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Résumé de l'article

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Firm Performance and Executive Compensation in Australia and Canada*

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INTRODUCTION

Researchers have examined the determinants of executive compensation in specific reference to firm performance (Simon, 1957; McGuire, Chin and Elbing, 1962; Baumol, 1967; Ciscel and Carroll, 1980; Jensen and Murphy, 1990a, 1990b; Miller, 1995; Conyon and Peck, 1998). However, much of the empirical literature on executive compensation is largely based on data from the United States. Only recently has there been some research interest in executive compensation in other countries such as Britain, Canada, and France (Pennings, 1993; Magnan, St-Onge, and Thorne, 1995; Conyon, 1995; Barkema and Gomez-Meija, 1998). There is, in fact, a dearth of literature on comparative studies of executive compensation. In an effort to begin to fill this gap in the literature, the objective of this paper is to report findings of a study examining the effects of firm performance on cash compensation of corporate executives in Australia and Canada.

The paper is organized into three sections. The first section provides an overview of the literature on executive compensation and, in the process, identifies four influential variables: corporate size, firm performance, industry, and human capital attributes. The second and main section presents some preliminary results of survey data on executive compensation practices in large Australian and Canadian companies. It articulates hypotheses, postulates a simple empirical model, and reports and discusses the findings. The conclusions in section three shed light on the implications of this study for future research into executive compensation.

THEORETICAL UNDERPINNINGS

Many empirical studies of executive compensation have been motivated by theories of firms. In the crudest form of the neoclassical economic theory, the primary objective of a firm is to pursue an economic goal of maximizing profits. This, in turn, will maximize gains for owners or shareholders of the firm. However, with separation of control and ownership, managers or executives are given power to manage the firm. And this makes it feasible for managers to pursue their self-interest rather than the owners' or shareholders' economic interest in maximizing profits. Since goals of shareholders (principal) and manager (agent) are not congruent, managers may engage themselves in opportunistic

behaviour for maximizing their personal gains at the cost of the principal. This is the classical agency problem. Only above normal compensation can dissuade managers from pursuing opportunism. This then gives rise to various forms of incentive compensation. Consequently, executive compensation is constituted of three key components: cash compensation, typically consisting of a salary and bonus; a variety of perquisites and supplementary benefits such as insurance, club memberships, and other noncash rewards; and long-term incentives, which may include various forms of stock options and deferred compensation (O'Reilly III, Main and Crystal, 1988; Stroh, 1996; Ofek and Yermack, 2000).

The perquisites and supplementary benefits tend to represent a very small fraction, whereas the long-term incentive package may represent a significant fraction of the total compensation package. Since it is typically difficult to establish the worth of the long-term incentive component as the future value of stock options or performance shares is highly uncertain and difficult to value at the time awarded, there is very little research on its determinants. However, the determinants of cash compensation have been studied by many researchers (Ciscel and Carroll, 1980; Barkema and Gomez-Mejia, 1998). Four classes of variables have been found to be important—corporate size, firm performance, industry characteristics, and human capital attributes.

Sales, assets, and number of employees are typically the indicators of firm size. And the job of a CEO in a large firm is more complex and has more responsibilities than in a smaller firm. Also, a large firm has ability to pay higher level of compensation (Ehrenberg and Milkovich, 1988; Gomez-Mejia, Tosi, and Hinkin, 1987). According to Simon (1957), larger firms have more hierarchical levels and, because firms attempt to ensure adequate pay differentials between hierarchical levels, are likely to pay more to CEOs.

Researchers have also attempted to explain variations in executive compensation by using the “salesmaximization” hypothesis. It states that as firms grow, owners become dispersed and have trouble monitoring management. Therefore, executives pursue their own interests instead of trying to maximize shareholders' wealth (Scott and Tiessen, 1995). By increasing sales, they achieve greater prestige and eventually higher compensation. However, Lewellen and Huntsman (1970) came to a conclusion contradicting empirical findings of the earlier researchers. They found a statistically significant positive profit-compensation relationship and no relationship between sales and compensation. This unexpected result touched off a wave of additional studies over the next several years, but no clear resolution of the debate has emerged yet.

Firm performance is another important economic determinant of executive compensation. The economic argument here is obvious. Since the CEO is the individual responsible for the overall performance of the organization, rewards should be contingent on this criterion (O'Reilly III, Main, and Crystal, 1988). The empirical evidence on the link between performance and rewards is mixed, however. Stolley (1987), for example, has observed that when a board evaluates a chief executive's performance, “there are no rights and no wrongs, only grays.” Even more to the point, Gomez-Mejia, Tosi, and Hinkin (1987) have noted, “What is most intriguing in the literature investigating executive compensation is that, after controlling for size, researchers have not found the relationship between CEOs' pay and performance to be as strong or consistent as the classical economic theories would imply.” Nevertheless, some studies do show some correlation between changes in executive compensation and performance as indexed by measures such as earnings per share and return on equity (Lewellen and Huntsman, 1970). Masson (1971) specified stock performance in addition to rather than in place of profit, arguing that maximization of net worth may be a performance criterion partly independent of yearly firm profit. Further research has indicated that stock performance is a better predictor of CEO compensation than either sales or profit (Deckop, 1988).

Industry is the third economic variable that can be associated with CEO pay levels. Compensation consultants, for instance, have observed that there are industry-wide differences in top-management salaries (O'Reilly III, Main, and Crystal, 1988). Some industries have adopted conventions of paying higher or lower than others, independent of organizational characteristics such as size or performance. However, there are few empirical studies that demonstrate this relationship.

A final set of economic determinants sometimes postulated to affect productivity in the job and, hence, salary are human capital variables such as education, work experience, and tenure in the company (Hogan and McPheters, 1980). The logic underlying human capital considerations and pay levels is that individuals who have made personal investments in job-relevant skills and experience should earn a premium. Alternatively, CEOs hired from other firms may also command a premium as they tend to have more on-the-job training. Although such arguments can be applied to CEO compensation, the empirical evidence is not strong (Gomez-Mejia, Tosi, and Hinkin, 1987). Nevertheless, the length

of time an individual has served as a CEO may affect potential compensation, either through human capital factors or ability to manage the compensation-setting process, and should be considered as an independent variable.

There are also political and social factors that influence CEO compensation. For example, Westphal and Zajac (1994) used political theories to explain the adoption of long-term CEO incentive plans. The number of board of directors appointed by the CEO may be positively related to the CEO's ability to manipulate his or her compensation and that of other senior executives. This depicts managers as willing to manipulate their income through political means. Sharma and Fayyaz (2000) proposed a hegemonic power hypothesis and tested against the Canadian data, where hegemonic power was measured by CEO share ownership and options for share purchase. They found a modest positive effect of share purchase option on CEO cash compensation. In addition, social norms (custom) have always had a significant influence on the determinants of compensation of special groups including CEOs. However, as stated above, the objective of this research is to examine the effect of firm performance on CEO compensation in a comparative context. Hence social and political variables are not considered in this paper.

FIRM PERFORMANCE AND CEO COMPENSATION

Because of a lack of consistency of data and measures, country-specific information was used to examine the influence of firm performance on the growth of CEO compensation. The empirical methods used to analyse data and findings obtained are therefore discussed on a country-by-country basis.

Executive Compensation in Australia

The analysis of the Australian executive compensation utilizes a relatively new source of executive pay information disclosed in published Annual Reports since 1990. The main data source is the Australian Graduate School of Management (AGSM) Annual Report Files, which contains the top 500 Australian-listed companies by market capitalization. All companies whose 1991 and 1996 Annual Reports were on file are included in the sample with the exception of companies domiciled outside Australia. The executive compensation data were taken from these reports in the form of frequency distribution disclosed within \$10,000 bands for those executives earning greater than \$100,000. For these years, a total of 285 and 324 companies within the sample disclosed details of executive compensation in the format required. Excluded are companies that stated nil executives earned greater than \$100,000, and companies (predominantly Trust and No Liability Companies) that failed to disclose any pay information. Additional financial report information was obtained for the sample companies for 1990 and 1996 from the Australian Financial Review's "Shareholder" publication (1992 and 1997).

The executive compensation companies are required to disclose is defined in the Australian Corporations Law. It requires the inclusion of all income (that is, money, consideration or benefits), other than retirement and superannuation benefits, in its determination. Evans and Stromback (1994) suggested the following items would be captured: bonuses, commissions, salaries, allowances (for example, travel, accommodation, entertainment, and so on), automobiles, low interest loans, subsidized housing, and private payments such as school fees. As data are only disclosed for companies with executives earning greater than \$100,000, the sample was effectively censored at the lower end.

A brief description of the dependent variable data provided below demonstrates that Australian chief executive officers are paid considerably less than their overseas counterparts. Table 1 shows the total compensation of chief executive officers in Australian companies in 1996 to average just over \$500,000. While the data show little change in the upper or lower quartile range in the 1990-96 period, a greater rate of change can be seen in the lower quartile range in this period.

Table 1
Executive Compensation in 1990 and 1996
(\$000s)

| | 1996 | 1990 |
|---------------------------|-------|-------|
| Mean Executive Salary | 536.9 | 314.4 |
| Sample Standard Deviation | — | 363.6 |
| First Quartile | 179 | 160 |

| | | |
|----------------|-------|-----|
| Median | 356 | 230 |
| Third Quartile | 1,078 | 330 |
| Sample Size | 324 | 285 |

Executive compensation in Australia has been influenced by general salary administration principles such as the maintenance of internal equity, providing for an ease of compensation administration, and so on. It is suggested here that the application of such principles may be associated with two fundamental outcomes. First, organizations are treated as homogeneous entities within which issues of internal equity and external competitiveness are applied "across the board". Second, having established a set of internal relativities, jobs with approximately equal responsibilities are considered as relatively even contributors in producing the final corporate result. Under this approach, the determination of internal relativities is the primary building block for the compensation system. If so, the standard economic hypothesis that growth in corporate profit will automatically lead to a growth in CEO compensation may not hold.

Nevertheless, a simple statistical model for estimating influences of firm performance on the growth of executive salary is

$$\text{Base salary growth} = a + b_1 \text{ revenue growth} + b_2 \text{ profit growth} + e \quad (1)$$

where a is the intercept term, b_1 and b_2 are coefficients of revenue growth and profit growth variables respectively, and e is a standard error term of the equation.

A number of regressions were run using tobit analysis to estimate the coefficients in a censored regression model. The model with profit lagged by one and two years produced the following results:

$$\begin{aligned} \text{CEO compensation growth in 1991} = & 15.536 + 0.0002 \text{ profit growth 1989} + 0.0001 \text{ profit growth 1990} \quad (2) \\ & (0.9) \qquad \qquad \qquad (1.2) \\ & R^2 = .080 \\ & \text{Adjusted } R^2 = .065 \\ & F = 1.024 \\ & n = 269 \end{aligned}$$

Profit was measured by net profit after tax and extraordinary items and t-statistics are shown in parenthesis. As it is clear from the t-statistics for the estimated coefficients, a change in profit in the last year or the year before had no statistically significant influence on the growth of CEO compensation in 1990-1991. To examine whether there is any influence of scale of operation of businesses on the growth of CEO compensation, another regression was run using sales revenue and asset size as independent variables. The results are as follows:

Table 2
Regression Results for
Log of CEO Compensation, 1991

| INDEPENDENT VARIABLES | 1st Quartile Equation #3 | 3rd Quartile Equation #4 |
|--------------------------|-----------------------------|-----------------------------|
| Intercept | 3.2088 | 2.6748 |
| ln of sales revenue 1990 | 0.2001* (13.5) | 0.0653* (2.6) |
| ln of total assets 1990 | 0.2525* (15.1) | 0.1746* (6.4) |
| R2 | .3789 | .4531 |
| F-statistic | 183.3* | 124.8* |
| Sample size | 301 | 301 |

Notes:

Revenues, assets and compensation are calculated in thousands.

t statistics are shown in parenthesis.

* significant at the 0.01 per cent level.

As the t-statistics for estimated coefficients of the natural logarithms of sales revenue and total assets indicate, these two variables have statistically significant influence on the natural logarithm of CEO compensation in 1991. This supports the contention of Baumol (1967) that executive salaries appear to be far more closely correlated with the scale of operations of the firm than with its profitability.

Executive Compensation in Canada

As noted above, executive compensation consists of base salary, short-term incentives, long-term incentives, and benefits and perquisites. Performance bonuses make up the core of short-term incentives. Commonly used measures of performance for this purpose include return on equity, return on assets, earnings per share, operating income, development of new products or services, and change in market share. Stock option plans and stock grant plans are the core of long-term incentives. Pension, life insurance, "golden parachute" agreements, company car, club memberships, and liberal expense accounts constitute components of benefits and perquisites (Kanungo and Mendonca, 1997).

Laurent Beaudoin of Bombardier Inc. was the highest paid executive in 1996 in Canada. He received a total compensation of \$19,100,317 (nineteen million one hundred thousand three hundred seventeen dollars). However, he was recipient of the highest compensation in only one component – option gains.

Variability in terms of all components of executive compensation is remarkable. Table 3 presents the highest and the lowest range for different components of executive compensation in leading Canadian companies in 1996.

Table 3
Executives' Compensation in Leading Canadian Companies in 1996
(the highest and the lowest range)

| | Basic Salary | Bonus | Options Gains | Other Compensation | Total |
|---------|---------------------|--------------|--------------------------|-------------------------------|--------------|
| Highest | 2,045,400 | 7,810,293 | 17,544,000 | 296,486 | 19,100,317 |
| Lowest | 110,000 | 0 | 0 | 0 | 712,000 |

Source: John Saunders, *The Globe and Mail* (Saturday, April 12, 1997, pp. B6-B7).

Well, Laurent Beaudoin received \$19,100,317 in 1996. However, this figure is deceptive in that he received zero increases in all components of his compensation package but the option gains. His total compensation in 1996 would be the same as in 1995 if an exercised option gain amounting to \$17,544,000 is extracted. It can also be seen from Table 3 that the lowest amount of basic salary of a Canadian CEO was only \$110,000 – still more than three times the average earnings of average Canadian employees. However, the lowest amount of total compensation among 100 executives was \$712,000. This is an example of the complexities involved in the composition of executive compensation. In addition, several CEOs have unexercised option gains – some exercisable and some not yet exercisable. For example, Peter Munk of Barrick Gold had exercisable option gains to the value of \$60,000,000 although he did not exercise these options in that year. Similarly, Francesco Bellini of BioChem Pharma and Laurent Beaudoin of Bombardier respectively had \$35,000,000 and \$33,500,000 worth of exercisable option gains.

From these facts about executive compensation in Canada and the variability between the highest and the lowest ranges for each component of the compensation, it appears difficult to establish any pattern of executive compensation system. Bonuses and options are the key factors for this to happen. Hence we exclude these components in our statistical analysis.

The measure of executive pay used here is the growth rate of basic salary of executives in 1996. The growth rates of revenue and profit are the two independent variables hypothesized to have exerted significant influence on the growth of executive base salary. It is important to note that the actual measure of company performance and its specification for statistical analysis are still subject to debate. Data required to estimate equation (1) are obtained from the report referred to above, which was published in the *Globe and Mail*. The publication has reported data on absolute dollar values of

various components of CEOs compensation as well as growth rates of these components. The same publication also has data on revenue and on profit. Discounting for missing data, a usable sample of 72 firms was obtained for this analysis.

Estimates of equation (1) gives the following results:

$$\begin{aligned} \text{Base salary growth} &= 5.261 + 0.177^{**} \text{ revenue growth} - 0.005 \text{ profit growth} \quad (5) \\ (2.603) & \quad (0.385) \\ R^2 &= .092 \\ \text{Adjusted } R^2 &= .065 \\ F &= 3.488 \\ n &= 72 \end{aligned}$$

A t-test on the coefficients of revenue growth and profit growth indicates that the coefficient of revenue growth is significantly different from zero whereas the coefficient of profit growth is not significantly different from zero. As there might be a high correlation between revenue growth and profit growth, which may lead to a problem of multicollinearity, two separate regressions were run using only revenue growth or profit growth as independent variable. Only the revenue growth equation yielded significant results:

$$\begin{aligned} \text{Base salary growth} &= 5.174 + 0.170^{**} \text{ revenue growth} \quad (6) \\ (2.615) & \\ R^2 &= .0899 \\ \text{Adjusted } R^2 &= .0769 \\ F &= 6.913 \\ n &= 72 \end{aligned}$$

Given that shareholders in today's corporate governance system exert little influence with regard to executive compensation determination, the traditional reasoning that executive compensation is tied to a variable in which shareholders are interested is hardly tenable. This may be one reason why the profit growth showed no statistically significant influence on the growth of base salary growth. In fact, in an insightful piece, Jensen and Murphy (1990b:138) observed that "in most publicly held companies, the compensation of top executives is virtually independent of performance."

The empirical findings reported here indicate a significant influence of revenue growth on the growth of base salary of Australian and Canadian executives but no statistically significant effect of profit growth on the growth of CEO compensation. This is in line with what Baumol (1967:46) has noted, "Executive salaries appear to be far more closely correlated with the scale of operations of the firm than with its profitability."

CONCLUSIONS

This study has examined the determinants of the growth of executive compensation in Australia and Canada. Influences of growth of company performance (measured by revenue growth and profit growth) on executive salary were examined. The empirical findings show a statistically significant effect of revenue growth on the growth of executive compensation. However, profit growth does not seem to have influenced the growth of CEO compensation in a significant way, providing a limited support to the hypothesis advanced by Baumol (1967).

However, there are several limitations of this study. First, there will be some idiosyncratic country and company characteristics in many cases which will influence executive compensation in a significant way. This study has not captured this effect adequately. Secondly, executive compensation has several components. Increasingly, more companies have been rewarding their executives through use of incentive compensation such as share options. However, this study has focussed on cash compensation and benefits only. This calls for a closer look at the determinants of different components of executive compensation. Important areas for further research therefore include a detailed cross-country comparative analysis of the major institutional characteristics that impinge upon executive compensation; a systematic investigation of executive compensation and its relationship to corporate size, firm performance, industry and human capital attributes; and an examination of the long-term incentive package including various forms of stock options and deferred compensation.

Meanwhile, a lack of robust relationship between company performance and base salary growth of executives in leading companies in countries such as Australia and Canada provides sufficient justification for public discomfort about the fact that some executives are awarded millions in salary while so many ordinary workers have problems even

obtaining a modest living wage. There is neither a good theory to support nor a moral justification to condone these outrageously high salaries for executives.

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