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Governance Mechanisms and Financial Structure: Case of Tunisia

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Abstract

In Eastern Europe, privatization raises the question of how private firms should be governed. China is experimenting with some forms of corporate governance that combine features of the market system with public ownership. Notwithstanding all these debates, observations about the effects of different corporate governance systems remain fragmented. In the area of corporate governance, the facts have been swept away by judgments. Building a governance index that synthesizes all control mechanisms has prompted empirical research to test the effectiveness of a governance structure for aligning leaders' interests with those of others shareholders. This framework focuses on the governance-performance relationship. Empirical studies have sought to test whether "well-governed" firms with low agency costs and low information asymmetry are doing more call option on debt to finance their investment opportunities. This article is organized around the two main parts. In the first part, we will summarize the main previous empirical works that have dealt with governance mechanisms and the choice of a financial structure. In the second part, we will empirically validate these governance mechanisms of the twenty-eight firms listed on the Securities Exchange in Tunisia during the period from 2012 to 2016. However, the governance mechanisms and the choice of the financial structure will be modified over time and the sample.

Keywords: Governance mechanisms; Financial structure; Tunisian economy

Introduction

Corporate governance raises broad debate in the world among researchers and policymakers. In the United Kingdom and the United States, the focus is on the deficiencies of the market system in terms of effective corporate governance. In continental Europe, there is concern that current corporate governance systems hinder innovation and growth. In Eastern Europe, privatization raises the question of how private firms should be governed. China is experimenting with some forms of corporate governance that combine features of the market system with public ownership. Notwithstanding all these debates, observations about the effects of different corporate governance systems remain fragmented. In the area of corporate governance, the facts have been swept away by judgments [1-4].

The central question that we seek to address here relates to the main governance mechanisms to be identified for the Tunisian governorates

This article is organized around the two main parts. In the first part, we will summarize the main previous empirical works that have dealt with governance mechanisms and the choice of a financial structure. In the second part, we will empirically validate these governance mechanisms of the twenty-eight firms listed on the Securities Exchange in Tunisia during the period from 2012 to 2016.

Literature Review

Several studies have attempted to test the impact of governance mechanisms and the choice of financial structure as well as its performance[1]. The review of these studies shows a wide variety of variables used to measure the corporate governance structure. Some works focus on the voting rights of shareholders [5,6]. Other studies are based on the ownership structure of firm to test the impact of governance mechanisms on the value of firm: respectively in Japan, South Korea, China and India [7-9].

Recently, the idea of building a governance index that synthesizes

all control mechanisms has prompted empirical research to test the effectiveness of a governance structure for aligning leaders' interests with those of others shareholders [1]. The work in this framework focuses on the governance-performance relationship [2]. Some empirical results show that a better governance structure translates into better performance; other research fails to establish a meaningful relationship between the governance structure and the efficiency [10].

In addition, research that has attempted to establish a relationship between the governance index and the capital structure is very rare [3,4,11]. The review of this work shows that some research uses the governance index to measure the level of rooting of managers and the level of protection of shareholder rights [3,4]. Other studies look through the construction of a governance index, to test the relevance of the hypothesis that the use of indebtedness and the establishment of a good governance structure are two substitutable control mechanisms[2] [12].

Similarly, other studies use the governance index as constructed [13] to test the impact of the quality of governance on the cost of capital [14]. Empirical studies [3,4] have sought to test whether "well-governed" firms with low agency costs and low information asymmetry are doing more call option on debt to finance their investment opportunities. The authors use the governance index designed and categorize 24 governance provisions into five categories: Tactics for Delaying Hostile Bidders, Voting, Protection, Takeover and State Laws[3] [13].

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[2]Ce modèle se présente comme suit : Δ Dit=a+bpoDEFit+ei.

[3]While postulating the hypothesis of substitutability of debt and governance structure.

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[1]Tong (2003), Gompers, Ishii and Metrick (2003) and Cremers and Nair (2005). Allen N. Berger, Emilia Bonaccorsi di Patti (2006) and Lerong He (2008)).

The governance index is constructed as follows: for each company, the authors add "one" for each provision that delimits the rights of the shareholder (which increases the manager's discretion). Therefore, the level of the index G indicates how weak the rights of the shareholder are. A high G index value makes it difficult for stakeholders, including external investors, to dismiss a manager or replace the board. Based on the methodology adopted [4,13] examined the impact of the governance structure on the level of total indebtedness. He argues that the magnitude of agency costs between executives and shareholders is likely to be inversely related to the control effectiveness put in place by shareholders [13]. Since the capital structure is linked to agency costs and the agency costs, in turn, are associated with shareholder rights, the authors assume that the financial choices are influenced by the level of protection of the shareholders' rights firm.

Initially, Jiraporn proceeded with a univariate analysis and subdivided his sample into two groups according to the level of the governance index. Firms whose index value is greater than or equal to 14 are placed in the "Dictatorship Portfolio" group while those with a government index of 5 or less are placed in the "democracy" group (Democracy Portfolio). Jiraporn P found that "dictatorship" firms are more indebted than "democracy" type firms. Indeed, the average debt ratio for the "dictatorship" group is 49% whereas it is only 44.36% for the group of firms qualified as "democracy". These results support the suggestion that firms with low shareholder rights use more debt than firms with strong shareholder rights.

Jiraporn P suggested that his results support the predictions of agency theory to the extent that debt is used as a disciplinary means within firms. In a second step retained a multi-regression -varied to test the impact of shareholders' rights on the level of indebtedness [4].

To control the possibility of nonlinearity of the relation, the author included a quadratic relation. The author found that the coefficient of the governance index is positive and highly significant, indicating an inverse relationship between the use of indebtedness and the strength of the shareholder's rights. In the model that includes the possibility of a quadratic relationship between the level of debt and the rights of shareholders. The coefficient of the high governance index squared turns out to be statistically insignificant, thus rejecting a parabolic relationship.

Recently, a study similar to that of is carried out in the American context for the period from 1990 to 2003[4]. Litov [3] uses the index retained [13] to measure the level of rooting of the leaders. The higher the value of the index G, the higher is the rooting level of the ruler. Jiraporn [4] classified his total sample into five quartiles according to the level of rooting of leaders[5]. The results show that the ratio of debt measured in book value and market value increases with the level of rooting (the book debt ratio goes from 0.485 when G is less than 6 to wait for 0.571 when G is greater than 13). These results contradict the suggestion that entrenched leaders prefer a low level of debt. The theoretical explanation of the positive relationship between the level of rootedness and the decision of indebtedness is based on the endogenous choice of the level of risk taken by the leaders during an investment policy, according to the efficiency of the governance structure in place. According to Jiraporn [4] in a well-governed environment (Well Monitored), supervised leaders agree to undertake risky projects

because it is easy to determine the quality of leaders (poor quality vs. good quality). Indeed, the effectiveness of governance mechanisms tends to reduce the risk aversion of the ruler justified mainly by their human capital and provided incentives to increase target debt levels (Target Ratio).

To test the explanatory power of the governance structure on the change in the debt ratio, [4] used a model similar to that established [15] which aims to test the relevance of the hierarchical theory of debt financing. The latter is tested according to the selected quartiles, which break down firms according to the degree of rooting of their leaders. The author's conclusions suggest that Pecking Order's theory "works better" in firms characterized by a high level of rooting by their leaders. In fact, the order of financing followed by these firms is as follows: self-financing, debt and equity as a last resort. Regarding the dynamic relationship between the level of rootedness and indebtedness. Litov [3] study showed that an increase in the rooting index G (such as the insertion of a new Takeover bid) is associated with a 3.16% average increase in the ratio of debt measured in book value and 2.25% of the debt ratio measured in market value. In conclusion of his study has interested in an important empirical relation namely the sense of causality between the governance structure and the indebtedness: "Causality Obviously a major concern in the study of leverage and corporate governance; leverage itself may be an efficient mechanism for governance and as such it may impact the choice of other governance mechanisms".

The work of Burak et al. attempted to test the relationship between governance[6] structure and debt as two substitutable control mechanisms for a sample of 2408 US firms. To test the duality of the relationship between governance and debt structure, the authors selected two simultaneous equations. According to the first, these authors sought to examine the relevance of the governance structure as a deterministic factor of the level of indebtedness. The results show that the governance index negatively affects the debt (the coefficients vary between -0.0523 and -0.4854 and are significant at the 1% threshold). Through the second equation, these authors have attempted to examine the deterministic role of indebtedness in establishing a governance structure. The results show that indebtedness negatively affects the governance index (coefficients vary between - 0.0740 and - 0.2013). These results suggest, therefore, that debt and governance structure are two substitutable control mechanisms [12].

By adopting a dynamic vision, Burak et al. [12] argued that leaders reduce their debt levels when faced with an exogenous increase in governance mechanisms. To empirically test this suggestion, the authors conducted a comparative study between the levels of debt before and after the imposition of the Sarbanes-Oxley Act in 2002 and the rigor of the governance mechanisms put in place by NASDAQ and NYSE in 2003. The results show that the total debt ratios measured in market value and in book value decrease between the periods (1999, 2001-03). For example, the average book debt ratio increases from 0.228 in (1999) to 0.195 in (2003), i.e. an approximate decrease of 14.5%.

Friedman [11] estimated the relationship between corporate governance and debt level for a sample of 447 Asian, European and Latin American firms. They found, for Asian firms, a result that weak corporate governance is associated with high levels of debt. Despite this constructive research, the focus on exploring organizational finance to enrich the explanation of the determinants of firms' financing choices

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[4]Litov's article indifferently uses "rooting of rulers" (managerial entrenchment), "weak governance "(weak governance) and" weak shareholders' rights "(weak shareholder rights).

[5]According to whether the index G is less than 6, between 7 and 8, between 9 and 10, between 11 and 12 or greater than 13.

[6]While postulating the hypothesis of substitutability of debt and governance structure.

remains limited. In particular, the vein of work on the determinants of capital structure, while fruitful, neglects the explanatory power of the ownership structure. In this context, their paper developed responses to the relationship between bank performance and the effective supervision of bank agency directors. They examined the question of whether banks with less effective boards show results that are different from those banks that can direct and advise their managers more effectively, because such differences could be due to weaknesses in different control mechanisms [16].

Empirical validation

The database is extracted from the balance sheets of twenty-eight Tunisian firms listed on the Tunis Stock Exchange (TSE), the Central Bank of Tunisia (CBT) and the Tunisian National Institute of Statistics. Our sample contains 28 Tunisian financial and non-financial firms. These firms are: SOTET, TUNISAIR, MONOPRIX, ADWYA, ARTES, SIPHA, SOMOC, SIAME, STPIL, SIMPAR, SFBT, AL, ALKIM, ICF, ASSAD, GIF, STEQ, STIP, TLAIT, SOPAT, PGH, SOTUV, TPR, TJL, ASTREE, MG, ELECTROSTAR, and TL.

The study period from 2012 to 2016 this database has been the subject of several other sources of information either the site of the TSE or publications of the Financial Market Council (FMC). We selected only those firms for which financial data and governance data are available during our study period, which is 5 years.

We will use a linear, double-temporal, temporal-individual model to identify the different governance mechanisms that have direct and indirect effects in the choice of financial structure. For this, we will refer to the several variables that influence these mechanisms. Our reference model is an extension of the previous work [17].

We will study the mechanisms of governance and the choice of a financial structure from an endogenous variable named by the cost of the debt (CDETTE). This variable is approximated by the rise in financial charges or the amount of interest and similar expenses as a sub-item of financial expenses. This endogenous variable refers to the total rise of the financial debts of the company. This cost of debt is detected in more detail in a study earlier [18,19]. In this article, we will base on a panorama of the explanatory variables that are subdivided into two types: explanatory variables of finance and explanatory variables of governance. The finance variables are: Size, ROA, ROE, and MTB. The first variable (Size) is the size of firm. It is measured by the natural logarithm of the book value of the total assets. We refer to the work determining to this variable [18,20-22].

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The second explanatory finance variable is the profitability or return on assets ratio (ROA). It is measured as a percentage of the ratio of net income to total assets. It represents the company's ability to generate a profit using all of its resources. The third variable is the ROE. It is approximated as a percentage of the ratio of net income to equity. This variable is reflected in the financial profitability of a company. The last financial variable corresponds to the market capitalization ratio "BOOK TO MARKET (MTB)".

We also used governance variables namely: TAICA, INDCA, CUMFON, ACTMAJ, ACTREST and ENVLEG. The first variable represents the size of the board. It is estimated by the number of directors sitting on the board of directors. In calculating this variable we referred to the work of [21,23-26]. The second governance variable is the share of independent directors on the board of directors (INDCA). It is approximated by the number of independent directors divided by the total number of directors serving on the board of directors[7].

The third variable is measured by the combination of leadership and board chairmanship (CUMFON). For this, we used a binary variable that takes the value 1 when the two positions are occupied by the same person and 0 when the positions are occupied by two different people. We based on the work of the fourth variable represents the share of the majority shareholder in the company's capital (ACTMAJ). The fifth variable is the rest of the company's capital (ACTREST). The last variable presents the legal and regulatory environment of firm (ENVLEG). This variable takes the value 1 since all the firms in the sample belong to the same environment [25,27-31].

Descriptive statistics

We will refer to the position, dispersion and shape indicators to study the normality, the fit and the estimation quality of each component of the reference model. For this, the tables below correspond to the descriptive analysis of explanatory variables and endogenous variables during a study period from 2012 to 2016 on annual frequencies for the 28 Tunisian firms (Table 1).

The standard deviations are small these are good indicators of the quality of adjustment compared to the average or the right of adjustment. Nonlinearity is a dominant characteristic for all explanatory variables and the endogenous variable since the Jarque-Bera statistics are greater than the tabulated value of chi-square with two degrees of freedom. The table below corresponds to the descriptive statistics for governance variables.

Referring to this table, we note that the adjustment to the adjustment line is good for these variables because the standard deviations are small. Governance variables do not follow a normal distribution, since the Jarque-Bera statistics are significant and the asymmetry of information for these variables is present. But, the linearity is not known for the variable ENVLEG since this one always takes a fixed value equal to one. The number of observations equals the sample times the number of years. In this section we governance mechanisms and the choice of a financial structure. For this, we will refer to the model that relates the cost of debt to the explanatory variables of finance and governance for twenty-eight Tunisian firms during a period of study ranging from

	Debt Cost	Size	ROA	ROE	MTB
Average	0.249265	7.910025	0.041732	0.226041	2.073073
Median	0.056950	7.850000	0.047550	0.146600	1.520500
Maximum	27.00000	9.210000	0.212900	10.92000	13.04000
Minimum	-0.793600	0.083100	-0.679400	-1.060400	-3.460000
Standard deviations	2.427427	0.849000	0.100675	1.015350	2.031274
Skewness	10.92260	-6.175483	-3.320714	9.619630	1.611814
Kurtosis	120.8850	59.57818	23.27689	101.1579	9.772003
Jarque-Bera	74266.08	17327.12	2352.181	51693.14	290.6343
Significance	0	0	0	0	0
Observations	124	124	124	124	124

Table 1: Descriptive statistics of control variables and the endogenous variable.

7See the work of Ashbaugh-Skaife et al. (2006); Bradbury et al. (2006) and Anderson et al. (2004).

2012 to 2016. Our model is specified in from the following equation:

$$Debt\cos t_{it} = \alpha_i + \beta_{1i}SIZE_{it} + \beta_{2i}ROA_{it} + \beta_{3i}ROE_{it} + \beta_{4i}MTB_{it} + \delta_{1i}TAICA_{it} + \delta_{2i}INDCA_{it}$$

$$\delta_{3i}CUMFON_{it} + \delta_{4i}ACTMAJ_{it} + \delta_{5i}ACTREST_{it} + \delta_{6i}ENVLEG_{it} + \varepsilon_{it}$$

The static model estimation of governance mechanisms and the choice of a financial structure approximated by the cost of debt for the twenty-eight financial and non-financial corporation's during a study period ranging from 2012 to 2016, on annual frequencies, requires in a first step to verify the homogeneous or heterogeneous specification of the data generating process (Table 2).

From this table, we can see that all the coefficients of the governance mechanisms and the choice of the financial structure are identical for the 28 Tunisian firms, although the invariant effects are heterogeneous between these firms for these mechanisms. Hence, our reference model is specified in the form of a Panel with individual effects. The table below will summarize these two estimation procedures in the observation the static relationships describe the cost of debt versus explanatory variables of controls and governance.

From this table we can see that the estimation of the static relation by the within and GLS techniques gives expected and significant results. However, the variable ROA and ROE have a negative and insignificant effect on the governance mechanisms and the choice of the financial structure within the Tunisian securities exchange for the twenty-eight financial and non-financial firms i.e. the ratio of asset profitability and return on equity have negative impacts in governance mechanisms and financial structure choices.

Also, the variables MTB, INDCA, ACTREST and ENVLEG have negative effects on these mechanisms within the Tunisian financial market. The other variables have positive and significant signs the governance decision and their choice of financial structure. We find that the coefficients are very low for the majority of the variables, despite the fact that they are significant. We choose between the two estimation techniques by the Hausman arbitration test (1978). The table below presents the hausman test for the governance mechanisms and the choice of the financial structure for the twenty years. Eight Tunisian financial and non-financial firms during the period of study from 2012 to 2016 (Table 3).

Referring to this table we can conclude that the governance mechanisms and the choice of the financial structure are specified by a panel with random individual effects since the Hausman statistic is lower than the critical value of 10 degrees chi-square of freedoms (Table 4).

	Homogeneity of constants	Homogeneity of coefficients
Debtcost$_{it}$	10.79 (0,000)	1.03 (0.4249)

Table 2: Homogeneity tests.

	Within Estimation		GLS Estimation	
Variables	**Coefficients**	**Significances**	**Coefficients**	**Significances**
MTB	-0.0163	0.069	-0.0163	0.069
SIZE	0.02659	0.172	0.02659	0.172
ROE	-0.0018	0.907	-0.0018	0.907
ROA	-0.0289	0.869	-0.0289	0.695
TAICA	-0.0026	0.701	0.15266	0.092
CUMFON	-0.0313	0.344	0.4323	0.019
INDCA	-0.2135	0.132	-0.2231	0.108
ACTMAJ	-0.2905	0.824	0.1964	0.079
ACTREST	-0.3372	0.795	-0.2455	0.848
ENVLEG	-4.5337	0.797	-2.4141	0.887

Table 3: Debtcost estimation X.

	Debtcost$_{it}$
Stat-Hausman	χ²(8)=2.09 (0.9956)

Table 4: Hausman Test.

Conclusion

In this article, we referred to the main previous works that dealt with governance mechanisms and their effect on the choice of financial structure of the company. We have noticed that these mechanisms exert both a positive or negative impact on wealth and the creation of added values for firms. We have empirically verified these mechanisms from a sample of twenty-eight Tunisian financial and non-financial firms during a period. Study period from 2012 until 2016 on annual frequencies. We have analyzed statistics and found that the majority of the explanatory variables of finance and governance follow non-linear laws. Also, we have that all the explanatory variables and the endogenous variable have good linear adjustments with respect to the adjustment lines. We studied the governance mechanisms and the choice of the financial structure through a static panel relationship and we checked from the specification tests that this panel specified with individual effects. We estimated this relation by the techniques within and GLS.

This estimate gives expected and significant results at the risk level of 1%, 5% and 10%. We have distinguished that the individual effects are random since the Hausman statistic is lower than the chi-square value at 8 degrees of freedom. The Hausman Arbitration Test validated that constants or special characters are varied over time. Hence, the governance mechanisms and the choice of the financial structure will be modified over time and the sample. The limits of research have two origins: the lack of data relating to the various indicators and the lack of transparency of the local authorities regarding the presentation of the data.

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