Executive Board members’ remuneration: A longitudinal study

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Abstract:

Remuneration is considered to be closely connected with financial performance (positively), firm size (positively), the organizational structure (negatively) and corporate governance mechanisms (negatively). Furthermore, a connection of ownership structure and executives’ remuneration has been well established (theoretically and empirically) in the literature (agency theory). The paper examines if these connections are valid in Greece. Greece hasn’t the characteristics of an Anglo-Saxon country. Overall the study has proven that remuneration levels in Greece are defined by a different set of factors than the ones in an Anglo-Saxon country. Fundamental financial measures of performance are more widely used. The age of firms and corporate governance quality have a catalytic impact on remuneration levels.

Keywords: Compensation, Remuneration Board of Directors, Corporate Governance

JEL Codes: J33, J44, D23, K22, G14, G34, G38, M14, J44
Agency theory and remuneration

Remuneration levels of executive directors and managers is the corner stone for the alignment of interests between executives and shareholders (Grossman, and Hart, 1982), the value of managers (Petra, 2005), their contribution to financial performance (Letza and Kirkbride et al., 2008; Hassan, Christopher, Evans, 2003; Conyon et al., 1995; Gregg et al., 1993) and the overall value of the firm (Habib and Ljungqvist, 2005; Stulz, 1990). Remuneration – compensation is the incentive for better managers’ performance and better financial performance (Jensen, 1986). Some researchers like Petra (2005) argue that it is necessary to enforce managers in order to enforce productivity. Remuneration control is exerted by the Annual Shareholders Meeting, the Board of Directors or by any committee that has been introduced to control and evaluate executive managers and their performance. The efficiency of these mechanisms has been the focal point of many studies (Petra, 2005; Conyon and Peck, 1998).

Remuneration has been seen by the agency theorists as a (partial) remedy of the agency problem (Bebchuk and Fried, 2003). The Board of Directors (BoD) is responsible for providing a remuneration scheme that will direct executive managers to align their interests with the shareholders' interests (Minow and Bingham, 1995; Muth and Donaldson, 1998). A characteristic of the BoD in Anglo-Saxon countries is that directors typically have only nominal equity interests in the firm (Baker, Jensen, and Murphy, 1988; Core, Holthausen, and Larcker, 1999).

Researchers (Bebchuk and Fried, 2004, p. 2) and experience showed that managerial power has dominated the process of negotiation for remuneration levels. BoD is responsible for determining these levels and the schemes of remuneration. “In light of the historically weak link between non-equity compensation and managerial performance, shareholders and regulators wishing to make pay more sensitive to performance have increasingly looked to, and encouraged, equity-based compensation—that is, compensation based on the value of the company’s stock” (Bebchuk and Fried, 2004, p. 7).

The theory that executives and directors should be motivated to align their interests with the shareholders' interests, has led to a quintuple of executive remunerations in a decade (1991-2001) (Cassidy, 2002) and the disclosure of frauds. On the other hand executives are willing to invest free cash flows ineffectively, to retain the capital assets within the firm, rather than to distribute them to shareholders (Hellwig, 1998).
The basic motive for the executives is the dominance in corporate power game. Dominance guarantees high remuneration and entrenchment.

Agency theory addresses the issues that arise from organizational scheme of firms that follow the Anglo-Saxon firm characteristics. There are major differences, relevant to remuneration, between the Anglo-Saxon system and the one in the Continental Europe (Weimer and Pape, 1999) are: a) markets for corporate control, capital and labor market for directors are more active and effective (although there is a growing discussion about how efficient they are). Furthermore, executive managers may entrench themselves in their positions, making it difficult to oust them when they perform poorly (Shleifer and Vishny, 1989), b) As Shleifer and Vishny (1997) argue in Anglo-Saxon countries, capital providers need specialized human capital and executives need capital providers, because they do not have enough capital themselves. On the contrary, in Continental Europe countries executive directors are capital providers and in many cases, members of the dominant group of stakeholders and c) The presence of a large shareholder is likely to result in closer monitoring and reduce of executive directors’ power to impose the pursuit of their interests (Shleifer and Vishny, 1986). In Continental Europe countries the fact that major shareholders are members of the BoD, CEOs and Presidents of the BoD, reduces the possibility of monitoring and transparency. These members have triple attributes or roles (major shareholder - part of the dominant group, member of the BoD and CEO – President of the BoD). Greece is a typical Continental Europe system’s country.

**Corporate Governance status in Greece**

Greek firms are mainly family or controlled by a group of stockholders (Mavridis, 2002). Free float is relatively small in percentage (20-50%) and the ability to achieve control through the capital market is limited. The members of the family or the controlling group are actively involved in management and normally, there is no distinction between management and ownership. The Board of Directors can be characterized as one tier. Managers that are not members of the family or the controlling group are closely connected with these groups and their decisions are subject to their control and monitoring. Institutional investors, although the catalyst for the adoption of CG mechanisms, have not actively been involved in management or in controlling and monitoring the decisions and actions of the controlling group.
Greece’s legal framework constitutes a mixture of German and French law. According to La Porta, et al. (1998), countries with English Law (common law) tradition have the strongest legal protection for minority investors while French law provides the weakest protection. Countries with German law fall in the middle in terms of protection for shareholders. Anti-director rights measure how strongly the legal system favours minority shareholders against managers and dominant shareholders. La Porta, et al. (1998) believe that a strong legal enforcement system could substitute for weak rules since an effective judiciary can step in and save minority shareholders from exploitation by the management. So, eventually, Greece has these characteristics as well.

Mertzanis (2001) (before the new law for the CG in Greece was enacted) noted: “the prevailing framework of corporate governance in Greece is not simply considerably outdated, but may cause potential problems, due to inadequate transparency and accountability, regarding the provision of cost-efficient finance that is required to increase investment and raise national competitiveness”. So the Hellenic Capital Market Committee (2000) and the Committee on Corporate Governance1 have made 44 basic recommendations (compiled in seven main categories: rights and obligations of shareholders; the equitable treatment of shareholders; the role of stakeholders in corporate governance; transparency, disclosure of information and auditing; the board of directors; the non-executive members of the board of directors; Executive management. They have also proposed the adoption of IAS (now IFRS). Only a small number of these recommendations have been adopted and introduced.

Spanos (2005) notes that “the majority of medium and small capitalization (family-owned) companies have adopted the minimum mandatory requirements and lack further efficient CG mechanisms. As long as the competition for capital is increasing, listed companies have to realize that proper CG is a prerequisite in order to attract international capital. Moreover, corporate governance may meet one of the most significant challenges that family-run businesses face: management succession”. The need for CG mechanisms is identified by all market participants as a substitute for trust (as a bonding and problem solving element) among the major stockholders or family members, but they cannot agree on what the mechanisms/processes will

1 The Committee on CG no longer appears to be working, since no more minutes, resolutions or recommendations have been made public since the year 2000. The need for a working Committee that will undergo the periodic valuation of the listed and major firms on CG issues and the continuous monitoring of the CG environment is implicit.
be. Also, there are strong resistive forces mainly by the major stockholders/family members who are not willing to pass power and information to “non-trust worthy” stockholders or professional executive managers. As a result the governing/administrative bodies do not function according to statutes or laws and the process that they provide, but according to the common will of the family members. Furthermore, an effective market for corporate control does not exist.

The board is mostly acting as a passive body in the company where it follows the decisions of the management. Non-executive board members, rather than act as shareholders’ agents, do not efficiently supervise the management (Schulze et al., 2003). This is the case in the majority of (family) public companies in Greece, where significant costs result from bias in favoring family interests over the firm’s interests (such as non-family shareholders), because of loyalty toward the family (Schulze et al., 2003). Even though the rules mandate specific requirements regarding board independence, it’s difficult in practice to identify whether the board meets these rules (Spanos (2005). In countries with concentrated ownership structure (continental Europe, Japan and other OECD countries), large dominant shareholders usually control managers and expropriate minority shareholders, in order to extract private control benefits. The question is therefore posed as how to align the interests of strong block-holders and weak minority shareholders (Spanos, 2005, p. 16; Becht, 1997).

On the other hand, investors usually use their exit options if they disagree with the management or if they are disappointed by the company’s performance, signaling – through share price reduction – the necessity for managers to improve firm performance (Spanos, 2005, p. 16; Hirschman (1970). The lack of market liquidity creates problems in the effectiveness of the shareholders exit option and governing problems (since the main governing body is the general shareholders meeting, but participation is not an easy task). The cost of involvement with management and control for the minor stockholder is greater than the cost of exit and so they may easily choose to sell their stock (“they vote with their feet”) if they are not content with the managements’ choices. The shareholders encirclement does not necessarily mean participation in the company administration. Moreover, family firms disclose less narrative information than non-family firms, where family-firms may disclose more information than non-family firms in some selected areas of interest, such as data information about share price policy and number of diagrams used in the interim report (Mavridis, 2002). In countries where business has traditionally been based on
relationship and trust, corporate information is thought of as secret; and it is accepted practice to keep different sets of books, e.g. one for taxes, one for outside investors, and one for the majority shareholder (Fremond and Capaul, 2002, p. 18). There is a vicious circle whereby managers consider secrecy as imperative so that shareholders do not vote with their feet and through it they can cover up their lack of efficiency or impotence; minority shareholders (major shareholders already have the information because they are members of the BoD, management or the relevant cost for them is not too high) do not actively demand information because the cost of acquiring and processing it is too high for them.

**Hypothesis**

The hypothesis of the study is that the agency theory is not valid in a Continental Europe’s system country. Remuneration is considered to be closely connected with financial performance (positively), firm size (positively), the organizational structure (negatively) and corporate governance mechanisms (negatively). Furthermore, a connection of ownership structure and executives’ remuneration has been well established (theoretically and empirically) in the literature (agency theory). The paper will examine if these connections are valid in Greece. Greece hasn’t the characteristics of an Anglo-Saxon country

**Sample and Descriptive Statistics**

The study’s time horizon is from 2001 to 2006. Sixty firms, that are ranked in the two major stock indexes (FTSE-20 and FTSE-40) of the Greek Capital market and they are consider to be the biggest firms in terms of capitalization and with the highest free float, are used. Their annual reports are the basic source for the data collection. The data was supplemented by information collected by the corporate web sites. Total sample size is 303 observations. Although remuneration disclosure is mandatory, from the 303 available annual reports only 109 contain information about the executive board members. This is a strong indication of the trend to conceal “sensitive” information. As Bebchuk and Fried (2003) argue that executives have an incentive to “camouflage” their remunerations, in order to minimize the “outrage” of outsiders. In this case it’s the major shareholders that conceal information.
Remuneration descriptive statistics are shown in Table 1. The sample was divided into two main categories. The first one is the observations of the firms that are ranked in the FTSE-20 index (the biggest 20 firms in terms of capitalization) of the Athens Stock Exchange and the second is the observations of the firms that are ranked in the FTSE-40 index (the next 40 firms in terms of capitalization). Two ratios were calculated to relate remuneration with fundamental firm size variables: \( E_{\text{REM_EQ}} \) is the ratio of remuneration and equity and \( E_{\text{REM_SM}} \) is the ratio of remuneration and stock market value. Table 1 shows that remuneration levels are different from one index to the other (FTSE-20 mean is 2.04, instead the mean for FTSE-40 is 0.68). FTSE-40 remuneration level presents smaller standard deviation from the FTSE-20 observations.

**Table 1. Executives Directors Remuneration by Index (2001-2006)**

| Mean   | Standard Deviation | Min    | Max     |
|--------|--------------------|--------|---------|
| **FTSE – 20: Observations 32** |
| \( E_{\text{REM}} \) | 2.04078            | 1.92586| .25700  |
| \( E_{\text{REM_EQ}} \) | .198524E-01         | .206993E-01| .588672E-03 |
| \( E_{\text{REM_SM}} \) | .133671E-02         | .130430E-02| .158162E-03 |
| **FTSE – 40: Observations 77** |
| \( E_{\text{REM}} \) | .680747             | .478294| .830000E-01 |
| \( E_{\text{REM_EQ}} \) | .261985E-01         | .218827E-01| .146686E-02 |
| \( E_{\text{REM_SM}} \) | .890263E-02         | .269559E-01| .000000 |
| **Total Sample: Observations 109** |
| \( E_{\text{REM}} \) | 1.08002             | 1.26994| .830000E-01 |
| \( E_{\text{REM_EQ}} \) | 243354E-01          | .216422E-01| .588672E-03 |
| \( E_{\text{REM_SM}} \) | .668144E-02         | .228866E-01| .000000 |

Remuneration variance through time presents a peculiar behavior (see Table 2). While in 2002 remuneration levels are reduced in absolute terms, this is not the case for the remuneration ratios. This may be caused by the lack of relation between remuneration and share price premiums. In 2003-2004 stock market prices fell, while the remuneration levels increased. When stock market prices increased (2004-2006), remunerations decreased. Many firms have adopted complex incentive schemes with the use of stock options.

**Table 2. Executives Directors Remuneration by Year (2001-2006)**

| Mean   | Standard Deviation | Min    | Max     |
|--------|--------------------|--------|---------|
| Year | Observations | E_REM | E_REM_EQ | E_REM_SM |
|------|--------------|-------|----------|----------|
| 2001 | 20           | .910525 | 1.10713 | .830000E-01 | 5.02100 |
| 2002 | 21           | .896310 | 1.11897 | .127000 | 5.40200 |
| 2003 | 20           | 1.27491 | 1.66174 | .145000 | 7.71000 |
| 2004 | 24           | 1.31988 | 1.61353 | .177000 | 8.15700 |
| 2005 | 13           | 1.06934 | .675756 | .190000 | 2.47600 |
| 2006 | 11           | .873900 | .642492 | .190000 | 2.40900 |

Graph 1. Executives Directors Remuneration by Year (2001-2006)
Disclosure levels are higher in the Non Financial sector (see Table 3). Non Financial firms seem to disclose more information than the financial firms.

**Table 3. Disclose frequency of remuneration in relation with the activity sector**

|                    | Non Financial | Financial | Total  |
|--------------------|---------------|-----------|--------|
| Disclosed remuneration | 96 (37.1%)    | 13 (29.5%)| 109 (36%)|
| Non Disclosed remuneration | 163 (62.9%)  | 31 (70.5%)| 194 (64%)|
| Total               | 259 (100%)    | 44 (100%) | 303 (100%)|

As Table 4 depicts firms with higher ownership concentration, better corporate governance level (Lazarides and Drimpetas, 2008) and better Tobin’s Q, seem to disclose more information.

**Table 4. Disclose frequency of remuneration in relation with other variables (2001-2006)**

| Disclose | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | Total |
|----------|------|------|------|------|------|------|-------|
| Ownership concentration (OWN) – Mean |       |      |      |      |      |      |       |
| No       | 0.53 | 0.53 | 0.53 | 0.48 | 0.48 | 0.47 | 0.50  |
| Yes      | 0.59 | 0.60 | 0.54 | 0.55 | 0.61 | 0.52 | 0.57  |
| Total    | 0.55 | 0.56 | 0.53 | 0.51 | 0.51 | 0.48 | 0.52  |

| Corporate Governance Index (CGC) – Mean |       |      |      |      |      |      |       |
| No       | 2.16 | 2.11 | 2.28 | 2.93 | 3.00 | 3.03 | 2.64  |
| Yes      | 3.35 | 3.76 | 4.40 | 4.13 | 3.92 | 4.42 | 3.97  |
| Total    | 2.69 | 2.83 | 3.10 | 3.47 | 3.22 | 3.35 | 3.13  |

| Return on Assets (ROA) – Mean |       |      |      |      |      |      |       |
| No       | 0.08 | 0.06 | 2.87 | 2.32 | 0.07 | 0.09 | 0.88  |
| Yes      | 0.10 | 0.07 | 0.08 | 0.08 | 0.07 | 0.10 | 0.08  |
| Total    | 0.08 | 0.06 | 1.80 | 1.31 | 0.07 | 0.10 | 0.59  |

| Tobin’s Q (TQ) – Mean |       |      |      |      |      |      |       |
| No       | 2.39 | 1.23 | 1.26 | 1.22 | 1.69 | 1.82 | 1.60  |
| Yes      | 1.87 | 1.52 | 3.62 | 1.54 | 1.52 | 1.98 | 2.02  |
| Total    | 2.16 | 1.36 | 2.17 | 1.37 | 1.65 | 1.86 | 1.75  |

**Methodology**

A panel data study is the most appropriate method to determine the factors that formulate the executive’s director remuneration level. There are a number of methodologies that can be used in a panel study. If the Fixed Effects (FE) models are proved to be statistical better, then firms have an identifiable and steady trend and do not differ one from the other, but only at the intercept level. On the contrary, if
Random Effect (RE) models are proved to statistically better, then there is a more dynamic situation, where groups (stratum) and time affect firm’s behavior, and this behavior is statistically different among the firms of the sample. In RE models the estimators and the intercept are considered to be equal within the stratum and time. An advantage of the RE model is that if they are statistical better, then the hypothesis that the sample is representative to a greater population, has merit.

Finally, for the study of time effect the Two Way (TW) model is used. Hence the paper used three types of models. Four (4) variables are used to stratify the sample:

- Binary variable of law (LAW). The variable takes the value of 1 if the year is greater or equal to 2003 and the value 2 if it is smaller. It is used to detect the effect of the law on remuneration levels and financial performance.
- Binary variable of Index (INDEX). The variable takes the value of 1 if the firm is ranked at the FTSE-20 index and the value 2 if it is ranked at the FTSE-40. It is used to detect the effect of firm’s size and ownership diffusion on remuneration levels.
- Binary variable of activity sector (FIN). The variable takes the value of 1 if the firm’s activity is financial and the value 2 if it is not. The third variable is used to detected the effect of activity sector on the remuneration levels.
- Binary variables OWN_B (the sum of the percentages of equity capital of the five biggest shareholders) and HERF_B (the square of the sum of the percentages of equity capital of the five biggest shareholders). These variables have been calculated. If the value of the observation is smaller than the median the variable takes the value 1 and if it is greater the value 2. This variable is used to detect the effect of ownership diffusion to remuneration.

Every stratifying variable slits the sample into two strataums. Finally, the variable YEAR is used to detect the effect of time. The independent variables that are used in the study are presented below.

Table 5. Variables

| Variable | Type  | Description                                      |
|----------|-------|-------------------------------------------------|
| Index    | Binary| Participation in FTSE-20 (1) or in FTSE-40 (2)  |
| Law      | Binary| Prior to 2003 (1), after 2003 (2)               |
| Financial| Binary| Financial firm (1), Non financial firm (2)      |
| Own_G    | Binary| < median of Own (1), > median of Own (2)        |
| Herf\_G       | Binary                  | < median of Herf (1), > median of Herf (2) |
|---------------|-------------------------|---------------------------------------------|
| Year          | Number                  | Year                                        |
| **Independent Variables** |                     |                                             |
| **Ownership variables** |                     |                                             |
| Own           | Percentage              | Sum of ownership percentages of the biggest five shareholders |
| Herf          | Percentage              | Square of the sum of ownership percentages of the biggest five shareholders |
| **Performance variables** |                     |                                             |
| ROA           | Continuous              | Return on Assets                            |
| TQ            | Continuous              | Tobin’s Q                                   |
| **Other independent variables** |                     |                                             |
| CG            | Ordinal                 | Quality of CG                               |
| MERGER        | Binary                  | M-A (1), no M-A (0)                         |
| INVP          | Continuous              | Investments as a percentage of assets       |
| DE            | Continuous              | Debt Ratio (Debt / Equity)                  |
| **Main independent variables** |                     |                                             |
| OWNCEO        | Binary                  | Main shareholder is the CEO (1), No (0)     |
| CEOCHAIR      | Binary                  | CEO is the President of the Board of Directors – duality of roles (1), No (2) |
| AUDITC        | Binary                  | An Audit Committee exists (1), No (2)       |
| BOD           | Ordinal                 | Number of members in the Board of Directors |
| BEXEC         | Ordinal                 | Number of executive Board members           |
| BPS           | Ordinal                 | Number of firms that the Board members participate as Members of their Board of Directors |
| BDIS\_P      | Ποσοστό                  | Secessions – Resigns of board members to the total number of board members |
| BDISI\_P     | Ποσοστό                  | Secessions – Resigns of board independent members to the total number of board members |
| **Control variables** |                     |                                             |
| TA            | Continuous              | Total assets                                |
| SMCAP         | Continuous              | Stock market capitalization                 |
|EMPL           | Continuous              | Number of employers                         |
|OC\_S          | Continuous              | Own Capital to Sales                        |
|OC\_S2         | Continuous              | Square of Own Capital to Sales              |
| YEARF         | Continuous              | Foundation year                            |
Model construction

What has been recorded in the study is the cash – salary payments made to the executive directors. No other way of remuneration (e.g. stock options) could be tracked through annual reports. This may result to the omission of some of the remuneration mechanisms. The omission of these mechanisms, although is important in the Anglo-Saxon countries, in countries like Greece these mechanisms are not widely used. In Greece the majority of executive directors are major shareholders.

The model is:

\[
E_{REM_{it}} = \alpha + \beta_1ROA_{it} + \beta_2TQ_{it} + \beta_3CG_{it} + \beta_4MERGER_{it} + \beta_5DE_{it} + \beta_6HERF_{it} + \beta_7OWNCEO_{it} + \beta_8BOD_{it} + \beta_9BEXEC_{it} + \beta_{10}BPS_{it} + \beta_{11}BDIS_P_{it} + \beta_{12}BDISI_P_{it} + \beta_{13}PROSPAG_{it} + \beta_{14}TA_{it} + \beta_{15}EMPL_{it} + \beta_{16}SMCAP_{it} + \beta_{17}OC_S_{it} + \beta_{18}OC_S2_{it} + \beta_{19}YEARF_{it} + \epsilon_{it} \quad (1)
\]

Where: \(i = 1 \ldots N\), \(t = 1 \ldots T\)

Remuneration should be positively related with the variables of financial performance (ROA, TQ). Agency theory argues that, in order for the interests of executives and shareholders to align, executives should be paid according to their performance. Hence, the sign should positive.

On the contrary the variables of CG quality index (for the construction of the index see Lazarides and Drimpetas, 2008) and the binary value of mergers and acquisitions are negatively related with remuneration levels. Monitoring, control and market for corporate control reduce the possibility of managers to impose the remuneration level that they wish. BoD’s size BOD, number of members) is a measure for the determination of the monitoring efficiency. On the contrary, high numbers of executive members (BEXEC) of the BoD and secessions – resigns of board members (BDIS_P), to the total number of board members may lead to higher remuneration levels.

Firms depended heavily on debt to finance their operations, present high uncertainty and risk for future returns. This, in turn should lead to reduced remunerations. Firm size (EMPL, TA) is positively related with the remuneration levels. Bigger firms have the capacity to pay more
Concentrated ownership (variables OWN and HERF) is a remedy for the reliance on the skills and knowledge that the professional executives possess. The lack of reliance minimizes the bargaining power of managers and therefore the relation is negative. The same conclusions can me drawn for the variance OWNCEO (the biggest shareholder is the CEO).

Investments (INVP) are positively related with remuneration levels, if the assumption that investment can lead to better short-term financial results. Otherwise, the relation is negative. Younger firms tend to present higher risks and hence firms are reluctant to have relatively high remuneration levels.

Firm age (YEARF) is a critical component in remuneration. As the firm grows old it loses the initial family characteristics due to diffusion of shares (through IPO’s, capital increases and succession) and so as firm’s grow older there is a higher reliance on professional manages, rather than dominant stakeholders. Firms that were founded in the last twenty five years have 61% ownership concentration percentage (OWN), when in older firms ownership concentration is 53%. Younger firms present higher risk factor and the firm is reluctant to have large remuneration levels. Younger firms (<25 years) pay on average half (0,66 million) the amount the older firms pay (1,24 million). Executive members in Greek firms are also major shareholders and their tenure is long. Long tenures counterbalance the expectation for higher remuneration.

**Statistical results**

The LM statistics, in all cases, is small (see Table 6). This indicates that the classical OLS model may be better suited for the analysis of the constructed models (Greene, 2000). The models with stratifying variables seem to have little significant statistical importance. The H statistic indicates that Random Effects models are preferable to Fixed Effects. Due to the fact that the stratifying variables LAW, OWN_G present a higher LM statistic, a decision to further analyze these models using a smaller set of independent variables (the ones with statistical significance). The coefficient of determination (R²) and the Adjusted R² (see Table 7) is in all case satisfactory (> 0,34).

| Stratifying Variable - Time | LM | H |
|-----------------------------|----|---|
| INDEX                       | 0,73 | 0,00 |

Table 6. Regression model selection statistics
| Stratifying Variable - Time | R²   | R² Adj. |
|-----------------------------|------|--------|
| None                        | 0.445 | 0.3424 |
| INDEX - YEAR                | 0.7722 | 0.7106 |
| FIN - YEAR                  | 0.842 | 0.7992 |
| LAW - YEAR                  | 0.771 | 0.709 |
| OWN_G-YEAR                  | 0.7724 | 0.7108 |
| HERF_G-YEAR                 | 0.7826 | 0.7237 |

The use of White’s method to correct the heteroscedasticity problem (statistic LM X² for the B-P-G has the value 510.91 (14 degrees of freedom) (possibility of homoscedasticity: 0.00). Heteroscedasticity is common in panel studies. There is no autocorrelation problem (d=1.9795 and r=0.0102).

Table 8 suggests that from seventeen independent variables, seven are statistical significant. Three variables have the opposite than expected sign.

**Table 8. Statistical significance test (Stratification: None)**

| Variable | β   | Standard Error | β/Standard Error | Statistical significance | Theoretical Confirmation |
|----------|-----|----------------|------------------|--------------------------|-------------------------|
| ROA      | -311.91 | 184.93        | -1.687           | .0951 ***                | No                      |
| TQ       | 12.740  | 5.0218        | 2.537            | .0129 **                 | Yes                     |
| CG       | 7.9785  | 5.8004        | 1.376            | .1723                    | No                      |
| MERGER   | -12.117 | 14.870        | -.815            | .4172                    | Yes                     |
| HERF     | -101.82 | 143.96        | -.707            | .4812                    | Yes                     |
| DE       | -2.3035 | 1.3594        | -1.695           | .0935 ***                | Yes                     |
| OWNCEO   | -13.684 | 28.722        | -.476            | .6349                    | Yes                     |
| BOD      | -6.6545 | 5.7545        | -1.156           | .2505                    | Yes                     |
| Variable   | BEXEC | BPS       | BDISI_P | BDIS_P | INVP | YEART | OC_S2    | TA       | EMPL   |
|------------|-------|-----------|---------|--------|------|-------|----------|----------|--------|
|            | 7.9342| 1.6664    | -745.35| 43.473 | 99.892| .3737 | -7.6742  | .0038    | -.0003 |
|            | 6.3132| 2.2070    | 367.98  | 47.775 | 58.070| .4382 | 3.5992   | .0020    | .0038  |
|            | 1.257 | .755      | -2.026  | .910   | 1.720 | .853  | -2.132   | 1.823    | -.099  |
|            |       |           | .0457** | .3652  | .0888***| .3960 | .0357**  | .0716*** | .9215  |
|            |       |           | Yes     | Yes    | Yes   | No    | Yes      | Yes      | Yes    |

Final model

Model (1) has been further analyzed to clear all non statistical significant variables. OLS did not produce any significant results. Using panel data methods and the stratifying variables of LAW-YEAR, OWN_G-YEAR the models were regressed. The model with LAW as a stratifying variable has given good statistical results.

\[
E_{REM} = \alpha + \beta_1 \text{ROA}_it + \beta_2 \text{CG}_it + \beta_3 \text{TA}_it + \beta_4 \text{YEARF}_it + u_{it} \tag{2}
\]

Where: \(i = 1 \ldots N, \ t = 1 \ldots T\)

Even though the LM statistic for Model (2) was bigger than 3,8 the possibility to opt for FE / RE models is more than 90%. The H statistic indicates that RE models are better suited for model (2).

Table 9. Statistical significance test (Stratification: None)

| Stratifying Variable - Time | LM | H |
|----------------------------|----|---|
| All independent variables  |    |   |
| LAW                        | 0,99| 0,04|
| LAW - YEAR                 | 0,99| 0,00|
| Smaller set of variables   |    |   |
| LAW                        | 3,82| 0,00|
| LAW - YEAR                 | 4,77| 0,00|

The test for the determination of the statistical difference of the two stratums has been conducted with the \(X^2\) and F statistic (see Table 10). The F statistic test shows that the model with the combined effect of the stratifying variable and time does not
differ from the OLS model ($F_{0.110}^{1;110} = 3.98 < 6.861$). The F statistic test for the model with the use of LAW as stratifying variable illustrates that in this model the two strata statistically differ from the other ($F_{0.110}^{1;110} = 2.15 > 1.172$). The methodology that is selected is RE model with LAW as stratifying variable.

Table 10. Determination Test for between the two strata

| Stratifying Variable - Time | X²   | Prob. | F      | P - value |
|-----------------------------|------|-------|--------|-----------|
| LAW                         | 7.029| 0.00802 | 6.861 | 0.01014   |
| LAW - YEAR                  | 8.765| 0.26996 | 1.172 | 0.3257    |

Coefficient of determination has been marginally reduced from 0.77 to the 0.7293 (Adj. $R^2 = 0.70168$). Four variables have been proven to be statistical significant. All of them have the sign that is theoretically correct.

Table 11. Statistical significance test (Stratification: LAW)

| Variable | $\beta$ | Standard Error | $\beta$/ Standard Error | Statistical significance | Theoretical Confirmation |
|----------|---------|----------------|--------------------------|--------------------------|-------------------------|
| ROA      | 2.03865 | .60838         | 3.351                    | .0008*                   | Yes                     |
| CG       | -.10251 | .04268         | -2.401                   | .0163**                  | Yes                     |
| YEARF    | -.00822 | .00409         | -2.008                   | .0446**                  | Yes                     |
| TA       | .000088 | .000013        | 6.706                    | .0000*                   | Yes                     |

* $p < 0.01$
** $p < 0.05$
*** $p < 0.10$

Conclusions

One major find of this study is that only 36% (109/303), breaking the law because disclosure is mandatory, of the firms have disclosed in their annual reports the remuneration levels of their executive members. The selection of non disclosure is conscious. Major shareholders, groups of shareholders and families are the dominant stakeholders in the firm. They are unwilling to release information that may shake the status quo or question their power to make decisions.

The use of RE methodology denotes that every firm has its own policies about remuneration of executive members and that the sample is representative of a larger population. Stratifying variables, except the variable of LAW, have no statistical significant results. Its striking that the coefficient of determination has doubled when the model was better specified. Law seems to have an impact on remuneration. The
fact that the LAW binary variable is based on the time of enactment, this variable measures the effect of time hence the overall market’s influence on remuneration.

The relation between financial performance and remuneration as literature suggests is confirmed in this study. The study used three variables. Two of them are based on accounting measures (ROA, TA) and the third is Tobin’s Q, which is based mainly on stock market value. Tobin’s Q is the only variable that in the final model is not statistical significant. This indicates that there is no connection of share premiums and remuneration. This is contrary to what in the Anglo-Saxon countries is the norm and the remuneration is based mainly on share premiums.

The negative sign of variable YEARF confirms the descriptive statistics and the theory that younger, with more concentrated ownership and quite possibly family firms have the trend to pay less. CG quality index has a negative effect on remuneration. This fact is consistent with the notion that better monitoring and control minimizes the ability of executives to dictate remuneration levels.

Overall the study has proven that remuneration levels in Greece are defined by a different set of factors than the ones in an Anglo-Saxon country. Fundamental financial measures of performance are more widely used. The age of firms and corporate governance quality have a catalytic impact on remuneration levels.
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