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# Ownership concentration, financial policies and agency costs in a an emerging country

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**Abstract.**

The purpose of this paper is to analyze the relationships between debts, dividends and ownership concentration. Are these mechanisms substitutable or complementary?

We propose a three simultaneous equations system for two samples of Tunisian firms (31 quoted companies 73 non quoted private firms) during the period 2005-2013. The results show that these relationships are not same for the quoted firms as for non quoted ones. We find that the debts and the ownership concentration are substitutable. We observed this relation between the ownership concentration level and dividends. In the quoted companies, the debts and dividends are complementary. They are substitutable in the non quoted firms. In the private firms, the ownership concentration level affects the financial policies.

**Key Words**: control mechanism, debts, dividend, ownership structure.
**JEL Classification**: G32, G34

## 1.INTRODUCTION

With a high level of ownership concentration, agency problems may arise from a conflict ofinterest between majority and minority shareholders. Alleviating these conflicts can improve afirm's performance and help to maximizeits value.

Many authors have studied the effects of financial and non-financial mechanisms. Among them, Rozeff (1982), Shleifer and Vishny (1986), Lang and Litzenberg (1989), and Pornsit et al. (2011) havestudied dividends. In addition, Lehmann and Weigand (2000), Cho and Kim (2007), and Gelter (2008)haveanalyzed ownership structures. Jensen (1986),Piot and Missonier-Piera (2007),and McKnight and Weir (2009), meanwhile, focused on debt.

Goodperformance results from the managers'ability to use appropriate mechanisms according to the main goals. These financial mechanisms affect the revenues of both shareholders and managers and can help to reduce conflicts of interests. Their effects depend upon the institutional environment and the power of the shareholders. A large free cash flow can also generate the same problems.

In Tunisia, theowners generally manage and control their firms. The blockholders control all the decisions, and there is often no separation between management and control. Such aseparation exists only in some large companies with mixed ownership. Thismay lead to agency problems,because the firms seem to be managed forthe benefitof the majority shareholders.

Most previous studies highlight the interdependence of the control mechanisms. However, they donot agree on what the signs of the relations should be, namely whether they are substitute or complementary.The nature of the relations is an indicator of the financial policies of a firm.

According to the substitution assumption, each control mechanism has the same incidences as eachother, soafirm needsto choose the most effective one. Jensen et al. (1992), Moh'D et al. (1995) and Chen and Steiner (1999) demonstrate that the control mechanisms are substitutable.

With the complementarity assumption, the simultaneous use of two mechanisms reduces agency costs, as confirmed by Eckbo and Verma (1984) and Agrawal and Knoeber (1996). For a given level of internal ownership, firms choose their debt and dividend levels. The managers have to find a balance between the costs and advantages of each mechanism, as well asbetween theirfinancial policies.

This study extends this line of research by examining the links between ownership concentration, debt, and dividends in Tunisian firms.

This paper uses the following structure. In the next section, the previous studies are reviewed. In the third section, the characteristics of the Tunisian firms are given. The fourth section details the methodology and the model, while thefifth section presents the results. In the final section, the study is summarized.

## 2. LITERATURE REVIEW

### 2.1. Relationship between debt and dividends

Most previous studies assert that these mechanisms are substitutable. Jensen (1986) emphasizes that debt ismore effective than dividends. Otherwise, the reimbursement of capital and the payment of interest are contractual, while the payment of dividends is a residual condition. He identifies the roles of the dividends, debt,

 

and financial reorganization in reducing risk and free cash flow.He also affirmed that debt and dividends are substitutable. Even when managers promise to increase dividends, there is noguarantee they will keep this promise. However, the non-reimbursement of debt gives creditors the right to force a firm intobankruptcy.
Debt can reduce liquidity, sothis encouragesmanagers to makesounder decisions. Rozeff (1982) and Moh'D et al. (1995, 1998) confirm thesubstitutabilityof debt and dividends. According to Jensen (1986), debt and dividends avoid expropriatingthe minority shareholders. This requires removing afirm's wealth from the controllingowner family.
In their studies, Wiebel (1996) and Douglas (2001) demonstrated that when afirm pays dividends and increases debt, its value canbe optimal.Miguel et al. (2005) assert that high financial leverage leads to increasing dividends, becausethe firm can then avoid overinvestment.
This means that any issuance of debt requires the payment of higher dividends to limit the management's discretionary power overthe new funds.
For Brockman and Unlu (2009), the debt agency costs have a significant role in determining dividend policy.They point out that the country-level creditors' rights affect dividend policies around the world by establishing abalance of power between debt and equity claimants.

**2.2. Relationship between debt and ownership concentration**

According to Stulz (1988), when the debt ratio exceeds a determined level, the managers reduce the percentage of their shares, because the chanceof a loss increases. Firms choose alevel of debt and internal ownership by using a substitutive model. According toFriend and Lang (1988), if the internal ownership generates conflicts of interest, firms reduce their debt. Hence, they are able to control the discretion of managers.
In the opinion of Grier and Zychowicz (1994), the owners prefer to reduce the riskier debt. According toMoh'D et al.(1998) andDenis and Sarin (1999), whenthe level of ownership concentration is low, firmsbecome more involved in debt. Miguel et al. (2005) also confirmed this risk aversion byowners.
Jensen (1986) provides empirical evidencetosupport this argument. He affirms that firms needto use debt and internal ownership simultaneously to avoid overinvestment. For Agrawal and Knoeber (1996), ahigh level of internal ownership is not a sufficient solution. Debt helps to control agency costs, soit is complementary to the ownership concentration.
However, some researchers arguefor complementarity. Jensen and Meckling (1976) noted that debt provides some resolutionto conflicts of interest. For them, the issuance of debt provides managers with the possibilityto raise the internal ownership level.
For Leland and Pyle (1977), there is a positive link between debt and internal ownership. They basethis conclusion on the arguments of signal. Kim and Sorenson (1986), meanwhile, point out that only the internal owners support the agency costs of the increased debt in controlled companies.

**2.3. Relationship between dividends and ownership concentration**

This relationship has raised some controversy. Roseff (1982) and Easterbrook (1984) state that a generous dividend policy solves agency problems. An appropriate policy disciplines the behavior of managers and reduces agency costs. The findings of Lloyd et al. (1985) and Agrawal and Jayarman (1994) are also inline with those of Roseff (1982). They demonstrate that dividends and the share percentagesofmanagersare substitutable. Therefore, the increase (or decrease) of onevariable involves the decrease (or increase) of the other.
La Porta et al. (2000) point out that the shareholders' rights are determinant. These rights allow minority shareholders to obtain relatively high dividends from reluctant managers. These minority rights affect dividend policies by establishing a balance of power between the owners and shareholders. The authors propose two competing hypotheses for the relationship between shareholder rights and dividend policy. The first is the outcome hypothesis, which predicts that stronger rights empower minority shareholders to obtain higher dividends. The second is the substitute hypothesis, which predicts that weaker rights lead to higher dividend payouts. In this case, the managers use dividends as a substitute for weak investor protection.

They found that the outcome hypothesis canexplain the link between the agency costs forequity and minority shareholder rights. It also explains the relationship between these costs and dividends.
For Fenn and Liang (2001), the entrenchment of managers generates complementarity between ownership concentration and dividends. The managers increase dividends to achievea positive market perception. According to Farinha (2003), when internal ownership exceeds a given level, the increase inthe management's shares induces an increase in dividends. In the USA and the UK, Thomsen (2005) found that high block holder ownership leads to low dividends.

Miguel et al. (2005) demonstrated that in firms with convergininterests, dividends and ownership concentration are complementary.
Meanwhile, Farinha and de Foronda (2009) highlight the disciplining role of dividends. This is true in all

 

countries, even those with very different legal systems and distinct agency problems. Wheninstitutional environments differ, however, the relationships between insider ownership and dividend policies are remarkably different. Inthe Anglo–Saxon countries,whichall traditionally use civil law, the legal and institutional environments also differ.

In Tunisia, Kouki and Guizani (2009) corroborate that ownership structure is relevant tounderstanding dividend policy. In quoted firms,the greaterthe ownership of the five largest shareholders, the higher the dividends will be. They found a strong effect of the free cash flow on dividend policy. In their study, the large firms paidfewer dividends than the small ones.

**2.4.. Conceptualization of the relationships between control mechanisms**

Jensen et al. (1992), Chen and Steiner (1999), and Miguel et al. (2005) studied the relationships between agency costs and control mechanisms. They developed several models,but after getting opposing results, the modeling wasa theoretical development.

They studied the links between debt, dividends and ownership structure by applying systems of simultaneous equations.

Jensen et al. (1992) developed a system of three simultaneous equations. The dependent variables are the debt ratio, the dividends, and the share percentage ofmanagers. They highlight the interdependence between ownership structure and financial decisions.

Their results support the substitutability assumption. They found that the level of internal ownership has a negative effect on debt and dividends anddemonstrated that debtand dividends are substitutable.

Chen and Steiner (1999) developed a model with four simultaneous equations. Fourdependent variables were used: the share percentage of managers, risk, debt, and dividends.

For a better specification of the model, they propose a translogarithmic function. In American firms, they found that managerial ownership is substitutable with dividend policy and institutional ownership. Debts and dividends werealso found to be substitutable.

To analyze the relationships between debt, dividends and ownership structure,Miguel et al. (2005) adopted the same approach. Their study stands out from previous ones due totwo new ideas. Firstly, they analyzed all the interactions between debt, dividends and ownership concentration. They also integrated the non-linearity of ownership concentration into the model,which may cause changes in the mechanisms' relationships.

In addition, Miguel et al. (2005) used panel data that allowscontrol of the unobservable heterogeneities, and they inserted the effect of time into the model.They found complementarity between these mechanisms.

A system of simultaneous equations seems to be suitable for analyzing the relationships between the agency cost mechanisms.

**3 .CHARACTERISTICS OF THE TUNISIAN FIRMS**

Most of the Tunisian firms payannual dividends, and their debt ratios arehigh. In the non-quoted firms, the ownership concentration levels arehigh. We usethese three characteristics as agency cost mechanisms.

In Tunisia, because family ownership generally dominates in private firms, the traditionallyobserved conflicts between owners and agents only exist in some of the large quoted firms. In private firms, conflicts exist between the majority and minority shareholders. As noted by Shleifer and Vishny (1997), these problems arise when large shareholders have full control of afirm. Thus, there is an expropriation by the majority shareholders at the expense of the minority shareholders.

We chose the Tunisian context for four reasons. Firstly, private firms havehigh ownership concentrations. Consequently, the ownermanagers centralize all strategic decisions. Most often, the founders occupy positions as chairpersons and general managers at the same time. Whenthe founder is the chairperson, a family member holds the position of executive general manager.

The founders delegate limited responsibilities to specialized professional managers, who areresponsible justfor the operational departments. This has led to a complete alignment of the interests of agents and owners.

The top managers are generally members of the founder's family. According to Ghoshal and Moran (1996), the agency theory ignores the effects of the social relationships betweenthe owners and managers in family firms. The ownership concentration works as an effective governance mechanism. According toAng et al. (2000), small firms seem well suited to studying agency costs related to equity.

According to Durnev and Kim (2005), "if the ownership concentration level is high, the positive incentive generated by controlling the public interest for the controlling shareholders is high too." Consequently, blockholders with high ownership concentration have a positive effect on the performance of a firm.

In China, Yu Cao (2010) demonstrated that ownership concentration positively affects the performance of listed companies in both the growth and decline stages. However, it doesnot have a significant effect duringthe mature stage. Some previous studies have concluded that ownership concentration encourages managers to look for new investment opportunities.

 

The second reason for selecting Tunisian firms is theirhigh leverage ratios. The decisions related to their capital structure canincrease profitability and risk. For example, McKnight and Weir (2009) found that debt reduces the agency costs.
Thirdly, the Tunisian firms paydividends yearly, and their profitability rates (ROE and ROA) arehigh.
Fourthly, there is no transparency in private firms. Thisexists only in quoted firms that need to follow government regulation. This regulation,combined withthe financial market structure, should affectthe agency conflicts in quoted companies (Durnev and Kim 2005, and Lins 2003). Therefore, their financial policies may differ from those of non-quoted firms.

## 4.METHODOLOGY AND MODEL

### 4.1.Samples and methodology

Forthe first sample, 31 quoted Tunisian companieswereincluded, while 73 non-quoted firms were included in the second sample. For these firms, data were collected throughquestionnaires addressed to the managers. All firms cooperatedby providing a full eight years of data from 2005 to 2013. Toapply the model, we chose the three-stage least squares(3SLS) procedure,which is based upon an application of the MCO in three stages.

The descriptive statistics follow below.

Table 1: descriptive statistics for quoted firms

| Variable | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| $D_{it}$ | .3004799 | .1497385 | 0 | 1 |
| $DIV_{it}$ | .0266799 | .0346372 | 0 | .25 |
| $OWC_{it}$ | .1166319 | .1978396 | 0 | .8 |
| $CF_{it}$ | .1430764 | .1354163 | -.35 | .86 |
| $RENT_{it}$ | .1156042 | .1295296 | -.4 | .5 |
| $FCF_{it}$ | .1728832 | .2724228 | -.2255639 | 2.166667 |
| $Q_{it}$ | 1.282153 | .8330978 | .09 | 2 |
| $GROW_{it}$ | .0956664 | .1132598 | -.102 | .32524558 |
| $SIZE_{it}$ | 10.70185 | 1.858854 | 9.089 | 14.1 |

Table 2: descriptive statistics for non quoted firms

| Variable | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| $D_{it}$ | .0546641 | .1023154 | 0 | .87 |
| $DIV_{it}$ | .0456131 | .0216432 | 0 | .3 |
| $OWC_{it}$ | .0951215 | .1945423 | 0 | 1 |
| $CF_{it}$ | .0329213 | .0647149 | -.335 | .75 |
| $ROE_{it}$ | .0156645 | 0.099545 | -1.456 | .88 |
| $FCF_{it}$ | .2944592 | .2345648 | -.1652563 | 2.646423 |
| $GROW_{it}$ | .1015145 | .1226545 | -.235 | .5583698 |
| $SIZE_{it}$ | 10.32649 | 1.421316 | 7.235 | 16.12 |

### 4.2. The model

The simultaneous equations model is as follows:

$$D_{it} = \phi_0 + \phi_1 DIV_{it} + \phi_2 OWC_{it} + \phi_3 CF_{it} + \phi_4 FCF_{it} + \phi_5 Q_{it} + d_t + \eta_i + v_{it} \quad (1)$$

$$DIV_{it} = \mu_0 + \mu_1 D_{it} + \mu_2 OWC_{it} + \mu_3 ROE_{it} + \mu_4 FCF_{it} + \mu_5 GROW_{it} + d_t + \eta_i + v_{it} \quad (2)$$

$$OWC_{it} = \lambda_0 + \lambda_1 D_{it} + \lambda_2 DIV_{it} + \lambda_3 FCF_{it} + \lambda_4 Q_{it} + \lambda_5 SIZE_{it} + d_t + \eta_i + v_{it} \quad (3)$$

Were:
$D_{it}$: the ratio ‘long run debts / equity’

 

$DIV_I$: the ratio 'dividends / net income'
$OWC_{it}$: the level of the ownership concentration (%).
$ROE_{it}$ : the financial profitability rate.
$CF_{it}$ : the ratio 'cash-flow/ Value of the replacement of the debts'
$FCF_{it}$: the free cash-flow.
$Q_{it:i}$: the Q of Tobin.
$GROW_{it}$ : Sales annual growth rate.
SIZE $_{it}$: measured by the logarithm of total assets.
Only $D_{it}$, $DIV_{it}$ and $OWC_{it}$ are the endogenous variables of the model.
The Q of Tobin is retained only for quoted firms.

For theownership concentration variable, we consider ashare ownership of 30% or more to be a concentration.

## 5. RESULTS

### 5.1. Debt equation results

In the quoted firms, the coefficient of the dividends variable is negative. Dividends negatively affected debt. This result is in line with those of Rozeff (1982), Jensen (1986), Moh'D et al. (1995, 1998), and Lozano et al. (2002).Nevertheless, it is not consistent with the findings of Eckbo and Verma (1994), Zwiebel (1996), Douglas (2001), and Miguel et al. (2005).

These firms prioritize their commitments to lenders. Debts are contractual duties and a disciplinary power, so with limited liquidity, the management mustbe more rigorous.

An increase inthe ownership concentration may imply a corresponding reduction in debt. This result confirms those of Grier and Zychowicz (1994) and Berger et al. (1997). The authors also noted that management entrenchment cuts debts due to its disciplining role.

The free cash flow has a negative effecton debt. Whenthis is due to highearnings, firms prefer to use internal funding, as stated in the pecking order theory.Adecrease in free cash flowsmay translate to a rational management of funds. The fact that future investments require increaseddebt may explain the positive sign of the relationship between debt and Tobin's q.

In the non-quoted firms, dividends have a positive effect on debt. High dividends are necessary to prevent firms from overinvesting. This is not consistent with the findings of Rozeff (1982) and Jensen (1986). The ownership concentration negatively affects the debt level due to risk aversion bythe owners. An increase in debt was also found to imply increased free cash flows.

Funds capitalization in the quoted firms may explain the divergent results. Medium- and long-term debt were found to be more important in the quoted firms than in the non-quoted ones,which have excessive short-term debt. Furthermore, the relationships between debt and the other variables were found to beidentical forall the firms.

### 5.2. Results of the dividends equation

The negative coefficient of the debt means that they are substitutable with dividends. The high debt levels of the Tunisian firms imply lower dividends. Limiting dividends reduces the risk of insolvency forbondholders.

In accordance withFenn and Liang (2001) and Miguel et al. (2005), ownership concentration was found to positively affectdividends. This confirms the complementarity between these mechanisms. Managers mayincrease dividends to improve the market's perception of the firm..

In the regression, dividends and the profitability rate have a positive relation. They are efficient control mechanisms (Jensen, 1986). The negative coefficient of the free cash flow consolidates this result. With higher dividends, the opportunism of managers decreases. As the relationship between dividends and the growth rates is positive, firms with high growth rates pay higher dividends.

In the non-quoted firms, the positive coefficient of the debtvariable is a sign of itscomplementarity with dividends. A new issuance of debt may increase dividends, so firms can limit managerial discretion andavoid overinvestment with the new funds. The coefficient of the ownership concentration variable is positive, sothe more concentrated the ownership is, the higher thedividends are. The non-quoted Tunisian firms have specific financial policies.

### 5.3. Results of the ownership concentration equation

The findings confirm those of Moh'D et al. (1998) and De Miguel et al. (2005). The negative coefficient of the debt variableimpliesthat debts negatively affect the ownership concentration,so they are substitutable. When there isa high probability of a loss, the Tunisian managers reduce their ownership percentages. The positive coefficient of dividends means that there iscomplementarity with the ownership concentration.

 

The coefficient of the free cash flow is positive. This means that the higher the level of ownership concentration is, the higher the free cash flow will be. In addition, the positive coefficient of Tobin's qshows that ownership concentration is a signaling instrument. As affirmed by Himmelberg et al. (1999), a high concentration allows the control of managerial discretion.

For the non-quoted firms, the results are the same as those forthe quoted firms. The relation between debt and ownership concentration is negative,so they are substitutable. The ownership concentration and dividend variables arecomplementary. Free cash flow hasa positive effect onthe ownership structure, while the ownership concentration increaseswith the size of the firm. This impliesthat Tunisian owners do not invite newshareholders into their firms.

## 6. CONCLUSION

For the non-quoted Tunisian firms, debt and dividends are substitutable, so one of them may reduce the agency costs. Debt and ownership concentration are also substitutable. The risk aversion of ownermanagers may explain thissubstitutability. The ownership concentration level and dividends, meanwhile, have a complementary relationship.

In the quoted firms, we founddebt and dividends to be complementary. However, debt and ownership concentration were found to besubstitutable. These mechanisms seem to be appropriate solutions to agency problems.

The results werenot the same for the two sets of firms. This divergence in the findingswasdue to different financing strategies. The financial policies of the firms differ significantly, and regulation and the stock market may affect the signs of the relationships in the quoted firms.

This study does havesome limitations. The samples usedonly included highly profitablefirms,so the findings cannot be generalized.

As a direct extension of this research, the interactions between other mechanisms in private firms should be analyzed. Relationships such as those between debt, free cashflow, management compensation, and liquidity should also be studied.

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## APPENDICES

Table 3: Coefficients in non quoted firms' regressions

| Explanatory variables | Dependent variables | | |
|---|---|---|---|
| | $D_{it}$ | $DIV_{it}$ | $OWC_{it}$ |
| $D_{it}$ | | -0.025274*<br>(5.12899) | -0.00897*<br>(4.679872) |
| $DIV_{it}$ | -0.035496*<br>(2.815189) | | 0.027674*<br>(2.038611) |
| $OWC_{it}$ | -0.133417*<br>(2.204856) | 0.070522*<br>(3.579827) | |
| $CF_{it}$ | -0.375422*<br>(2.534167) | | |
| $ROE_{it}$ | | 0.024188*<br>(5.885092) | |
| $FC_{it}$ | 0.026065*<br>(7.087491) | -0.024640*<br>(8.892689) | 0.000888*<br>(2.238121) |
| $Q_{it}$ | 0.004651*<br>(3.233714) | | 0.000312*<br>(4.516034) |
| $GROW_{it}$ | | 0.054856*<br>(7.954114) | |
| $SIZE_{it}$ | | | 0.004235*<br>(2.704605) |
| $R^2$ | 0.857213 | 0.887524 | 0.984624 |
| $R^2$ajusted | 0.816487 | 0.852751 | 0.971207 |
| F-statistic | 124.5341 | 267.4672 | 419.598 |

*Within parentheses is the t-statistic and * significantat 0.05 level

 

Table 4: Coefficients in quoted firms' regressions

| Explanatory variables | Dependent variables | | |
|---|---|---|---|
| | $D_{it}$ | $DIV_{it}$ | $OWC_{it}$ |
| $D_{it}$ | | 0.028092*<br>(3.47307) | -0.016035*<br>(6.97976) |
| $DIV_{it}$ | 0.019596<br>(2.03474) | | 0.028374*<br>(2.565695) |
| $OWC_{it}$ | -0.01806*<br>(3.579773) | 0.071519*<br>(2.059870) | |
| $CF_{it}$ | 0.000628*<br>(0.511983) | | |
| $ROE_{it}$ | | 0.004555*<br>(3.478816) | |
| $FCF_{it}$ | 0.089144*<br>(3.503503) | 0.030885*<br>(3.855135) | 0.003691*<br>(4.154981) |
| $GROW_{it}$ | | 0.078955*<br>(6.322214) | |
| $SIZE_{it}$ | | | 0.000487*<br>(2.309767) |
| $R^2$ | 0.859174 | 0.915994 | 0.972378 |
| $R^2$ajusted | 0.826385 | 0.876921 | 0.954136 |
| F-statistic | 168.4375 | 305.4674 | 478.278 |