

Executive pays and the goal of the management: a comparison of American and Japanese auto industries¹

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日本企業のコーポレート・ガバナンス構造は、欧米のそれと異なるといわれている。日本企業の経営目標あるいは企業行動を利潤最大化の行動原理で説明しようとしても説明しきれないものがある。これまでの実証分析から欧米企業と比べ、日本企業は短期的、長期的利潤率の数字をみても低い値を示している。その点に関して、日本企業が利潤の最大化ではなく、むしろマーケット・シェアの拡大や企業規模（あるいは市場成長率）の拡大、あるいは従業員の福利厚生を最大化を経営目標とする経営がなされるとの指摘がある。

標準的なミクロ経済学によれば、企業（即ち経営者）の目的は利潤の最大化にあるとされている。しかし、このドグマも Baumol (1959), Cyert & March (1963), Galbraith (1967) らからの批判を受けている。Larner (1966) は、標準的なミクロ経済学で述べられているような、単に利潤を最大化するだけの絶対的企業所有者はいないと指摘した。Uekusa と Caves (1976 : 10-12) や Komiya (1987, 1986) らも所有と経営の分離は、利潤最大化の原理から離れた経営目標をとる原因となると主張している。

Komiya (1987, 1989) は、日本企業が従業員の代表による労働者管理型 (labour-managed firm) と類似した性質をもつものと指摘した。一方、伊丹 (1987) は、これを人本主義的経営 (Human-capitalism / Peoplism) とよび、Miyazaki (1993) も従業員主権の経営 (Employeeism) とよんだ。更に、Blinder (1993) は、もし日本企業が従業員の福利厚生や従業員の効用を最大化するのが目的であるならば、企業の目的は利潤の最大化ではなく、むしろ売上高の最大化の戦略を採択する可能性を示した。

自動車産業などの寡占市場では、それぞれの企業が利潤の最大化に重きを置く経営をするか売上高の最大化に重きを置くかの選択が可能性であり、これらの戦略のウエイトは、企業文化、経営者のインセンティブによるものである。例えば、加護野 (1985 : 27-28) らの研究では、日本企業はより成長志向型の戦略を取るのに対し、欧米の企業は投資に対するリターンやキャピタル・ゲインを重視すると指摘した。更に、経済白書 (1992 : 228-231) でも、米国企業が ROE や株主に対するキャピタル・ゲインや配当を重視するのに対し、日本企業がマーケット・シェアや新製品を市場に出すことなどを重視していると指摘した。下川 (1994 : 38) によれば、日本の自動車産業の場合、従業員の福利厚生や賃上げを実現するための労使協調路線をとっている。

多部田 (1996, 1997) は、Blinder (1992, 1993) の指摘を検証をすべく、日米の自動車産業における成長率と利潤率を計測した。その結果、1963 年から 1995 年の期間で米国の自動車産業の平均成長率が 8.96 % であるのに対し、日本のそれは 17.53 % であるとの報告がなされた。さらに、同期間の平均総資本利潤率は米国が 0.0448 であるのに対し日本は 0.0365 であると報告された。Abegglen & Stalk (1985) や『経済白書』(1992 : 228-231) でも指摘されたように、日本の自動車メーカーは米国の自動車メーカーと比べ売上高最大化戦略 (あるいはマーケット成長志向) に重きを置いた経営をおこなったものと考えられる²。もし、日本の自動車メーカーがこのようなシェア拡大戦略を採択するとなれば、日本の経営者の金銭的報酬は何によって決定されるのであろうか？ また、米国の経営者のそれは何によって決定されるのだろうか？ そしてこれらの企業のとりうる戦略と経営者の報酬スキームとの間に整合性があるのだろうか？ 本稿では、これらの疑問に答えるために役員の金銭的報酬と経営目標³との間にいかなる関係があるかを簡単な回帰分析モデルを用いて検証する。

1. INTRODUCTION

In general, the corporate governance structure in Japan is believed to be different from its American counterpart. The perceived difference in governance structure is usually associated with different firm's objectives between US and Japan. The behavior of the Japanese firm looks puzzling when it is viewed throughout the prism of profit maximization dogma. Unlike US firms, Japanese firms seek to maximize growth, market share, or employee welfare.

Over the past few decades, orthodox microeconomic theory postulates that the sole objective of a firm is profit-maximization. This dogma has been criticized by number of economists, such as Baumol (1959), Cyert and March (1963) and Galbraith (1967). In the US, Lerner (1966), for instance, found that "there are no dominant owners" that merely maximize their profits, as described in the traditional microeconomic textbook. Rather, giant corporation of their ownership among many investors. In Japan, Uekusa and Caves (1976: 10–12), Komiya (1987, 1994) reported that the separation of ownership and controls causes a deviation of management from the "pure" profit-maximization principle. In fact, many experienced Japanese executives have suggested that this separation between shareholders and professional management provides a considerable degree of making autonomy for managers.

In an oligopolistic market like the auto industry, each firm may set up its own goal: maximizing sales revenue or maximizing profit. This difference in strategy may be explained by corporate culture, institutional arrangements, and executive incentives. For example, Kagono et al. (1985: 27–28) pointed out that Japanese firms show relatively strong growth-preference, while US firms empha-

size more on investment returns and capital gains. According to *Keizai Hakusho* (1992: 228–231) the principal objectives of American companies are: (1) return on equity or investment [ROE], and (2) capital gains for stockholders; while Japanese companies are: (1) gaining market-share, and (2) introducing new products. In the case of Japanese auto industry, Shimokawa (1994: 38) pointed out “Japanese automobile company unions settled for consensus approach with the aim of raising wages and welfare,” and employers were concerned more about employees’ welfare so as to establish a better cooperative long-run labor-management relationship.

Komiya (1988a, 1988b) has stated that management is a representative of employees and that the behavior of Japanese firms can thus be explained in terms of a “labor-managed” firm. Itami (1987) calls the Japanese system, “peoplism” or “human-capitalism.” Miyazaki (1993) calls it, “employeeism.” If the firm’s goal is to maximize employees’ utility, then what happens to the executive strategy of the firm? Blinder (1993) has developed a model to show that a typical large Japanese firm will behave like a revenue-maximizer if it seeks to maximize employees’ utility welfare, in addition to profit [see the proposition and its proof in Appendix].

Tabeta and Wang (1996, 1997) shows some evidence that Japanese automakers are revenue-maximizers, while US automakers are profit-maximizers. However, Tabeta and Wang’s studies do not explain how the pecuniary gains of top executive is determined if a firm is completely under the control of its top executive. In this paper, we, thus, examine the relationship between executive pays and the goal of management (i.e., the growth of market share vs. short-run profitability). Our main hypothesis is that executive pays of Japanese automakers are highly depend upon growth of market share or the size of market share

itself, while those of US automakers are associated with the short-run profitability.

This paper is organized in the following manner. In the next section, we discuss the goals of large Japanese firms. The basic empirical models and our main hypothesis are developed in section 3. Empirical results and discussion are presented in section 4. Section 5 summarizes and concludes this paper.

2. THE GOALS OF JAPANESE AUTOMAKERS: ARE THEY SEEK TO MAXIMIZE MARKET SHARE

As is discussed in the previous section, Japanese large firms, and automakers in particular, seem to set up their goals to maximize their market share. Tabeta and Wang (1977) found that from 1963 to 95, the average growth of US automakers is 8.96%, whereas that of Japanese automakers is 17.53% [see Table 1]. Using a t-test, the average growth rate of sales in US and Japan is statistically different at the 5% level of significance. The average profit rates over the same period are 0.0448 for US, and 0.0365 for Japan. Thus, Japanese automakers appear to be more interested in growing fast and gaining market share than in generating profits, compared to US counterparts.⁴ As a company comparison, Honda (i.e., 18.89%) and Toyota (i.e., 18.55%) are growth-oriented firms among them. These results seem to be consistent with Abegglen and Stalk's survey results (1985) and it also supports Blinder's statement (1992) that Japanese managers maximize growth, not profits.

One may ask why Japanese firms, or automakers in particular, seek to maximize growth.

Table 1 Growth Rate of Sales (1963–95)

Period/ Firm	Overall Period 1963–95	1963–1972	1973–1982	1983–1993
GM	0.0849 (0.1349)	0.0903 (0.1894)	0.0789 (0.1420)	0.0855 (0.0802)
Ford	0.0958 (0.1174)	0.1028 (0.1299)	0.0696 (0.1295)	0.1104 (0.1034)
Chrysler	0.1130 (0.1779)	0.1600 (0.1490)	0.0191 (0.1889)	0.1490 (0.1744)
American Auto Industry	0.0896 (0.0118)	0.0983 (0.1256)	0.0664 (0.1312)	0.1009 (0.0892)
Toyota	0.1855 (0.1085)	0.2487 (0.0855)	0.1467 (0.1225)	0.1666 (0.0986)
Nissan	0.1719 (0.1181)	0.2659 (0.1229)	0.1571 (0.0994)	0.1110 (0.0832)
Honda	0.1889 (0.1036)	0.2187 (0.0946)	0.2189 (0.1076)	0.1429 (0.0972)
Mazda	0.1526 (0.1539)	0.1781 (0.1351)	0.1706 (0.1751)	0.1192 (0.1563)
Japanese Auto Industry	0.1753 (0.0875)	0.2378 (0.0682)	0.1614 (0.0956)	0.1380 (0.0717)

Source: "Global 500 (200)," *Fortune* (various issues)

Note: Standard Deviations are shown in ().

Why do Japanese Firms in General Act Like Revenue-maximizers?

There are several reasons to explain why Japanese firms seek to maximize growth of market share. First of all, in Japan, expansion in firm size is a necessary condition to maintain the lifetime employment system and internal promotion. In order to provide more jobs and promotion opportunities for employees, firm size must be continuously expanded. Most of the firms are managed and controlled by managers who do not possess corporate-stocks and have been promoted within. As a result, the managers' top priority is to maintain harmony in the firm. This can be achieved only through providing more jobs and opportunities, and hence, a continuous expansion in firm size. Secondly, under the seniori-

ty system where both the wages and position of an employee are depend on the years of service; hiring more graduates from colleges or high-schools is more crucial to reducing costs, as it eventually leads to a build-up of advantages in respect of labor costs by keeping the average age of employees young. Obviously, this process must be accompanied by a faster growth of the firm. Thirdly, Japanese firms pursue the growth-oriented strategy because there is little external pressure for short-term earnings. It is true that "the duty of management [for both American and Japanese managers] is to use their funds effectively and to give them a return on their investment greater than they could have realized (Morita, 1987: 190)." This does not, however, mean higher divided returns in the case of the Japan. It is more important for managers to pay attention to growth of the value of the stocks, since tax rates on capital gains are lower than tax rates on dividends. Thus, Japanese companies could reinvest retained earnings to expand plant capacity, instead of paying out higher dividends to shareholders. Furthermore, in Japan, stockholders' influence on corporate strategy is rather weak, and the threat of a take-over on the public stock exchange is negligible due to the cross-share-holding of common stocks. Especially, after the dissolution of the *zaibatsu*, a decline in shareholders' influence on management allows professional managers to act on motives other than profit-maximization. Lastly, there is some possibility that administrative guidance and controls leads Japanese firms to act like revenue-maximizers.

In the case of US-Japan auto industry, Tabeta and Wang (1997) find that there is a positive correlation between the firm's long-run profitability and its growth rate of sales. In Japan, the firm's long-run profitability will be higher as the growth rate of firm-size increases. On the other hand, in US, there is a negative correlation between them. This indicates that Japanese automakers enjoy a merit of "economies of scale," while American automakers may be taking on the posi-

tion of “diseconomies of scale.” As an alternative explanation, since learning may be a function of cumulative output in the case of Japanese auto industry, by producing more output than its rival firms, average costs might be declined in the long-run. Therefore, those who can manage to gain their market share will earn higher long-run profits in Japan. This will provide the answer of why Japanese automakers go after an increase in share of market. If Japanese automakers seek for an increase in market share, then what is the incentive scheme for executive? Are top executive pays in the auto industry directly related to strategic choice; namely, the revenue-maximizing strategy? In the following section, models of executive compensation and the main hypothesis are described.

3. DATA, EMPIRICAL MODELS, AND THE HYPOTHESIS

Data

Our data base is derived from three primary sources. For the Big Three (i.e., GM, Ford, and Chrysler), information on the CEO's compensation (i.e., salary plus bonus) are obtained from *Forbes'* annual CEO survey over 1985–1995. Information on sales, profit, and total asset are obtained from *Fortune Global 500* (various issues). For Japanese Top Three (i.e., Toyota, Nissan, and Mazda), CEO's and firm's characteristics are obtained from the *Annual Corporate Reports* (*Yuka Shoken Hokokusho*) over 1970–1987. Because some data on CEO's compensation for Honda are missing, we exclude it from the sample. Since the *Annual Corporate Reports* report the aggregated expenditures of salary and bonus for executives, we use the average board of directors' compensation (i.e., total expenditures of salary and bonus payments for the board divided by the total number of executives in a firm) as a proxy of the executive compensation.⁵ It is important to note that stock option for the executives are not a common business practice in Japan. Thus, other income such as stock option is ignored as

a measure of the executive compensation.

Models of Determining Executive Compensation and the Hypothesis

To answer the question of how the pecuniary gains of a top executive is determined, several authors have attempted to develop executive compensation models. In general, their basic models are a function of sales revenue and profit. However, it is difficult to avoid multicollinearity since the level of profit and sales are often highly correlated with each other. Using profit are instead of the level of profit can be one way to avoid such multicollinearity. Indeed, early studies made by Roberts (1956) and McGuire et al. (1962) used the following estimation model:

$$(\text{Compensation}) = a + b (\text{Sales}) + c (\text{Profit Rate}): (1)$$

However, Lewellen and Huntsman (1970) criticized Robert's and McGuire's models since the residual variance about the regression function very likely increase with compensation; executive compensation, sales revenue, and profits are all larger as the firm size increases. This may create a problem of heteroscedasticity. Thus, Lewellen and Huntsman (1970) proposed to have the equation deflated by the size of the firm (i.e., total book-valued assets). They estimated an equation of the form:

$$(\text{Compensation}/\text{Firm Size}) = a + b (\text{Sales}/\text{Firm Size}) + c (\text{Profit}/\text{Firm Size}): (2)$$

In our estimation, to reduce a possibility of heteroscedasticity, the pooled time series data are used. We then model the CEO's compensation as a function of revenue growth and profit rate.⁶ The basic compensation equation is hence specified as:

$$\ln (\text{Compensation}) = a + b \ln (\text{Revenue Growth}) + c (\text{Profit Rate}) \\ + d (\text{Company Dummies}) + \text{error term: (3)},$$

where *Revenue Growth* at time t is defined as $\ln (R_t / R_{t-1})$, and *Profit Rate* is net income over total asset.

As we discussed in the previous section, Japanese automakers are taking the revenue-maximizing strategy, while US automakers are taking the profit-maximizing strategy. If so, one may ask how the firm's strategy affects its top executive compensation. Since the top executive determine the behavioral rule of the firm, the executive compensation must be related to his or her strategic choice. Therefore, we derive the following testable hypothesis:

Hypothesis: If Japanese automakers take the revenue-maximizing strategy, then their executive pays must be determined by gains of market share, or revenue growth. On the other hand, if US automakers are concerned about their stockholders (i.e., paying attention to obtain higher dividend returns), then their executive pays must be closely related to short-run profitability.

More specifically, in eq. (3), we expected the coefficient of revenue growth, b , is larger than the coefficient of profit rate, c (i.e., $b > c$) for the Japanese automakers, while $b < c$ for the US automakers.

4. EMPIRICAL RESULTS AND DISCUSSION

First, we have estimated eq. (1) and eq. (2) but there is multicollinearity for Japanese automakers. Table 2 thus presents the correlation coefficients between the logarithm of the executive compensation and the logarithm of sales revenue. The values of executive compensation have been adjusted by consumer price index (CPI), and those of sales by whole-sale price index (WPI). The CEO's compensation and sales are found to be highly correlated in the case of Japanese automakers (i.e., the correlation coefficient is 0.724), whereas they are weakly correlated (i.e., the correlation coefficient is 0.072) in the case of US automakers. This result is consistent with the fact that Japanese automakers seek to maximize their sales.

Table 3 shows the estimation result of eq. (3).⁴ We use *TSP* to estimate this equation with the time-series and cross-sectional data.

Since the first order serial correlation is observed for Japan, the *AR(1)* process is provided in the regression. On the other hand, there is no serial correlation for the US counterparts. Therefore, the *OLS* result is reported. The CEO's compensation incentive scheme in the Japanese auto industry is based solely on the growth of sales revenue, while it is based on both growth of sales revenue and

Table 2 Correlation between Sales
Revenue and Executive Compensation

Japan	US
0.7241*	0.0721

Sample Size: 54 Sample Size: 33

Note: \ln (Comp) vs. \ln (Revenue)

* indicates $p > 0.05$

Table 3 Regression Results of Eq (3)

	Japan ▲ (1970–87)	US ▲ (1985–95)
ln (Revenue Growth)	0.2690** (2.3975)	1.7782** (2.4746)
Profit Rate	0.4491 (0.6493)	3.5227** (2.0383)
DTO	3.2366** (26.7791)	—
DNI	3.1339** (29.8500)	—
DMZ	2.4324** (23.9279)	—
DGM	—	7.0755** (2.0383)
DFD	—	7.5783** (53.0136)
DCR	—	7.1848** (50.7001)
DW	1.6004	1.4140
Adjusted R2	0.9451	0.5090
Sample Size	51	33

Note: ▲ OLS is used in US, while AR (1) is provided in Japan.

t-values are shown in ().

** indicates 1% level of significance.

profit rate in the US auto industry.⁵ This has been evidenced by the insignificance of the profit rate in eq. (3) for Japan. In the case of the US auto industry, the CEO's compensation is more sensitive to profit rate (3.53) than to revenue growth (1.78). This implies that the stockholders in US are stronger, and for the sake of higher dividend returns, the management must be more sensitive about profitability, even if the separation of ownership and management causes the diverse objectives of managers. On the other hand, managers in Japan are more free from the restriction of short-term perspectives (i.e., profit-maximization) and they can set a long-term goal (i.e., growth of the firm). This is a very interesting fact-finding. The other point to note is the size of revenue growth elasticity

ty of the CEO's compensation for Japan. Although revenue growth for Japan is as statistically significant as that for the US, the size of the elasticity is much smaller than that for the US. This may be due to the fact that the data on CEO's compensation for Japan is the average compensation for a group of CEOs, while the data for the US is the compensation for a single top CEO. However, a more important explanation lies in the difference in enterprising culture: incentive schemes and reward mechanism are far more important for the US than for Japan.

5. SUMMARIES AND CONCLUSION

Our empirical findings are: (1) the correlation coefficient between the logarithm of the executive compensation and that of sales is very high for the Japanese automakers (i.e., 0.7241), while the correlation coefficient is very low for American counterparts (i.e., 0.0721); (2) the executive's compensation incentive scheme in the Japanese auto industry is based on the growth of sales revenue, while it is based on both growth of sales revenue and short-run profitability in the US auto industry; (3) furthermore, the executive compensation of US automakers is more sensitive to the short-run profitability than to growth of sales results. This result implies that the stockholders in US are stronger, and for the sake of higher dividend returns, the management must be more sensitive to short-run profitability. On the other hand, managers in Japan are more free from the restriction of the short-term perspectives (i.e., profit-maximizing strategy), and they can set a long-term goal (i.e., growth of the firm). This is a very interesting fact-finding.

In sum, our empirical results support the main hypothesis that executive pays for the Japanese automakers are mainly determined by a factor of the long-run

growth or gaining market share. On the other hand, executive pays for the US automakers are associated with factors of both the short-run profitability and growth of sales revenue.

APPENDIX

Proposition: If a firm concerns about workers' welfare, then the firm will behave relatively as a revenue-maximizer. That is, the firm will employ more workers than the profit-maximizing level of employment, and will produce more output than the profit-maximizing level of output.

Proof: Assume that a firm considers not only about profit but also the utility of employees or workers' welfare, which is assumed to depend on their earnings, $LU(w)$, where $U(\bullet)$ satisfies concavity and twice differentiability, and w , and L are the wage and the number of workers, respectively. Note that this utility function is similar to the one used by McDonald and Solow (1981). The firm then solve the following optimal problem:

$$\max_{L, \beta} (1 - \beta)\pi + \beta LU(w) = (1 - \beta)[R(L) - wL] + \beta LU(w)$$

where β is the weight attached to the workers. Thus, a large value of β indicates that the firm concerns more on workers welfare. Note that β takes between zero and one. First-order conditions are obtained as:

$$(A1): (1 - \beta)[R'(L) - w] + \beta U(w) = 0$$

$$(A2): -(1 - \beta) + \beta U'(w) = 0.$$

Substituting (A2) into (A1) to eliminate β , we obtain:

$$(A3): R'(L) = w - [U(w) / U'(w)] \neq w.$$

This simply shows us that the firm is not a profit-maximizer, since the marginal revenue product of labor is not equal to the marginal factor cost of labor (i.e., $MRP_L \neq MFC_L$). Surprisingly, the value of β is irrelevant to this conclusion if only the manager consider a small portion of β in the objective function.

If we further assume that the utility function is isoelastic function, then $U(w) / U'(w) > w$ is true. In this case, $R'(L) = w - [U(w) / U'(w)] < 0$. This case indicates that the firm will even hire more workers, and will produce

output more than the profit-maximizing level (i.e., $MRP = MFC$) at the cost of negative profit.

If the utility function of workers is assumed to be $U(wL)$, instead of $U(w)$. In this case, the workers' utility function, $U(wL)$, indicates that earnings are pooled and shared equally among workers.

We then obtained the following first-order conditions:

$$(A4): (1 - \beta)[R'(L) - w] + \beta wU'(wL) = 0$$

$$(A5): -(1 - \beta) + \beta U'(wL) = 0$$

Substituting (A5) into (A4) to eliminate β , we obtain: $(1 - \beta)R'(L) = 0$. Since $0 < \beta < 1$, $R'(L) = 0$. That is the marginal revenue product, $MR \cdot MP_L = 0$, and hence $MR = 0$.

This simply means that the firm maximizes revenue instead of profit. (QED)

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注

- 1 本論文の執筆は、多部田がおこなった。私の南洋工業大学の同僚であり、親友でもある Wang 博士には米国自動車産業データの収集ならびにデータの入力面での協力を得た。また、彼からは有益なコメントもいただいた。これらのご協力に感謝し本論文を共同論文の形で掲載するものである。
- 2 実際、多部田 (1996) では Blinder (1992) の議論をさらに推し進め、簡単なクールノーの複占モデルを用いて「相対的に売上高最大化戦略をとる日本企業の方が競争優位に立てる」可能性を示した。
- 3 ここでは、経営目標を売上高最大化ないしは売上成長率の最大化戦略と短期利潤率最大化の戦略に限定し議論を進める。
- 4 For example, GM set up the target-return pricing strategy, fixing the mark-up rate at 15 to 20% till the end of the 1970s (Kawahara, 1995: 103).
- 5 Note that the *Annual Corporate Reports* do not report the total expenditure of the CEO's base salary after 1988.
- 6 This model is similar to Xu (1992) and Joskow and Rose (1994).
- 7 In eq. (3), we tried to include other explanatory variables, such as age or tenure years of the CEOs, and total employment but they are not statistically significant at all.
- 8 Note that the CEO's incentive scheme in Japan seems to be close to the view of Williamson's managerial theory of the firm (1964), stressing the growth of sales revenue as a major firm objective, rather than Baumol's view (1959), suggesting that the manager-controlled firm is more likely to have sales revenue maximization as its main goal.