

Capital Structure of Owner- and Management-operated Companies: An Empirical Study on the Example of TecDax-Companies

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Abstract

The objective of this study is to investigate the relationship between ownership structure and capital structure by looking at 30 Tec-Dax-companies. One crucial aspect is the potential impact that the capital structure may have on corporate success. In particular, we are investigating whether owner-run businesses are more successful than those run by managers. In conclusion, it can be stated that there is a curvilinear relationship between management ownership and debt ratio. Furthermore, the results play a key role in stimulating the capital structure debate and allow a better understanding of the differences in the capital structure and their impact.

Keywords

Capital Structure, Debt rate, Empirical Study, Management-operated, Owner-operated, Shareholder Structure, TecDax

1. Problem and Approach

Following the publication of Modigliani and Miller's irrelevance theory in 1958, finance economists laid greater emphasis on changes in the capital structure by means of cross section and time series analyses. Subsequently, a number of surveys have analysed a manager's viewpoint to explain differences in the capital structure [3]. From a manager's perspective the decision on the capital structure is not solely determined by internal and external factors that, say, derive from values like risk and control. Likewise, standards and values, objectives as well as managers' preferences play an important role when making such financial decisions.

Theoretical and empirical studies based on the Agency Theory have demonstrated that managers who have invested in non-diversifiable human capital have an incentive to reduce their risk of unemployment by maintaining the firm's viability. [2].

Recent developments of the Agency Theory claim that the ownership structure may also have an impact on company performance by reducing agency problems between management and shareholders. [25]. Companies are distinguished by their distribution of property amongst managers and external investors. The distribution of property

between the individual groups – or so is the assumption – can have an impact on the opportunism in a company which contrastingly has an impact on management behaviour and company performance.

The assertion that characteristics in the ownership structure (co-)determine the performance of an enterprise has attracted great attention but only few studies have closely looked at the relationship between ownership structure and capital structure.¹ Nevertheless, there is good reason to believe that there is a connection between ownership and capital structure. Especially, when management becomes involved in the capital structure, there is indication that financial decisions are influenced by the ownership structure since managers act opportunistically or are misled by disincentives. The management self-interest hypothesis indicates the same. [1], [9], [24] & [27]. Consequently, the ownership structure is somehow associated to the capital structure.

This analysis tries to contribute to the research of this correlation by examining the differences in the ownership structure.

Since managers and external shareholders represent two

¹ Current empirical contributions to ownership structure and performance: [14], [18], [19], [21]

groups with significant impacts on corporate decisions, this study concentrates on the influence of management and external shareholders on the capital structure of businesses and hence on their debt level.

The main part of capital structure research has been done in the United States. Analysing the capital structure of German High-Tech values is geared towards complementing the US data.

Along the lines of this analysis several models are developed from which hypotheses are derived and substantiated:

1. The External-Shareholder-Model: It determines which incentives external shareholders and managers have to lower the risk of unemployment and the debt ratio.
2. The Management-shareholder-model: The impact of management ownership on the level of indebtedness is reviewed.
3. A model that analyses the impact of external and management shareholders on the financial decisions of the enterprise.

Chapter two focuses on the role of external shareholders when financial decisions are made. In chapter three management involvement and external shareholding are linked with capital structure. Chapter four includes details about data and model specifications. Chapter five displays the empirical findings. Finally, in chapter six the basic messages of the study are summarised.

Key research questions are:

1. Does the capital structure have an impact on corporate success?
2. Are owner-managed enterprises more successful than those run by managers?

2. External Shareholder and Capital Structure

It is explicitly pointed out in literature that external shareholders have an incentive to monitor and influence management [12]. To safeguard their possibly significant investments these investors share the vital interest to ensure that management does not get engaged in activities which (may) have a negative impact on any shareholder capital. According to this "active monitoring hypothesis", external shareholders diminish the scope of management opportunism which leads to fewer agency conflicts between management and shareholders. [27]. Shome and Singh [28] were able to confirm the "active monitoring hypothesis". They investigated the market reaction by means of the event study method, following the announcement of the acquisition of large blocks of shares. Following these announcements unusual returns could be witnessed. Furthermore, Shome and Singh [28] were able to prove that these remarkable returns were associated with a reduction of agency costs. Additionally, Bethel et al. [5] found out that the operational performance of enterprises is improved in the long run through the acquisition of share blocks by active

shareholders.

The listed findings verify that agency conflicts dwindle with increasing stakes held by external shareholders. Consequently, external shareholders act as active and close supervisors of the management and due to this monitoring process the management is not able to do as they please and increase or decrease debt in their own interest.

With the increasing involvement of external shareholders, there is a growing incentive of shareholders to safeguard their own investments and to monitor management closely. This is possible as shareholders have a greater say as their stake increases and their influence on decisions grows accordingly. Just like the debt ratio can serve as a tool for internal management control, we assume that the debt ratio is a rising function of stockholding by external shareholders which leads to the first hypothesis:

Enterprises with a higher level of external holdings are likely to have a higher debt ratio, *ceteris paribus*.

However, Shleifer and Vishny's [27] active monitoring hypothesis was questioned by Pound [23] who argued that shareholders holding substantial stakes might be passive voters who team up with insiders who themselves take action against the interests of widely scattered trustful shareholders. Evidence which underpins this passive voters' hypothesis has been submitted by McConnell and Servaes [19] who surveyed the relationship of major shareholders and enterprise values. If this hypothesis describes the role of external shareholders correctly, the relationship between debt ratio and external stockholding might be negative.

The present study can therefore also be considered as an empirical test of two conflicting hypotheses about the role of external shareholders and their influence on the capital structure.

3. Management Stake and Financial Decisions

Jensen and Meckling [15], Fama and Jensen [10] and Shleifer and Vishny [27] as well as many others assume that the ownership structure has a major effect on manager incentives and company value. In literature it was initially assumed that most investors prefer well-diversified portfolios to minimise their risks. The liabilities of a shareholder are limited to the level of stakes held and their risk can be diversified through other investments. Managers, on the other hand, cannot attain a similar minimum risk level since a large part of their assets arises from the considerable investment in company-specific human capital. In contrast to financial capital, the risk associated with human resources is not diversified for the most part. [2]. This non-diversifiable risk leads to a decrease in managers' affluence. [7]. The lack of diversification is high-risk, especially for managers as their possessions are restricted to their own asset limit.

Since managers, with a risk aversion, are responsible for the entrepreneurial risk, experts argument that these

managers can only lower the risk of losing their jobs by maintaining the profitability of the business (company) [2]. This notion has been known as the “managerial self-interest hypothesis”.

One method of how to lower the risk of losing their job lies in the reduction of company debts since high debts increase the likelihood of corporate insolvency [12]. Friend and Lang argue that with the increasing prevalence of corporate insolvencies and financial hardships that lead to job losses or jeopardizing their workplace in the future, managers are open to accept a lower payment. It is argued that managers have the incentive to lower company debts to sub-optimal levels. However, it is unlikely that the management is able to lower the debt level to zero as there are corporate governance mechanisms that control and discipline managerial behaviour. Such mechanisms include the labour market for managers, the capital market and the market for rights of disposal (corporate control).

Debt policy is also considered an internal control mechanism which is able to reduce agency conflicts between management and shareholders, especially, the agency costs of free cash flows as assumed by Jensen [15]. Jensen argues that managers with a considerable amount of freely available funds are more likely to engage in sub-optimal activities. Grossman and Hart [13] assume that debts can be used as a disciplinary measure in order to reduce the agency costs of freely available funds as well as lessen the incentives of getting involved in sub-optimal fields.²

Jensen and Meckling [15] argue that management ownership lowers managers’ incentives to generate additional income from other sources, expropriate shareholder assets or not behave in a profit-maximising way. Management ownership therefore contributes to the alignment of management interests with those of shareholders. This is the so-called “convergence-of-interests” hypothesis.

The convergence-of-interests hypothesis was challenged by Fama and Jensen [10] as well as Demsetz [9] who assumed that management ownership could fuel agency conflicts between management and shareholders as it entails considerable costs. They claimed that instead of reducing the problems of management being driven by the wrong incentives, the established management could make itself indispensable through a bigger part of shareholding (entrenchment), which would lead to intensified management opportunism.

The combination of the convergence-of-interests and the entrenchment hypothesis predicts a curved relationship between management ownership and enterprise value. Studies like the one by Morck et al. [21], McConnell and Servaes [18] & [19] have discovered a non-linear relationship between management ownership and enterprise value. They assumed that the enterprise value would rise if management ownership was at a low level due to the convergence-of-interests effect. If,

however, management ownership was at a high level, the entrenchment effect would kick in which would lead to more agency conflicts and a continued decline in enterprise value. Morck et al. [21] used US-Data and determined a positive relationship between management ownership and company value (measured by Tobin’s Q) in a range of stakes held from 0 to 5% as well as above 25%. Likewise, McConnell and Servaes [19] determined, also by means of US data gathered, a positive relationship between management ownership and company value, however, at a stake of between 0 up to 45 %.³ Short and Keasey [29] substantiated the curved effect with their research, but had to admit that the entrenchment effect in the United Kingdom occurred at higher share levels than with US data. Kole [17] argues that the differences in the results of US data could possibly originate from scale economies while Short and Keasey [29] assume that different governance mechanisms in the individual countries have possibly played a role and could, therefore, explain the different results. Despite a possible correlation of management ownership and external shareholding when minimising agency conflicts, previous studies have either only looked at the connection of management ownership and agency conflicts or they have examined how external shareholding and agency conflicts are connected.

The above findings show a correlation between management ownership and company value. Unlike the theory of irrelevance by Modigliani and Miller [20] the existence of a financial market with shortcomings implies the correlation between capital structure and company value which is backed up by numerous studies. McConnell and Servaes [18] for instance, produce evidence that in companies with low growth opportunities the company value (measured by Tobin’s Q) correlates positively with the debt ratio while in enterprises with huge growth opportunities the company value correlates negatively with the debt ratio. Therefore, one might assume that there is also a link between management ownership and capital structure.

The combined convergence-of-interests hypothesis and the entrenchment hypothesis may also be transferred to other agency conflicts. Berger et al. [2] found in a study on CEO compensations and company indebtedness, that managers who have made themselves indispensable since they hold a considerable amount of stock, try to avoid borrowing money. This implies that financial decisions of enterprises might be influenced by management ownership. The general assumption that decisions on the capital structure are agency-related is empirically backed up by Johnson [13], too. According to him the fact of monitoring or non-monitoring the management has an influence on taking out loans and the debate between public and private investors.

You may argue with the logic of the convergence-of-interests and the entrenchment hypothesis that the relationship between management ownership and debt rate

² However, debts could bring about undesirable effects, as indicated by Myers [19], e.g. the abandonment of positive net present value projects.

³ McConnell and Servaes [18] replicate and extend their previous study to a later period and achieve similar results as McConnell and Servaes [19].

has to be curved. Particularly when the stakes held by management are at a low level it is likely that the interests of management and stakeholders are counterbalanced which leads to a rise in the debt ratio. If, however, managers already hold a significant share of stakes an increase of their stakes could lead to the established management making itself irreplaceable (entrenchment). If the level of stakes is too high, management opportunism usually rises which leads to a decrease in debt ratio. It can therefore be expected that the relationship between management stakes and agency conflicts is curved: driven through the impact of manager opportunism, the curve initially drops but due to the stakes held by management it will subsequently rise again.

Which leads to the second hypothesis:

When management ownership is at a low level then management ownership is positively related to the company debt ratio, *ceteris paribus*, and when management ownership is at a high level then management ownership is negatively related to the company debt ratio, *ceteris paribus*, so that the relationship between management ownership and debt ratio is curved.

Friend and Lang [12] tested the impact of external shareholders on the debt ratio and discovered that the presence of external shareholders increases the debt ratio.⁴ The level of management shareholding is, however, of no significance in their analysis. Their analysis gave no direct statement whether the relationship between external shareholders and debt ratio varies with the level of stakes held by management. No survey has so far made an attempt to examine the correlation between external shareholders, management shareholders and debt ratio at the same time.⁵

It is argued that when management ownership is at a low level, external shareholders monitor management comparatively closely which leads to lower opportunism in managers. If management ownership is at a lower level, managers only have limited power (voting rights) and limited impact while external shareholders have the opportunity to constrain any opportunistic manager behaviour through their monitoring, in other words they alleviate agency conflicts. Consequently, both scenarios where stakes are held by external parties as well as by management have a positive impact on managers' incentives. Both factors are able to bring down any opportunistic behaviour in managers. Therefore external shareholding has a supplementary effect when the level of stakes held by management is low.

Which leads to the third hypothesis: When management ownership is at a low level, the participation level of external shareholders is positively related to the company debt ratio, *ceteris paribus*.

When management ownership is at a high level, the monitoring effect of external shareholders is compensated

by the entrenchment effect; management opportunism cannot be effectively arrested. If managers dominate corporations, external shareholders may possibly not have the opportunity to keep self-serving managers from engaging in non-maximising behaviour. Consequently, external and management shareholders act in opposite directions when management ownership is at a high level. When the entrenchment effect of management ownership exceeds the monitoring effect of external shareholders, the correlation between external shareholders and debt ratio becomes less significant. How significant the correlation declines, depends on the extent of the entrenchment effect. In the extreme – when the entrenchment effect entirely dominates the monitoring effect – the relationship between external shareholding level and debt ratio will lose its effect. Due to a number of influences it is not possible, to make a forecast on the specific relationship between external shareholders and debt ratio when management ownership is at a high level. Nevertheless, it is known that the relationship between external shareholders and debt ratio is not as significant when the level of management ownership is high than when the level of management ownership is low.

Which leads to the fourth and last hypothesis: When the level of stakes held by management is high, the correlation between external shareholders and company debt ratio is less significant than when the level of stakes held by management is low, *ceteris paribus*.

4. Data and Model Specification

To study the relationship of ownership structure and financial decisions, a large variety of data is required. This empiric analysis is carried out with 30 TecDax companies⁶ including those enterprises in the analysis that were listed in the TecDax (N=30) on 15 April 2013. Enterprise data refer to the status as per 22 May 2013. All data have been taken from the database Bureau van Dijk and the Federal Gazette. Bureau van Dijk is a service used by many enterprises which, for a fee, provides precise company information and in great detail. The following data have been gathered for each enterprise:

Dependent Variable:

$$\left(\frac{D}{E}\right) = \left(\frac{dept}{equity}\right) = Debt\ ratio\ [in\ \%] \quad (1)$$

Control Variables:

1. For the risk:

$$SIZE = \text{balance sheet total} = \text{total assets [in million €]} \quad (2)$$

SIZE should have a positive coefficient, since large enterprises face a lower risk of insolvency. It is easier for them to cope with a high debt ratio. [11] & [26].

2. For the Agency costs:

⁴ Friend and Lang [12] both define external shareholders as investors that hold more than 10 % of the shares issued by the enterprise.

⁵ One possible exception is the study by McConnell and Servaes [18], who combine institutional ownership, management ownership and debt ratio in one model, however, lay their emphasis on the corporate value and not the debt ratio.

⁶ The TecDax is including the 30 largest technology stocks from Germany.

GROWTH = annual percentage change of balance sheet total [in %] (3)

GROWTH should be an indicator for the profitability and success of an enterprise. If an enterprise is successful, there should be investors who are willing to invest in the business.

3. For the specificity of the assets:

$$INTA = \frac{Intangibles}{Assets} [in \%] \quad (4)$$

INTA should be negative, as it is presumed that the agency costs of intangible assets are more expensive than those of tangible assets [22]. Examples include trademarks, research and development as well as image.

4. For the tax:

$$NDTS = \frac{Depreciation}{Assets} [in \%] \quad (5)$$

NDTS should be negative because the higher the tax relief is due to depreciation, the lower the benefit of additional debt is. [8].

Unfortunately, three enterprises did not provide any comparable data, since they are headquartered abroad. Therefore these three enterprises have not been considered in the analysis.

4.1. Model of Hypothesis I

Since the underlying hypothesis claims that the capital structure is a function of distribution of property among managers and external shareholders, the debt ratio is analysed in terms of a variable of ownership structure and different control variables. Enterprises with a high level of external shareholders should therefore also have a higher debt ratio. Consequently, the dependent variable will be tested with a new variable ET (external shareholding) and the control variables.

In light of this, the regression equation will look as follows:

$$Y = b_0 + b_1 * X_1 + b_2 * X_2 + b_3 * X_3 + b_4 * X_4 + b_5 * X_5 + e \quad (6)$$

With the variables used:

$$\left(\frac{D}{E}\right) = b_0 + b_1 * ET + b_2 * SIZE + b_3 * GROWTH + b_4 * INTA + b_5 * NDTS + e \quad (7)$$

ET depicts the percentage of the five largest external shareholders.

4.2. Model of Hypothesis II

To verify the predicted curvilinear relationship between management ownership and capital structure, the variable MSO and the square of MSO are inserted in the regression model. The regression equation is then:

$$\left(\frac{D}{E}\right) = b_0 + b_1 * MSO + b_2 * MSO^2 + b_3 * SIZE + b_4 * GROWTH + b_5 * NDTS + e \quad (8)$$

MSO indicates the percentage of shares that are held by

corporate managers.

4.3. Model of Hypothesis III

According to the third hypothesis the external stake and debt ratio are positively related to a low level of management ownership.

The fourth hypothesis assumes that when stakes held by management are at a high level the relationship between external shareholders and debt ratio is less significant than when stakes held by management are at a low level. This is due to the fact that the positive monitoring effect of external shareholders is compensated by the negative entrenchment effect due to management ownership being at a high level.

To test the hypotheses, a Dummy-variable D is required which mirrors the different levels of management ownership. For this purpose the variable D assumes 0, when management ownership is lower than 15% and assumes 1 when management ownership is higher than 15%.

The coefficient of the variable ET mirrors the relationship between external stake and debt ratio in case management ownership is low.

The coefficient of the variable (D*ET) provides the difference in the relationship between external stake and debt ratio when management ownership is at a low and a high level.

In order to determine the correlation of external shareholders and debt ratio when management ownership is at a high level, both variables ET and (D*ET) are employed in the regression equation.

The regression equation is then:

$$\left(\frac{D}{E}\right) = b_0 + b_1 * MSO + b_2 * MSO^2 + b_3 * ET + b_4 * (D * ET) + b_5 * SIZE + b_6 * GROWTH + b_7 * INTA + b_8 * NDTS + e \quad (9)$$

5. Empirical Results

This empirical study consists of a number of linear and non-linear multiple regressions. The results are described below:

The minimum / maximum values of the dependant variable D/E of this random check range from 15.86 % to 667.04 % with an average value of 119.44 %. The balance sheet totals of the sampled businesses range from €89.56 million to €2528.43 million with an average value of €703.59 million. The mean value of the external stake of the five biggest shareholders is 28.33 % and ranges from 8.76 % to 73.00 %. Management ownership ranges from 0.00 % to 68.36 % and has a mean value of 16.21 %.⁷

The correlation analysis of the control variable shows that some explanatory variables correlate significantly. There is a positive correlation between MSO² and SIZE (0,433) which suggests that enterprises with high management ownership are bigger and / or more successful.

⁷ Morck et al. [21] as well as McConnell and Servaes [19] determined an average value of approx. 10 %.

Table 1 depicts the regression results of the first hypothesis.

5.1. Model of Hypothesis I

$$\left(\frac{D}{E}\right) = b_0 + b_1 * ET + b_2 * SIZE + b_3 * GROWTH + b_4 * INTA + b_5 * NDTS + e \quad (10)$$

Table 1. Results Hypothesis Model I⁸.

Variable	Coefficient	T-Value
CONST	b ₀ 1,315	1,416
ET	b ₁ -1,539	-0,819
SIZE	b ₂ 1,41E-007	0,310
GROWTH	b ₃ -2,060	-0,873
INTA	b ₄ 1,695	1,070
NDTS	b ₅ -0,096	-0,089
R ² = 0,145		
F = 0,676		

As can be seen from the table, there is a significant negative relation between debt ratio and external stake which gives reason to assume that external stakeholders only have little interest in monitoring the enterprise or rather their considerable investment but are pure financial investors. The results support the “passive voters’ hypothesis” by Pound [23], which says that major external stakeholders decide together with management without taking into account any small, widely-scattered shareholders.

The total regression equation explains almost 15% of the dispersion of the dependent variable. This value is by no means optimal and an adjustment of the formula could improve the result but this adjustment would cause a shift in the results of the other hypotheses. In conformance with the economies of scale argument, the SIZE variable is positive, which could mean that big enterprises have higher debt rates. This would match the empirical evidence of Scott and Martin [26] as well as Ferri and Jones [11].

The coefficient of GROWTH is negative and significant (T= -0,873) which is a strong indication for Bradley et al. [6] as well as Titman and Wessels [30], who determined a significantly negative relationship between growth and debt ratio.

The next step of the empirical analysis includes the review of the curved relationship as it is projected in the second hypothesis. Table 2 includes the results of the non-linear multiple regression where the relationship between debt ratio and management ownership (MSO), the square of management ownership (MSO²) and the control variables is examined.

5.2. Model of Hypothesis II

$$\left(\frac{D}{E}\right) = b_0 + b_1 * MSO + b_2 * MSO^2 + b_3 * SIZE + b_4 * GROWTH + b_5 * INTA + b_6 * NDTS + e \quad (11)$$

Table 2. Results Hypothesis Model II⁹.

Variable	Coefficient	T-Value
CONST	b ₀ 0,510	0,877
MSO	b ₁ 5,428	1,344
MSO ²	b ₂ -5,013	-0,680
SIZE	b ₃ -5,3E-008	-0,104
GROWTH	b ₄ -3,311	-1,490
INTA	b ₅ 2,155	1,406
NDTS	b ₆ -0,250	-0,254
R ² = 0,308		
F = 1,412		

The coefficient of MSO is positive while that of MSO² is negative which underpins the statement of the curved movement. The significance of 20% resp. 50% does not confirm the interest approximation and the entrenchment - effects by Jensen and Meckling [15] as well as Fama and Jensen [10]. According to the authors, similar results should be achieved when investigating different enterprises or markets – regardless of the underlying country – if their founders still hold considerable shares of the businesses in question. Nevertheless, our aim is now to subject this hypothesis to further studies using comparable stock indices or random tests.

Altogether the non-linear multiple regression explains some 30% of the dispersion of the dependent variable. The control variables show a similar behaviour as in the previous analysis.

After the impact of external stake and management ownership have been examined individually, and in both cases an impact on the financial decisions of enterprises has been determined, a model is being examined that combines both variables. Since external shareholders have a negative effect on the debt ratio and the relationship between management ownership and debt ratio is curvilinear, it implies that the debt ratio is a function of both.

5.3. Hypotheses Model III

$$\left(\frac{D}{E}\right) = b_0 + b_1 * MSO + b_2 * MSO^2 + b_3 * ET + b_4 * (D * ET) + b_5 * SIZE + b_6 * Growth + b_7 * INTA + b_8 * NDTA + e \quad (12)$$

Results of the third and fourth hypothesis:

Table 3. Results Hypothesis Model III¹⁰.

Variable	Coefficient	T-Value
CONST	b ₀ 1,673	1,308
MSO	b ₁ 2,833	0,627
MSO ²	b ₂ 0,720	0,084
ET	b ₃ -2,379	-0,911
D*ET	b ₄ 1,00E-005	1,477
SIZE	b ₅ 1,5E-006	-1,364
GROWTH	b ₆ -3,708	-1,640
INTA	b ₇ 1,364	0,841
NDTS	b ₈ -0,567	-0,563
R ² = 0,388		
F = 1,345		

⁸ Source: Author’s illustration of calculations

⁹ Source: Author’s illustration of calculations

¹⁰ Source: Author’s illustration of calculations

The results do not confirm the curvilinear relationship between stakes held by management and debt ratio. The coefficients of MSO and MSO² are both positive. The coefficient of the variable ET tests the relationship of external stake and debt ratio at a low level of management ownership and is negatively significant. Some 40% of dispersion of the dependent variable is confirmed by the regression equation. Altogether the results support the hypotheses put forward.

6. Summary and Conclusion

Some significant developments of the agency theory assume that the ownership structure of enterprises may influence the company's performance in a way that agency conflicts between management and shareholders are avoided. In this study the scope of the agency theory is broadened and hypotheses are tested that can better explain the correlation between ownership structure and capital structure. It becomes clear that the ownership structure between managers and external shareholders is significantly related to the debt ratio. Therefore it can be confirmed that there is a link between the capital structure and the ownership structure of enterprises and that the capital structure has an impact on corporate success.

Findings indicate a curvilinear relationship between management ownership and debt ratio aligning the convergence-of-interests and the entrenchment hypothesis. When the stakes held by management are lower there is a tendency that the interests of management and external shareholders will counterbalance each other. When on the other hand management ownership reaches a certain level, the entrenchment effect will overrule the convergence-of-interests effect.

Furthermore it emerged that the relationship between external shareholders and debt ratio varies with different management ownership levels. Additionally, it could be noted that, when the management ownership is at a low level, the monitoring effect of external shareholders mingles with the convergence-of-interests effect which leads to a positive relation of debt ratio and external ownership. When the level of management ownership is high, the entrenchment effect of managers over compensates the monitoring effect of external shareholders so that the significance of external ownership vanishes completely.

The results add further momentum to the capital structure debate. They allow for a better understanding of the differences in the capital structure as they establish a link between ownership and capital structure. In practical terms, this means that the ownership structure touches the financial efficiency of companies; decisions that have an impact on the equity therefore have a host of implications. The results of this study can thereby help explain the correlations of ownership structure, company value and debt ratio. It will be worthwhile for future research to shed further light on these circumstances.

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