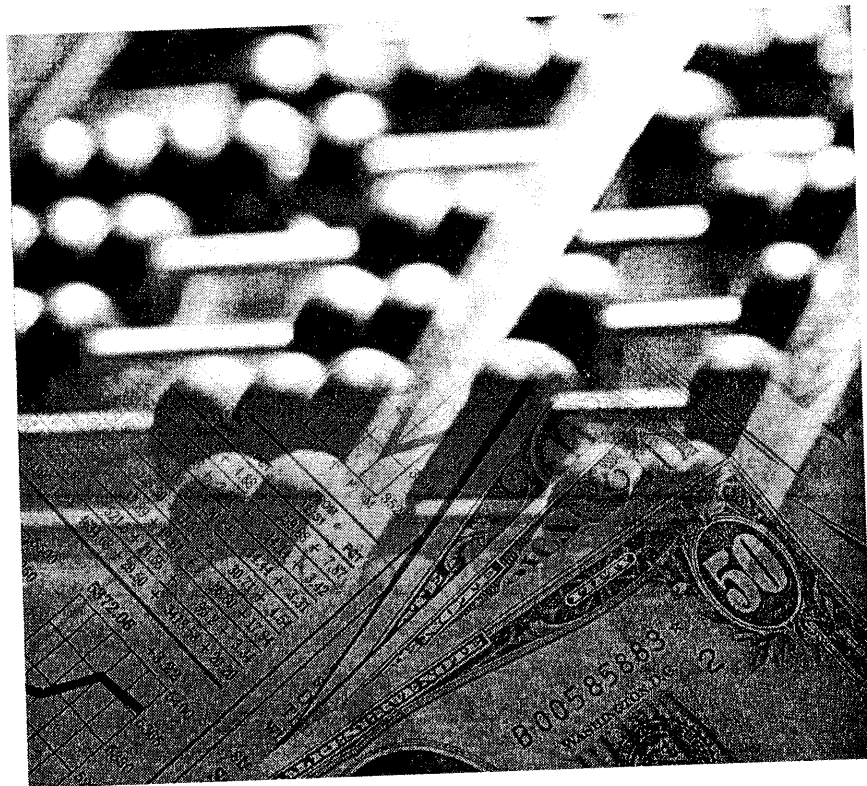


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## The Influence of Firm Performance on CEO Compensation and CEO Turnover Under Different Ownership Structures in Taiwan

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Agency theory starts with the assumption that people act in their own self-interest, and holds that under normal conditions, the goals, interests, and risks of two actors (principal and agent) are not identical. Thus, a series of mechanisms are required to ensure that the agent will behave according to the principal interests. CEO compensation and CEO replacement are types of control mechanisms that companies employ to reduce the agency problem. Agency theory — that is, the presumption of self-interest, conflict of interests and goals, and asymmetric information — is unable to grasp the practical reality and special characteristics of Taiwan's family businesses. Thus the first objective of this chapter is to explore whether agency theory's use of control mechanisms to link CEO compensation and replacement with firm performance is applicable to all businesses or not and the second objective of our research is to empirically prove whether the indices to measure CEO performance are drawn from accounting or market basis. The samples used for CEO compensation will come from listed manufacturing companies between 1995–1997, 451 companies were chosen as samples. The analytical method is LISREL model. The samples used CEO turnover research between 1996–1997, 184 companies were non-family businesses and 106 companies were family businesses. The analytical method is logistic regression model. This paper's conclusion is as follows: (1) agency theory is suitable for non-family businesses in Taiwan, and unsuitable for family businesses, (2) within agency theory, the hypothesis that performance determines CEO compensation and the termination mechanism has been found to be true in non-family businesses in Taiwan, and (3) the accounting basis is more important than the market basis for determining CEO performance.

**Keywords:** Agency theory; CEO compensation; CEO turnover.

## 1. Introduction

Agency theory starts with the assumption that people act in their own self-interest, and holds that under normal conditions, the goals, interests, and risks of two actors (principal and agent) are not identical. This means that the agent will not necessarily act according to the interests of the principal. Thus, a series of mechanisms are required to ensure that the agent will behave according to the principal interests. CEO compensation and CEO replacement are types of control mechanisms that companies employ to reduce the agency problem.

Is it possible for an actor to behave exactly as is described in agency theory, regardless of the context or surrounding relationships? If it is not possible, then are the control mechanisms that agency theory proposes to control the behavior of the agent viable? This question is open for debate. Agency theory — that is, the presumption of self-interest, conflict of interests and goals, and asymmetric information — is unable to grasp the practical reality and special characteristics of Taiwan's family businesses.

Family authoritarianism is a characteristic management style of Taiwan businesses. The engrained emphasis of collectivity in culture in Taiwan leads company management to adopt the role of an elder family member who "guides" the actions of those below him/her. Also, those with a strong sense of collective consciousness have a sense of equality with other members within these companies, and are more likely to follow the rules of the collective. Organizations that do not stress collectivity place emphasis on a balance of rights and responsibilities [Early and Gibson (1998)]. Moreover, individual identity in collectives is often created through group identification, showing that the characteristics of family businesses are very similar to those of highly coherent collectives. Thus, the CEOs of family businesses place the interests of the family above that of the individual, and base their actions on group interest. Thus this chapter hopes to explore whether agent theory's use of control mechanisms to link CEO compensation and replacement with firm performance is applicable to all businesses or not.

Agency theory does not provide us with a clear index on how to judge company performance, some research therefore uses accounting basis to determine company performance [Faith, Higgins, and Tollison (1984)]

and Finkelstein and Hambrick (1989)] while other research measures company performance based on market basis [Collghlin and Schmidt (1985)]. Thus a second goal of our research is to empirically prove whether the indices to measure CEO performance (used to determine CEO compensation and replacement) are drawn from accounting or market basis.

This chapter will divide companies into family enterprises and non-family enterprises, and will research into CEO compensation and CEO turnover. We will investigate the influence of company performance on CEO compensation. In terms of CEO turnover, this chapter will look at the influence of company performance on the effectiveness of CEO turnover for family and non-family enterprises.

This chapter reviews literature pertaining to the above issues, and develops four hypothesis. The samples used in the chapter for CEO compensation will come from listed manufacturing companies between 1995–1997. The analytical method is LISREL model. The samples used in the chapter for CEO turnover research came from manufacturing companies in Taiwan listed between 1996–1997, and determined whether there were any changes in the CEO of companies between these years. The analytical method is logistic regression model.

The remainder of this chapter is organized into four sections. Section 2 is a review of relevant literature and hypotheses development, Sec. 3 is the method and variable explanation, Sec. 4 includes the empirical results, and Sec. 5 is the discussion and conclusions of this study.

## **2. Literature Review and Hypotheses Development**

The agency problem occurs when the objectives of the principal and agent are not identical, and information asymmetry exists. Agency theorists put forth the idea that various internal and external control mechanisms can reduce this agency problem. External control mechanisms include the threat of takeover [Grossman and Hart (1983)], the competition in product markets and a market for managerial personnel [Fama (1980)], internal control mechanisms include supervision by large external shareholders [Demsetz and Lehn (1985)], supervision by the

board, reciprocal supervision by the managers [Fama (1980) and Fama and Jensen (1983)], and CEO compensation plans [Murphy (1985) and Lewellen, Loderer, and Martin (1987)]. External control mechanisms, however, represent a cost to the effectiveness of the principals, however, making internal control mechanisms more accepted [Walsh and Seaward (1990)].

Agency theorists' research into CEO compensation and replacement posits the interchangeability of internal control mechanisms to reduce agency problem. Some management scholars have challenged the theory's implicit presumption of self-interest, however, and believe that the managers view themselves as stewards of their organization [Donaldson (1990) and Dave, Schoorman, and Donaldson (1996)]. They thus are skeptical of the generalizability of agency theory. In this section, first we explain the different types and characteristics of ownership structures analyzed in this chapter: family businesses and non-family businesses. We will then classify the businesses we look at into these two types, and next explain the effect that company performance has on CEO compensation and CEO turnover in both family and non-family businesses. We will also list this chapter's hypotheses in this section.

## **2.1. Structures of ownership: Family businesses and non-family businesses**

### *2.1.1. Definition of family businesses*

There is no standard, scholastic definition of family businesses, as the scope of the various individual definitions vary. Handler (1989) points out that scholars approach the definition of family businesses from different angles, including:

1. Ownership and management.
2. The level of interdependence among the family and the family's level of involvement in the business.
3. The transfer of power between generations within a family.
4. Various factors.

Litz (1995) contends that the definition of family businesses should rest on two factors: the organizational structure of the business, based on Berle and Means' (1934) concept of ownership and management, as well as the future direction of the organization, which is drawn from Mintzberg and Water's work (1990). They base the distinction between family and non-family businesses on whether the business' strategic direction is intentional or not, thus defining a family business as "a family unit wherein ownership and management are concentrated, and where family members intentionally attempt to maintain the family basis of the organization".

Donnelley's definition of family businesses includes many characteristics (1964). The Taiwanese scholar Yen Chi-feng (1994) listed the dual-system and bipolar co-existence phenomena characteristics of family businesses.

### *2.1.2. Comparison of family businesses and non-family businesses*

Agency theory does not allow us to draw hypotheses that accurately explain the actual operations of family businesses. First, many scholars have pointed out that there is a greater trend towards collectivism in Eastern societies than there is in the West. This is especially true of Chinese family enterprises. Family members in these companies that enter into the upper management levels often strongly identify with their companies, and are many times part of the family associated with their company. It is debatable, therefore, whether these managers place their own interests above that of their company, and whether their individual interests guide their actions. Thus, the hypothesis of "self-interest" inherent in agency theory is not applicable to family businesses.

Agency theory's premise of conflict between the goals of members of an organization is also open for discussion. Family businesses place a high value on internal harmony, which may result in the adjustment of individual members' goals, and reduce conflict between members to a lower level. Furthermore, the managers of family businesses often highly value loyalty from their subordinates [Huang Kuang-kuo (1990)], and loyalty is an important factor for managers to be promoted to the core leadership team of family companies. It is not likely,

therefore, that conflicts over goals will occur in the upper management of family businesses, rendering agency theory's premise invalid.

In family businesses in Taiwan, the chairman of the company is usually the most senior family member, while the CEO and board of directors is staffed by relatives with lower seniority, etc. When the status of a less senior family member rises considerably, he/she is often promoted to the post of vice-chairman or slated to become the next chairman. As a result, the chairman or board of directors in family businesses often have as good as a command on information pertaining to the company as a CEO would. There is no necessary information asymmetry between the CEO and board of directors, as the board of directors in Taiwanese companies often does more than merely supervise the decisions of the management, and frequently sets and executes company policy.

The literature cited above shows that it is likely that agency theory's premises of self-interest and conflict of goals between members are not applicable to family businesses in Taiwan. Davis, Schoorman, and Donaldson (1997) contend that if there is no interest conflict between the agent and owner, then there is no agent problem. Damage from the agency problem will thus not occur, and there will be no need to use control mechanisms to guard against the agency problem. If the agency problem does not exist within an organization, however, then the theory's basis does not exist, and the theories' conclusions do not hold.

## **2.2. Company performance and CEO compensation**

### **2.2.1. CEO compensation in non-family businesses**

Much research into CEO compensation follows the theoretical model of Holmstrom (1979). Holmstrom's model provides us with an important theoretical basis for viewing the relationship between compensation and performance: if the agent's actions are not able to be supervised, then the owner will provide incentives to the agent based on performance. Without incentives or moral hazard, there may be a correlation between compensation and output because of learning (work coordination) and the distribution of risk. The theorist shows that agents are forced to choose companies based on their ability when a company's output is



equal to the function of the agent's ability. The learning hypothesis of Murphy (1986) reveals that it is impossible to determine an agent's ability when he/she first begins work, and CEO compensation will fluctuate with the company's knowledge of the agent's abilities. Murphy also contends that when the owner is also risk adverse, setting compensation based on output or company performance leads to the optimal risk distribution. A owner who is risk-neutral can give a risk-adverse agent a fixed compensation and fully trust him/her, but if the owner is also risk-adverse, then the optimal risk distribution can be obtained "if incentives are not used, and a portion of the agent's compensation is related to output". The above shows that the existence of the incentive problems in the relationship between compensation and performance, under conditions of learning and risk distribution.

Scholars have used different performance indices (the accounting rate of return, the market rate of return), and different methods of measuring compensation (wages, bonuses, stock options, deferred compensation) in empirical research into the influence of company performance on CEO compensation. Most of this research has shown a marked significance between company performance and CEO compensation [Agarwal (1981), Cubbin and Hall (1983), Faith, Higgins, and Tollison (1984), Coughlin and Schmidt (1985), Finkelstein and Hambrick (1989), and Ely (1991)], despite the various measures of company performance.

This chapter thus examines the relationship between company performance and CEO compensation in non-family businesses in Taiwan that are listed on the market, in which the agency problem is particularly serious. We hope to more accurately prove the following conclusions:

**Hypothesis 1.** There is a marked correlation between company performance and CEO compensation in non-family businesses.

### 2.2.2. *CEO compensation in family businesses*

The agency theory supports the claim that the use of company performance to determine CEO compensation can reduce the agent problem, but this type of control mechanism may be ineffective in family businesses as the post of CEO is held by family members, and the interests

of the CEO and the owners do not seriously diverge. Comparing family and non-family businesses shows that incentives in non-family businesses are based on the principle of fairness, while in family businesses, incentives are used to pursue the stability and harmony of members. The compensation of employees in family businesses remains stable, and does not fluctuate with company performance, leading to the following conclusion:

**Hypothesis 1a.** Company performance does not influence CEO compensation in family businesses.

### **2.3. Company performance and CEO turnover**

#### *2.3.1. CEO turnover in non-family businesses*

Agency theory views replacing CEOs with low performance as an internal control mechanism that can reduce the agency problem within companies [Dewing (1953)]. CEOs are in charge of all operations of their company, thus it is a common strategy to change the CEO (the one who manages the entire company and is responsible for its success or failure) when the company is not performing well. Thus many scholars research the CEO turnover rate in companies to determine whether a company's internal control mechanisms are effective or not [Benson (1985), Coughlin and Schmidt (1985), Jauch, Martin, and Osborn (1980), James and Soref (1981), Morck, Schleifer, and Vishny (1988), Osborn, Jauch, Martin, and Glueck (1981), and Warner, Watts, and Wruck (1988)].

Most scholarship supports the claim that there is a significant relationship between company performance and CEO compensation [Benson (1985), Coughlin and Schmidt (1985), Jauch, Martin, and Osborn (1980), James and Soref (1981), Morck, Schleifer, and Vishny (1988), Osborn, Jauch, Warner, Watts, and Wruck (1988)], but some scholars believe that the performance indicator for CEOs should be based on board of directors' expectations of CEO performance compared to that of his/her competitors. Thus, when there is a great difference among companies in the same industry, the board of directors will think that the choice of CEOs is the main factor, and fire any CEO who performs

at a lower level than industry competitors [Fredrickson, Hambrick, and Baumrin (1988)]. Morck, Shleifer, and Vishny (1989) found that when performance is low throughout the industry, the turnover rate of CEOs tends also to be low, and conclude that internal supervision of companies see the performance of industry competitors when determining the CEO is suitable to continue his post.

We submit the following hypothesis based on the discussion above:

**Hypothesis 2.** In non-family companies, there is an inverse relation between CEO turnover and company's performance comparing the same industry.

### *2.3.2. CEO turnover in family businesses*

Letting go of CEOs who underperform is a crucial aspect of agency theory's internal control mechanism [Dewing (1953)], however, management theorists hold a different opinion on the subject. They believe that the interests of the agents and owners of some companies do not diverge, meaning there is no agent problem in these companies, and by extension no need for a supervisory mechanism to curb the problem [Davis, Schoorman, and Donaldson (1997)]. If there is no interest conflict within these organizations, then the conclusions of agency theories do not apply to them.

CEOs in family businesses in Taiwan are likely to be members of the families that control those businesses, thus the interests of the agent and owner of the companies do not diverge. This limits the applicability of the agency theory to family businesses. Further, promotions in family businesses are based on familial relationships, rather than individual performance or merit [Donnelly (1964)], resulting in a stagnant core management group [Yen Chi-feng (1994)]. This also refutes agency theory's internal control mechanism linking company performance and CEO turnover, and leads us to the next hypothesis:

**Hypothesis 2a.** In family businesses, there is no correlation between CEO turnover and company performance comparing the same industry.

### **3. Sample Selection and Explanation of Variables**

The definition of family business in this chapter is: a firm in which over half of the seats on the board of directors are held by the family, and the CEO is also a family member. The definition of non-family businesses is: a firm in which less than half of the seats on the board of directors are held by the family.

The following is an explanation of the sampling methods, variable indicators and analytical method in this chapter.

#### **3.1. Sample selection**

##### **3.1.1. Firm performance and CEO compensation**

The data used in the research includes listed manufacturing companies between the years 1995–1997 and samples were selected based on the following criteria:

1. Samples included information about the compensation of individual CEOs for the years of 1995–1997.
2. Samples used for research included 1995–1997 financial report for the companies, including public information such as the stock percentages held by the board of directors, managers, and major shareholders.
3. In order to avoid deviation in the study's conclusion due to changes in the power structure of companies, this research did not include companies that had merged, declared bankruptcy, or reorganized.
4. The number of samples used in this chapter is not great, making it difficult to take into account factors based on industry. Therefore, in order to avoid too large a discrepancy among industries, the financial, department stores, construction, and shipping industries were not included.

451 companies were chosen as samples, based on the standards listed above. 287 companies were non-family businesses and 164 companies were family businesses.

### **3.1.2. Firm performance and CEO turnover**

Samples were selected for this chapter based on the following principles and standards:

1. There are records of wage compensation for the CEO who held his/her position for a full year before the study. Samples were rejected if CEO turnover occurred previous to the research period.
2. There is public access to the financial statements, structure of the board of directors, and stock holdings of the CEO and large shareholders of the company in question.
3. Samples were rejected if the age of the outgoing CEO was over 65, as this was viewed as retirement.
4. In order to avoid deviation in the study's conclusion due to changes in the power structure of companies, this research did not include companies that had merged, declared bankruptcy, or reorganized.
5. In order to avoid too large a discrepancy among industries, the financial, department stores, construction, and shipping industries were not included.

Based on the criteria above, 184 companies were non-family businesses, 22 in which CEO turnover had occurred, or 12%. 106 companies were family businesses, 15 in which CEO turnover had occurred, or 14%.

## **3.2. Explanation of variables**

### **3.2.1. Firm performance and CEO compensation**

#### **1. CEO Compensation**

The salary, bonuses, and performance-based bonuses were added together to come up with the compensation levels for CEOs.

#### **2. Firm Performance**

The four variables were used to measure firm performance: Stock return, ROA, ROE and EPS.

#### **3. Control Variables**

We included a series of control variables based on previous research. These were board control (the percentage of common stock owned by the board of directors that less the stock owned by the CEO,

the ratio of insiders), outside blockholders (the number of outside blockholders and the sum of shareholdings from outside blockholders), firm size (net sales and total assets), investment opportunity ( $\text{MKTBKASS} = (\text{Assets} - \text{Total Common Equity} + \text{Outstanding Share} * \text{Price}) / \text{Total Assets}$ ;  $\text{MKTBKEQ} = (\text{Outstanding Share} * \text{Price}) / \text{Total Common Equity}$ ) and CEO power (CEO's holding and CEO tenure).

Data regarding CEOs, board of directors shareholding ratios, and rate of return on stock were taken from the Fiscal Databanks of the Taiwan Economic Press and data on CEO compensation, net sales, total assets, rate of return on assets, and rate of return on equity were found in the annual report made by the companies.

### 3.2.2. *Firm performance and CEO turnover*

#### 1. *Performance Index*

The two variables were used to calculate company performance:

- (a) ROA;
- (b) Industry ROA;
- (c) Stock return;
- (d) Industry stock return rate.

#### 2. *Control Variables*

We included a series of control variables based on previous research. These were ratio of outside directors, outside blockholders, excess compensation =  $\text{CEO compensation} - \text{industry compensation}$  [Coughlin and Schmidt (1985)], CEO's holdings [Finkelstein and Hambrick (1989)], investment opportunity =  $(\text{Outstanding Share} * \text{Price}) / \text{Total Common Equity}$  [Mehran and Yermack (1998)], total assets and debt ratio [Mehran and Yermack (1998)].

Data regarding CEOs, board of directors shareholding ratios, and rate of return on stock were taken from the Fiscal Databanks of the Taiwan Economic Press, data on CEO compensation, net sales, total assets, rate of return on assets, and rate of return on equity were found in the annual report made by the companies and data for the age of CEOs was drawn from the "List of Managers in Taiwan".

### **3.3. Analytical methodology**

#### **3.3.1. Firm performance and CEO compensation**

For testing the relationship between firm performance and CEO compensation, the research uses LISREL 8. This methodology is appropriate when studying variables imperfectly represent latent constructs [Saris and Stronkhorst (1984)]. By using multiple indicators, LISREL estimates are free from the biases imposed by measurement error or unreliability [Herting (1985)]. It is recommended that multiple criteria be used to evaluate the overall fit of a LISREL model [Bollen (1989)]. The overall fit of the hypothesis to the observed correlation was assessed through several criteria such as chi-square, a variant of chi-square which adjusts for degrees of freedom, the goodness-of-fit index (GFI), the root mean square residual (RMSR), NFI, and CFI and so on.

#### **3.3.2. Firm performance and CEO turnover**

The research uses logistic regression analysis to test the relationship between firm performance and CEO turnover.

## **4. Empirical Results**

### **4.1. Firm performance and CEO compensation**

#### **4.1.1. Descriptive statistics**

Table 1 shows the minimum value, maximum value, mean, and standard deviation for the non-family businesses. The table shows that the mean salary of CEOs is NT\$3,376,760, the minimum is NT\$315,000, and the maximum is NT\$ 21,389,000. The mean of ROA is 6.7%, mean of ROE is 8%, mean of stock return is 17% and the mean of EPS is NT1.48.

Table 2 shows the minimum value, maximum value, mean, and standard deviation for the family businesses. The table shows that the mean salary of CEOs is NT\$2,891,900, the minimum is NT\$637,000, and the maximum is NT\$8,821,000. The mean of ROA is 6%, mean of ROE is also 6%, mean of stock return is 3% and the mean of EPS is NT0.93.

**Table 1.** Descriptive statistics (non-family businesses samples = 287).

|              | Minimum | Maximum    | Mean      | Std. deviation |
|--------------|---------|------------|-----------|----------------|
| Compensation | 315,000 | 21,389,000 | 3,376,760 | 2,287,342      |
| ROA          | -0.2    | 0.44       | 0.067     | 0.07           |
| ROE          | -0.47   | 0.58       | 0.08      | 0.12           |
| EPS          | -5.32   | 22.4       | 1.48      | 2.27           |
| Stock return | -0.55   | 3.5        | 0.17      | 0.56           |

**Table 2.** Descriptive statistics (family businesses samples = 164).

|              | Minimum | Maximum   | Mean      | Std. deviation |
|--------------|---------|-----------|-----------|----------------|
| Compensation | 637,000 | 8,821,000 | 2,891,900 | 1,373,965      |
| ROA          | -0.25   | 0.27      | 0.05      | 0.06           |
| ROE          | -0.97   | 0.43      | 0.06      | 0.12           |
| EPS          | -9.57   | 7.31      | 0.93      | 1.64           |
| Stock return | -0.67   | 2.01      | 0.03      | 0.41           |

#### 4.1.2. Analysis of results

In order to carry out research using the LISREL model, all variables were first standardized.<sup>1</sup> Related coefficients of the variables after standardization are listed in Table 3 ( $n = 287$ ) and Table 4 ( $n = 164$ ).

The results of the analysis of the sample of non-family businesses are found in Table 5. The results of the analysis using the LISREL model not including the stock return are listed in Table 6.

In the various indices that determine the applicability of the LISREL model, it was found that the applicability level was higher in the results of the analysis of the non-family samples of accounting-basis performance. In the results of the non-family samples analysis, the IFI is above 0.9, while the RMSR is 0.1, revealing that the analytical model is applicable to the non-family samples if we did not consider the stock return.

The results of the analysis using the LISREL model (not including the stock return) are listed in Fig. 1. It shows that there is a positive correlation between the firm performance and CEO compensation with

<sup>1</sup>Variable standardized is defined as (Estimated of  $x$  - Mean)/standard deviation.



Table 3. Correlation matrix for variables (non-family businesses,  $n = 287$ ).<sup>a</sup>

|    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17 |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 1  | 1     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |
| 2  | 0.09  | 1     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |
| 3  | 0.30  | 0.35  | 1     |       |       |       |       |       |       |       |       |       |       |       |       |       |    |
| 4  | 0.32  | 0.36  | 0.96  | 1     |       |       |       |       |       |       |       |       |       |       |       |       |    |
| 5  | 0.32  | 0.47  | 0.91  | 0.89  | 1     |       |       |       |       |       |       |       |       |       |       |       |    |
| 6  | 0.06  | 0.10  | 0.03  | 0.07  | 0.09  | 1     |       |       |       |       |       |       |       |       |       |       |    |
| 7  | -0.13 | 0.03  | -0.01 | -0.01 | 0.02  | -0.01 | 1     |       |       |       |       |       |       |       |       |       |    |
| 8  | -0.05 | 0.05  | 0.06  | 0.08  | 0.08  | 0.50  | 0.53  | 1     |       |       |       |       |       |       |       |       |    |
| 9  | 0.09  | 0.12  | 0.11  | 0.08  | 0.13  | -0.11 | 0.10  | 0.06  | 1     |       |       |       |       |       |       |       |    |
| 10 | 0.15  | 0.04  | -0.04 | -0.04 | 0.02  | 0.48  | -0.27 | -0.17 | -0.15 | 1     |       |       |       |       |       |       |    |
| 11 | 0.06  | 0.08  | 0.02  | 0.04  | 0.06  | 0.54  | -0.29 | -0.23 | -0.18 | 0.76  | 1     |       |       |       |       |       |    |
| 12 | 0.12  | 0.72  | 0.36  | 0.31  | 0.47  | 0.14  | 0.12  | 0.12  | 0.21  | 0.09  | 0.08  | 1     |       |       |       |       |    |
| 13 | 0.06  | 0.73  | 0.25  | 0.20  | 0.35  | 0.15  | 0.08  | 0.10  | 0.20  | 0.12  | 0.11  | 0.94  | 1     |       |       |       |    |
| 14 | 0.44  | 0.07  | 0.20  | 0.23  | 0.26  | 0.08  | -0.08 | 0.02  | -0.07 | 0.15  | 0.09  | -0.07 | -0.04 | 1     |       |       |    |
| 15 | 0.44  | 0.03  | 0.12  | 0.13  | 0.16  | -0.09 | 0.008 | 0.004 | -0.03 | 0.06  | -0.05 | -0.08 | -0.08 | 0.81  | 1     |       |    |
| 16 | -0.04 | 0.08  | 0.14  | 0.14  | 0.12  | 0.27  | 0.20  | 0.54  | 0.29  | -0.16 | -0.16 | 0.17  | 0.17  | -0.13 | -0.21 | 1     |    |
| 17 | -0.20 | -0.21 | -0.17 | -0.16 | -0.18 | -0.13 | 0.14  | 0.06  | -0.08 | -0.09 | -0.14 | -0.17 | -0.18 | -0.13 | -0.02 | -0.16 | 1  |

<sup>a</sup>The definition of the variables: (1) CEO Compensation (log); (2) stock return; (3) ROA; (4) ROE; (5) EPS; (6) board's holdings; (7) ratio of insiders; (8) insider's holdings; (9) CEO duality; (10) the number of outside blockholders; (11) the sum of shareholdings from outside blockholders; (12) MKTBKASS = (Assets - Total Common Equity + Outstanding Share \* Price)/Total Assets; (13) MKTBEQ = (Outstanding Share \* Price)/Total Common Equity; (14) sales (log); (15) total assets (log); (16) CEO holdings; (17) CEO tenure.

Table 4. Correlation matrix for variables (family businesses,  $n = 164$ ).<sup>a</sup>

|    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8      | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16   | 17 |
|----|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|------|----|
| 1  | 1     |       |       |       |       |       |       |        |       |       |       |       |       |       |       |      |    |
| 2  | 0.10  | 1     |       |       |       |       |       |        |       |       |       |       |       |       |       |      |    |
| 3  | 0.05  | 0.34  | 1     |       |       |       |       |        |       |       |       |       |       |       |       |      |    |
| 4  | 0.07  | 0.32  | 0.93  | 1     |       |       |       |        |       |       |       |       |       |       |       |      |    |
| 5  | 0.06  | 0.35  | 0.95  | 0.96  | 1     |       |       |        |       |       |       |       |       |       |       |      |    |
| 6  | -0.04 | -0.06 | 0.08  | 0.03  | 0.04  | 1     |       |        |       |       |       |       |       |       |       |      |    |
| 7  | -0.03 | 0.01  | 0.06  | 0.06  | 0.07  | -0.04 | 1     |        |       |       |       |       |       |       |       |      |    |
| 8  | -0.09 | -0.05 | 0.02  | -0.04 | -0.03 | 0.77  | 0.20  | 1      |       |       |       |       |       |       |       |      |    |
| 9  | -0.22 | 0.09  | -0.09 | -0.06 | -0.08 | -0.22 | -0.11 | -0.08  | 1     |       |       |       |       |       |       |      |    |
| 10 | 0.09  | 0.06  | 0.15  | 0.13  | 0.14  | 0.28  | -0.25 | -0.08  | -0.03 | 1     |       |       |       |       |       |      |    |
| 11 | -0.07 | 0.10  | 0.25  | 0.19  | 0.22  | 0.32  | -0.18 | -0.16  | -0.11 | 0.70  | 1     |       |       |       |       |      |    |
| 12 | -0.01 | 0.54  | 0.30  | 0.27  | 0.31  | 0.13  | -0.05 | 0.12   | 0.04  | 0.11  | 0.19  | 1     |       |       |       |      |    |
| 13 | 0.05  | 0.56  | 0.31  | 0.31  | 0.36  | 0.11  | -0.12 | 0.06   | -0.01 | 0.27  | 0.21  | 0.88  | 1     |       |       |      |    |
| 14 | 0.37  | 0.04  | 0.21  | 0.21  | 0.21  | 0.08  | 0.09  | 0.01   | -0.29 | -0.05 | -0.04 | -0.25 | -0.13 | 1     |       |      |    |
| 15 | 0.36  | 0.13  | 0.19  | 0.21  | 0.23  | 0.06  | 0.09  | -0.005 | -0.22 | -0.09 | -0.10 | -0.21 | -0.06 | 0.85  | 1     |      |    |
| 16 | -0.16 | 0.12  | -0.14 | -0.14 | -0.14 | 0.004 | 0.10  | 0.43   | 0.36  | -0.15 | -0.25 | 0.13  | 0.04  | -0.13 | -0.25 | 1    |    |
| 17 | 0.11  | -0.06 | -0.13 | -0.14 | -0.17 | 0.04  | -0.05 | 0.06   | 0.11  | -0.10 | -0.05 | -0.14 | -0.22 | 0.20  | 0.10  | 0.13 | 1  |

<sup>a</sup>The definition of the variables are the same as Table 3.

**Table 5.** Statistics for LISREL models (non-family businesses samples = 287).

| X2     | d.f. | X2/d.f. | GFI  | RMR  | IFI  | NFI  |
|--------|------|---------|------|------|------|------|
| 616.11 | 84   | 7.33    | 0.81 | 0.12 | 0.85 | 0.83 |

**Table 6.** Statistics for LISREL models (non-family businesses samples = 287, excluding stock return).

| X2     | d.f. | X2/d.f. | GFI  | RMR  | IFI  | NFI  |
|--------|------|---------|------|------|------|------|
| 372.23 | 70   | 5.32    | 0.86 | 0.10 | 0.91 | 0.89 |

**Table 7.** Statistics for LISREL models (family businesses samples = 164).

| X2     | d.f. | X2/d.f. | GFI  | RMR   | IFI  | NFI  |
|--------|------|---------|------|-------|------|------|
| 306.03 | 70   | 4.37    | 0.84 | 0.083 | 0.87 | 0.83 |

**Table 8.** Statistics for LISREL models (family businesses samples = 164, excluding stock return).

| X2     | d.f. | X2/d.f. | GFI  | RMR   | IFI  | NFI  |
|--------|------|---------|------|-------|------|------|
| 227.85 | 57   | 4.00    | 0.87 | 0.062 | 0.90 | 0.87 |

a coefficient of 0.19. This result supports Hypothesis 1, that there is a marked correlation between company performance and CEO compensation in non-family businesses.

The results of the analysis of the sample of family businesses are found in Table 7. The results of the analysis using the LISREL model not including the stock return are listed in Table 8.

In the various indices that determine the applicability of the LISREL model, it was found that the applicability level was higher in the results of the analysis of the non-family samples of accounting-basis performance. In the results of the non-family samples analysis, the IFI is above 0.9, while the RMSR is below 0.1, revealing that the analytical model

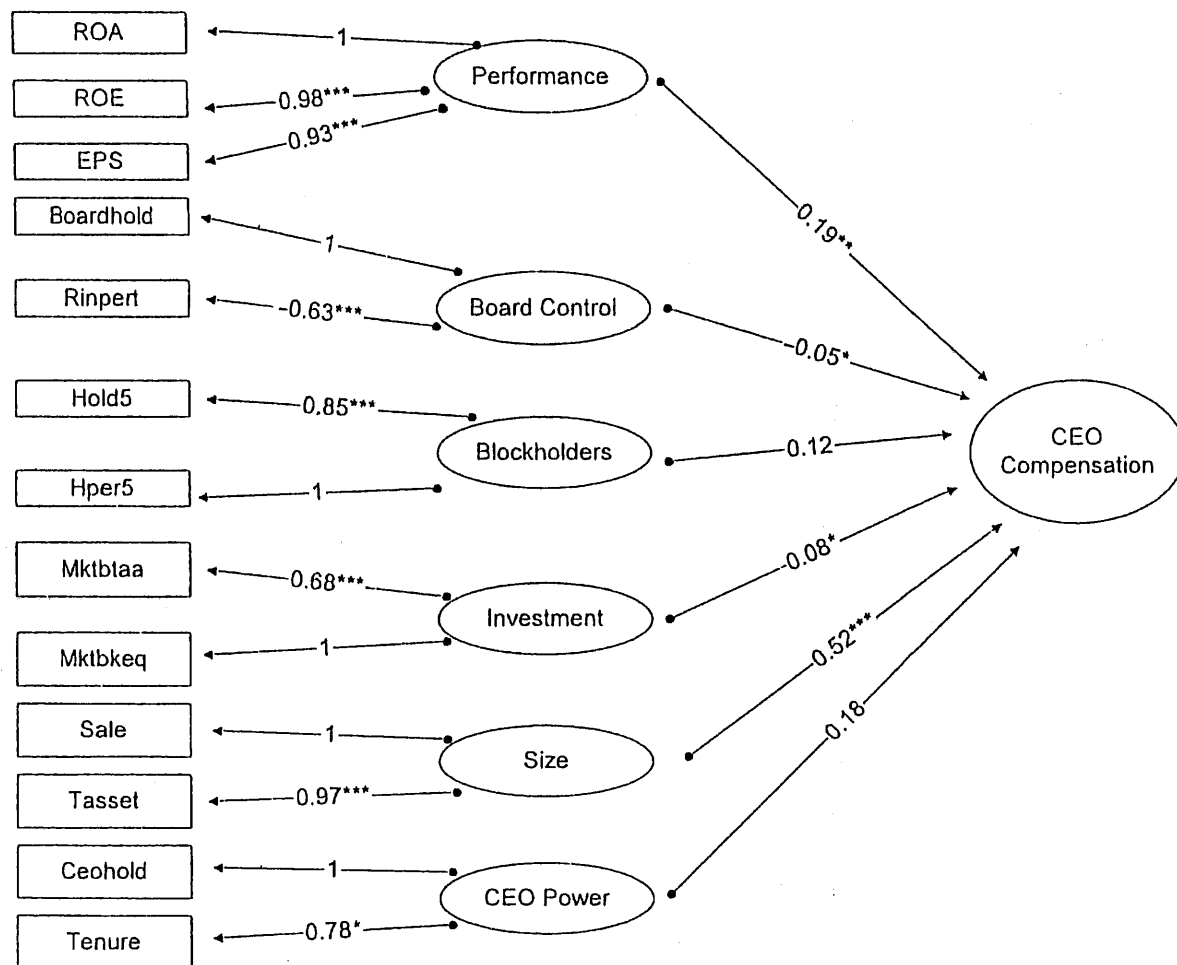


Fig. 1. LISREL Model for non-family businesses (excluding stock return).

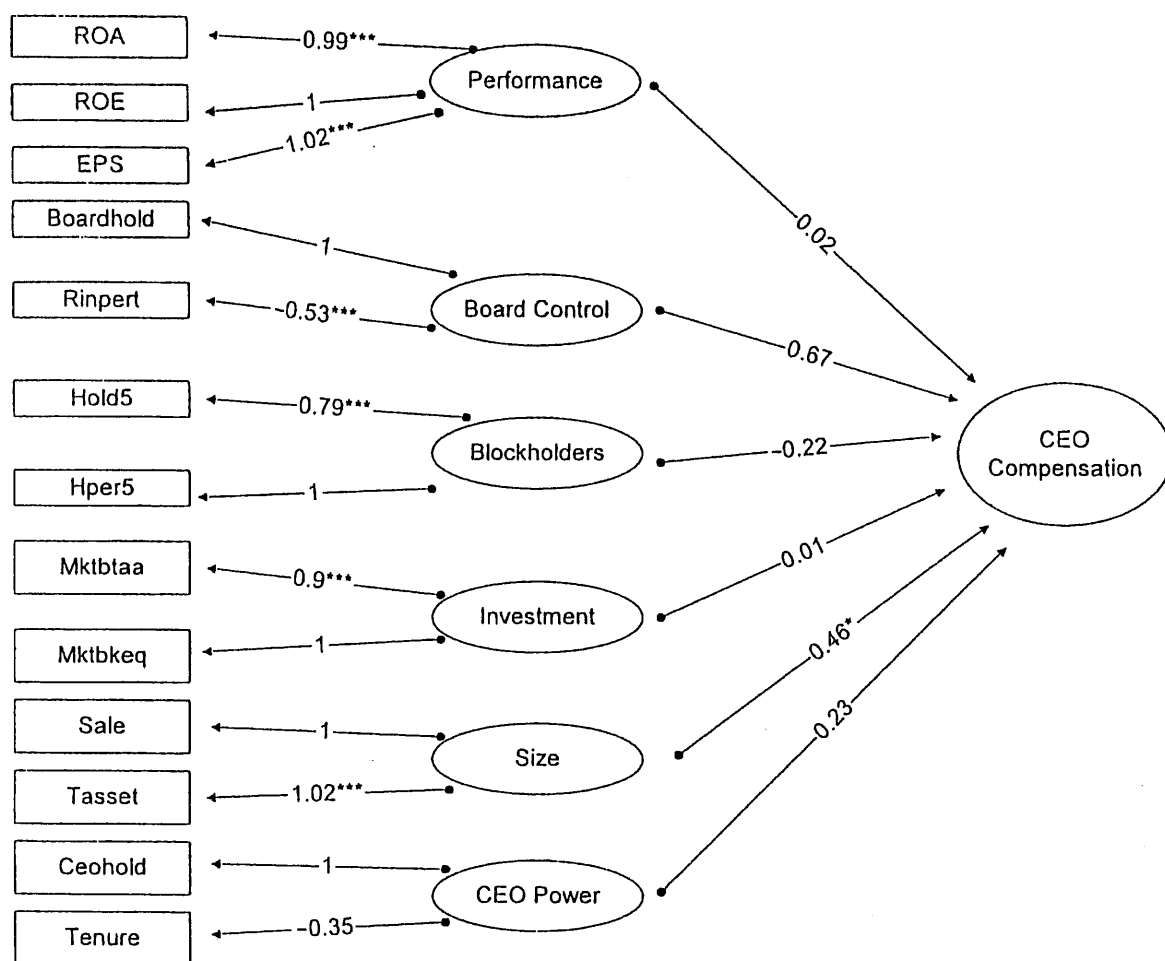
is applicable to the non-family samples if we did not consider the stock return.

The results of the analysis using the LISREL model (not including the stock return) are listed in Fig. 2. It shows that there is no significant correlation between the firm performance and CEO compensation. This result supports Hypothesis 1a, that company performance does not influence CEO compensation in family businesses.

## 4.2. Firm performance and CEO turnover

### 4.2.1. Descriptive statistics

Table 9 shows the minimum value, maximum value, mean, and standard deviation for the non-family businesses. The table shows the mean of ROA is 6%, industry ROA is  $-2\%$ , the mean of stock return is 3% and the mean of industry stock return is  $-2\%$ .



Results are based on maximum likelihood estimation.  $p < 0.05$ ;  $**p < 0.01$ ;  $***p < 0.001$ .

**Fig. 2.** LISREL Model for family businesses (excluding stock return).

**Table 9.** Descriptive statistics (non-family businesses samples = 184).

|                       | Minimum | Maximum | Mean  | Std. deviation |
|-----------------------|---------|---------|-------|----------------|
| ROA                   | -0.15   | 0.41    | 0.06  | 0.07           |
| Industry ROA          | -0.30   | 0.25    | -0.02 | 0.06           |
| Stock return          | -0.55   | 3.03    | 0.03  | 0.45           |
| Industry stock return | -0.47   | 2.73    | -0.02 | 0.33           |

Table 10 shows the minimum value, maximum value, mean, and standard deviation for the family businesses. The table shows the mean of ROA is 5%, industry ROA is -1%, the mean of stock return is -5% and the mean of industry stock return is -8%.

The correlation among variables (Tables 11 and 12) reveals that the problem of variable collineality is not great. The coefficient of all

**Table 10.** Descriptive statistics (family businesses samples = 106).

|                          | Minimum | Maximum | Mean  | Std. deviation |
|--------------------------|---------|---------|-------|----------------|
| ROA                      | -0.25   | 0.25    | 0.05  | 0.06           |
| Industry ROA             | -0.35   | 0.15    | -0.01 | 0.06           |
| Stock return             | -0.67   | 1.35    | -0.05 | 0.34           |
| Industry stock<br>retrun | -0.06   | 1.04    | -0.08 | 0.26           |

**Table 11.** Correlation matrix for variables (non-family businesses,  $n = 184$ ).<sup>a</sup>

|    | 1     | 2     | 3     | 4     | 5     | 6     | 7    | 8     | 9     | 10 |
|----|-------|-------|-------|-------|-------|-------|------|-------|-------|----|
| 1  | 1     |       |       |       |       |       |      |       |       |    |
| 2  | 0.10  | 1     |       |       |       |       |      |       |       |    |
| 3  | -0.01 | 0.04  | 1     |       |       |       |      |       |       |    |
| 4  | 0.06  | -0.06 | 0.13  | 1     |       |       |      |       |       |    |
| 5  | 0.04  | -0.06 | 0.14  | 0.83  | 1     |       |      |       |       |    |
| 6  | -0.08 | -0.04 | -0.05 | 0.04  | 0.005 | 1     |      |       |       |    |
| 7  | 0.06  | -0.02 | -0.21 | 0.01  | 0.015 | -0.06 | 1    |       |       |    |
| 8  | -0.04 | 0.35  | -0.02 | -0.05 | 0.017 | -0.25 | 0.25 | 1     |       |    |
| 9  | -0.21 | -0.01 | -0.01 | -0.10 | -0.04 | -0.17 | 0.09 | 0.03  | 1     |    |
| 10 | 0.18  | -0.12 | 0.013 | 0.50  | 0.30  | 0.09  | 0.01 | -0.23 | -0.04 | 1  |

<sup>a</sup>The definition of the variables: (1) Industry ROA; (2) industry stock return rate; (3) ratio of outside directors; (4) outside blockholders (dummy); (5) excess compensation: CEO compensation - industry compensation; (6) CEO holdings; (7) debt ratio; (8) total assets; (9) investment opportunity = (Outstanding Share \* Price)/Total Common Equity; (10) CEO tenure.

variables is less than 0.5, except for the coefficient of the index of company performance.

#### 4.2.2. Analysis of results

The CEO turnover rate for non-family businesses and the results of the logistic regression analysis of the variables are listed in Table 13. This shows the marked relationship between the industry ROA with firm performance index and CEO turnover. These results confirm Hypothesis 2, that in non-family companies, there is an inverse relation between CEO turnover and company's performance comparing the same industry.

The CEO turnover rate for family businesses and the results of the logistic regression analysis of the variables are listed in Table 14. It

**Table 12.** Correlation matrix for variables (family businesses,  $n = 106$ ).<sup>a</sup>

|    |       |       |       |       |       |       |       |       |       |    |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
|    | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10 |
| 1  | 1     |       |       |       |       |       |       |       |       |    |
| 2  | 0.27  | 1     |       |       |       |       |       |       |       |    |
| 3  | -0.06 | -0.18 | 1     |       |       |       |       |       |       |    |
| 4  | 0.17  | 0.008 | 0.25  | 1     |       |       |       |       |       |    |
| 5  | -0.02 | -0.01 | 0.00  | 0.00  | 1     |       |       |       |       |    |
| 6  | -0.15 | 0.13  | -0.15 | -0.20 | 0.00  | 1     |       |       |       |    |
| 7  | -0.09 | 0.07  | 0.12  | 0.13  | -0.15 | -0.02 | 1     |       |       |    |
| 8  | 0.09  | 0.20  | -0.13 | -0.13 | 0.04  | -0.23 | 0.41  | 1     |       |    |
| 9  | 0.08  | 0.23  | 0.12  | 0.22  | 0.00  | -0.01 | 0.13  | -0.15 | 1     |    |
| 10 | -0.06 | 0.09  | -0.12 | -0.15 | -0.04 | -0.01 | -0.07 | 0.25  | -0.05 | 1  |

<sup>a</sup>The definition of the variables are the same as Table 11.

**Table 13.** Logit regression estimates of the probability of CEO turnover (non-family businesses samples = 184).

Estimated model: Probability (Turnover) =  $f$  (firm performance and control variables).  
 Firm performance measured using:

|                           | ROA      | Industry ROA | Stock return | Industry stock return |
|---------------------------|----------|--------------|--------------|-----------------------|
| Intercept                 | -6.8785  | -6.319       | -5.3244      | -6.8912               |
| Performance               | -4.9576  | -7.4073*     | -0.7830      | -0.5019               |
| Outsiders                 | 2.7983*  | 2.9186*      | 2.7331*      | 2.6940                |
| Blockholder (Dummy)       | 0.1877   | 0.0626       | 0.2535       | 0.1645                |
| Excess compensation (log) | 1.3225   | 1.4108       | 1.1921       | 1.4018                |
| CEO holdings              | 7.3907*  | 6.6472       | 6.7543       | 6.7684                |
| CEO tenure                | 0.0173   | 0.0226       | 0.0194       | 0.0205                |
| Debt ratio                | -4.1229* | -4.4257      | -3.4262      | -3.3807               |
| Assets (log)              | 0.3553   | 0.2384       | 0.1939       | 0.2895                |
| Investment opportunity    | 0.3129   | 0.3789       | 0.2116       | 0.3655                |
| $p$ -value                | 0.0984   | 0.0475       | 0.0789       | 0.1430                |

\* $p < 0.05$ . The definition of the variables: Outsiders: ratio of outside directors, excess compensation = CEO compensation - industry compensation; investment opportunity = (Outstanding Share \* Price) / Total Common Equity.

shows there is no significant relationship between the firm performance (ROA, industry ROA, stock return and industry stock return) and CEO turnover. These results support Hypothesis 2a, that in family businesses, there is no correlation between CEO turnover and company performance comparing the same industry.

**Table 14.** Logit regression estimates of the probability of CEO turnover (family businesses samples = 106).

Estimated model: Probability (Turnover) = f (firm performance and control variables).  
Firm performance measured using:

|                           | ROA     | Industry ROA | Stock return | Industry stock return |
|---------------------------|---------|--------------|--------------|-----------------------|
| Intercept                 | -1.7028 | -0.3289      | 2.5360       | 4.4362                |
| Performance               | -8.0393 | -6.2395      | 0.2967       | 1.0710                |
| Outsiders                 | 1.0627  | 1.2374       | 1.3308       | 1.5147                |
| Blockholder (Dummy)       | 0.8030  | 0.6475       | 0.4397       | 0.4228                |
| Excess compensation (log) | -1.6585 | -1.5189      | -1.4398      | -1.3872               |
| CEO holdings              | -6.1307 | -5.4451      | -4.7120      | -5.0115               |
| CEO tenure                | -0.0100 | -0.0064      | -0.0048      | -0.0072               |
| Debt ratio                | -1.0153 | -0.8947      | -0.2865      | -0.3031               |
| Assets (log)              | 0.0072  | -0.1826      | -0.4655      | -0.6370               |
| Investment opportunity    | 0.3041  | 0.2159       | 0.0792       | -0.0014               |
| <i>p</i> -value           | 0.5666  | 0.6729       | 0.8486       | 0.7894                |

The definition of the variables: Outsiders: ratio of outside directors; excess compensation = CEO compensation - industry compensation; investment opportunity = (Outstanding Share \* Price) / Total Common Equity.

## 5. Discussion and Conclusions

### 5.1. Discussion

#### 5.1.1. Performance and CEO compensation

Hypothesis 1 of this chapter is based on agency theory's supposition that the link between compensation and performance can be used to lower the effects of the agency problem, and states that in non-family companies, company performance is significantly linked to CEO compensation. Hypothesis 1a states that in family businesses, company performance is not significantly linked to CEO compensation. The empirical findings backed up both of these hypotheses.

Regarding non-family businesses, the empirical findings of this paper are similar to that produced by other scholars [Cubbin and Hall (1983), Faith, Higgins, and Tollison (1984), Murphy (1985), Edward (1986), Ely (1991)]. Our empirical research showed that the relationship between performance and compensation is different in family and non-family



businesses. In non-family businesses, incentives are based on the principle of fairness, and stress goals that are not based on the company itself, namely profit maximization. Thus, CEO compensation and company performance are linked. In family businesses, however, CEO incentives stress stability and harmony. Therefore compared to non-family businesses, CEO compensation in family businesses is stable and does not exhibit large fluctuations.

The relations among company members in a family business are often complex. CEOs may be close relatives of members of the board of directors, or may have graduated from the same school, hail from the same locale, or belong to the same clan, exhibiting the overlapping of formal and informal organizational structures as listed in Donnelley (1964). In addition, there are few high ranking managers, while their salaries are considerably more flexible than that of middle managers, who are not as affected by their personal relationships within the company. Thus, organizational overlap may have an effect on the compensation of CEOs, and may overtake the influence of performance on CEO compensation.

### *5.1.2. Performance and CEO turnover*

Hypothesis 2 states that in non-family companies, there is an inverse relation between CEO turnover and company's performance comparing the same industry, based on agency theory's assumption that using performance to determine CEO replacement can lower the agency problem. Hypothesis 2a states that in family businesses, there is no correlation between CEO turnover and company performance comparing the same industry. Both hypotheses were supported by our empirical research.

Our empirical findings were similar to those produced by other research into non-family businesses [James and Soret (1981), Allen and Panian (1982), Harrison, Torres, and Kukalis (1988), Morch, Shleifer, and Vishny (1988), Warner, Watts, and Wruck (1988), and Khorana (1996)]. It is worth noting that the performance in this research was based on industry ROA and industry stock return of companies. Only the industry ROA was found to impact on CEO turnover, however, showing that performance comparisons in non-family businesses is based on other companies in the same industry. When the performance of a company lags behind that of its competitors in the same

industry, it will increase the possibility that the CEO of that company will be replaced. Thus the asset rate of return of companies in the same industry is the standard for companies when determining whether to continue to keep their CEO. This proves that when the performance of a company significantly lags behinds its peers, the board of directors will tend to believe that the CEO is the major factor behind the poor performance, increasing the CEO's chances of being replaced [Fredrickson, Hambrick, and Baumrin (1988) and Morck, Shleifer, and Vishny (1989)].

If we examine the question from the framework provided by Hirschman (1970), then when the performance of a company lags behind that of its peers in an industry, the attitude of the owners of that company toward the CEO can be divided into three sections of loyalty, voice and exit. Trust refers to the belief that the CEO will continue to work to the best of his/her ability to improve company performance; voice is a warning to the CEO to watch company performance, usually adopted by company owners when the performance of a company begins to lag behind but is still within acceptable limits; exit is when the owners ask the CEO to leave to bear responsibility for the company's poor performance.

If this analytical framework is used to examine the relationship between performance and CEO turnover in both family and non-family companies, then the following can be deduced: a relationship of trust that exceeds a professional relationship exists between the owners and CEOs in family businesses. Therefore, the owners will not immediately adopt an attitude of "exit" when company performance dips, especially when the CEO is a member of the same family. Thus there is no significant link between performance and CEO exit in family businesses.

### 5.1.3. *The operation of internal control mechanisms in companies*

From the standpoint of agency theory, the various components of a company are organized by a nexus of contract. In order to ensure that the agent will act to maximize the interests of the owner, the owner often must adopt a control mechanism to supervise the behavior of the agent. Compensation and CEO replacement are the two main types of

internal control mechanisms. This section will discuss in general companies' internal control mechanisms, beginning with an examination of the applicability of agent theory, and then proceeding to ownership structures.

1. *Applicability of Agency Theory.* Most discussion of internal control mechanisms in the past was based on agency theory, while agency theory itself is based on a number of assumptions about organizations and individuals. As Eiesenhardt (1989) shows, agency theory presumes that individuals act to maximize their interests, the goals of members within an organization are in conflict, and information asymmetry is common within organizations. These assumptions reveal the agency theory's range of applicability. This chapter's empirical findings also show the limit of agency theory's applicability.

In family businesses, a collective consciousness exists among most board members and CEOs. Thus in organizations with a high collective consciousness, CEOs who serve as agents do not necessarily violate the interests of the board of directors in the pursuit of their own interests.

Stewardship theory, an alternative to agent theory, contends that CEOs view themselves as stewards of their organization [Donaldson (1990)], and thus serve the collective interest. When there is a discrepancy between the interests of the steward and the owner, the steward views cooperation with the owner as the overriding interest, and therefore does not go against or sacrifice the owner's interests.

Davis, Schoorman, and Donaldson (1997) contend that there is no agency problem if there are no conflicts between the agent and owner, as there is no possibility of damage caused by the agent. There is thus no need for a supervisory mechanism to prevent the agency problem. Agency theory is based on a conflict of interest between the agent and shareholders, and leads to the conclusion that companies must employ mechanisms to prevent the problem. Thus, when the agency problem does not exist, this assumption is not valid. The agency theory is not necessarily applicable to all organizations.

Many businesses in Taiwan are owned and controlled by families. The CEOs of the companies are appointed by the families, and as a result the conflict of interest between the owner and agent posited in agency theory is not likely to exist. Stewardship theory may not fully

capture the intricacies of the relationship between CEOs and the board of directors in family businesses in Taiwan, but it is a closer approximation than agency theory. It is rare that CEOs go against the collective interests of the business (family) in family businesses in Taiwan, and indeed there is no need for them to go against these interests. CEOs tend to actively protect the interests of the family, which is the same as the company's interests. Moreover, the patriarchal and authoritarian leadership style within the company, as well as a stress on cooperation and harmony, reduces the conflict of interest among members of the company. If conflict erupts, it rarely takes the form mentioned in agent theory of resulting from information asymmetry between CEO and the board of directors, or from CEO's pursuit of his/her individual interest. This shows that the internal control mechanisms used in family businesses are different from those put forth in agency theory.

2. *Control Mechanisms in Non-Family Businesses: The Role of Performance.* In companies where ownership and management are separated, the agency problem may emerge between CEOs and the owners. In order to deal with this problem, companies must devise various control mechanisms, and empirically proving this method of handling with the agency problem has occupied many scholars [Eisenhardt (1989)]. Jensen (1983) contends that the major problem with this line of reasoning is attempting to "explain why certain contractual relationships appear", and Eisenhardt (1989) contends that such contracts are established on the basis that the interests of the owner and agent are both dependent on the actions of the agent. This negates the conflict between the owner and agent, and effectively prevents opportunistic behavior by the agent. Linking performance with compensation in the hiring contract of a CEO is a typical contract based on output. Hypotheses 1 and 2 both support the correlation of performance and compensation in hiring contracts based on output, and contend they are widely used in non-family businesses.

## 5.2. Conclusions

The major conclusions of this chapter are that:

1. Different ownership structure will have a different effect on CEO compensation and CEO turnover. The agency theory, based on the

assumption of conflict between the owner and agent that leads to the agency problem, posits a range of control mechanisms to lower the agency problem. Some scholars have pointed out, however, that some parts of agency theory is not applicable in organizations where there is no conflict of interest. The research in this chapter supports this claim. Many listed companies in Taiwan are owned and managed by a family. The goals of the various members of these companies are not in conflict, the problem of asymmetric information is not serious between the CEOs and board of directors of these companies, and thus the agency problem is not salient among these companies. The conclusions of agency theory are therefore not applicable.

2. CEO compensation and CEO turnover as control mechanisms to reduce agency problem is applied efficiently to non-family businesses in Taiwan. Agency theory posits that the linkage of company performance with CEO compensation and replacement is an effective control mechanism to reduce the agency problem. Our empirical research shows that company performance is significantly correlated with both CEO compensation and CEO attrition in non-family businesses. These two control mechanisms are apparently effective in companies in Taiwan, lowering the effects of the agency problem in these companies.

3. Estimates of CEO performance are based more on accounting basis than market basis. The management performance of a company impacts on both the compensation and replacement of CEOs, and our research showed that performance ratings based on accounting basis (rate of return on assets, return on equity, or earnings per share) are more important than stock returns for determining CEO performance. Further, research into CEO turnover showed that industry ROA impacts on CEO turnover, but industry stock returns are not positively correlated with CEO dismissal. The evidence suggests that estimates of CEO performance are based on accounting basis rather than market factors.

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