

The Determinants of CEO Cash Compensation in Non-Financial Listed Firms: Evidence from Jordan

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Abstract

Compensation paid to top executive managers is one of the sensitive areas in modern corporate finance. The objective of this paper is to investigate the determinants of the Chief Executive Officer and/or the Chairman of the board of directors' cash compensation. It examines mainly the linkage between ownership concentration, role duality, financial performance, among other variables, and executives' cash compensation for a sample of 81 Jordanian listed firms during the period 2010-2013.

By applying fixed and random effects estimates, I find conclusive evidence that dual CEOs receive higher cash compensation compared to those who do not hold the position of Chairman. In addition, CEOs in larger firms are more compensated than others in smaller ones. The results provided evidence that a firm's leverage does not affect its CEO cash compensation, however, the firm's industry identity plays some role in determining its executive pay, but not its chairman of the board. The analysis fails to link CEO cash compensation to the firm's financial performance and ownership structure, implying that neither compensation contracts nor concentrated ownership structures can alleviate the agency problem or reduce agency costs in Jordanian firms. These results do not diverge much when the dependent variable is the Chairman of the board of directors' cash compensation.

Overall, Jordanian CEOs are unjustifiably over-compensated as they fail to prove their worth, in light of such lamentable performance of the Jordanian non-financial listed firms, which raises questions about executives' compensations determining mechanism, and the process of hiring CEOs in the first place.

Keywords: agency theory, cash compensation, CEO, financial performance, ownership structure, role duality

1. Introduction

1.1 Executive Compensation and Agency Problem

The agency relationship can be defined as a contract under which one or more owners (shareholders) engage another person (manager, executive) to perform some services on their behalf, which involves delegating some decision-making authority to the manager. The classical agency problem occurs when there is a separation of ownership and control, separation of ownership from management function leads to a conflict of interest between owners and managers because they have different concerns. The agency theory; given by Jensen and Meckling (1976), identifies the conflict of interest between owners and managers and how a firm attempts to overcome such conflicts, it states that both the owner and the manager of the firm want to achieve their maximum utility and, therefore, they will not act in the best interest for each other. Owners are interested in maximizing the firm value, while managers are interested in the maximization of their well-being (maximization of wealth and minimization of efforts). Therefore, managers may not manage the firm to maximize shareholders' wealth, they might pass up profitable investments because taking those investments requires more effort on their part.

Many methods have been used in modern corporations to solve the classical agency problem, one of which is the use of compensation contracts where the salary of the manager is linked to the firm performance. In order to maximize the value of the firm, shareholders choose an executive compensation contract that specifies the level of compensation as a function of performance (Core et al., 1999). In addition, shareholders are willing to pay a considerable amount of compensation to attract high-quality executive(s), in an attempt to maximize the level of efforts undertaken by the manager(s) and to influence the way the firm is run, which eventually leads to a significant increase in the value of their firm. Executive compensation can be used as a tool to align the interests of owners and managers, reduce agency costs and improve firm performance.

1.2 Executive Compensation, Ownership Structure and Role Duality

Another avenue that has been used to align the interests of owners and managers and to restrict the classical agency problem is ownership concentration. It is widely accepted that ownership concentration has the potential to limit the agency problem, which in turn improves the performance of the firm. Grossman and Hart (1986) argue that the largest shareholders are more willing to play an active role in firm decisions because they partially internalize the benefits from their monitoring effort. Shareholders with large ownership stakes have stronger incentives and greater power at a lower cost to supervise managerial actions and mitigate potential Chief Executive Officer (CEO) entrenchment. As a result, concentrated ownership often indicates that shareholders can better guard their interests in their firms. However, firms with concentrated ownership may have a conflict of interest between majority and minority shareholders causing larger agency costs (La Porta et al., 1998; La Porta et al., 2000). Moreover, minority shareholders in highly concentrated ownership firms may be subject to potential expropriation through executive compensation.

In general, executive compensation and ownership concentration are among the techniques that are used to bound executives to act in the best interest of the shareholders. Also, this paper focuses on the role duality of CEO and Chairman positions. Jensen (1993) posits that the role of the Chairman of the board of directors is to run the board meetings and oversee the process of hiring, evaluating, compensating and firing the CEO. Therefore, CEO-Chairs cannot perform both functions without conflicts of interest. For the board to be effective and to perform its critical functions in protecting shareholders' interests against managerial opportunism, it is vital to separate the positions of the CEO and Chairman. These arguments propose a positive relationship between role duality and executive compensation since owner-managers may decide on their compensation regardless of the firm performance (Cheung et al., 2005). The role of the board of directors' independence and the pay committees' independence in influencing the CEOs' compensations have been examined in several papers, and have been extended to examine the role of duality (e.g., Jensen, 1993; Anderson & Bizjak, 2003 and Chen et al., 2010). Therefore, this study focuses on the extent to which ownership concentration and role duality affect executive compensation.

1.3 Institutional Environment and Corporate Ownership in Jordan

Jordanian firms listed on Amman Stock Exchange (ASE) are mostly characterized by highly concentrated ownership structures and dominance of duality (Tayem, 2015). In addition, large owners assume managerial, which means that the largest shareholder usually performs the duties of the Chairman and/or the CEO. Therefore, in the case of Jordan, the largest shareholders become insiders rather than monitors (Tayem, 2015). Controlling owners have stronger incentives and greater power to extract private benefits for themselves in the form of higher compensations (Cheung et al., 2005). Finally, there is little known about CEO compensation and its relation to firm performance and ownership structure in Jordan. Not too many numbers of studies regarding CEO compensation have been conducted in small emerging economies, most studies focus on the U.S. and other well-established markets, with mixed results reported (e.g., Grossman & Hart, 1986; Jensen, 1993; Goldberg & Idson, 1995; Murphy, 1999; Core et al., 1999; La Porta et al., 2000; Zhou, 2000; Gregg et al., 2005; Sapp, 2007; Ozkan, 2007, among others). Based on the above, it is important to test such ownership patterns' impact on executives' compensation.

This paper sets out to examine factors that may cause CEO cash compensation to vary among ASE non-financial listed firms. A major contribution of this paper is that it will give a broader picture of the executive compensation issue, and shed a light on the determinants of CEO cash compensation in Jordan (Note 1), using a panel data set of 81 non-financial listed firms during the period 2010-2013. The results help ensure that the interests between management and shareholders are aligned by linking executive compensation to firm performance. In addition, the results help determine the optimal CEO pay level and assess the performance of the sampled firms.

2. Literature Review

As a result of the sensitivity and importance of the issue on hand, the interest in studying executive compensation has significantly increased. Academics and researchers around the world have shown a wide variety of determinants of CEO compensation. Moreover, they have tried to link CEO compensation to an even wider set of explanatory variables including corporate governance elements (i.e., ownership structure and CEO role duality), board of directors characteristics (i.e., board size, independence and pay committee independence), CEO characteristics (i.e., CEO ownership, age and tenure) and firm-specific characteristics (i.e., financial performance, dividends policy, profitability, growth opportunities, Market-to-Book (MBR) ratio, number of employees, leverage ratio, sales, industry effects, firm age and size). However, they reported mixed results (e.g., Belliveau et al., 1996; Finkelstein & Boyd, 1998; Tosi et al., 2000; Brick et al., 2006; Chen et al., 2010, among others). This section gives an overview of the main studies that have been conducted regarding executive compensation.

This paper relates mainly to a study by Cheung et al. (2005). The authors examine the impact of ownership concentration on executive compensation using a sample of 412 firms from Hong Kong during the period from 1995 to 1998. They argue that in the presence of information asymmetry between inside and outside investors, a concentrated ownership structure allows owners to use their ownership rights to extract private benefits through higher compensation. The authors find that there is a positive relationship between managerial ownership and cash compensations received by the CEO and the Chairman but to varying degrees based on the level of ownership. It is noteworthy that an approach similar to the one used in Cheung et al. (2005) will be adopted in this paper, due to the similarities between the ownership structures of Hong Kong firms with those of Jordan.

Also, related to this paper is the seminal work by Core et al. (1999). Using a sample of 205 U.S. listed firms over a three-year period, the authors examine the cross-sectional variation in executive compensation. They document that the board and ownership structure are associated with the level of CEO compensation. The authors find that higher-quality board characteristics are associated with lower compensation. Among these characteristics is the role duality, which they find that, on average, is associated with around a USD150,000 increase in executive compensation. However, their ownership measures are negatively related to CEO compensation, as these measures proxy for monitoring by block-holders rather than the expropriation of insiders.

Carr (1997) studies a sample of small U.S. listed firms and documents that firm performance (measured using return on equity) and firm risk are significant factors in influencing the pay of executives. In addition, Gray and Cannella (1997) argue that firms with substantial risk should provide CEOs with greater total compensation. They find that unsystematic rather than systematic risk is related to executive pay.

In the context of other developed countries, Zhou (2000) using a sample of 755 Canadian firms over the period from 1991 to 1995 finds that firm performance and firm size play a key role in explaining CEO pay. Gregg et al. (2005) using a sample of large UK firms over the period from 1994 to 2002 find that there is little relationship exists between cash compensation and performance. However, Ozkan (2007) studies the relationship between compensation, performance and governance variables for a sample of 390 UK non-financial firms during the period from 1999 to 2005. The author uses cash and equity-based compensation and finds that firm performance is positively related to the cash component of compensation only. Moreover, the author finds that institutional ownership positively influences the pay-performance relationship.

Studies from developing markets test the association between several corporate governance mechanisms and executive compensation. For example, Kato and Long (2006) using a sample of Chinese listed firms during the period from 1998 to 2002 show that the performance-pay sensitivity is affected by the type of ownership structure. In addition, the authors document that state ownership exerts a negative impact on performance-pay sensitivity. Similarly, Firth et al. (2007) examine the impact of the board of directors' characteristics, level and type of ownership on executive compensation, and the influence of these characteristics on the performance-pay relation using a sample of 549 Chinese listed firms during the period from 1998 to 2000. The authors document a negative relationship between performance and executive pay for firms with dual positions. However, they report an insignificant negative relationship between duality and executive compensation.

More recently, Lee and Chen (2011) examine the relationship between CEO compensation and CEO ownership, among other variables, using a sample of firms listed in Taiwan's stock market during the period from 1995 to 2004. Their results show that institutional ownership and CEO ownership are positively related to CEO compensation.

As for the Jordanian market, Abed et al. (2014) examine executive compensation in Jordan using a sample of 70 industrial listed firms for the period from 2005 to 2010. The authors investigate the relationship between compensation, performance and governance variables, including institutional and managerial ownership, CEO tenure, CEO age, role duality, firm age and the board size. Abed et al. (2014) document that (1) younger executives are more compensated than older ones; (2) the board of directors is influenced by the presence of the CEO among them; (3) newly established firms give higher compensations to their executives compared to mature firms, and (4) firm size is positively related to CEO compensation. However, their results revealed that institutional ownership, board of directors' size, firm performance and leverage do not have a statistically significant effect on CEO compensation in Jordanian industrial firms.

Even though extant research examines the determinants of CEO compensation extensively, the relationship between executive compensation, ownership structure and role duality in emerging markets is not thoroughly examined. This study aims at filling the gap in the literature by extensively investigating the determinants of CEO and Chairman of the board of directors' cash compensation in the context of Jordan's capital market.

3. Hypotheses Development

3.1 Ownership Concentration

Ownership concentration is a double-edged sword, it may have a positive effect on executive compensation because concentrated ownership allows shareholders with large ownership to exercise control over the firm and, hence, extract benefits through higher compensation. On the other hand, ownership concentration may have a negative effect because, for large shareholders, the benefits of extracting benefits through compensation are lower than the benefits of maximizing their share in the firm. Moreover, the efficient monitoring hypothesis emphasizes that executives in highly concentrated ownership firms are closely monitored by large shareholders, which prevents management from getting higher compensations for themselves. Goldberg and Idson (1995) find a negative relationship between executive compensation and the percentage of stock held by the firm's top five shareholders, which implies that concentrated ownership reduces agency costs of managerial discretion (hence; executive compensation). Consistent with Goldberg and Idson (1995), this study contends that ownership concentration, regardless of ownership type, has a positive impact on lessening executive compensation. Thus, the following hypothesis is formulated:

H01: There is a significant negative association between ownership concentration and CEO cash compensation.

3.2 Role Duality

When the same person becomes both the CEO and Chairman of the board of directors his influence on the board increases, which allows him to get higher cash compensation (Chen et al., 2010). Separation of the positions of CEO and Chairman of the board will result in lower executive compensation. This study focuses on the extent to which role duality affects executive compensation. Following previous studies (Jensen, 1993; Core et al., 1999; Chen et al., 2010), this study expects that firms with the same CEO-Chairperson pay higher executive compensation. Thus, the following hypothesis is formulated:

H02: There is a significant positive association between CEO role duality and his cash compensation.

3.3 Firm Performance

As mentioned earlier, the agency theory suggests a positive relationship between CEO pay and firm performance. According to Murphy (1999), firms can align the interests between management and shareholders by linking executive compensation to firm performance. Therefore, numerous empirical studies have been conducted to examine such link, but they report conflicting findings. For example, Finkelstein and Boyd (1998), Tosi et al. (2000) and Abed et al. (2014) could not find any relationship between firm performance and executive compensation, whereas Belliveau et al. (1996), Brick et al. (2006) and Ozkan (2007) find a strong and positive relationship between them. Firm performance can be measured by Return on Assets (ROA), this ratio has been previously used as a proxy for firm performance in many papers like Core et al. (1999) and Abed et al. (2014). This study focuses on the extent to which a firm's financial performance affects executive compensation. Following previous studies (Murphy, 1999; Zhou, 2000; Ozkan, 2007), this study expects that as firms perform better, their CEOs will be granted higher rewards. Thus, the following hypothesis is formulated:

H03: There is a significant positive association between firm performance and its CEO cash compensation.

3.4 Firm Size

The size of the firm has been proposed in the literature as a significant variable in explaining the variation in executive compensation, it is widely used as a control variable when it comes to examining CEO compensation (e.g., Zhou, 2000; Abed et al., 2014). This study expects that larger firms are more complex and, therefore, they necessitate hiring high-quality executives at higher salaries. Thus, the following hypothesis is formulated:

H04: There is a significant positive association between firm size and the cash compensation given to the CEO.

3.5 Firm Risk

Financial policies with a higher level of leverage increase the firm's financial risk. One of the most commonly used measures of financial risk is leverage, which measures the firm's use of borrowed funds. Leverage is potentially associated with CEO compensation, many studies expected that CEOs demand higher compensation in exchange for higher risk. Gray and Cannella (1997) argue that if high-risk compensation contracts are imposed on executives with no corresponding increase in pay level, higher-quality executives may seek opportunities elsewhere. This study expects that as firms take more risk (in the form of higher leverage), executives will demand higher compensation. Thus, the following hypothesis is formulated:

H05: There is a significant positive association between firm risk and CEO cash compensation.

4. Methodology

4.1 Sample and Data Source

This study begins with all non-financial firms listed on ASE during a four-year period (2010-2013). Some firms were excluded due to insufficient data, as some firms' annual reports do not contain all the required information. This case is possible because of missing information on the CEO and/or Chairman of the board of directors' compensation. Moreover, some firms were eliminated as they were/ became unlisted in one or more years during the study period. Therefore, the final sample includes 81 firms (324 firm-year observations) covering 2010 to 2013. In this paper, the required information has been manually collected from various sources. Most of the financial, accounting and other data were obtained from firms' annual reports. Financial reports are a reliable source of data for public firms as they are audited externally. All Jordanian listed firms are required by law to disclose information on their executives' compensation in the annual reports (Note 2). Some other data were obtained from authoritative databases, such as Jordan Securities Commission and Amman Stock Exchange websites (Note 3). Data were double-checked and carefully examined to assure their accuracy and integrity. All errors are my own. Appendix A gives a detailed list of the firms included in this study. It is noteworthy that none of the firms included in the sample have a female CEO and/or board-Chair, although many of them have a female board member.

4.2 Construction of Variables

Executives are mainly driven by two incentives. The first one is cash compensation (base salary and bonus), the second incentive arises from executives' ownership of the firm's stocks (the CEOs' shareholdings in the firm). Accordingly, executives' compensations have two crucial components; the proportion of compensation from cash-based sources (non-equity based), and the proportion of compensation from equity-based incentives (see, for instance, the discussion on equity-based contracts in Core & Guay, 1999 and Core et al., 2003). Many studies were conducted using equity-based compensation only (e.g., Zhou, 2000; Cheung et al., 2005; Coles et al., 2006; Harford & Li, 2007; Zheng & Zhou, 2009; Jansen et al., 2009; Chen et al., 2011, among others). Other studies examined both cash and equity-based compensations (e.g., Ozkan, 2007 and Joubert & Fakhfakh, 2011). However, the focus of this study will be on cash-based compensation only. Although cash compensation provides only one source of incentives for CEOs, the use of cash compensation is consistent with previous research (e.g., Kato & Long, 2006; Firth et al., 2007; Gu & Kim, 2009; Abed et al., 2014).

The dependent variable; executive compensation, for the purposes of this study has been measured using cash compensation (the natural logarithm of the cash rewards received yearly by the CEO, where cash rewards include salary and bonus only). In firms where the CEO title is not used, the CEO is identified as the president of the firm or the General Manager. Jordanian listed firms provide their CEOs with several direct and indirect cash rewards that are designed to contrive good performance and maintain a commitment to the firm, namely salary, bonus, housing allowance, hospitality and phone calls allowance, travel and transport expenses within Jordan and abroad (including a vehicle for personal use, and its driver salary, flight tickets and staying expenses), in addition to a membership bonus (bonus that the CEO receives for serving as a board member besides serving as a CEO). In some cases, CEOs receive a representation bonus for representing their firm in other firms (for instance, being a member of the board of directors in other firms and acting on behalf of their firm). Finally, some CEOs may have a retirement bonus (indemnity that CEOs receive once they retired).

As for the independent variables, the literature suggests several explanatory variables that may explain the variation in CEO cash compensation. This study includes two sets of variables: the first set includes proxies for corporate governance, these are ownership concentration (the number of shares held by the largest three shareholders divided by the total number of shares outstanding) and CEO role duality (dummy variable that takes the value of one if a firm CEO also serves as the Chairman of the board of directors, and zero otherwise). The second set of variables includes proxies for firm performance and fundamentals, these are return on assets (calculated as Earnings Before Interest and Taxes (EBIT) scaled by total assets), firm size (logarithmic transformation of the fiscal year-end value of total assets) and debt-to-asset ratio (the percentage of total or long-term debt relative to assets).

Finally, regarding CEO role duality, much prior research assumes a firm to have dual positions when its CEO belongs to the board of directors (a member of the board of directors). In contrast, for the purposes of this study, only firms with the same person occupying both the CEO and Chairman of the board positions are considered to have CEO role duality. Furthermore, concerning ROA, the majority of prior studies have calculated ROA using net income. However, this study uses EBIT instead of net income in calculating ROA, the use of EBIT eliminates the effect of different interest expenses and tax rates imposed on Jordanian listed firms. Excluding both interest

expenses and taxes (which may be adjusted occasionally based on government objectives) helps compare firm performance over time, it also makes it easier for cross-firm comparison. This is especially useful for the purposes of this study because firms listed on ASE have different tax rates, based on the sector and industry they belong to (Note 4). Table 1 below summarizes the definitions of the variables used in the regression model.

Table 1. Variables definitions

Variable	Definition
COMP	Natural logarithm of the cash rewards (expressed in Jordanian Dinars) received yearly by the CEO, where cash rewards include salary and bonus only.
COMP (Chairman)	Natural logarithm of the cash rewards (expressed in Jordanian Dinars) received yearly by the Chairman of the board of directors, where cash rewards include salary and bonus only.
OwnCon	Ownership concentration, the ownership percentage of the largest three shareholders.
DUAL	CEO role duality, a dummy variable that equals one if the CEO also serves as Chairman of the board of directors, and zero otherwise.
ROA	Return on assets, the ratio of earnings before interest and taxes to total assets, a proxy for a firm's financial performance.
ROE	Return on equity, the ratio of earnings before interest and taxes to total equity, a proxy for a firm's financial performance.
SIZE	Firm size, the natural logarithm of the firm's fiscal year-end total assets.
LEV	Leverage ratio, the ratio of total liabilities to total assets, a proxy for a firm's financial risk.
D1	Industry indicator, a dummy variable that equals one if the firm belongs to the services sector, and zero otherwise.
Year2011	Time dummy variable that equals one if the year is 2011, and zero otherwise.
Year2012	Time dummy variable that equals one if the year is 2012, and zero otherwise.
Year2013	Time dummy variable that equals one if the year is 2013, and zero otherwise.

4.3 Model

A model similar to Cheung et al. (2005) will be adopted to test the research hypotheses (at a 0.05 level of significance), the following multiple linear regression model will be used:

$$COMP_{it} = \beta_0 + \beta_1 OwnCon_{it} + \beta_2 DUAL_{it} + \beta_3 ROA_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \varepsilon_{it} \quad (1)$$

where COMP is the natural logarithm of the annual salary and bonus given to the CEO; OwnCon is the fraction of total firm shares outstanding held by the largest three owners; DUAL is a dummy variable that takes the value of one if a firm CEO also serves as the Chairman of the board of directors, and zero otherwise; ROA is earnings before interest and taxes divided by total assets; SIZE is the logarithmic transformation of the fiscal year-end value of total assets; LEV is total debt divided by total assets; ε is the error term, assumed to be independently and identically distributed, with zero mean and σ_ε^2 variance; $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the regression coefficients; the subscripts *i* and *t* denote firm and time, respectively.

To estimate the fixed effects at the industry level, an industry indicator variable that sets to one if the firm belongs to the services sector, and zero otherwise, is included in this model. In addition, time dummies are included to remove any impact of macroeconomic conditions change. The regression model was estimated after the realization of the required modifications; the logarithmic transformation of cash compensation and total assets has been used to normalize the variables and mitigate Heteroskedasticity resulting from extreme skewness. Furthermore, the outliers have been eliminated since the inclusion of these observations may affect data quality and influence the results. Six firms (24 firm-year observations) were omitted, due to their extreme values of CEO cash compensation or total assets.

4.4 Research Limitation

As mentioned earlier, CEO total compensation consists of two components; cash and equity-based compensation. Cash-based compensation provides a substantial source of incentives for CEOs, the other source of CEOs' incentives arises from equity-based compensation (i.e., CEO stock ownership, dividends, long-term incentive plans, restricted stock and options). Equity-based compensation is normally measured as the fraction of total firm shares outstanding held by the CEO and his immediate family. In some cases, it is hard to link such shares ownership to the CEO, as there are family members or friends who hold shares that are unable to trace.

In addition, equity-based incentives represent a relatively small portion of total compensation. Therefore, and due to a lack of available data, the equity-based component of compensation is excluded from the analysis. The focus of this study will be on cash-based compensation only. Nevertheless, the empirical results are presented next.

5. Empirical Results

5.1 Descriptive Statistics

Table 2 presents summary statistics for the dependent and independent variables employed in the analysis model for non-financial firms listed on ASE during the four-year study period (2010-2013). The descriptive statistics for services, industrial and full sampled firms are reported in Panels A, B and C of Table 2, respectively.

Table 2. Descriptive statistics

	Mean	Median	Max.	Min.	Std. Div.	Skewness	Kurtosis	N
Panel (A) Services sector								
Cash Compensation ^a	88,089	76,566	243,499	4,800	63,554	0.710	2.651	160
COMP	4.788	4.884	5.386	3.681	0.425	-0.824	2.900	160
OwnCon	0.530	0.500	0.910	0.055	0.188	0.064	2.915	160
DUAL	0.200	0	1	0	0.401	1.500	3.250	160
ROA	0.033	0.036	0.355	-0.396	0.100	-0.497	5.531	160
Total Assets ^b	79.509	31.641	707.034	2.746	144.510	3.045	11.477	160
SIZE	7.532	7.500	8.849	6.439	0.526	0.400	3.656	160
LEV	0.353	0.297	0.953	0.007	0.232	0.950	3.088	160
Panel (B) Industrial sector								
Cash Compensation ^a	84,222	65,305	289,200	9,383	56,462	1.353	4.283	164
COMP	4.838	4.815	5.461	3.972	0.276	0.028	2.874	164
OwnCon	0.489	0.443	0.956	0.056	0.210	0.228	2.398	164
DUAL	0.183	0	1	0	0.388	1.640	3.691	164
ROA	0.005	0.013	0.330	-0.283	0.091	0.071	5.223	164
Total Assets ^b	27.720	13.158	372.986	1.946	47.548	4.935	32.114	164
SIZE	7.158	7.119	8.572	6.289	0.469	0.413	3.003	164
LEV	0.346	0.318	0.945	0.005	0.224	0.357	2.147	164
Panel (C) Full sample								
Cash Compensation ^a	86,132	70,586	289,200	4,800	60,007	0.994	3.314	324
COMP	4.814	4.849	5.461	3.681	0.358	-0.756	3.566	324
OwnCon	0.509	0.480	0.956	0.055	0.200	0.125	2.593	324
DUAL	0.191	0	1	0	0.394	1.569	3.462	324
ROA	0.019	0.024	0.355	-0.396	0.096	-0.201	5.174	324
Total Assets ^b	53.295	22.169	707.034	1.946	109.970	4.141	20.740	324
SIZE	7.343	7.346	8.849	6.289	0.532	0.441	3.385	324
LEV	0.349	0.303	0.953	0.005	0.228	0.665	2.663	324

Note. Variables are as defined in Table 1, N= number of observations.

^a Cash Compensation is expressed in Jordanian Dinars (JODs) and is not used in the analysis.

^b Total Assets is expressed in millions of JODs and is not used in the analysis.

Source: Author calculations.

Panel A of Table 2 reports that, on average, services firms pay 88,089 Jordanian Dinars per year as cash rewards for their CEOs. Ownership concentration has a mean value of 53 percent, showing that the largest three shareholders own 53% of a service firm, on average. Moreover, 20% of Jordanian services firms have the positions of CEO and Chairman of the board of directors occupied by the same person. However, return on assets has a mean value of 3.3 percent, showing the services firms' performance, while firms in the services sector have average total assets of JOD79.509 million.

Panel B of Table 2 reports that, on average, industrial firms pay 84,222 Jordanian Dinars per year as cash rewards for their CEOs. Ownership concentration has a mean value of 48.9 percent, indicating that the largest three shareholders hold almost 49% of the total number of industrial firms' shares outstanding, on average. Moreover, CEO role duality has a mean value of 18.3 percent, suggesting that about 18% of Jordanian industrial firms have the same person performing both functions as CEO and Chairman of the board of directors. However, the leverage ratio has a mean value of 34.6 percent, showing the industrial firms' risk, while industrial firms have average total assets of JOD27.720 million.

Panel C of Table 2 shows the summary statistics for the sampled firms, it reports that a CEO in Jordan, as depicted by the selected sample, typically earns 86,132 Jordanian Dinars as annual cash compensation, varying from a minimum of 4,800 Jordanian Dinars to a maximum of 289,200 Jordanian Dinars. It also shows the widespread of executives' compensations, as the standard deviation of cash compensation is 60,007. In addition, almost 51% of Jordanian non-financial listed firms are owned by their largest three shareholders, which points to the highly concentrated ownership structures. Moreover, 19.1% of Jordanian listed firms do not separate the CEO and Chairman of the board positions. However, the leverage ratio has a mean value of 34.9 percent, with a standard deviation of 22.8 percent, suggesting that Jordanian non-financial listed firms, in general, are not highly leveraged. Apparently, firms depend heavily on equity, rather than debt, to finance their assets. Return on assets, as a measure of firm performance, has an average of 1.9 percent, varying from a minimum of -39.6 percent to a maximum of 35.5 percent, the negative values of ROA are linked to firms with poor performance that experienced a loss in one or more years during the study period, where the loss occurs when the firm's expenses exceed its revenues. However, Jordanian non-financial listed firms have average (median) total assets of JOD53.295 million (JOD22.169 million).

In general, Table 2 demonstrates that services firms are larger, perform better, incur higher financial risk, have more concentrated ownership structures and more dominance of duality. In addition, CEOs in services firms have higher compensation compared to CEOs in the industrial sector. Per contra, industrial firms are smaller, perform worse, incur lower financial risk, have less concentrated ownership structures, have less prevalence of duality and compensate their CEOs with lower rewards than firms in the services sector, as per the selected sample. Moreover, Table 2 documents an average (median) ROA of 1.9 percent (2.4 percent). A possible explanation for such inferior performance is that Jordan, like the rest of the world, suffered from the global financial crisis (2008-2009). It is well-documented that economic turbulence affects the operations, financial transactions and, thus, the earnings of all the firms in the economy. Jordanian firms suffered financially from the global financial crisis during the study period, this lamentable performance might be a consequence of the global financial crisis.

It is noteworthy that a CEO in Jordan, as shown in Table 2, typically earns 7,178 Jordanian Dinars per month (86,132 Jordanian Dinars per year) as cash rewards. Although this pay level seems low by U.S. standards, it is extremely high compared to the average employee wage in Jordan. During the four-year study period (2010-2013), the average minimum wage in Jordan was 170 Jordanian Dinars per month, which means that a CEO in Jordan receives an amount equivalent to 42 times the average minimum wage (Note 5). Additionally, the Department of Statistics reports that the average wage per employee (senior officials and managers only) for both public and private sectors during the study period was 1,288 Jordanian Dinars per month. Therefore, the average CEO cash compensation in Jordanian non-financial listed firms is about 5.5 times that of a typical senior manager in the public or private sector (Note 6).

Finally, as documented in Table 2, the dependent and independent variables, with exception of total assets (which is not used in the regression analysis), report skewness and kurtosis values close to normal distribution. Therefore, the normality problem does not seem to exist in this study. The final sample consists of 81 non-financial firms listed on ASE (40 services firms and 41 industrial firms).

5.2 Correlation Results

The Pearson correlation matrix is presented next in Table 3, it shows significant pairwise correlations between some explanatory variables. The significant correlation between these variables is noteworthy.

Table 3. Pearson correlation matrix ^a

	COMP	OwnCon	DUAL	ROA	SIZE	LEV
COMP	1					
OwnCon	0.021	1				
DUAL	0.035	-0.130**	1			
ROA	0.129**	0.217***	0.208***	1		
SIZE	0.444***	0.177***	0.065	0.307***	1	
LEV	0.204***	0.007	-0.025	-0.335***	0.322***	1

Note. Variables are as defined in Table 1.

a. Listwise, Number of observations= 324.

and Denote significance at the 0.01 and 0.05 levels, respectively, for a two-tailed test.

Source: Author calculations.

First, OwnCon is positively and significantly correlated with SIZE and performance (measured by ROA) at a 1% significant level, suggesting that firms with highly concentrated ownership structures are of larger size and superior performance compared to less concentrated firms. This is supported by the significant positive correlation between SIZE and ROA at a 1% significant level.

Second, DUAL is negatively and significantly correlated with OwnCon at a 5% level of significance. Contrariwise, a significant positive correlation exists between DUAL and ROA at a 1% level of significance, indicating that firms with the same CEO-Chairperson are more likely to have less concentrated ownership structures and tend to perform better than firms with separated CEO and Chairman positions.

Third, a significant positive correlation exists between SIZE and LEV, whereas the latter is negatively correlated with ROA at a 1% significant level. A possible explanation is that larger firms have higher leverage constraint levels, as they have more tangible collaterals. Furthermore, firms with inferior performance are in more need of funds to cover their expenses and, hence, troubled firms tend to borrow more to avoid reporting annual losses.

As for the dependent variable, Table 3 shows that COMP is positively and significantly correlated with ROA (at a 5% level of significance), SIZE and LEV at a 1% level of significance, suggesting that firms with superior performance compensate their CEOs with higher rewards. Moreover, it is typical that larger firms pay higher levels of compensation to their CEOs. In addition, CEOs demand higher compensation in exchange for higher financial risk.

5.3 Regression Results

To examine the determinants of CEO cash compensation, the regression equation presented earlier has been used. It is instructive to compare the fixed effects regression model with the random effects model. Therefore, the estimated results of the Ordinary Least Squares (OLS), fixed effects and random effects regression models are reported next in Columns 1, 2 and 3 of Table 4, respectively.

Table 4. Regression results – full sample

Dependent variable: COMP	(1)	(2)	(3)
	Pooled OLS	Fixed effects	Random effects
Constant	2.378*** (8.312)	3.529*** (4.009)	2.518*** (5.922)
OwnCon	-0.099 (-1.088)	0.278 (1.377)	0.057 (0.442)
DUAL	-0.006 (-0.136)	0.476*** (7.165)	0.283*** (5.351)
ROA	0.149 (0.662)	-0.141 (-0.810)	-0.130 (-0.797)
SIZE	0.345*** (8.329)	0.138 (1.096)	0.308*** (4.979)
LEV	0.086 (0.932)	0.090 (0.615)	0.080 (0.724)
D1	-0.180*** (-4.827)	-	-0.169** (-2.497)
Year2011	0.003 (0.700)	0.003 (0.135)	0.005 (0.211)
Year2012	-0.006 (-0.130)	0.008 (0.335)	0.004 (0.179)
Year2013	0.033 (0.673)	0.036 (1.526)	0.036 (1.619)
Adj. R-square	0.241	0.851	-
F-statistics	12.414	21.966	7.274
	Prob. > F = 0.000	Prob. > F = 0.000	Prob. > F = 0.000
Number of observations	324	324	324

Note. (i) Variables are as defined in Table 1. (ii) t-statistic in brackets. (iii) *** and ** Denote significance at the 0.01 and 0.05 levels, respectively.

Column 1 of Table 4 shows that firm size is positively and significantly related to CEO cash compensation ($\alpha \leq 0.01$), while a significant negative relationship exists between the industry indicator (D1) and CEO cash compensation ($\alpha \leq 0.01$). Column 2 of Table 4 reports that role duality is the only predictor that was found to be positively and significantly related to CEO cash compensation ($\alpha \leq 0.01$). Column 3 of Table 4 reports that role duality and firm size are positively and significantly related to cash compensation ($\alpha \leq 0.01$), whereas there is a significant negative relationship between the industry indicator (D1) and CEO cash compensation ($\alpha \leq 0.05$).

Overall, Table 4 shows that, in all three models, ownership concentration, performance, leverage and time dummies have not been found to have a statistically significant effect on CEO cash compensation. However, the signs of some coefficients differ as one moves from the OLS to the random effects specification, furthermore, some variables' significance level disappears across the models, suggesting that the estimated sign and magnitude of the coefficients are sensitive to the estimation method.

In order to determine which model to use, the Hausman test was performed, where the null hypothesis is that the preferred model is the random effects vs. the alternative that the fixed effects model is suitable. Based on the results of the Hausman test, the random effects specification was used for the hypotheses testing. The random effects allow the errors to be correlated over time, but do not account directly for firm specific-factors. According to Gregg et al. (2005), if the random effects model is consistent then this will give more efficient results than the fixed effects model, even though the fixed effects model will still be consistent.

The results of the random effects regression model (reported in Column 3) showed a significant positive relationship between role duality and CEO cash compensation ($\alpha \leq 0.01$). In line with the study predictions, the positive coefficient of role duality means that a CEO who also serves as Chairman of the board of directors has significantly higher cash compensation. This result is consistent with Core et al. (1999) and Abed et al. (2014) results. The estimated results also showed a significant positive relationship between firm size and the cash compensation received by its CEO ($\alpha \leq 0.01$). The fact that the coefficient of firm size is positive indicates that CEOs in larger firms are more compensated than others in smaller ones. Consistent with the study predictions, CEOs in larger firms demand more compensation, as larger firms are more complex and, therefore, require more effort on their part. This finding is in line with Zhou (2000) and Abed et al. (2014) findings. However, a significant negative relationship exists between industry indicator (D1) and CEO cash compensation ($\alpha \leq 0.05$), indicating that CEOs' pay levels depend strongly on industry factors, which is consistent with Murphy (1999) and Gregg et al. (2005), who find that firm's industry identity affects its CEO cash compensation.

It can be seen in Table 4 that, inconsistent with the efficient monitoring hypothesis and the study predictions, ownership concentration has no influence on CEO cash compensation, implementing that concentrated ownership does not reduce agency costs in Jordanian firms. Moreover, minority shareholders are not well-protected and may be subject to potential expropriation through executive compensation, as executives are not closely monitored by large shareholders, which is inconsistent with Goldberg and Idson (1995), who find that ownership concentration has a positive impact on lessening executive compensation. Surprisingly, inconsistent with the study predictions, return on assets has an insignificant negative relationship with CEO cash compensation, which implies that CEOs' compensation contracts are not contributing to maximizing the value of the firm. This result tends to suggest that the CEO and directors engage in cronyism (if they were not hired based on nepotism, or family ties in the first place) and are paid regardless of the performance of the firm, which can have adverse effects on the firm and its shareholders. Although this result is inconsistent with some previous studies (e.g., Carr, 1997; Brick et al., 2006; Ozkan, 2007), it is in line with Tosi et al. (2000) and Abed et al. (2014) results.

Finally, there is an insignificant positive relationship between leverage and CEO cash compensation, indicating that financial risk plays a small and negligible role in setting executives' cash compensation, which is inconsistent with the study predictions. Gray and Cannella (1997) argue that if high-risk compensation contracts are imposed on executives with no corresponding increase in pay level, higher-quality executives may seek opportunities elsewhere. Moreover, time dummies have not been found to have a statistically significant relationship with CEO cash compensation. This implies that, during the study period, CEOs' pay has not increased over time relative to the 2010 fiscal year, which may be interpreted as CEOs not being compensated for their expertise.

5.4 Further Robustness Checks

In order to verify the robustness of the reported results, the regression equation presented earlier has been replicated for each sector separately. Moreover, the regression model was performed using the Chairman of the board of directors' cash compensation as the dependent variable. The results are presented next.

5.4.1 OLS estimates (by sector)

It is hardly possible to differentiate between firms in different sectors in terms of their performance, profitability and leverage, as they are classified into different categories based on the industry they belong to, which justifies the use of the industry indicator variable (D1) in the regression analysis. Although this study performs the analysis for all sectors using an industry indicator, it would be ideal to perform the analysis for each sector by itself, even though the sample size will substantially decrease for each sub-sample. Table 5 next shows the estimated results of the OLS regression model for each sector separately. The estimated results of the OLS regression model for services and industrial firms are summarized in Columns 1 and 2 of Table 5, respectively.

Table 5. Pooled OLS regression results – by sector

Dependent variable: COMP	(1)	(2)
	Services firms	Industrial firms
Constant	2.195*** (4.464)	2.693*** (8.206)
OwnCon	-0.083 (-0.500)	-0.000 (-0.004)
DUAL	-0.014 (-0.184)	0.068 (1.274)
ROA	0.245 (0.640)	0.216 (0.878)
SIZE	0.334*** (4.927)	0.304*** (6.294)
LEV	0.330** (1.991)	-0.140 (-1.458)
Year2011	0.000 (0.002)	-0.002 (-0.034)
Year2012	-0.048 (-0.571)	0.030 (0.574)
Year2013	0.062 (0.748)	0.001 (0.017)
Adj. R-square	0.238	0.276
F-statistic	7.214 Prob. > F = 0.000	8.756 Prob. > F = 0.000
Number of observations	160	164

Note. (i) Variables are as defined in Table 1. (ii) t-statistic in brackets. (iii) *** and ** Denote significance at the 0.01 and 0.05 levels, respectively.

Column 1 of Table 5 shows that, for services firms, firm size is positively and significantly related to CEO cash compensation ($\alpha \leq 0.01$). In addition, a significant positive relationship exists between leverage and CEO cash compensation ($\alpha \leq 0.05$), whereas Column 2 of Table 5 shows that, for industrial firms, firm size is the only predictor that was found to be positively and significantly related to CEO cash compensation ($\alpha \leq 0.01$). Table 5 also reports that the model is significant for both sectors, the Adjusted R-Square values equal 0.238 and 0.276, for services and industrial firms, respectively.

In general, Table 5 shows that there is no apparent difference between the two sectors in terms of ownership concentration and performance. For both services and industrial sectors, an insignificant negative relationship exists between ownership concentration and CEO cash compensation, suggesting that executives are not monitored to an extent that prevents them from getting higher compensations for themselves. Moreover, Table 5 shows that, for both sectors, an insignificant positive relationship persists between financial performance and CEO cash compensation, indicating that compensation contracts are not an effective tool in aligning the interests of owners and managers and reducing the agency costs in Jordanian firms. Although this result is inconsistent with the agency theory and the study predictions, it is in line with Tosi et al. (2000) and Abed et al. (2014) results, who could not find any significant relationship between firm performance and executive compensation.

Table 5 demonstrates that role duality has kept its insignificant relationship with CEO cash compensation across both sectors. An insignificant negative relationship exists between role duality and CEO cash compensation in services firms, while the opposite relationship exists between the two variables in industrial firms. This can be explained as that being the same CEO-Chairperson in services (industrial) firms is not associated with lower (higher) cash rewards. In other words, there is a small and negligible role for the separation of the positions of CEO and Chairman of the board of directors in determining CEO cash compensation. Although this result is inconsistent with the study predictions, it is in line with Firth et al. (2007), who report an insignificant negative relationship between role duality and executive compensation.

Table 5 documents that, for the services sector, leverage is positively and significantly related to cash compensation ($\alpha \leq 0.05$), while the opposite relationship exists in the industrial sector, also the significance level disappears. Consistent with the study predictions, the significant positive association between firm risk and CEO cash compensation proposes that CEOs in services firms demand higher compensation in exchange for higher risk. On the other hand, the results were inconsistent with the study predictions in the case of industrial firms. A possible explanation for the insignificant negative relationship is that any increase in financial risk will not be attributed to the CEOs in industrial firms, therefore, they do not ask for higher compensation in exchange for the increased risk.

It can be seen in Table 5 that time dummies have not been found to have a statistically significant relationship with CEO cash compensation. This implies that, during the study period, CEOs' pay has not increased over time relative to the 2010 fiscal year. Moreover, the signs of some coefficients differ across the industry. Furthermore, some variables lose significance across both sectors, suggesting that firm-specific characteristics matter.

Finally, consistent with the study predictions, Table 5 reveals that, among all the variables in the study, firm size has kept its significant positive relation with CEO cash compensation across both sectors, suggesting that CEOs in larger firms are more compensated than others in smaller ones. In other words, firm size plays an important part in affecting executives' cash compensation, which is consistent with Zhou (2000) and Abed et al. (2014) findings.

5.4.2 Chairman of the board of directors' cash compensation

To further investigate the reported results and to verify their validity, the regression equation presented earlier has been performed using the Chairman of the board of directors' cash compensation as the dependent variable. Moreover, the analysis has been replicated using ROE instead of ROA to capture the effect of firm performance on the Chairman of the board's cash compensation. In fact, ROA and ROE are alternative measures for financial performance and, therefore, one can use any of them to measure the firm's financial performance.

As shown in Panel C of Table 2, almost 81 percent of Jordanian listed firms have the positions of CEO and Chairman of the board separated. Therefore, it is vital to scrutinize the determinants of the Chairman of the board of directors' cash compensation. In order to do so, the fixed effects model was run and the estimates were saved (not reported), then the random effects model was run and the estimates were saved, then the Hausman test was performed to determine which model is the proper one. Based on the results of the Hausman test, P-value for the Chi² test (1.000) is statistically insignificant, thus, the random effects specification is suitable for the hypotheses testing. The results of the random effects regression model are shown next in Table 6.

Table 6. Results of the random effects regression model (Chairman)

Dependent variable: COMP (Chairman)	Coefficient	Std. Error	t-statistic	Prob.
Constant	-1.005	1.528	-0.658	0.511
OwnCon	0.432	0.476	0.908	0.365
DUAL	1.277	0.201	6.369	0.000
ROE	0.222	0.165	1.348	0.179
SIZE	0.593	0.223	2.663	0.008
LEV	-0.528	0.416	-1.269	0.205
D1	0.048	0.246	0.194	0.846
Year2011	0.069	0.086	0.801	0.424
Year2012	-0.027	0.086	-0.313	0.755
Year2013	0.013	0.088	0.149	0.882

Note. Variables are as defined in Table 1. F-statistic= 6.786, Prob. > F= 0.000, Number of observations=324.

Table 6 shows that the model is significant (F-value= 6.786, P-value= 0.000). The significant predictors are role duality and firm size ($\alpha \leq 0.01$). The significant positive relationship between role duality and Chairman cash compensation suggests that CEO-Chairs effectively set their desirable pay level. A possible explanation is that CEO-Chairs have more complex jobs and, thus, merit higher salaries. Table 6 also demonstrates a significant positive relationship between firm size and Chairman cash compensation. The fact that the coefficient of firm size is positive indicates that Chairmen of the boards of directors in larger firms are more compensated than others in smaller ones, which may be explained as that larger firms are more sophisticated and, therefore, they call for high-quality Chairmen at higher salaries.

In conclusion, Table 6 shows that the Chairman's cash compensation is not affected by firm performance (measured by ROE). In addition, the results of the random effects model show that ownership concentration has no effect on the cash compensation received by the Chairman of the board of directors, indicating that concentrated ownership does not reduce agency costs in Jordanian non-financial listed firms. It can be seen in Table 6 that leverage has no influence on the Chairman of the board of directors' cash compensation. Moreover, time dummies do not appear to have a statistically significant effect on the cash compensation received by the Chairman of the board of directors. These results are similar to those of the CEO (shown earlier in the last column of Table 4), except that the parameter estimates are slightly different. Finally, the industry indicator appears to be insignificant in the case of Chairman cash compensation, indicating that the firm's industry identity does not affect its chairman cash compensation.

It is noteworthy that Chairmen of the boards of directors in Jordanian listed firms receive significantly lower compensations than CEOs. In most cases, Chairmen of the boards do not receive any salaries or emoluments, their compensation consists mainly of transportation allowances and meetings attendance rewards.

6. Conclusions and Recommendations

The objective of this paper was to investigate the impact of several variables on executives' cash compensation for a sample of non-financial firms listed on ASE during a four-year period (from 2010 to 2013) using panel data analysis. Overall, the descriptive statistics demonstrated that firms in both sectors are, to some extent, similar in terms of their CEOs' cash compensation, the dominance of duality, performance and leverage, despite the differences in terms of their size and ownership structures, as per the selected sample.

The findings of this paper have shown that role duality is positively and significantly related to CEO cash compensation, the positive coefficient of role duality means that the CEO-Chairperson can exert a powerful influence on the board members to compensate him more, positing that the CEO who also is the Chairman of the board of directors positively influences the level of his compensation. Furthermore, firm size (which tends to be the most powerful explanatory variable) has a positive and significant effect on CEO cash compensation, suggesting that larger firms pay higher levels of cash compensation to their CEOs. The results provided evidence that the firm's industry identity plays some role in determining its executive pay, but not its chairman of the board, indicating that CEOs' pay levels depend strongly on industry factors. Whereas, time dummies have no influence on CEO cash compensation, which may be interpreted as CEOs not being compensated for their expertise. A possible explanation is that, during the study period, firms suffered financially from the 2008-2009 global financial crisis, so they did not raise their CEOs' pay levels. These findings do not diverge much when the dependent variable is the Chairman of the board of directors' cash compensation. However, leverage is found to be positively and insignificantly related to CEO compensation, indicating that high-risk firms do not provide their CEOs with higher cash compensation. This can be explained as that executives in highly leveraged Jordanian firms do not require higher compensation in exchange for the financial risk, as increased risk (regardless of cause) will not be attributed to them. The results indicated that performance measures have not been found to have a statistically significant effect on the CEO and/or Chairman of the board of directors' cash compensation. This can be attributed to the fact that CEOs effectively decide on the level of their compensation regardless of the firm performance, suggesting that compensation contracts are not structured to enhance firm performance and promote firm value. Moreover, the results showed that ownership structure does not affect CEO cash compensation, which shows the inactive monitoring by the largest shareholders, indicating that concentrated ownership does not reduce agency costs in Jordanian firms.

In summary, the results suggest that executive compensation and ownership concentration may not be effective mechanisms for restricting the classical agency problem and aligning the interests of owners and managers in Jordan. More importantly, the results revealed a marked contrast between firms' performance and their executives' compensation. Regardless of the high poverty and unemployment rates in Jordan, Jordanian CEOs are "overpaid," considering the lamentable performance of Jordanian non-financial listed firms.

Based on these findings, Jordanian listed firms are recommended to (1) set a CEO compensation level that is justified and commensurate to firm performance, which is consistent with the agency theory. It is, therefore, imperative for firms to link CEO reward to corporate and individual performance, to counter the agency problem; (2) prevent the CEO from getting rewards in case of not achieving a predetermined target (profit). Moreover, impose meaningful rewards for superior performance and meaningful penalties for failure, and (3) improve corporate governance mechanisms by separating the Chairman and CEO positions. This way, the board will have the ability to effectively monitor the CEO and control his compensation since they will be subject to less CEO influence. Finally, further research on the determinants of CEO compensation should be primarily aimed at collecting a larger sample size. This is possible by either increasing the number of firms or extending the sample period. To produce a more general understanding of the issue on hand, it will be interesting to study the determinants of CEO cash compensation in the Jordanian banking sector. In addition, studying the interaction between ownership type (i.e., widely-held firms, state-controlled firms and privately-controlled firms) and CEO compensation is an avenue for further studies. Moreover, CEO ownership is another avenue for more research.

Declaration

The views expressed in this paper are those of the author and do not necessarily reflect those of the Ministry of Finance, or the Jordanian government.

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Notes

Note 1. Jordan's capital market is one of the largest and oldest markets in the area, it was established in 1978. In addition, it has many characteristics similar to other markets in the MENA region, among these characteristics is the pattern of ownership structure and corporate governance mechanisms. Therefore, the results of this study can be generalized to MENA countries.

Note 2. Article 4 of the instructions of issuing companies' disclosure, accounting and auditing standards for the year 2004 states that "The board of directors of the issuing company shall prepare the company's annual report within three months from the end of the company's fiscal year and shall provide the commission therewith. The annual report shall include: the benefits and remunerations of the Chairman, members of the board of directors, and senior executive management, during the fiscal year, including payments received by any of them, such as fees, salaries, bonuses, and otherwise, and their travel and transport expenses within the Kingdom and abroad," among other requirements. Source: Jordan Securities Commission website, (legislations and disclosure). Available at: http://www.jsc.gov.jo/public/mainEnglish.aspx?page_id=1454

Note 3. Amman Stock Exchange website. Available at: <http://www.ase.com.jo/en/node/543>

Note 4. For instance, technology and communication firms, utilities and energy firms and mining and extraction firms have to pay twenty-four percent of their total income as income tax. On the other hand, all other services and industrial firms have to pay only twenty percent of their total income as income tax. For further tax rates that all local and foreign firms operating in Jordan are subject to, see Article (11/B) of Jordan's new income tax law number (34) of the year 2014.

Note 5. The minimum wage in Jordan was 150, 150, 190 and 190 Jordanian Dinars for the years 2010, 2011, 2012 and 2013, respectively, which means that the average minimum wage during the study period was 170 Jordanian Dinars per month. Source: Ministry of Labor Annual Report (2013). Available at: http://www.mol.gov.jo/Eng/List/Annual_Reports

Note 6. The average wage per employee (senior officials and managers only) for both public and private sectors in Jordan for the years 2010, 2011, 2012 and 2013 was 1,283, 1,266, 1,282 and 1,321 Jordanian Dinars, respectively, which means that the average wage per senior manager during the study period was 1,288 Jordanian Dinars per month. Source: Department of Statistics website. Retrieved from: http://www.dos.gov.jo/owa-user/owa/employment.em_select?lang=E&dist_t=5

Appendix A. Sample

Panel A. List of the services firms included in the sample

Code	Name	Symbol	Classification
131022	Jordanian Duty Free Shops	JDFS	Commercial
131023	Jordan International Trading Center	JITC	Commercial
131062	Jordan Trade Facilities Company	JOTF	Commercial
131081	Specialized Trading and Investment	SPTI	Commercial
131228	Offtec Holding Group	OFTC	Commercial
131230	South Electronics	SECO	Commercial
131264	Comprehensive Leasing Co.	LEAS	Commercial
141058	Enjaz for Development and Projects	LIPO	Commercial
131052	Arab International Co. for Education and Investment	AIEI	Educational
131093	Ittihad Schools	ITSC	Educational
131220	Al-Isra for Education and Investment	AIFE	Educational
131221	Petra Education	PEDC	Educational
131222	Philadelphia International Educational Investment	PIEC	Educational
131002	Al-Bilad Medical Services	ABMS	Health Care
131207	The Consultant and Investment Group	CICO	Health Care
131279	Ibn Al-Haytham Hospital Company	IBNH	Health Care
141021	International Co. for Medical Investments	ICMI	Health Care
131003	Jordan Hotels and Tourism	JOHT	Hotels and Tourism
131005	Arab International Hotels	AIHO	Hotels and Tourism
131067	Zara Investment Holdings	ZARA	Hotels and Tourism
131078	Al- Sharq Investment Projects	AIPC	Hotels and Tourism
131098	Al-Dawliyah for Hotels and Malls	MALL	Hotels and Tourism
131211	Jordan Co. for Tourism Projects Development	JPTD	Hotels and Tourism
131235	Winter Valley Tourism Investment	WIVA	Hotels and Tourism
131261	Al-Rakaez Investment	RICS	Hotels and Tourism
131013	Jordan Press Foundation	PRES	Media
131030	Jordan Press and Publishing	JOPP	Media
131206	Jordan Telecom	JTEL	Technology and Communication
131232	Al-Faris National Company for Investment and Export	CEBC	Technology and Communication
131012	Jordan National Shipping Lines	SHIP	Transportation
131034	Salam International Transport and Trading	SITT	Transportation
131080	Jordan Express Tourist Transport Co.	JETT	Transportation
131208	Transport and Investment Barter Co.	NAQL	Transportation
131213	Royal Jordanian Airlines	RJAL	Transportation
131243	Masafat Specialized Transport	MSFT	Transportation
131262	Rum Group for Transportation and Tourism Investment	RUMM	Transportation
131288	United Group for Land Transport	UGLT	Transportation
141218	Al-Fatihoun Al-Arab PLC.	FATI	Transportation
131004	Jordan Electric Power	JOEP	Utilities and Energy
131010	Irbid District Electricity	IREL	Utilities and Energy

Panel B. List of the industrial firms included in the sample

Code	Name	Symbol	Classification
141009	Industrial Commercial and Agricultural Co.	ICAG	Chemical
141010	Premier Business and Projects	ACDT	Chemical
141026	Jordan Chemical Industries	JOIC	Chemical
141027	Universal Chemical Industries	UNIC	Chemical
141054	National Chlorine Industries	NATC	Chemical
141209	The Arab Pesticides and Veterinary Drugs Manufacturing	MBED	Chemical
141039	National Cable and Wire Manufacturing	WIRE	Electrical
141072	Arab Electrical Industries	AEIN	Electrical
141086	Comprehensive Multiple Projects	INOH	Electrical
141097	Middle East Complex	MECE	Electrical
141019	Jordan Pipes Manufacturing	JOPI	Engineering and Construction
141065	Ready Mix Concrete and Construction Supplies	RMCC	Engineering and Construction
141077	Rum-Aladdin for Engineering Industries	IENG	Engineering and Construction
141098	Arabian Steel Pipes Manufacturing	ASPM	Engineering and Construction
141208	Al-Quds Ready Mix	AQRM	Engineering and Construction
141002	Jordan Poultry Processing	JPPC	Food and Beverages
141029	General Investment	GENI	Food and Beverages
141052	Universal Modern Industries	UMIC	Food and Beverages
141092	The Arab International Food Factories and Investment	AIFF	Food and Beverages
141141	Jordan Vegetable Oil Industries	JVOI	Food and Beverages
141205	First National Vegetable Oil Industries	FNVO	Food and Beverages
141005	General Mining	GENM	Mining and Extraction
141006	Arab Aluminum Industry	AALU	Mining and Extraction
141011	National Steel Industry	NAST	Mining and Extraction
141091	National Aluminum Industries	NATA	Mining and Extraction
141170	International Silica Industries	SLCA	Mining and Extraction
141203	Travertine	TRAV	Mining and Extraction
141216	Jordan Oil Shale Energy Co.	JOSE	Mining and Extraction
141220	United Iron and Steel Manufacturing	MANS	Mining and Extraction
141003	Al-Arabiya for Investment Projects	APCT	Paper and Cardboard
141017	Jordan Paper and Cardboard Factories	JOPC	Paper and Cardboard
141023	Arab Center for Pharmaceutical and Chemical Industries	APHC	Pharmaceutical and Medical
141204	The Jordanian Pharmaceutical Manufacturing	JPHM	Pharmaceutical and Medical
141210	Hayat Pharmaceutical Industries Co.	HPIC	Pharmaceutical and Medical
141219	Philadelphia Pharmaceuticals	PHIL	Pharmaceutical and Medical
141100	Al-Ekbal Printing and Packaging	EKPC	Printing and Packaging
131097	Century Investment Group	CEIG	Textiles, Leathers and Clothing
141014	The Jordan Worsted Mills	JOWM	Textiles, Leathers and Clothing
141061	El-Zay Ready Wear Manufacturing	ELZA	Textiles, Leathers and Clothing
141048	Al-Eqbal Investment	EICO	Tobacco and Cigarettes
141074	Union Tobacco and Cigarette Industries	UTOB	Tobacco and Cigarettes

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