to the firm. Besides, the leaders would be encouraged to reduce the profits in the intention to pay less tax. The tax impact on the earnings management is related to the effective tax rate (Roubi and Richardson, 1998; Guenther, 1994). Hence, we set the following hypothesis:

H2: Controlling shareholders would have even more motivations to excessively manage the accounting results downward in the presence of high effective tax rates.

3. Governance mechanisms

3.1. Capital concentration

Shareholders who hold a significant stake may have an interest in assuming the control of the leaders in that they will appropriate a significant share of the accrued additional benefits. Their incentive to act is the best and probably the cheapest guarantee of their effectiveness in terms of agency costs. These majority shareholders also have important advantages compared to some isolated minority shareholders.

First, the majority shareholders can mobilize substantial resources more easily to monitor the managers and protect their investments. Moreover, due to the number of votes they have, they can influence the voting process at the general meetings or possibly try to convince the small shareholders to join their decisions and support them in case of a conflict with the company's management.

Several studies, such those of (Defond and Jiambalvo, 1991, Dechow et al. 1996; Chtourou, 2000; Core, 2000), confirm that the controlling block-holders are more willing to act in the interest of the shareholders and hinder the managers' discretionary behavior regarding the earnings management. Dechow et al. (1996) suggest that the controlling block-holders improve the credibility of the financial statements by providing a detailed analysis of the management activities of the company's earnings. Core (2000) also shows that, in the presence of controlling block holders, the leaders are more inclined to act in the interest of the shareholders and therefore should reduce the probability of fraud in the financial statements to avoid any disputes.

For his part, Chtourou (2000), on a sample of 300 U.S. companies, shows a significant negative relationship between the earnings management, on the one hand, and the cumulative percentage of blocks of shares of which the investors hold more than 5% and have no relationship with the management, on the other hand. However, this relationship is positive for the investors holding blocks of shares and having transactions with the company. These results suggest that the holders of independent blocks of shares efficiently control the process of preparing financial statements and help to hamper the managers' discretionary behavior in managing the earnings. However, those who have a relationship with the business tolerate a higher level of discretionary accruals.

More recently, Lopez Iturriaga and Hoffmann (2005) have found a negative coefficient between the proportion of the property held by the majority shareholder and the abnormal accruals, confirming the hypothesis that says that a high concentration of ownership reduces the discretionary accruals. The authors emphasize that the capital structure and that of ownership act in a complementary manner but not as alternative mechanisms of corporate governance.

Therefore, we expect the controlling block-holders to extensively monitor the preparation of the financial statements that have to be more reliable. Hence the following hypothesis.

H3: the shareholders controls would have even more incentives to excessively manage the accounting earnings upward in the presence of the controlling block-holders.

3.2. Quality of the external auditing

The auditor is supposed to be a real tool to discipline the opportunistic managers. Jensen and Meckling (1976) emphasize that the external auditor is part of the controlling process of the leaders and can, along with other mechanisms, achieve the alignment of the executives' interests with those of the

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shareholders. Furthermore, Short et al. (1999) state that the request of the audited accounting information is a fundamental aspect of corporate governance to the extent that it reduces the information asymmetry between the managers and the shareholders

The ability of an auditor to be stringent and independent is appreciated because of his reputation. Indeed, the reputation of the auditors is promoted and even remunerated by the market (Asthana et al. In 2004, Krishnamurthy et al. 2006). It guarantees the quality transparency of the financial statements. Actually, famous auditors may not find it valuable to damage their reputation by validating inaccurate reports. Several studies tend to show that the large audit firms the "Big Six" (now become the "Big Four") allow better checking of the integrity and accuracy of the financial statements attributed to the high audit quality of these firms (DeAngelo, 1981; Palmrose, 1988; Teoh and Wong, 1993; Graswell et al., 1995).

These firms are statistically more conservative in formulating their opinions and more capable of controlling the discretionary accounting practices. Many academic studies tend to establish a negative relationship between the various quality substitutes of the audit process, including the reputation and independence of the external auditor, and the propensity of firms to manage their accounting results.
Francis and Krishnan (1999) show that 'Big Six' auditors are more likely to issue qualified reports for the firms with high accruals. Hence the following hypothesis:

H4: the shareholders of controls would even have more incentives to excessively manage the accounting results downward in the presence of external auditors.

3.3. The debt level

According to the agency theory, a high debt is often regarded as a device to "govern" the opportunistic behavior of the managers. In fact, the disciplinary role of debt is approved by several empirical studies (Jensen, 1986; Kaplan, 1989; Lehn and Poulsen, 1989, Aghion and Bolton, 1992; Denis and Denis, 1995). According to the agency theory of (Jensen and Meckling, 1976) and that of free cash flow of Jensen (1986), debt plays a disciplinary role in aligning the leaders' deviant behavior.
Indeed, Jensen (1986, 1993) and Stulz (1990) show that the regular interest payment and repayment of what debt implies can limit the leaders' aberrant practices in using the company's liquidity. Similarly, Grossman and Hart (1982) suggest that debt is an incentive for the manager to adopt an effective management and make good investment decisions. Hence assumption 5:

H5: The controlling shareholders would be even more motivated to excessively manage accounting results upward in the presence of a high debt.

4. Political visibility

4.1. The company size

Large firms are more sensitive than smaller ones to the pressure of the political costs and thus are subject to a greater transfer of wealth. We anticipate for the Tunisian, Moroccan, Saudi, Jordanian and Omani companies the following hypothesis:

H6: The shareholders of control are even more motivated to manage the accounting results downward when the firm is large.

4.2. Minimal losses

Many recent studies have highlighted the importance of thresholds as an incentive to earnings management. Specifically, these studies have raised the issue that the directors tried to avoid the publishing of small losses (Burgstahler and Dichev, 1997; DeGeorge, Patel and Zeckhauser, 1999, Burgstahler and Eames, 2003). Leuz et al. (2003) argue that the leaders are generally motivated to avoid publishing the losses regardless their level. Their scope is further limited to turn those losses into profits when they experience huge losses.

Nevertheless, 'small losses' are more easily bypassed in the context discretionary space available to the leaders. Hence, the managers can avoid 'small loss' through the use of discretionary accruals. Small losses are transformed by the leaders into minimal benefits to avoid the negative reactions of the financial markets. We thus state the following hypothesis

H7: Controlling shareholders are especially urged to exercise a moderate (upward) management of the accounting results when they experience small losses.

4.3. Smoothing potential

Several authors showed that one of the reasons for earnings management lies in the smoothing of the accounting results (Ronen and Sadan, 1981, Chaney and Lewis, 1995; Defond and Park, 1997 and Chaney et al. 1998). To control the executives' incentives to smooth earnings in Tunisian, Moroccan, Saudi, Jordanian and Omani samples, we choose the variable "propensity to smooth" to identify the potential smoothing present in each sample and in every year of the analyzed period. This variable is measured by the variation coefficient in the operating income for each year of the analyzed period. We anticipate the following hypothesis:

H 8: Controlling shareholders are especially encouraged to upward manage (resp. downward) the accounting results when the potential for the earnings smoothing upward (resp. downward) is high.

5. Econometric modeling and earnings

5.1. Sample selection and data

The Tunisian, Moroccan, Saudi, Jordanian and Omani Data are extracted from the annual reports of companies from these countries. After applying various filters to eliminate the firms about which the data are not enough for calculating the discretionary accruals, we ended up with 250 companies distributed as follows: 20 companies from Tunisia, 30 from Morocco, 60 from Saudi Arabia, 69 from Jordan and 66 from Oman. The study covered the 2003-2006 period.

5.2. Measurement of the earnings management

Our research takes again the measure of the earnings management proposed by Leuz et al (2002) according to which the controlling shareholders are likely to adopt earnings smoothing through the correlation between the accruals and the operating cash flows.

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5.3. Measures of the explanatory variables

Table 1: Operationalization of the explanatory variables of the earnings management

explanatory variables	OPERATIONNALIZATION
Capital increase	Mute variable taking value 1 if there is capital increase and 0 otherwise.
Debt	*Financial debt / equity*
Effective tax rate	*Tax / Benefit* Ordinary earnings before tax + depreciation on assets
Size	Natural logarithm of the firm's total assets
Shareolders' propery concentration.	Accumulated percentages of the capital held by shareholders having more than 5%
Audit quality	Mute variable having value 1 if the auditor is Big 4 and 0 otherwise
Minimal losses	Mute variable having value 1 if the firm publishes minimal net profits and 0 otherwise
Potental smoothing	Variation coefficient of the operating results

5.4. Results

Table 2 presents the empirical results of the linear regression model in panel tested on samples of Tunisian, Moroccan, Saudi, Jordanian, and Omani firms.

Table 2: Summary of the variables to be tested, the expected signs and results

Variables to be tested	Expected results	Résults Global sample	Sub-sample results		
			positive ACD	moderate ACD	négative ACD
H1	+	Non significant	Non significant	Sign : +**	Non significant
H2	+	Non significant	Non significant	Non significant	Non significant
H3	+	Non significant	Non significant	Non significant	Sign : -**
H4	_	Non significant	Sign : -**	Non significant	Sign : -**
H5	_	Non significant	Non significant	Non significant	Non significant

H6	–	Non significant	Non significant	Non significant	Sign : -**
H7	+	Non significant	Sign : +**	Sign : -**	Non significant
H8	+	Non significant	Non significant	Non significant	Non significant

Variables to be tested	Comparative study				
	Tunisia	Marocco	Saoudi Arabia	Jordan	Sultanate of Oman
Operations of capital increase through public offering positively affect earnings management: H1	Sign :+**	ns	ns	Sign :+**	Sign :-**
The level of the firm's leverage positively affects the earnings management: H2	Sign :-**	ns	Sign :-**	ns	ns
The effective tax rate positively affects the earnings management: H3	ns	ns	ns	Sign : -**	ns
The company size negatively affects the earnings management: H4	Sign : +**	ns	ns	Sign : -**	Sign : +**
The share capital of the firm negatively affects the earnings management: H5	ns	ns	Sign :-**	Sign: +**	ns
The presence of the "Big 4" auditors negatively affects the earnings management: H6	ns	ns	ns	Sign : -**	ns
Minimal losses positively affect the earnings management: H7	ns	ns	Sign :+**	ns	ns
The earnings smoothing potential positively affects the earnings management: H8	ns	ns	ns	ns	ns

For the overall sample, Table 2 shows that the coefficient associated with the variable "operations of capital increase" is negative and insignificant. However, the same table reports that the transactions of capital increase affect the moderate management of the accounting profits.

Table 2 reports that the coefficient associated with the variable "debt" is positive but insignificant for the overall sample. Concerning the sub-sample of firms with a downward earnings management, this variable is positively significant. The higher the debt level increases, the higher the downward earnings management rises, the thing which invalidates the debt hypothesis. In fact, this result supports those of DeAngelo et al. (1994) and Jones (2003) who state that firms closer to the violation of their debt terms adjust their downward earnings. The authors explain this downward earnings management by the desire of dramatizing the situation in order to obtain favorable terms of contract renegotiation.

The non-significance of the debt variable is due to the fact that bankers give little weight to the certified financial statements. Although bankers are obliged to accept the audited statements of some companies, the practice experienced by their auditors proves otherwise. Moreover, the bankers are merely satisfied with the statements signed by the auditors without looking into the contents of the reports. They rather analyze the creditworthiness and require real guarantees and the personal bond of the shareholders-

leaders. Therefore, the result is a little involved in the determination of the ratios required for the register assessment, which makes the result manipulation irrelevant.

The coefficient on the tax variable is not significant for the overall sample and both excessive management sub-samples are moderate or high. Our businesses are usually family run and represent a significant number of the economic fabric of the MENA zone. Therefore, they have neither the desire to show a good performance to the public nor to distribute significant dividends.

The coefficient on size is positive and statistically insignificant for the overall sample. In each sub-sample, the size of the firm contributes to a lesser excessive upward management or downward earnings. The size hypothesis is further confirmed in the context of the Jordanian firms. Indeed, the size significantly and negatively affects the Jordanian earnings management. This impact is also extended to the Saudi and Moroccan firms but to a lesser degree. This statement confirms the assumption of the political costs. Considering the company size as a proxy for political visibility, several researchers (Zmijewski and Hagerman, 1981; Richardson and Morse, 1983; Malmquist, 1990) found that large-sized firms prefer accounting practices that reduce the earnings.

For the coefficient on the variable "direction", measuring the degree of shareholding concentration is positive for the overall sample and for three sub-samples of the categories of the earnings management. The estimation results of the regressions indicate that the presence of the controlling block-holders has no significant direct effect on the earnings management. These results support the passivity hypothesis of the controlling block-holders (Del Brio et al, 2003; Pindado and De la Torre, 2009).
As far as the audit quality is concerned and although the coefficient on this variable is negative for firms of the overall sample, it remains insignificant for both sub-samples of moderate management or upward earnings. This result reflects, in the Tunisian, Saudi, Moroccan, Omani and Jordanian environments, that " Big 6" auditors (now" Big 4") cannot significantly force the shareholders against an excessive upward management.

It appears from these regressions in panels that incentives for earnings management are quite similar across the Tunisian, Saudi, Moroccan, Omani and Jordanian environments.

SECTION 2: interdependent capital structure, debt and earnings management

Several studies (Demsetz and Lehn, 1985; LaPorta et al, 1999) invalidate the forecasts of Berle and Means and draw a different conclusion: the shareholding of the enterprises, even of the largest ones, remains largely concentrated. Therefore, the conflict is no longer between the shareholders and the managers but between the controlling and the minority shareholders.

The recent studies, which deal with the conflict between the controlling shareholders and the minority shareholders, the protection of the latter ones and the quality of the accounting information, show that the controlling shareholders resort to accounting tricks to hide the actual performance of the firm and, hence, the private controlling profits (Leuz et al (2002)).

In this context, it is legitimate to wonder about the role of debt as part of an agency conflict between the controlling and the minority shareholders. When equity participation of the controlling coalition is weak, the firms being vulnerable to expropriation (where the conflict between the controlling and the minority shareholders is important) raise the debt level. As a consequence, the controlling shareholders tend to choose, among all the possible funding alternatives, the financing means that least affects their control and their extraction of controlling private profits. Debt can, indeed, enable the controlling shareholders to retain control of the firm and order more resources without diluting control.

Thus, the funding decisions of the controlling shareholders holding a small part of the firm's capital seem to follow a hierarchy similar to that of the hierarchical funding described by Myers and Majluf (1984). Indeed, the controlling shareholders prefer internal to external funding. When internal funding becomes insufficient, the controlling shareholders prefer debt to issuing new shares in order to limit the dilution of their control. They can alternately issue in debt shares with lower voting rights.
However, the relationship between debt and the controlling and minority shareholders' conflict becomes weaker when the property of the controlling coalition is important. Actually, a large part of the firm's

capital held by the controlling shareholders may help align the latter's interest with those of the minority shareholders and therefore reduce the expropriation and the extraction of the controlling private benefits (The Porta et al (1999, b) and Shleifer et al (2000)).

The property concentration of the controlling shareholders may affect the financial structure of the company in various ways. Testing the nonlinear effect of the controlling shareholders' capital property on the debt levels (De La Bruslerie (2004), Brailsford, Oliver and Pua (2002); Cleassens et al (2002), Cronqvist and Nilson (2003); Latrous Imen (2009)) to legitimize the transfer and the generalization of this result is the topic of the second section.

1. Nonlinear relationship between debt and equity participation of the controlling coalition

Using the rooting assumptions (entrenchment effect) and those of the interest alignment (incentive effect) associated with the fear of going bankrupt, we argue that ownership structure affects the debt level in different ways depending on the part of capital held by the controlling shareholders. Under these conditions, we suggest testing empirically the following non linearity assumption:

H1: The debt level increases with the capital shareholding of the controlling shareholders up to a certain percentage of the capital held beyond which it decreases.

1.1. Data and methodology

In what follows, we will present all the variables used in our empirical analysis.

Table 3: Measures of the dependent and the explanatory variables

Variables	Abreviation	Mesures
Total debt at book value	L1	The overall debt book value related to the total assets
Total debt at market value	L2	The book value of the total debt relative to the sum of the market capitalization and the total debt expressed in book value.
Equity participation in the control coalition	P	The percentage of equity held by the controlling coalition
The measurement rank of the earnings management: extent of the conflict between the controlling and the minority shareholders.	EM	Firms are ranked in deciles based on the ranking of the over time correlation between changes in the total accruals and in the operating cash flows.

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Control coalition holding 40% or more in the firm's stake.	Alpha	Dummy variable = 1 if equity participation of the controlling coalition is greater than or equal to 40% and 0 otherwise.
Company size	T	Logarithm of total assets
Growth opportunities	Q	The sum of market capitalization and debt related to total assets.
Asset structure	S	The relationship between the amount of the fixed and that of the total assets
Asset profitability	RO	Gross operating income related to the total assets
Risk	R	The standard deviation over 10 years of return on assets.

We adopted the controlling typology proposed by Le Maux (2002). It is about decomposing the sample depending on whether the firms are majority or minority controlled or depending on whether their capital is dispersed. The controlling shareholder is qualified as a majority one when he holds, on his own or with other shareholders connected either by a covenant or family ties, 40% or more of the capital or of the voting rights.

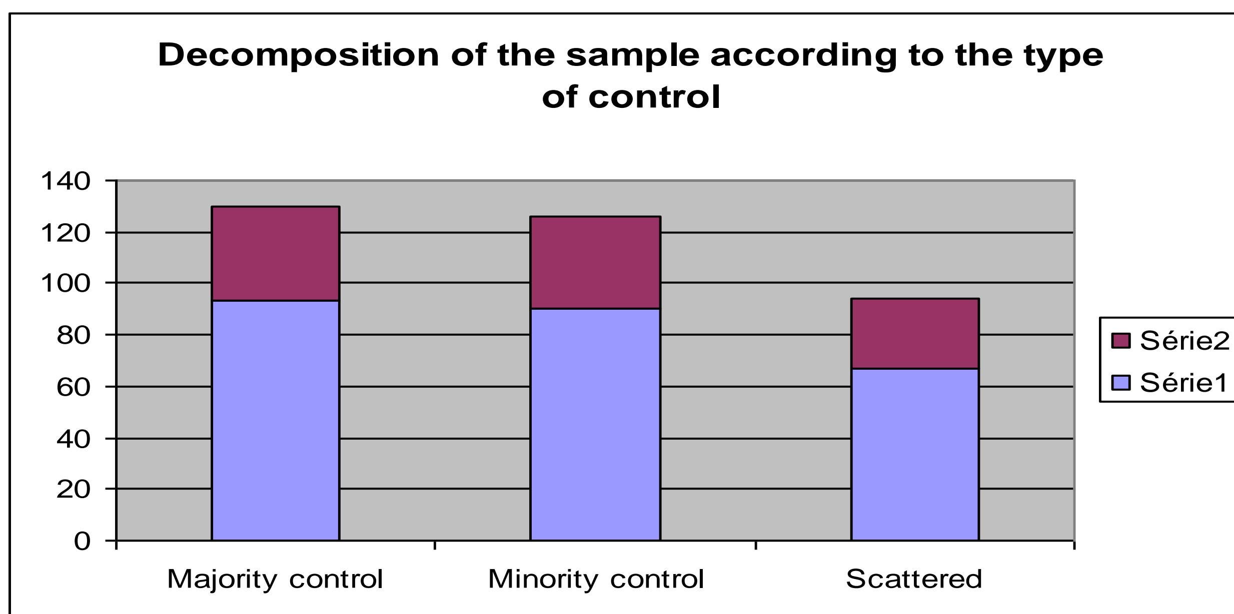
Companies are minority controlled when the largest shareholder does not have a majority in the capital or in the voting rights to the threshold of 40% but has, with other controlling coalition members, the majority of the seats on the board. Members of the controlling coalition, other than the principal shareholder, the manager, the shareholders, are bound to the largest shareholder, the banks, the insurance companies, the government, and the non-leaders employees either by a covenant or by family ties.

1.2. Descriptive and unvaried analysis

Table 4 shows the decomposition of the total sample according to the type of control (panel A) and to the identity of the controlling coalition (panel B). Panel A shows that 37.2% of the firms in the sample are majority-controlled, 36% are minority-controlled and only 26.8% of firms do not have a majority control coalition ownership on the board. Moreover, the distribution of the sample according to the identity of the controlling coalition is presented in detail in Table 4, Panel B. It appears that 37.2% of the firms of the sample are controlled by families and 30.4% are controlled by corporations.
This distribution of the sample according to the identity of the controlling coalition shows the importance of the family control in our sample (Tunisia, Morocco, Saudi Arabia, Jordan and Oman), also identified by the work of La Porta et al (1999), who found that 50% of the medium-sized French firms in the sample they worked on are controlled by families. Moreover, Faccio et al, (2002), show that 70.92% of the non-financial French firms used in their sample are controlled by families.

Table 4: Sample decomposition according to the type of control and of the controlling coalition identity:

PANEL A : Type of control	Frequency	Percentage
Majority control	93	37,2
Minority control	90	36
Scattered	67	26,8
Total	250	100



PANEL B : Identity of the controlling coalition		
Financial institution	67	26,8
Government	12	4,8
Company	76	30,4
Family	93	37,2
Scattered	2	0,8
Total	250	100

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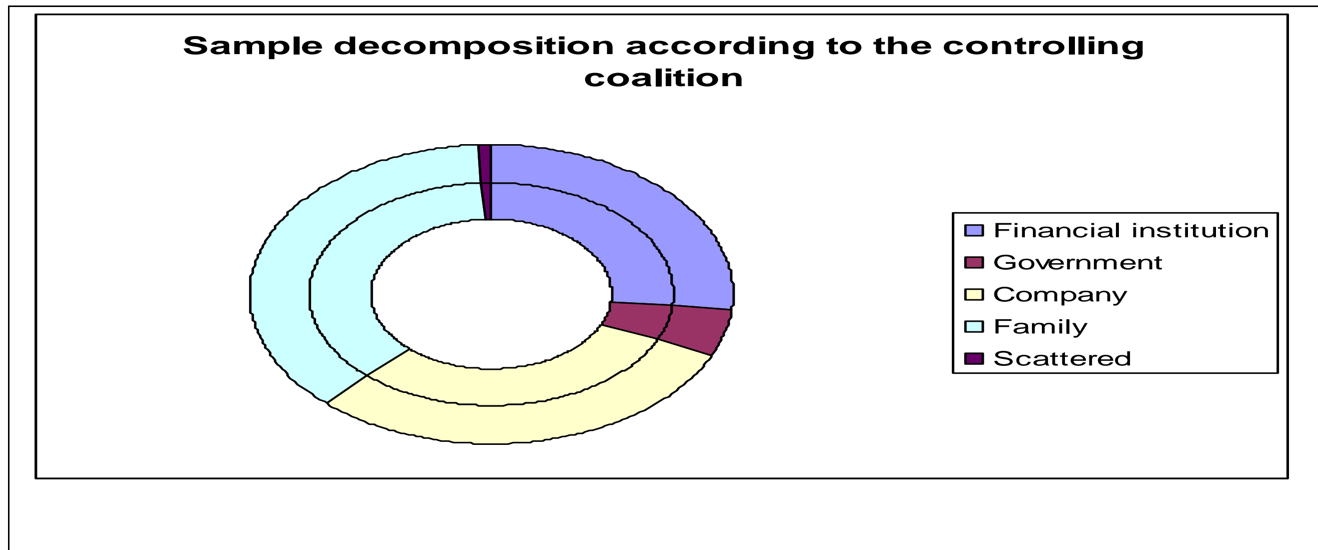


Table 5 shows the Spearman correlations between the different variables used in our empirical analysis. It shows that the variables are weakly correlated. However, the measurements of the growth opportunities (Q) and size (T) are strongly and significantly correlated at the threshold of 1%.

Table 5: Matrix of correlation between the regression variables:

	P	Q	T	S	RO	R	EM
P	1						
Q	-0,130**	1					
T	0,357*	-0,311**	1				
S	0,052	0,318**	-0,294**	1			
RO	0,037	-0,482**	0,225	-0,190**	1		
R	-0,041	0,126**	-0,080*	-0,005	-0,070	1	
EM	0,190**	-0,032	0,032	0,016	-0,044	0,036	1

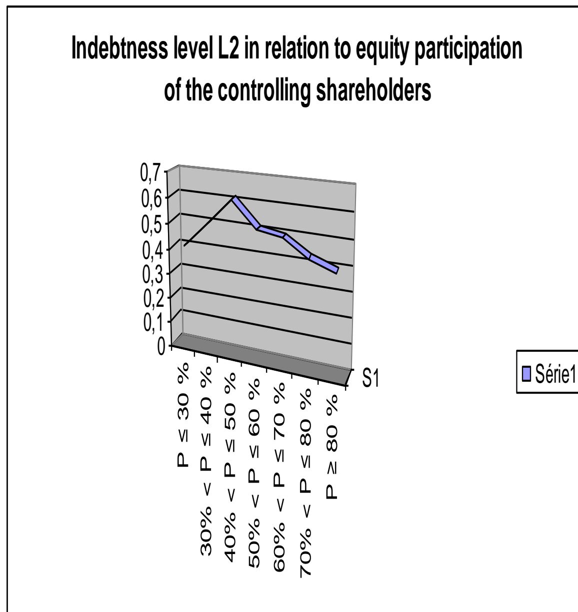
**: Significant correlation at the threshold of 1%.

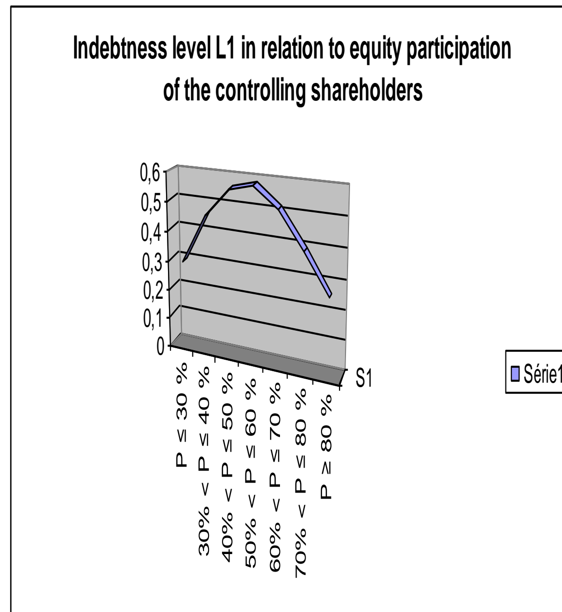
*: significant correlation at the threshold of 5%.

Table 6 shows the relationship between the debt level calculated either in the book or in the market value based on capital ownership of the controlling shareholders. We notice that the relationship between debt and the percentage of the capital held by the controlling shareholders has the shape of an inverted U. Indeed, debt, which is expressed in book value or in terms of the market, increases with the capital percentage held by the controlling shareholders to reach a maximum level corresponding approximately to a property capital around 60%, beyond which debt decreases with the ownership of the controlling shareholders.

Table 6: Debt level according to equity participation of the controlling shareholders

	Observations	L1	L2
P ≤ 30 %	496	0,2965	0,4059
30% < P ≤ 40 %	124	0,4654	0,5108
40% < P ≤ 50 %	96	0,5593	0,6157
50% < P ≤ 60 %	116	0,582	0,5152
60% < P ≤ 70 %	80	0,5137	0,4935
70% < P ≤ 80 %	32	0,3916	0,4309
P ≥ 80 %	48	0,2579	0,3952





These results suggest the study of the nonlinear relationship between the capital ownership of the controlling shareholders and debt.

1.3. Empirical results

We then test the following models according to the adopted debt measure:

$$L1_{it} = \alpha_0 + \alpha_1 Q_{it} + \alpha_2 T_{it} + \alpha_3 S_{it} + \alpha_4 RO_{it} + \alpha_5 R_{it} + \alpha_6 P_{it} + \alpha_7 P_{it}^2 + \varepsilon_{it} \quad (1)$$

$$L2_{it} = \alpha 0 + \alpha_1 Q_{it} + \alpha_2 T_{it} + \alpha_3 S_{it} + \alpha_4 RO_{it} + \alpha_5 R_{it} + \alpha_6 P_{it} + \alpha_7 P_{it}^2 + \varepsilon_{it} \quad (2)$$

Table 7 presents the regression results of indebtedness in both book (L1) and market value (L2) on the equity participation of the controlling coalition (P), on the square of the capital interest of the controlling

coalition (P ²) and on the control variables commonly used as determinants of debt ratios, for a sample of 186 Tunisian, Moroccan, Saudi, Jordanian and Omani listed firms over the 2003-2006 period.

Table 7: Relationship between nonlinear debt and equity participation of the controlling coalition

EXPLANATORY VARIABLES	EXPLAINED VARIABLES	
	L1 (fixed effet)	L2 (fixed effet)
P	0,1706	0,0774
P^2	-0,1173	0,1163
T	0,0312*	0,066***
S	0,1226*	0,0634
R	0,2617**	0,0274
RO	-0,4448***	-0,1511*
Q	0,1272***	-0,0382*
adjusted R^2	0,1952	0,0675
Chow Test	19,1	5,7
Hausman Test	38,07	20,65
Number of observations	744	744

The Chow test is significant at the threshold of 1%, depending on whether debt is expressed in book or in market value. It thus confirms the existence of firm-specific effects. Moreover, the Hausman test is significant at the threshold of 1% for the debt measurement expressed in book value. It is also significant for the debt market measurement. Therefore, this test suggests the fixed effect specification of both debt measures: accounting and market measures.

Moreover, this table shows that the accounting measures and those of the debt market are positively and significantly related to non-equity participation of the controlling coalition. Besides, the coefficient connected to the variable P ² is negative and insignificant for both debt measures. This negative coefficient shows the nonlinear relationship between indebtedness and equity participation of the controlling coalition.

For both regressions of debt in book value and in market value, the controlling variables are significant and show the expected signs. Thus, size positively and significantly affects the debt at the threshold of 0, 1%. This result confirms the one obtained by Rajan and Zingales (1995), Booth et al (2001), and Frank Murray (1999). Although this coefficient is very low, about 0.031, it seems that large-sized firms rely more on debt.

The variable measuring the asset structure has a positive and significant sign at the threshold of 5%. This result supports the idea that tangible assets are used as a collateral for debt (Rajan and Zingales (1995), and Frank Murray (1999), Kremp et al (1999)). The negative and significant coefficient at the threshold of 0.1% linked to the variable "return on assets" is consistent with the theory assumptions of the hierarchy of the funding sources of Myers and Majluf (1984). We can say that the firm's profitability is one of the powerful factors that determine the capital structure of firms in the countries of the MENA zone.

This result supports the empirical ones obtained by Titman and Wessels (1988), Rajan and Zingales (1995), Booth et al (2001) and Frank and Murray (1999) and go along with the empirical results obtained by Rajan and Zingales (1995) and more recently by Hovakimian (2005) and Huang and Ritter (2005). Moreover, the variable measuring the firm's growth opportunities has a positive and significant sign at the threshold of 1%. This result is consistent with the predictions of the hierarchical funding theory, which maintain that the stronger the growth opportunities are, the more the firm faces the problem of external funding. However, the result found contradicts the theory of trade-off and the perspective of agency costs (Miller 1977).

Empirically, the result obtained is similar to the one found by Lööf (2004) in the American context. According to the results of the second regression related to the debt ratio measured in market value, the variable coefficient "growth opportunity" changes sign and becomes negative. This result can be explained in two different ways. The first states that the negative relationship between the growth opportunities and debt are based on the assumption of underinvestment by Miller (1977). The second is inspired by the theoretical current of the Market Timing. Indeed, if the variables are very high, this implies that the firms are overvalued by the market and, therefore, benefit from this opportunity to obtain funding by issuing shares.

The variable measuring the risk of the firm affects positively (usually negatively) and significantly indebtedness at the threshold of 1%. This result suggests that firms which have high earnings volatility have low debt capacity due to the risk of bankruptcy. This unexpected result is explained by the fact that these firms prefer closing down and are jealous of their family-nature which is materialized by a limitation of their external resources and by insolvency which weakens their health and threatens their survival.

2. The impact of the conflict between the controlling and the minority shareholders on the indebtedness of firms

We will try, now, to study the impact of the conflict between the minority shareholders (the existence of private control benefits) on indebtedness and explore the change in the relationship related to the level of equity participation of the controlling coalition. We therefore introduce a dummy variable "alpha" that helps us seize the different levels of equity participation of the controlling coalition. The "alpha" variable takes value 1 if the equity participation of the controlling coalition is greater than or equal to 40% (Le Maux (2002)) and 0 otherwise. The models to estimate, according to the retained measure of indebtedness, then take the following form:

$$L1_{it} = \alpha_0 + \alpha_1 Q_{it} + \alpha_2 T_{it} + \alpha_3 S_{it} + \alpha_4 RO_{it} + \alpha_5 R_{it} + \alpha_6 EM_{it} + \alpha_7 (EM\,alpha)_{it} + \varepsilon_{it} \quad (3)$$

$$L2_{it} = \alpha 0 + \alpha_1 Q_{it} + \alpha_2 T_{it} + \alpha_3 S_{it} + \alpha_4 RO_{it} + \alpha_5 R_{it} + \alpha_6 EM_{it} + \alpha_7 (EM\,alpha)_{it} + \varepsilon_{it} \quad (4)$$

The coefficient related to the EM variable shows the relationship between indebtedness and the conflict between the controlling and the minority shareholders for a low level of equity participation of the controlling coalition. The coefficient on the variable ($EM\,alpha_{it}$) captures the change in the relationship between indebtedness and the conflict between the controlling and the minority shareholders, between a high and a low level of equity participation of the controlling coalition.

This table shows the various regressions of debt ratios in market and book value on the conflict measurement between the controlling and the minority shareholders as well as on the control variables.

Table 8: The conflict impact between the controlling and the minority shareholders on the indebtedness of firms:

EXPLANATORY VARIABLES	EXPLAINED VARIABLES	
	L1 (fixed effet)	L2 (fixed effet)
EM	0,00166 (0,483)	-0,0015 (0,468)
alpha EM	0,0025 (0,657)	0,0021 (0,67)
T	0,033* (0,028)	0,067*** (0,000)
S	0,121* (0,014)	0,06 (0,176)
R	0,0268** (0,005)	0,026 (0,754)
RO	-0,43*** (0,000)	-0,149* (0,049)
Q	0,127*** (0,000)	-0,036* (0,023)
Adjusted R2	0,1964	0,0673
CHOW TEST	19,24	5,68
HAUSMAN TEST	40,9	21,04
Number of observations	744	744

The coefficient associated with the measurement of the conflict between the controlling and the minority shareholders (EM) is positive and non significant at the threshold of 10% depending on whether indebtedness is measured in book or in market value. This coefficient demonstrates the relationship between indebtedness and the conflict between the controlling and the minority shareholders for a low level of equity participation of the controlling coalition. This (EM) variable, which measures the level of the earnings manipulation and emphasizes the failure of the governance mechanisms implemented within the firms, indicates that firms characterized by important agency conflicts rely more on indebtedness.
This result confirms the predictions of the agency theory of (Jensen and Meckling 1976) and that of free cash flow of Jensen (1986) according to which indebtedness plays a disciplinary role in aligning the

leaders' deviant behavior. The obtained results support hypothesis (1). Besides, table 8 shows that the coefficient related to the variable (alpha EM) is positive and non significant at the threshold of 10% for the accounting and indebtedness market measurements. A negative sign of this coefficient indicates that the relationship between indebtedness and the conflict between the controlling and the minority shareholders gets lower when equity participation of the controlling coalition is important.

By adopting a market measure based on a future vision "Forward Looking", the coefficients of the (EM) variable become negative. Although the homogeneity of the sample neutralizes the explanatory power of the variable (EM), if taken individually, variable (EM) is negatively non significant at the threshold of 1%. This result shows that firms with a high accounting manipulation and a high propensity for conflict opt for debt subscription. According to the finance managerial theory (Zingales and Novaes Novaes 1995 and 2003), this result is explained by the deviant strategy practiced by the existing managers (or the controlling shareholders within the firms having a concentrated capital).

Actually, debt is the most restrictive source in terms of increased managerial discretion. This result shows that there is a negative relationship between the earnings manipulation and indebtedness. This result seems to confirm the hypothesis of risk aversion at the expense of that of the expropriation of the minority shareholders by the majority ones. Indeed, excessive indebtedness increases the firm's distress risk and causes it to lose control of the private benefits. Our results contradict the findings of Filatotchev et al (2001), Bianco et al (2001) and Friedman et al (2003) who argue that debt facilitates the expropriation of the minority shareholders (non capital dilution, neutralization of a hostile takeover and increase of economic power).

The regression results of indebtedness in book and in market value support the hypothesis according to which the relationship between indebtedness and the conflict between the controlling and the minority shareholders varies depending on a low or a high level of equity participation of the controlling coalition.

Conclusion:

This research is based on the assumption that the earnings management arises because of the conflict between the controlling and the minority shareholders. In this context, we explore the impact of this conflict on the indebtedness of the Tunisian, Moroccan, Saudi, Jordanian and Omani listed firms. We further argue that the relationship between the conflict opposing the controlling and the minority shareholders and indebtedness changes depending on the level of the equity participation of the controlling coalition. Actually, when equity participation of the controlling coalition is poor, the relationship between the conflict opposing the controlling to the minority shareholders and indebtedness is positive.

On a sample of 186 listed companies in the MENA zone over the period 2003-2006, our results show that the inverted U-shaped relationship between indebtedness and equity participation of the controlling coalition is also well thought about for the accounting and the market value indebtedness measurement.

Bibliography:

- Arya A, Clover G, ET Sunder S, (2002): *Are unmanaged earnings always better for shareholders;* Working paper*, Yale international Center for Finance.*

- Attig N, Fischer K., and Gadhourm Y, (2002): On the determinants, costs and benefits of pyramidal ownership; manuscript.

- Barclay, Michael J and Clifford G.Holderness, (1989): Private benefits from control of public corporations; Journal of Financial Economics; pp.371-395.

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- Bhattacharya, U, Daouk H., Welker M., (2002): The world price of earnings opacity; Working paper ; University of Michigan and Queen's University.

- Bianchi, M., M Bianco and L. Enriques, (2000): Pyramidal groups and the separation between ownership and control in Italy; Mimeo; Banca d'Italia.

- Bianco M., ET Nicodano G., (2001): Debt financing and limited liability in business group; Banca d'Italia.

- Bradley M., (1980): Interfirm tender offers and the market for corporate control; Journal of Busniss; vol. 53; pp.345-376.

- Brailsford, T. J., Barry O.L., Pua S .L.H., (2002): On the relation between ownership structure and capital structure; Accounting and Finance 42; pp.1-26.

- Chtourou, S., Bédard J. ET Courteau L. (2001): *Corporate governance and earnings managemen;* Working paper, www.ssrn.com.

- Craig Doidge, G.Andrew Karolyi, Karl V.Lins, Daruis P.Miller, and René M.Stulz, (2005): Private benefits of control, ownership, and the cross-listing decision; University of Toronto.

- Dechow P. M., Sloan R. G. et Sweeny A.P. (1995): Detecting Earnings Management; *The Accounting Review*, vol. 70, pp. 193-225.

- Defond, M.L; Jiambalvo J., (1994): Debt covenant violations and manipulation of accruals; Journal of Accounting and Economics; vol.17, pp.145-176.

- Dyck, A. ET Zingales L., (2001): Private benefits of control: an international comparaison; Working paper; Harvard business School and University of Chicago.

- Faccio, Marra. And Larry H.P. Lang., (2002): The ultimate ownership of Western European corporations; Journal of Financial Economics; vol.65, pp. 365-395.

- Filatotchev I., ET Mickiewicz T., (2001): Ownership concentration, private benefits of control and debt financing; Working paper; University of London.

- Franks, Julian R., and Cohan P.Mayer, (1990): Corporate ownership and corporate control: a study of France, Germany, and the UK; Economic Policy vol.10; pp.191-231

- Friend, I. ET Lang L., (1988): An empirical test of the impact of managerial self interest on corporate capital structure; Journal of Finance vol.43 (2); pp.271-281.

- Grullon .G ET Kanatas .G, (2001): Managerial incentives, capital structure and firm value: Evidence from dual class stocks; Rice University.

-Haris M., Raviv A., (1988): Corporate control contests and capital structure, Journal of Financial Economics; vol. 20; pp.55-86.

-Hausman, J., (1978): Specifications tests in econometrics; Econometrica 6; pp.297-355.

-Healy P.M., (1985): The effect of bonus schemes on accounting decisions; Journal of Accounting and Economics; vol.17; pp. 85-107.

-Hsiao, C., (1986): Analysis of panel Data; Cambridge University Press; Cambridge, England.

-HuddartS., (1993): The effect of large shareholders on corporate value; Management Science; vol. 39; pp. 1407-1421.

-Jensen, G., Solberg D. ET Zorn T., (1992): Simultaneous determination of insider ownership, debt and dividend policies; Journal of Financial and Quantitative Analysis; vol. 27(2); pp.247-263.

-Jones J., (1991): Earnings management during import relief investigations; Journal of Accounting Research; vol. 29 n°2; pp. 193-228.

-Kim,W.et E.Sorensen ,(1986): Evidence on the impact of agency costs of debt on corporate debt policy; Journal of Financial and Quantitative Analysis; vol.21(2); pp.131-144.

-Klapper.L.F, and Love. I, (2003): corporate governance, investor protection and performance in emerging markets.

- La Porta, R., F. Lopez-de-Silanes, A. Shleifer, R. Vishny, (1999b) : Investor Protection and Corporate Valuation ; Mimeo (Harvard University).

-La porta, R, F. Lopez-de-Silanes, A. Shleifer and R. Vishny, (2000): Investor protection and corporate governance; Journal of Financial Economics.

-La porta, R., Florencio L., Shleifer A., and Vishny R., (2000): Agency problems and dividend policies around the world; Journal of Finance; vol. 55; pp.1-33.

-Leuz C., Nanda D., ET Wysocki P.D., (2002): Earnings management and investor protection: an international comparison; Sloan working paper 4225-01; MIT Sloan School of Management.

-Modigliano F., Perotti E., (1997): protection of minority interest and the development of security markets; Managerial and decision economics; vol.18; pp. 519.

-Moh'd M.A; Parry L.G., ET Rimbey J N.: The impact of ownership structure on corporate debt policy: A time series cross sectional analysis; The Financial Review; vol.33; pp. 85-98.

-Mueller Elisabeth, (2002): benefits of control, capital structure and company growth; London School of Economics.

-Myers S.C; ET N.S. Majluf, (1984): corporate financing and investment decisions when firms have information that investors do not have; Journal of Financial Economics; vol.13; pp.187-221.

-Nenova T., (2000): The value of corporate votes and control benefits: A cross country analysis; Working paper.

- Rajan, R. and L. Zingales, (1995): What do we know about capital structure? Some evidence from international data; Journal of Finance; vol. 50; pp. 1421-1460.

- Sevestre P., (2002): Econométrie des données de panel; Dunod.

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