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Executive Compensation in Japan:

Estimating Levels and Determinants from Tax Records

ABSTRACT

Most studies of executive compensation have data on pay but not total income. Because exchange-listed Japanese firms (unlike exchange-listed U.S. firms) need not disclose executive compensation figures in their securities filings, most studies on Japan lack even good data on pay. Through 2004, however, the Japanese tax office disclosed the tax liabilities of the 73,000 Japanese with the highest incomes. We obtained this data, and match the high-tax list against the list of CEOs of the firms listed on Section 1 of the Tokyo Stock Exchange. We thus estimate salaries and risk exposure in a new way. We confirm survey and anecdotal evidence that Japanese executives earn less than American--- about one-fifth the pay, adjusting for firm size and outside income. Tobit regressions show that pay in Japan depends heavily on firm size (a .22 elasticity) and on accounting profitability, but not on stock returns. Additionally, family-owned firms and those with large lead shareholders pay less to employee CEOs not in the family or with large shareholdings, as do firms whose directors have less tenure on the board.

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I. Introduction

Most studies of executive pay use the data from regulatory filings by American firms compiled in ExecuComp, as detailed in Cadman, Klasa, and Matsunaga (2006). This paper differs in two ways. First, we look at executives in Japan, a country whose executive pay is much less studied because corporations need not report the pay level to government regulators. Even reliable information on the average level of pay in Japan has been hard to come by, much less information that can be used to study its determinants. Second, we look at executive income, not just the pay executives obtain from the corporation.

Publicly traded corporations in the United States must disclose not only financial accounting data but also detailed information on the pay of top executives, including how it breaks down into salary, options, and bonus. Since this is a disclosure requirement for the company and not the executive, it fails to include anything about the executive's income from other sources. Regulatory filings in Japan lack even this data—all that need be disclosed is the compensation of the board of directors in aggregate.

Our data consist of the income tax paid by the richest executives in Japan in 2004, plus company data from the securities filings of the publicly traded firms for which they work. The tax forms themselves are confidential, but until recently the Japanese government disclosed the identity and total tax bill of anyone paying over 10 million yen in taxes -- some 578 corporate presidents in 2004. We also have financial data on the companies for which they worked, and personal and company information on 813 other presidents whose tax bills we know must be less than 10 million yen (since they do not appear on the government list). We thus have a measure of an executive's total income from all sources.

The best-known comparison between American and Japanese executives is Kaplan (1994), which is limited to the largest 121 companies in Japan and takes as its data for CEO pay the mean amount paid to the on-average 22 members of the board of directors (the only compensation number that Japanese corporations must report). John (1999) also looks at average board compensation, but for 796 firms from 1968 to 1992. Japanese boards have fewer outside members than American boards, but given the size of the boards and the fact that many members work only part time, the aggregate compensation measure is a rough guide to the pay of the CEO. Furthermore, as Kato (1997) tells us, even this reporting requirement can exempt substantial cash compensation to executives. Other studies of Japanese executive pay, such as Abowd & Bognanno (1995), Xu (1997) and Kato & Kubo (2006), use data from surveys by management consulting firms. Although this data can be very rich (Kato & Kubo tracks 51 firms for 10 years), the selection of companies is nonrandom and samples are small.

Two studies, Kato & Rockel (1992) (on executive pay) and Kato (1997) (on the effect of belonging to a "keiretsu"), use the same tax-reporting data source that we do, but use the tax paid by 599 managers in 1985 instead of our 2004 data. A third study, Basu, Hwang, Mitsudome & Weintrop (2007) (on executive pay) uses four years of tax data on 174 firms from 1992 to 1996. Those studies use smaller samples and older data, and do not adjust for the presence of entrepreneurial executives with sizeable capital income. Moreover, they ignore the truncation and selection problems caused by the tax data's minimum tax requirement (that an observation with a large negative disturbance will drop out of the tax dataset). By contrast, we adjust for these problems and simultaneously incorporate information about executives earning less than the tax reporting threshold by using tobit instead of ordinary least squares.

To preview our findings: Japanese executive incomes are about one third of U.S. executive compensation. Adjusting for the fact that our income figure includes capital income and for firm size, we estimate that Japanese executive compensation is closer to one fifth that in the United States. This finding is important in itself, because previous estimates have been anecdotal or based on limited surveys. We also find that as in studies of U.S. executives, the most important determinant of pay is the size of the company. CEO income rises at 21% the rate of asset size, compared to rates around 30%

others have found for the U.S. and do not depend on average asset size of companies in the same industry. Pay also depends on accounting profitability, but not on stock price changes or profitability relative to the industry mean. Family companies, those with concentrated ownership and those with older directors pay less, while those with directors who have been on the board longer pay more.

II. The Data

Since we view the organization of a new dataset for executive pay as a major contribution of this paper, we begin by describing the data in some detail. Impatient readers who are willing to take the quality of the data on faith can skip to Section III.

A. The Executive Tax Data

Government filing requirements give the researcher plentiful data about the characteristics of large public firms in both Japan and the United States. Unlike American companies, however, Japanese companies need not disclose how much they pay their executives. Instead, the law requires only that they disclose the <u>total</u> amounts they pay <u>all</u> members of the board of directors together. The kind of government data used for studies of U.S. executive pay is unavailable for Japan.

Instead, we turn to data based on individual tax returns. These data are not provided by the employers, but by the executives to the tax office, which through 2004 (but not afterwards) published the names, addresses, and tax liabilities of taxpayers who reported high enough incomes.[1] The tax threshold that triggered public disclosure varied over the years, but in 2004 it was 10 million yen (about $97,000 in taxes at the end-of-2004 exchange rate of 102 yen/$). Japanese taxpayers pay a tax of 37 percent on ordinary income beyond 18 million yen.[2] For a crude approximation of income, you may

[1] For a brief period some 80 years ago, the United States also required tax bills to be published. See Kornhauser (2005).

[2] Shotoku zei ho [Income Tax Act], Law No. 33 of 1965, Sec. 89, as amended by Shotokuzeito futan keigen sochi ho [Act for Measures to Reduce the Burden of the Income and Other Taxes], Law No. 8 of 1999, as amended by Law No. 21 of 2005.

simply divide the tax liability by .37. To illustrate a more precise approach, in Table I we use standard deductions and credits to calculate actual income that would generate 10 million yen in taxes. By this approach, to owe the median tax bill of 10.5 million yen for executives from the top 100 firms (see Table III), a CEO would need to make 41 million yen ($401 thousand). By the crude approach, he would need 28 million yen ($276 thousand).

Insert Table I here

In 2004, some 73,000 Japanese paid 10 million yen or more in taxes, a small number of very rich people compared with the United States. Japan has about half the population of the United States and roughly the same median household income. Yet in 2003, U.S. taxpayers filed 536,000 returns with adjusted gross incomes over $500,000, and nearly 181,000 returns with incomes over $1,000,000 (http://www.irs.gov). According to Piketty & Saez (2006), the contrast is largely a function of the increasing dispersion of income in the U.S. since the mid-1980s.

Although the tax bills of the wealthy in Japan were public information, the government did not provide the data in convenient form. We therefore obtained our tax data from the Japanese affiliate of the D&B credit-rating service, Tokyo shoko risaachi (TSR, 2005), which uses the data for credit reports. In some cases, TSR added the professional affiliation of the taxpayers, in which case we generally followed its identification.

Starting in 2006, tax liabilities have become confidential. Under the newly passed Personal Information Protection Act, the government may not release a variety of private data, including tax liabilities.[3] Our 2004 dataset thus represents the last available installment for academic studies.

[3] Kojin joho no hogo ni kansuru horitsu [Act Relating to the Protection of Personal Information], Law No. 57 of 2003.

Because many executives even of very large companies pay less than 10 million yen in taxes, we do not have tax data on all executives. Our dataset is censored at the lower levels. Others using this data to estimate Japanese executive compensation (Kato & Rockel, 1992; Kato, 1997) have limited their studies to those executives who pay more than 10 million yen in taxes. This has three problems. First, the results do not necessarily apply to large companies which pay their executives lower salaries -- there is selection for companies with a policy of paying high salaries. Second, ordinary least squares and other linear estimators are biased because observations with negative disturbances are more likely to result in incomes below the threshold and drop out of the dataset. A technique should be used that takes into account this censoring. Third, not all available information is used if the study is limited to executives paying over the threshold. Although we do not know the exact incomes of the executives not in the tax dataset, we do know something about those incomes: they resulted in less than 10 million yen in tax. This is relevant information, and we have just as good information on characteristics such as age and company size for low-tax executives as for high-tax ones. Thus, we use the full dataset---selecting on the exogenous variable of stock exchange listing category-- and employ tobit, the standard technique for censored data.

B. Corporate Financial and Governance Data

The executives in our sample are the highest-paid employees of firms listed on Section 1 of the Tokyo Stock Exchange. In general, these firms are the very largest publicly traded firms in Japan. Because banks differ from other firms in a variety of ways -- particularly in how their accounting figures are to be interpreted--- we exclude them. This leaves us with a database of 1,568 executives and firms, summary statistics for which are shown in Table II.

We obtained most of our financial data on the firms from Nihon keizai shimbunsha (2005) and Toyo keizai shimpo sha (2005b). We incorporated stock price data from Toyo keizai shimpo sha (2005a), and obtained the identity of the executives and the composition of the boards in 2004 from Toyo keizai shimpo sha (2005d), which took the information from securities filings. Because firms generally list board members in order of importance, we collected information on the first two members listed, often but not always the president (*shacho*) and chairman of the board (*kaicho*).

Insert Table II here

C. Economic Income versus Taxable Income

1. The relationship. Most executives will report taxable incomes that understate their true economic incomes. Like their counterparts elsewhere, Japanese executives receive a wide array of untaxed perks from their employers (as estimated in Abowd & Bognanno, 1995). We know of no reason why the ratio of perks to money income would vary with the other variables in our study, but to the extent that firms that pay more in money offer fewer perks, our data will be noisier and it will be harder to find relationships between pay and other variables.

To the extent that executives have income from other sources, their taxable income will exceed their labor compensation. Being rich, many of these men will earn substantial investment income, and we do expect investment income to vary across the type of firms employing an executive.

2. Dividend income. For executives who are major shareholders at their firms, the tax data will include the dividends they earn from their firm, but for those who are not, the data will exclude those dividends. Through March 31, 2004, dividends (typically paid in June and December) were subject to a national withholding tax of 15 percent and a uniform local tax (collected by the national government) of 5 percent. After April 1, they were subject to a national withholding tax of 7 percent and local tax of 3 percent. Because the withholding satisfied an investor's liability with respect to that income, he was not required to include it on his return. Should he choose not to include it, the tax he paid on the dividends did not appear in our data.

In two contexts, tax law denied investors this option to exclude dividend income. First, they could not exclude dividends from firms unlisted on a stock exchange. Second, they could not exclude dividends paid by firms in which they held at least a 5 percent interest. Of the 1,431 presidents in our database, 174 held more than 5 percent of the stock in their firms.

Shareholders who held less than 5 percent of their firm's shares thus faced a choice: (a) they could pay the 7 percent national tax and exclude the dividend income from their returns; or (b) they could pay the 7 percent tax, include the dividend income on their returns, and take a credit against their aggregate tax liability. Because the dividend income would then be subject to the much higher marginal rates these executives faced on their other income, despite a dividends-received tax credit, they would generally have found it advantageous to pay the withholding tax and exclude the dividend income.[4]

3. Capital Gains. Nineteen percent of taxpayers reporting more than 30 million yen in income in 2004 reported some capital gains income (on securities, property, or some other asset).[5] On unrealized capital gains, they paid no tax. On their gains from the sale or exchange of securities, they did pay a tax in 2004 at a national income tax rate of 7 percent and a local tax rate of 3 percent, the same rates as for

[4] In 2004, the national government withheld taxes on 7.6 trillion yen in dividend income paid to individual taxpayers; those taxpayers included only 406 billion in dividend income on their returns. Compare National Tax Office statistics at http://www.nta.go.jp/category/toukei/tokei/menu/gensen/h16/data/02.pdf (amounts withheld) with http://www.nta.go.jp/category/toukei/tokei/menu/shinkoku/h16/data/01.pdf (amounts reported on returns) (last visited March 29, 2006).

[5] National Tax Office statistics, http://www.nta.go.jp/category/toukei/tokei/menu/shinkoku/h16/data/01.pdf (last visited on March 29, 2006).

dividends. In this context, the law did not distinguish between long-term and short-term gains. As with dividends, investors could elect whether (i) to satisfy the tax through withholding and exclude the gains from their returns, or (ii) to include the gains in their returns.

A rich taxpayer had no clearly best strategy for dealing with capital gains, unlike the optimal dividend strategy we just described. As the stock market began to recover in 2004, some investors would have found themselves with substantial capital appreciation. Whether our dataset captures any gains they chose to recognize by selling the stock, we cannot say. Regardless of whether an investor elected to include capital gains on his return instead of using withholding, he faced the same 7 percent tax rate. In either case he had the same right to carry forward any losses for three years. And in either case he had the same ability to time his gains and losses by choosing when to sell which securities.

Gains from the sale or exchange of real estate were taxed at separate rates, but not through withholding. Instead, investors had to include the gains on their returns. They paid a 15 percent tax if they held the property more than 5 years, and 30 percent if held it for 5 or less years.

4. Stock options. Stock options are far less important in Japan than in the United States, but since the late 1990s, Japanese firms have been able to offer their senior executives tax-favored stock option plans. Provided a plan "qualifies" under the tax code, an executive obtains a variety of tax benefits: he pays no tax when he receives the option; pays no tax when he exercises the option; and pays tax only at the very low capital gains rates when he eventually sells the stock he bought upon exercise.[6]

Suppose executive Z obtains qualified options to buy 10 shares at 10x yen (10,000 yen) each in year 1. With the shares trading at 14x yen in year 4, he exercises the options and buys the 10 shares for 100x yen. In year 5 he sells the stock for 220x yen. He would pay no tax in years 1 and 4, but he would pay tax on his capital gain of 220x yen - 100x yen = 120x yen in year 5. By contrast, suppose he obtained

[6] See generally Kato, Lemmon, Luo & Schallheim (2005); Sozei tokubetsu sochi ho [Special Tax Measures Act], Law no. 26 of 1957, Sec. 29-2.

unqualified options. He still would incur no tax liability in year 1. In year 4, however, he would have taxable compensation income of (14x yen - 10x yen)10 = 40x yen, and he would have capital gains of 220x yen - 140x yen = 80x yen in year 5.

To qualify for advantageous tax treatment, an option program must stay within several limits. The rules have changed over time, but in 2004 a program qualified only to the extent that an executive: (a) used options to buy less than 12 million yen's worth of stock ($117,000) in a year; (b) could not exercise the options less than 2 or more than 10 years after receiving them; (c) could not transfer the options; and (d) received out-of-the-money options, with an exercise price at least as high as the stock price at the time of receipt.

We take our information on the option programs outstanding from Daiwa shoken SMBC (2005). 29.1% of our firms have option programs (see Table II). For each firm, we know when the shareholders voted to authorize an option program. We do not know whether the program qualified under the tax code, or how many options each executive received (to the best of our knowledge, this information is simply unavailable).

We doubt that Japanese executives earn much option income not captured in our data. After all, if a firm gave its CEO <u>un</u>qualified options, he recognized taxable income (captured by our dataset) in the year of exercise. He avoided that recognition (and inclusion in the dataset) only if the firm gave him qualified options. Of course, this does not mean the executives in our dataset necessarily avoided option income. Those with deep-in-the-money options could have realized substantial untaxed (because unrealized) gains even on unqualified options. Recall, though, that the Japanese stock market as a whole has been volatile enough to make option value (and stock value) a very noisy signal of performance. From January 2000 to January 2005, the Nikkei 225 fell from 18,937 to 11,458 (see http://www.econstats.com/eqty/eqem_mi_4.htm), which helps explain why corporations use options less in Japan than in America.

Most executives probably earned only modest amounts of income through qualified options. First, the exercise price on the options had to be at least as high as the price of the stock at the time the executive received the option. Kato, Lemmon, Luo & Schallheim (2005: 443) peg the median exercise price of Japanese options at about 5 percent above market prices. Second, the executive could use the options to buy only 12 million yen's worth of stock (i.e., no more stock than he could obtain through an aggregate exercise price of 12 million yen). As a result, if the firm used a qualified plan our data missed only the gain an executive earned from an option to buy $117,000 in stock. Kato, Lemmon, Luo & Schallheim (2005: 444) estimate the median value of the options upon grant at $43,000 per board member.

If Japanese firms focus on tax-qualified option programs, they (like U.S. firms) seem to treat the options and cash compensation as complements rather than substitutes: they more often offer options to high-income executives than to low. Among the 593 firms with a president paying at least 10 million yen in taxes, 35 percent had adopted an option program by 2004. Among the 286 firms with a president paying at least 20 million 45 percent had, but among the 837 firms with a president paying less than 10 million only 25 percent had. Put another way, among the 416 firms with option programs, half had presidents who paid at least 10 million in taxes; but among the rest, only 38 percent did.

5. Other tax questions. Parenthetically, note the following: in Japan, couples may not file joint returns; taxpayers with rising incomes may not "average" their income across years; and pension payments are taxed at lower rates than salaries.

Understandably, wealthy Japanese resented the publication of their tax liability. To skirt disclosure, they could legally do one of two things. First, they could pay a penalty and submit their returns late. The tax office included on its list only those high-income taxpayers who filed within 2 weeks of the March 15 tax-return deadline. By filing after April 1, they could avoid publication. Second, they could file an initial return that included only income below the amount that triggered disclosure, and then add an amended return that included the remaining income. Because the tax office compiled its list only from the initial returns, this would avoid publication. We do not know how many taxpayers used either strategy.[7]

As at least a weak check on the reliability of our data, we compared an executive's 2004 tax liability with the average land price of the neighborhood in which he lived (obtained from Toyo keizai shimpo sha, 2005c). To maintain comparability, we limited our sample to executives living in the greater Tokyo area. If reported incomes were completely unreliable as an indication of true income, we would expect to find no correlation between reported incomes and consumption. In fact, the correlation coefficient between an executive's 2004 tax liability and his neighborhood's land values is 0.11 -- statistically significant at better than the 1 percent level--- so executives reporting higher incomes do live in more expensive neighborhoods.

III. How High Is Executive Income in Japan?

A. Levels of Income

In 2004, the highest paid CEO in the Forbes 500, Terry Semel of Yahoo, earned total compensation of $230.5 million, of which salary plus bonus was only $0.6 million and the rest was almost entirely capital

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[7] We have at least two cross-checks on the prevalence of avoidance strategies. First, in a study of Japanese attorney incomes, we have learned that one large law firm paid its equity partners by a strict age-graded pay scale. All of those equity partners did indeed appear on the TSR list, and in almost every case their tax liability matched their seniority. See Nakazato, Ramseyer & Rasmusen (2007). Second, we have independent data on the salaries paid to Japanese baseball players. 64 percent of the 173 players with salaries over 40 million yen appear on the high-income taxpayer list, 76 percent of the 123 players with salaries over 60 million, and 90 percent of the 84 players with salaries over 80 million yen.

gains. The 50th ranked earned $23.8 million, including $2.5 million in salary plus bonus, and the 250th earned $4.7 million, also with $2.5 million in salary plus bonus.[8]

The highest paid corporate executive in Japan, Tadashi Yanai of Fast Retailing (holder of the Uniqlo clothing brand), paid taxes of $10.6 million in 2004, implying the taxable income of $30 million shown in Table III. In America, 39 CEOs had compensation over $30 million. Reflecting the flatter income distribution in Japan, only two Japanese taxpayers in <u>any</u> walk of life earned more than Mr. Yanai. From the high end, incomes fall rapidly. The 5th highest paid executive in Japan earned only half Yanai's income, the 10th highest earned a third, and the 20th highest barely a fifth. Only 20 executives, and only 224 Japanese taxpayers in <u>any</u> endeavor earned over $6 million, whereas the pay of 211 corporate CEOs' in America exceeded that amount.[9]

Insert Table III here

As Table III shows, in the largest 100 non-bank firms in Japan the median highest paid officer earned $610,000; in the largest 500 firms, he earned $542,000; and in all firms he earned $401,000 (because these amounts include investment income, in Table IV below we estimate a lower bound for the compensation component).[10]

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[8] "CEO Compensation," *Forbes* online edited by Scott DeCarlo, April 21, 2005, http://www.forbes.com/2005/04/20/05ceoland.html.

[9] Keep in mind that being a CEO is not the only highly paid job in the business world. In Japan, as in the United States, other positions in finance-related industries can be even more lucrative. The top taxpayer on the TSR list is Tatsuro Kiyohara, of Tower Investment, whose tax of 36.9 million yen was three times the tax of the highest-paid CEO

[10] Several readers of earlier drafts asked how anyone could live in Tokyo on these salaries. The cost of living is indeed high in Tokyo, but it is high in New York too. According to one study (www.finfacts.com/costofliving.html, accessed Apr. 25, 2007), in 2006 the cost of living in Tokyo was just 19.1% higher than in New York. The western stereotype of stratospheric Tokyo prices are driven by the prices in the ex-patriate ghettos. In fact, even university professors live comfortably in Tokyo.

Figure 1 shows the distribution of taxes paid between 10 million and 50 million yen, which includes 504 of the 593 presidents with taxes over 10 million. The distribution is declining and convex with a long right tail, the power law distribution so typical of achievement.

Insert Figure 1 here

Comparing the median American and Japanese CEO figures for the top 500 firms, it seems that the Americans earn 8.7 times as much as the Japanese (= 4.7/.542). This is misleading, however, for two reasons.

First, within any country big companies pay more than small ones. American corporations are larger than Japanese firms, so picking the top 500 in each country skews the comparison. The 75th Japanese size percentile in our data had assets of 242 billion yen ($2.3 billion). Within the 192 to 292 billion yen range ($1.87 to 2.85 billion) our dataset contains 104 Japanese firms. Because 49 percent of their presidents were on the high-tax list, they had a median income of about 40 million yen ($400,000). Within the same size range of $1.87 to 2.85 billion, the COMPUSTAT database contains 151 U.S. firms. Their CEOs had a median total current compensation of just $1.5 million, not the $4.7 million of the Forbes 500. Thus, adjusting for size we would conclude that American executives earned 3.75 times as much as Japanese (=1.5/.4).

Second, our Japanese data is for income, but our U.S. data is for total compensation, as we will next discuss.

B. Labor versus Investment Income: Capitalists and Company Men

Executives have both labor and capital income. Studies of American executives can identify only labor income; our study of Japanese executives can identify only total income. This confuses comparison of the American and Japanese data.

We therefore divide our executives into Capitalists and Company Men. The former both own and manage firms. They thus earn substantial capital income only weakly related to their compensation as executives. The latter earn less capital income and, as a result, have total income more closely correlated to their labor income. We define a Capitalist as one of the 402 corporate presidents who either is one of the top ten shareholders of the firm (of which there are 273), or who serves at his family firm as defined in the Appendix (there are 229 such executives, with 110 of those also being top-ten shareholders). (We explore alternative definitions of Capitalist in Section V.b, below.) The minimum value of the shareholding of executives in the top ten is 813,440 thousand yen, equal to about 7.98 million dollars at the exchange rate of 102 yen/dollar. We lack information on shareholdings below the top ten.

Capitalists thus defined do indeed report higher incomes than Company Men. As illustrated in Table IV, the median Capitalist paid 57 million yen in taxes. Only 37 percent paid less than 10 million, while over 12 percent paid more than 70 million. By contrast, the median Company Man paid less than 10 million yen, and less than 1 percent (6 executives) paid more than 70 million.

. According to the aggregate data in Table III, the median president of the 100 largest firms paid taxes of 15.3 million yen--- suggesting a median income of about 534 thousand dollars. Table IV gives us the comparable figure for those presidents least likely to have outside income. The median Company Man president at the top 100 firms paid taxes of 14 million. Apparently, outside investment income may have caused the Table III estimates to exceed actual executive compensation by as much as 7 percent. Among the largest 500 firms, the median president paid taxes of 11 million (Table III). The estimate using Company Men (Table IV) indicates that the median president may have paid taxes on compensation income of about 10 million.

Insert Table IV here

Adjusting for both capital income and size of company, we estimate that American executives earn not 8.7 times as much as Japanese (the multiple ignoring company size) or 3.75 (the multiple adjusting for size but not capital income), but 5.2 times as much--- a typical CEO's compensation would be 5.2 times as high if his company were American rather than Japanese. Thus, we conclude:

***Finding 1**: Japanese executives earn 19.2% as much as American executives,adjusting for firm size.*

Studies often compare the ratio of executive salaries to those of ordinary workers. Kaplan (1994, p. 536) reports a ratio of 13.5 for the pay of US executives in 1983; Kato & Long (2006, p. 959) report ratios of 7 for China around 1998-2002, 4.2 for Japan in 1995-96, and 5.6 for Korea in 1998–2001. We estimate a ratio of 6.6 for Japan in 2004 for the income of the average Company Man to the average worker.[11]

IV. What Determines Executive Income?

A. Three Theories

[11] We used the 2004 average wage in manufacturing from the International Labor Organization, http://laborsta.ilo.org/. We estimate the ratio for an executive of the average-sized firm in our sample. Since such a firm's executive would pay on average less than the 10 million yen minimum tax for reporting, we use the predicted value of his wage from regression equation V-1 below, dividing the tax bill by .37 as explained above.

Having estimated the amount that Japanese executives are paid, the next question is why some are paid more than others. Theories of executive pay can be divided into three groups: market theories, incentive theories, and capture theories.

(1) Market theories focus on supply and demand, and explain pay patterns by how much a firm benefits from talented management and how much it needs to pay managers to take a difficult but prestigious job. High pay would be observed at a company with a special need for talent (e.g., the information-processing need studied in Henderson & Fredrickson [1996]) or a company whose CEO position was unattractive because of such factors as its location or scandal-ridden history. Low pay would be observed at a company where talent had a lower marginal product or where the CEO was willing to accept a lower salary because of a personal attraction to the company. Stewardship theories of management (e.g., Davis, Schoorman & Donaldson [1997]; Deckop, Mangel & Cirka [1999], Wasserman [2006]) are market theories to the extent that they describe situations where non-monetary incentives control manager behavior. Under these theories, actual compensation remains a function of what a company is willing to pay and what a manager is willing to accept. Under any market theory of compensation, pay-for-performance would have little effect on performance. Instead, incentive pay schemes more likely reflect factors like tax avoidance strategies.

If we were able to observe talent, a market theory would predict a clear correlation with pay. Consistent with this logic, Tosi, Misangyi, Fanelli, Waldman & Yammarino (1996) find that charisma—a form of talent—is related to pay and firm performance. Because most facets of talent are not observable directly, however, scholarly attention has focussed on firm size instead. Gabaix & Landier (2008) construct a matching model of the supply and demand for top executives and suggest (with supporting data) that a firm's market value and the market value of other firms in its industry explain the bulk of executive compensation. Holmstrom (2005) provides valuable informal comments on the importance of market value and benchmarking that support the Gabaix-Landier theory. It is also supported by the meta-analysis of Tosi, Werner, Katz & Gomez-Mejia (2000), who find that 40% of the variance in CEO pay in the United States can be explained by company size, compared to only 5% by performance. Kaplan & Rauh (2006) conclude that the recent rise in the incomes of the highest earning Americans—with special attention to executives--- represents returns to superstars and the impact of increases in firm size that make their talent more productive, (although they also cite technological change). Because we have only one year of data, we focus on firm size.

(2) Incentive theories proceed from agency theory to focus on the way firms structure compensation contracts to induce their managers to work hard and make appropriate decisions. These theories predict that managerial pay will increase with company performance. Because bigger agency problems require higher-powered incentives, they also predict that managerial pay will correlate with the risks that executives personally bear. Since Jensen & Meckling (1976) and Fama & Jensen (1983) there has been a tremendous outpouring of work, both theoretical and empirical, on the incentive effects of executive contracts, looking both at how executive pay and wealth vary with performance and how performance varies with executive incentives. Jensen & Murphy's (1990) much-cited study showed that a dollar value of increase in a company's value seemed to have too tiny an effect on executive wealth to be important. Since 1990, however, companies in the United States increasingly use stock options, and Conyon, Core & Guay (2006) find that the exceptional American use of incentive pay (with its need for a higher expected value of pay to compensate for risk) can explain why executive pay is lower in the United Kingdom.

In recent work scholars have focussed on the way firms vary in how they relate pay to performance. In effect, they make the compensation structure endogenous. Coles, Lemmon & Meschke (2007) and Edmans, Gabaix & Landier (2007) build structural models with a multiplicative production function in which effort and firm size are complements. Coles, Lemmon & Meschke use this and CEO risk aversion to explain why Tobin's Q (which measures a firm's opportunities as well as a manager's ability to create value from investment) is higher with moderate levels of the CEO's ownership of the firm than for low or high levels. Edmans, Gabaix & Landier combine the multiplicative form with the talent-matching model of Gabaix & Landier (2008) to show that the dollar/dollar sensitivity of pay to performance found to be so small by Jensen & Murphy (1990) should indeed decline with firm size, but that the dollar/percentage-change sensitivity (scaled by the level of pay) would be invariant to firm size and would deter a plausible amount of shirking.

These recent studies yield two lessons potentially relevant to our analysis of Japan. First, the sensitivity of pay to performance is endogenous. As a result, different structural models will imply different interaction terms for sensitivity with other variables. Second, where pay varies with performance, it may turn on rates rather than levels: pay may be sensitive to changes in percentage changes in profit rather than to dollar changes.

That pay is based on incentives compensation contracts may not be the most cost-effective way to motivate Japanese executives. Hypothetically, for example, contrary to the incentive theory perhaps non-material incentives are overwhelmingly important for agents at the income level of CEO's. Or perhaps boards can constrain agency slack more effectively by monitoring executives directly. CEOs are highly visible, after all, and may care deeply about their reputation with their peers and with the world at large. A particular example of this is the ability of the CEO to join the board of his own or another company, as has been studied in the Japanese context by Brickley, Coles & Linck (2000) and Rebick (1995). And perhaps incentive pay is simply too hard to implement rigorously and safely. Even if it could prove valuable in theory, top executives can too readily manipulate accounting numbers and the public release of information (as Jensen & Murphy [2004] warn).

(3) Capture theories focus on the relative balance of power between shareholders and executives. The most prominent modern example is Bebchuk & Fried (2004). If a firm's shareholders are few and can readily organize, for instance, it will pay its executives less than a firm "captured" by those executives. At the captured firm, the executives may stack the board with more generous directors, or appoint people more inclined to please them (the executives). Variations in pay, by these capture theories, will correlate more closely with the strength of a firm's corporate governance than with its need for talent or its need to incentivize its managers.

Scholars suggest a variety of ways to measure the strength of a firm's corporate governance. One set of variables relates to the board of directors -- its size, the proportion of inside directors, and the length of their tenure, all of which would be associated with weaker control. A second set relates to the concentration of ownership -- the number of large shareholders, whether they are corporate, family, or individual, and how much of the stock is held by executives. Bebchuk & Fried (2004) discuss these in depth, and Boyd (1994) and Coombes & Gilley (2005) find evidence that in the U.S. stronger board control is associated with lower executive salaries.

Governance clearly interacts with productivity. Coombes & Gilley (2005) find that stakeholder management is associated with less incentive pay, and Hartzell & Starks (2003) find that ownership by institutional investors is correlated with increased sensitivity of CEO pay to company performance. On the other hand, Brickley, Coles & Jarrell (1997) point to the value-increasing benefits of combining the positions of CEO and chairman of the board of directors and present empirical evidence suggesting that doing so does not result in lower performance by the firm. They note that firms which make the unusual choice to separate the positions do so for special reasons such as smoothing succession between one CEO and the next.

As with incentive pay contracts, governance structures are endogenous (Hermalin & Weisbach [1998], Himmelberg, Hubbard & Palia [1999]). Firms with apparently poor governance features may have chosen them for profit-maximizing reasons. Coles, Lemmon & Wang (2008) follow up on Coles, Lemmon & Meschke (2007) by adding to their model the choice of the proportion of outsiders on the board of directors. For a firm to employ outside directors has its downside, because outsiders are less well informed about the firm than insiders and so may make worse decisions. A profit-maximizing firm trades this off against the monitoring advantage of outside directors, which permits less risk to be imposed on managers by substituting for the effort incentive in the pay-performance link. Endogeneity is a serious problem for tests of the capture theory, because a firm which hires a more productive manager may have less need to oversee his performance and hence use a weaker corporate governance structure.

All three theories predict lower pay in Japan, market theory pointing to internal hiring which restricts competition across companies for CEO-level talent, incentive theory pointing to closer direct control by large shareholders which makes incentive pay less necessary, and capture theory pointing to that same direct control but as reducing CEO power to set salaries. Thus, our finding that executive pay is lower in Japan does not reject any of the theories.

B. A Combined Theoretical Framework

The market, incentive, and capture theories of executive pay each have their own implications, but they can be combined, as we will do in the model below. We will then explore which parts of the combined theory show up as significant in regression analysis.

Let us suppose that executive compensation is determined in a marketplace, but one complicated by incentives and capture. Let us use subscript i to mark executive-level variables, j to mark firm-level variables, and *ij* to mark variables resulting from a combination of executive *i* and firm j. On the supply side, executive *i* has talent t_i, and a risk-averse utility function increasing in the wage, w_i , but decreasing in effort, e_i:

(1) $$u_i = f(w_i) - e_i,$$

where *f* is a strictly concave increasing function. Executives choose firms based on the contracts the firms offer, and they have a reservation utility increasing in their talent: $\underline{u}(t_i)$, so that $\underline{u}'(t_i)>0$.

Assume that p_{ij} , the profit gross of executive pay, is a function of the base profitability of the firm b_j plus the marginal product of the executive, which in turn depends on his talent, his effort, the size of the firm *x*, various control variables such as age that we will represent by c_i, where only the base profitability, talent, and the size of the firm are observable by boards of directors:

(2) $$p_{ij} = b_j + t_i{*}e_i{*}x_j{*}c_i$$

As in Gabaix & Landier (2008) we use a multiplicative specification in which talent and size are complements, something which will be important in the empirical estimation.

If a board of directors wants its executive to choose other than minimal effort, it will have to use an incentive contract, based on observable variables. The exact form of the contract would depend on the exact form of the distribution of noise and on the executive's utility function, but we know that the realized value of w_{ij} will be a function of observed profit.

Let there be many potential executives of each talent level relative to the number of firms. In that case, executives will be willing to work for as low as their reservation level of utility. Combined with the need to induce high effort by imposing risk on the executive, this will determine the expected value of the market wage, $w_m(t_i)$.

The objective, v_j, of the board of directors at firm j is a combination of profit and a desire to overpay the executive, the balance of these two depending on governance slack, s_j---an index of features of the firm such as the percentage of inside directors. Letting z_j denote the overpayment at firm j (so $w_{ij} = w_m(t_i) + z_j$), we will specify the objective function as

$$(3) \qquad v_j = [p_{ij} - w_{ij}] + s_j{*}h(z_j)$$

$$= b_j + t_i{*}e_i{*}x_j{*}c_i - w_m(t_i) - z_j + s_j{*}h(z_j),$$

where h is an increasing function of z and the second line substitutes for the profit function from equation (2).

The board of directors chooses the levels of talent t_i and overpayment z_j to maximize v_j. If $s_j=0$ then the firm maximizes profit. Since the marginal utility of z_j is increasing in governance slack, s_j, more slack will lead to higher z_j and a higher wage relative to the market wage. Since size and talent are complements, and the market wage rises with talent, the board of a bigger firm will choose a higher level of talent. Since higher levels of talent cost more because of higher market wages, bigger firms will be seen to pay higher wages for a given level of slack.

The market will be in disequilibrium in the sense that executives would prefer to work at a firm with more slack and there will be excess supply for such jobs. It will be in equilibrium, however, in the sense that the boards at such firms derive utility from the overpayment and would not accept an offer from an executive to work for lower pay.

Thus, we have a model in which executive compensation rises with the size of the firm via the more expensive high talent that bigger firms hire, with profits via the need to induce effort; and with governance slack via the desire of boards to overpay executives, and with other variables such as age that might affect an executive's marginal product. We will not attempt to solve for this model's wage equation, which will depend on such unobservables as the executive's utility function and how reservation utilities depend on talent. Rather, we will estimate a reduced form to see how the wage depends on size, profit, governance, and control variables, and we will try various measures of those variables.

The model is limiting in several respects. It assumes that executives have the same utility as a function of compensation, where in fact we would expect the marginal utility of compensation to depend on wealth. Wealthy executives will tend to invest in ways that diversify away some of the risks specific to the firms they run. As a result, to motivate them to maximize firm value, rational employers might pay them a riskier compensation package then they would pay an executive without that diversified investment portfolio.[12] In addition, to the extent that an executive's capital income comes from investments outside the firm his income—which is what we measure—will not vary with the firm's profitability. We will adjust for this in the same way we did when estimating executive compensation, by separating out the Capitalists.

Separating out the Capitalists is also important because the effect of governance slack could be very different for the companies they run. Concentrated ownership, for example, can reduce governance slack by giving the lead shareholders ample incentive to monitor the board of directors, but if ownership is concentrated in the CEO, the concentration will increase governance slack in our model, as the board will weight profits (which must be shared with minority shareholders) less and overpayment more.

Endogeneity is an additional problem. The stake that an executive holds in his firm depends on his compensation. If he earned a high salary in 2004, he probably earned high salaries in several preceding years too. Indeed, the 593 presidents who appeared on the high-income taxpayer list in 2004 had

[12] To the extent presidents do not diversify, of course, firms would not need to pay them higher powered compensation packages. Our Capitalist dataset below includes presidents who hold very large interests in the firm.

appeared a mean 7.3 times; 322 had appeared at least five times, and 155 had appeared at least ten. Over the years, no doubt they saved some of their earnings, and many invested those savings in the firm. Necessarily, then, any corporate governance variable involving the shares held by the president himself is endogenous. In addition, as we will see below, any test of the capture hypothesis is plagued by the possibility that governance variables are endogenously chosen to increase productivity at a given firm rather than to protect the executive. Crucially, however, this is a problem for any study of executive compensation -- it is not caused by our aggregation of capital and labor income.

C. The Variables

The next step is to choose observable measures of executive compensation and firm size, profit, and governance slack, and to decide what control variables to include. The Appendix contains detailed definitions of the variables, but we will explain them here in enough detail for the reader to understand the regressions.

The first set of variables is at the level of the individual executive. We will use an executive's tax liability as our proxy for income. We will use a logarithmic specification in accordance with the common finding of a constant elasticity of pay with respect to firm size. Our data also includes the total number of appearances an executive has made on the high-income taxpayer list conditional upon appearing in 2004, and we will also try using this cruder proxy for income. A number of other executive-level variables might be expected to affect an executive's income. These include whether he holds positions at multiple firms, his share holdings in the firm which employs him, and his age, all of which we would expect to increase income.

Other variables are at the level of the corporation. We have several possible measures for size, which we expect to have a positive effect on executive income. The most conventional is the amount of the firm's assets, but we also will try the firm's market capitalization and its sales. To test the incentive theory, we will use the firm's return on assets and its stock price growth. We will also include a variable for whether the firm had an option program for its executives, which we would expect to increase income under the incentive theory, and for whether the firm used American-style SEC accounting in its public reports. We do not know what effect this might have on executive pay, but since it affects the levels of variables such as assets we include it as a conditioning variable.

The governance variables that we use to test the capture theory are also at the firm level. Here, the difficulty of choosing variables becomes greater. ``Governance slack'' could have more than one cause, and what indicates slack at one company might not at another. The first variable we include is whether the firm is a family company (of a family other than the CEO's), as measured by two board members having the same last name or a board member having the same name as the company. A family company might have tighter governance because of historical continuity with control by the founding shareholders, and so would pay less under the capture theory. Concentration of ownership would also result in tighter governance, since the executive could not so easily control elections to the board of directors, so we will use two measures of concentration: the fraction of the company owned by the top five shareholders, and the fraction owned by members of the board other than the executive. The size of the board would matter if a large board results in less effort by board members, and a large board would result in higher pay. The percentage of independent, non-employee, directors is the variable that has attracted the most attention in reform efforts, and would tighten governance and reduce slack. Finally, one might expect that if the average tenure of board members is higher or they are older, their interests would be more aligned with those of the CEO and his pay would be higher.

D. Regression Results

1. *Main results.* Table V shows the results of four specifications of a tobit regression for the determinants of executive income (as explained earlier, we use tobit because we do not observe tax bills under 10 million yen). All specifications include industry dummies and a dummy for whether the firm followed American-style SEC accounting rules.[13] In specification (a) we aggregate Company Men and Capitalists; in the others we keep them separate. In specifications (a) and (b) we include only firm size and profitability variables; in specification (c) we add variables such as age that potentially capture executive productivity; and in specification (d) we add variables that potentially reflect governance slack. Specification (d) thus estimates the full theoretical model described above. By contrast, in specifications (a), (b), and (c) we assume that the full model's governance slack variable, *s,* takes the value of zero.

[Insert Table V here.]

According to specification (a), executive income has an elasticity with respect to firm size of .18 and increases with profitability (the semi-elasticity is 4.7%). It does not increase with stock price growth. Because the regression aggregates executives with and without capital income, however, we take these conclusions with caution, and focus on the next three regressions. There, we disaggregate the two groups of executives.

2.*Exposition*. First, let us explain the presentation of regressions (b), (c) and (d) in Table V (and the regressions in the remaining tables). For each regression, we provide two columns. Column (i) gives the variable's effect on Company Men, and column (ii) gives its additional effect on Capitalists. These two effects provide fundamentally different information. The effect on Company Men gives the pure

[13] As Table V shows, the accounting system does not come in significant. We do not report the industry dummies, but they turn out to be unimportant (though note that we have excluded banks from our sample already).

effect of the variables on executive pay (though many Company Men do earn some capital income). By contrast, the extra effects on Capitalists potentially come from two sources: from the CEO's investment income, and from any pay difference caused by varying levels of governance slack among CEO-controlled firms.

More specifically, each of these two effects gives the marginal effect on the log of an executive's tax liability of an increase in the independent variable, as computed at the median.[14] The number 0.263 in column (b-i) indicates that a rise of X in the log of company assets increases the log of executive income by .263*X. Because both variables are in logarithms, the elasticity of income with respect to assets is +26.3%. The number -0.034 in column (b-ii) is the additional effect for Capitalists -- which we take from the coefficient on the interaction variable **Log(Assets)*Capitalist**. Hence, the total elasticity of income with respect to firm assets for Capitalists is .263 + .034 = .297.

Much the same interpretation applies to the t-statistics. The t-statistic of 8.87 on the coefficient 0.263 tells us that the effect of assets on pay is significantly different from zero for Company Men. The t-statistic of 0.60 on the coefficient 0.034 tells us that the effect of assets on pay for Capitalists is insignificantly different from the effect of assets on that of Company Men. To test for whether the effect of size on the pay of Capitalists is significantly different from zero, we need to do an F-test test on the sum of the coefficients. Doing so yields the highly significant F-statistic of 34.09.

Discrete variables must be interpreted somewhat differently. The number 6.732 in column (b-i) is the constant. It represents the effect on **Log(Tax Liability)** of simply being in the dataset. The number .805

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[14] In many tobit regressions (e.g., those in Ramseyer & Rasmusen (2003)), the regression coefficients have little meaning in themselves and must be converted to "marginal effects" by seeing how their effect on the underlying indicator variable translates into a change in the expected value of the observed variable. That does not apply here. Here, we use tobit because we do not observe the exact levels of taxes paid if they are below 10 million yen, not because the minimum level of taxes an executive can legally pay is 10 million no matter what his income. We are not interested in how independent variables affect the expected "observed level of taxes", which is usually the censoring bound of 10 million, but in how they affect the taxes themselves. A predicted level of taxes below the censoring bound—8 million, for example--- makes sense in our regression, unlike in the typical tobit setting. Thus the tobit coefficient itself, the "linear predictor", is the correct measure of the marginal effect.

in column (b-ii) is the effect on **Log(Tax Liability)** of being a Capitalist, computed using a "**Capitalist**" dummy. Accordingly, the conditional mean log income tax for Capitalists is 6.732 + .805 = 7.537. For discrete variables that have small effects (e.g., **Option Program** in column (c-i), with its marginal effect of 0.187), the effect is close to the percentage increase. For an increase in its log from 6.732 to 7.537, however **Tax** rises not by 80.5% but by 124%.

3. Executive-level variables. Specifications (b) and (c) reflect a model that excludes the capture theory a priori (in effect, a model that assumes $s=0$). We include regression (b) as a robustness check because it uses only the variables most commonly included in executive pay regressions. In this simpler specification, the impact of size, profitability, and stock growth is much the same as in specification (c). Given that specification (c) includes the executive-level variables, we shall focus primarily on it in the discussion below.

Specification (c) shows that income rises with the size of the company for both types of executives. Studies based on U.S. ExecuComp data reach much the same conclusion. In their various specifications, for example, Gabaix & Landier (2008) find elasticities ranging from .26 to .37. For Company Men, we find that income rises by 2.17% for each 10% increase in size. For Capitalists, we find no significant difference. Thus we obtain Finding 2.

Finding 2: *Executive pay in Japan rises with company size at a rate of 2.17% for each 10% increase in assets.*

An increase in a firm's stock price raises the income of Capitalists but not of Company Men. This phenomenon is what one would expect -- not from any need for incentives, but simply from their stock ownership. By contrast, profitability measured as return on assets has a positive and significant effect on the income of both groups of executives. Thus we obtain Finding 3.

Finding 3: *Stock price growth fails to explain differences in the incomes of employee CEO's in Japan, but their incomes do rise by 3.4% with each additional 1% of accounting profitability.*

Studies of American CEOs beginning with Jensen & Murphy (1990) have routinely found that performance has a small effect on CEO pay. We find that a 1% increase in the level of performance (e.g. from 4% to 5%) is associated with a 3.4% increase in pay (at that starting level, an elasticity of .14). Using Japanese tax data similar to ours, Basu, Hwang, Mitsudome & Weintrop (2007) similarly find a positive effect of accounting profit on executive income, but they do not distinguish Company Men from Capitalists.

Using survey data on a panel of 51 Japanese firms from 1986 to 1995, Kato & Kubo (2006) find that return on assets has a statistically significant effect on executive pay, but at a lower magnitude: a 1% increase in performance leads to a 1.4% increase in pay. In part, their lower magnitude could result from a difference in the period covered: their data include the years before and during the 1990s recession, while our year dates after its end. Or, the differences between Kabo & Kubo's results and ours might reflect the different methodology. We use cross-sectional data from one year to ask whether performance explains pay differences among firms. By contrast, Kato & Kubo use panel data to ask whether year-to-year changes in performance at a single firm affect the CEO's pay. If executives at more profitable firms earn higher pay, that difference would be captured by their firm-level fixed effects and would not appear in their 1.4% increase. We find that more profitable firms pay more; they find that firms which become more profitable pay more.

Our executive-level control variables generate several significant results. First, Company Men who hold positions at multiple companies earn higher incomes (the coefficient is .395), but the total effect of such multiple positions on Capitalists (.127 = .395 - .268) is insignificantly different from 0 (F=.60). Of the 1,048 Company Man presidents, 12.5 percent held multiple positions, but only 9.7 percent of the 383 Capitalist presidents did. Perhaps the Capitalist presidents do not earn additional income from their multiple positions because they hold the extra positions at affiliate firms. Hajime Satomi, for example, served as president and board chairman at the Sega Sammy Holdings entertainment empire, but also worked as president of the constituent video-game firm, Sammy Networks. Toshifumi Suzuki simultaneously served as chairman of the board of the Ito Yokado supermarket chain and the affiliated convenience store chain Seven-Eleven Japan. We hesitate to push this explanation, however, because of the few presidents involved. Only 20 presidents of family firms in our dataset held additional board positions, and only 27 presidents who qualified as top-10 shareholders did so -- and 10 of the two groups overlapped. With so few datapoints, the phenomenon could also represent an artifact of small numbers.

Second, Company Men who hold positions at firms with option programs also earn higher incomes (the coefficient is .187), but the total effect of the programs on Capitalists (.030 =.187-.153) is again insignificant (F=.11). Of our Capitalist presidents 40 percent had an option program while only 25 percent of the Company Men did.

Third, an executive's income increases with age, at about 2.2% per year. This phenomenon holds whether he is a Capitalist or Company Man.

Finally, an executive's income increases with the value of his shareholdings. Unfortunately, we have shareholding data only on the Capitalists -- our data extend only to the top 10 shareholders, and by definition all such shareholders are Capitalists.

4. Governance variables. Specification (d) includes our governance variables.[15] First, firms controlled by a family other than the executive's own family pay Company Men presidents less, with a coefficient of -.234. For Capitalists, the total effect is insignificant (F= .14, p=.71).

Second, firms in which the top 5 shareholders hold a large interest pay Company Men less (a 0.5% decline per 1% increase in top 5 ownership), though the effect is significant only at the 10% level. By contrast, they pay Capitalists significantly more (a highly significant net effect of -.5 + 2.0 = 1.5 percent, F = 11.98). This accords with the idea that slack governance may result both from dispersed ownership when the CEO is not a major owner, and from concentrated ownership when the CEO is himself one of the controlling owners.

Third, firms whose directors have long tenure pay Company Men more, but those with an older board of directors (conditioning on board tenure) pay them less. The tenure effect is consistent with the hypothesis that presidents "capture" long-running boards, but the age effect contradicts the capture theory's prediction that longer relationships will make for easier capture.

The other governance variables do not have statistically significant effects for either Company Men or Capitalists. Observers have sometimes argued that board members with large ownership stakes would monitor the firm more closely. In fact, firms where board members other than the president hold large amounts of stock do not pay their presidents less. Observers similarly argue that small boards may monitor a firm more closely. In fact, firms with small boards do not pay their presidents less either. And observers often argue that independent directors will monitor the firm more closely. Again, firms with higher percentages of independent directors do not pay their presidents less.

A test for all the governance coefficients equaling zero rejects that hypothesis with F= 8.43, which is highly significant. Finding 4 summarizes our results.

[15] In earlier versions of this article, we also included a dummy variable for whether a firm had adopted a "U.S.-style" board committee structure available under the new Japanese corporate code. Consistently, the calculated coefficients were insignificant. Unfortunately, inclusion of the variable in the specifications used in this version cause tobit not to converge. Accordingly, we have omitted the discussion of this variable.

Finding 4: *Family companies, firms with more ownership concentrated in the top 5 shareholders, and those with older board members have employee presidents with lower incomes, while employee presidents whose board members have longer average tenure have higher incomes. Board size, the percentage of outside directors, and the stock holdings of directors other than the executive have no significant effect.*

Although Finding 4 lends some (albeit haphazard) support to a "capture" theory of executive compensation, the results are generally also consistent with a market theory. Family companies and firms with more concentrated ownership might have greater control over employee executives, for example, but that very fact means that they have less need or desire for a more talented (and expensive) executive. Shareholders in firms with longer-running boards may retain the board members because they have done so well. If those boards pay their presidents high salaries, perhaps they pay them well because the executives perform well on dimensions unobserved in the regression.

Several differences between our results and those of Basu, Hwang, Mitsudome & Weintrop (2007) stem from their decision not to distinguish between presidents with larger and smaller stakes in the firm. For example, they find that the share of the firm owned by board members has a significant positive effect on executive pay, where we find a negative effect for Company Men. They correctly note that this positive effect might reflect capital income -- an observation that would reconcile our findings with theirs. They similarly find that family firms (defined somewhat differently) have higher executive incomes. Again, however, they note that this may reflect the fact that family executives earn substantial investment incomes.

5. *Accounting rules.* Whether a firm uses Japanese or U.S. (SEC) accounting rules has no significant effect on observed tax liability. We experimented with interacting the accounting variable with **Profitability**. If we take the simple specification (a) of Table V, for example, whether we include **SEC Accounting*Profitability**, the coefficients on **Profitability** and **Profitability*Capitalist** remain largely unchanged. The coefficient on **SEC Accounting*Profitability** itself is insignificant.

6. *Explaining Differences in Incomes from 2003 to 2004.* The panel data available to us is limited, but we do have data for the amount of income tax paid in 2003 as well as in 2004. For executives who paid more than 10 million in tax in both years, we can look at what might explain the change in their incomes over time. This is a smaller sample, and it being selected for high incomes makes it subject to our criticism of previous studies. It does, however, have the advantage that by looking at differences across time we implicitly adjust for executive- or firm-specific effects. Thus, in Table VI we estimate the determinants of pay in first differences. For the 484 presidents who paid at least 10 million yen in taxes in both years, we calculate the change in their tax liability, an increase for 253 and a decline for 131 of them. We then regress this change on fractional increases in the return on assets (which is negative for 129 firms), sales (121), and the stock price (52). We omit other variables such as company size because those change slowly or seldom enough across time that we would not expect them to explain year-to-year changes in pay. The regressions are in levels rather than logs (as we used in Table V) because so many of the variables take negative values. We also include a dummy for SEC-style accounting, since that could be correlated with accounting profitability, and we allow separate intercepts for Capitalists and Company Men.

Insert Table VI here

Regression (a) shows that in a regression using all 439 presidents for whom both the tax variable and the other variables were all available nothing is statistically significant (not even the constants) except for the effect of stock price growth on Capitalists, which takes the expected positive value. Our dependent variable, the change in tax liability, however, includes extreme outliers. Its median value is 1,592 thousand yen, but it varies from -220,320 to 828,817 thousand. Trimming at the 5^{th} and 95^{th} percentile values of -11,271 and 37,869 thousand yen yields regressions (b) and (c). After removing the outliers, a number of coefficients become statistically significant, most notably accounting profitability, which has a positive effect for Company Men but a significantly less positive effect for Capitalists (for a net effect of about zero on Capitalists; an F-test rejects zero with only p=.81). The coefficient of accounting profitability has a coefficient of 707, which corresponds to an elasticity of the change in tax with respect to a change in profitability for Company Men of .16 (= 700*.80/3453) at the means for the sample used in the regression and .22 (= 700*.50/1592) at the medians. These are comparable to the elasticity of .14 found from the cross-section regressions in Table V. Since these results do, in effect, adjust for firm-specific effects, like those in Kato & Kubo (2006), but have a larger magnitude they suggest that incentive pay is more important than Kato & Kubo found, at least for this later time period.

Other variables in regression (b) are also significant. The rate of sales growth has an insignificant effect on the income of Company Men, but an additional positive effect (and overall positive effect; an F-test yields p=.02) for Capitalists. Stock price growth is insignificant for Company Men, with a significantly higher effect on Capitalists but an overall effect that is insignificant (at p=.22 for the F-test). The constant is positive and not significantly different for Capitalists, indicating that incomes rose on average for executives adjusting for the other included variables, and the presidents of firms that used SEC-style accounting had incomes that were significantly higher, an effect of very large magnitude.

This effect is so large as to make us suspect that it is not to due the accounting itself, but to something else correlated with a firm's adoption of SEC-style accounting. We ran Regression (c) without the SEC-style accounting variable as a check to see if it was affecting our results. It seems it was not; regression (c) has much the same results as regression (b) in both significances and coefficient sizes.

Thus, the regressions on differences in tax paid across the two years available to us confirm our finding that accounting profitability does matter to executive salaries, but stock price growth does not.

V. Alternative Regression Techniques and Variable Measures

A. Alternative Measures of Size and Performance

In Table VII, we repeat our basic regression with different measures of firm size and performance.

First, because some studies of U.S. executive compensation measure firm size by sales or market capitalization, we try using those measures in place of assets. Size is significant for any of these size measures, and the elasticity of executive income with respect to size varies only from .217 for assets to .252 for market capitalization to .194 for sales.

Second, we ask whether **Log(Mean Capitalization)** (the mean capitalization of firm in the same industry) and **Relative Profitability** (the difference between a firm's **Profitability** and the industry mean) help explain compensation. They do not.

The matching theory of Gabaix and Landier (2008) says that market capitalization is the key determinant of executive pay and suggests that pay is affected by a "reference firm size" that could be special to a year or an industry. In regression (d), **Log(Capitalization)** is significant, but **Log(Mean Capitalization)** is not. Executives' incomes are not pulled up for all firms in an industry just because most of its firms are large and pay more. The unimportance of mean industry capitalization is evidence against the executive market being segmented by industry; in the assortative matching of our market theory, the fact that a large firm in an industry with generally small firms does not pay less than if it were in an industry of large firms shows that it is competing with firms outside its industry for the most talented executives.

In regression (e), **Profitability** and **Relative Profitability** are both insignificant. The unimportance of relative profitability is a longstanding puzzle of executive compensation, as discussed in e. g., Bertrand and Mullainathan (2001), who have labeled the puzzle ``pay-for-luck". Our model above does not explain it, but one possibility is that higher manager effort is optimal for the firm following observable positive demand shocks, and this results in higher pay, as Baranchuk, MacDonald & Yang (2006) suggest.

Insert Table VII here

B. Robustness Checks: Alternative Regression Techniques and Definitions of Capitalist

In Table VIII we offer four alternative regressions of executive compensation, again with results very close to those above. We include a tobit regression with logged tax liability that captures the principal results found above (Column (a)); an OLS regression with logged tax liability on only those presidents who appeared on the TSR high-income taxpayer list (Column (b), which is the technique used in Kato & Rockel [1992]); a probit regression using the **High Income TP** dummy as the dependent variable (Column (c)); and a Poisson regression using the number of times an executive appeared on that list (**Num Appearances**) as the dependent variable (Column (d)), with zeroes omitted since they are too numerous for a Poisson distribution to be appropriate. For expositional simplicity, we focus on those variables that most strongly affect compensation. Regressions (b) (OLS) and (c) (the probit on being a high-income taxpayer) show that whether we use tobit or OLS, company size and accounting profitability are significantly related to executive income, though with reduced coefficient sizes, and stock return is not. The Poisson regression for number of appearances is quite different, with company size and accounting profitability insignificant and stock return having the wrong sign for Company Men. An explanation for this might be that number of appearances is related to the length of time for which a company retains the same president as much as how much it pays him, conditional on an executive ever appearing on the list.

Panel B of Table VIII shows how the definition of Capitalist affects a regression of log tax liability on the principal variables. Our standard definition is that a Capitalist either (i) was among the top ten shareholders of his firm or (ii) worked at his family firm. Alternatively, one might add (iii) executives who appeared on the high-income taxpayer list five or more times, or (iv) were under age 40. Panel A's regression (a) is our standard definition. Panel B's regressions (a), (b), (c) and (d) show that varying the combination of the four criteria makes little difference to the regression results except that (c), dropping executives who worked at their family firm, results in size of firm having a much smaller (though still significant) effect on the income of Company Men.

Insert Table VIII here

VI. Concluding Remarks

Most studies of executive pay use data on labor income (salary, bonus, and options), but lack data on investment income, though executive response to salary incentives depends on their entire portfolios. To date, studies of Japanese executives have lacked good data even on pay, in contrast to studies using the detailed executive pay filings required by the SEC. Lacking direct data on salaries, we instead use tax records. Standard data from corporate filings plus this unusual tax data combine to give us a dataset with corporation and executive characteristics, executive incomes (labor plus investment income), and an estimate of executive compensation for some firms.

We find that Japanese executives earn far less than U.S. executives. Firm size held constant, they earn about one-fifth as much as their U.S. peers. Using tobit regressions, we conclude that executive salaries in Japan increase at a rate of 22% of the increase in assets. Salaries also increase with age and accounting profitability, but not with stock returns. Corporate governance variables are subject to the usual endogeneity problems, but family firms, firms with large lead shareholders, and firms with older board members appear to pay less and those whose board members have longer tenure pay more.

Appendix: The Regression Variables

(a) Executive variables

Log(Tax Liability): the log of an executive's 2004 tax liability (in 1000 yen), as reported by TSR. Executives not on the TSR list paid less than 10 million yen, and for them, we enter the log of 10,000.

Δ Tax Liab: the increase in an executive's tax liability from 2003 to 2004.

High Income TP: 1 if the executive paid at least 10 million yen in taxes in 2004; 0 otherwise.

Num Appearances: the number of times the executive appeared on the high-income taxpayer list (including 2004, but conditional on appearing on the 2004 list).

Multiple Positions: 1 if the executive holds positions in at least two firms; 0 otherwise.

Exec Share Value: the value of the firm's shares held by the executive in millions of yen, but 0 if the executive is not one of the top 10 shareholders.

Exec Age: 2005 minus the executive's year of birth.

(b) Corporation variables

Log(Capitalization): the log of the value of the firm's stock, as of the close of the calendar 2004 year.

Log(Mean Capitalization): the log of the mean capitalization for all firms in a given industry.

Log(Assets): the log of the firm's assets in for the fiscal year ending in 2005, in 100 million yen.

Log(Sales): the log of the firm's sales (for the fiscal year ending in 2004; consolidated), in 1 million yen.

Δ Sales: the fractional increase in the firm's sales from the fiscal year ending in 2003 to the year ending in 2004.

Profitability: the firm's operating income (for the fiscal year ending in 2004; million yen) divided by its assets (fiscal year ending in 2005; million yen) times 100.

Δ Profitability: the fractional increase in **Profitability** from the fiscal year ending in 2003 to the year ending in 2004.

Relative Profitability: the difference between the firm's **Profitability** and the mean **Profitability** for all firms in its industry.

Negative Profitability: 1 if a firm's **Profitability** was negative, 0 otherwise.

Stock Price Growth: the fractional increase in the price of the firm's stock, from June 2003 to June 2004. We do not correct for splits, redemptions, or dividends.

SEC Accounting: 1 if the firm reported its financials by U.S. accounting principles in 2004. Of the 1,568 firms in our database, 66 chose to do so.

Option Program: 1 if the firm had a stock option program by the end of 2004; 0 otherwise.

Industry dummies: One of 32 industries given by Toyo keizai simpo sha (2005b).

(c) Corporation governance variables (for 2004)

Family Company: 1 if at least two board members had the same last name, or the firm's name (e.g., Casio) was the same as that of at least one board member (e.g., Kashio).

Top 5 share %: the percentage of the firm's shares held by the largest 5 shareholders (at the close of the fiscal year ending in 2005).

Other Board Share %: the total percentage of the firm's shares held the members of the board other than the executive.

Board age: the mean age of the members of the board.

Board tenure: the mean tenure of the members of the board.

Board size: the number of directors on the board.

Ind dir %: the percentage of directors with past or concurrent positions at other firms in 2004. This is a broader definition than that used in the statute governing the new governance structure. That definition excludes any director with a past tie to an affiliated firm -- a definition that is hard for the outside researcher to apply without a complete work history for each director; see generally Kanda (2006: 83).

REFERENCES

Abowd, J. M. and M. Bognanno, 1995, "International Differences in Executive and Managerial Compensation," R. B. Freeman and L. F. Katz, eds. *Differences and Changes in Wage Structures*, Chicago: University of Chicago Press, 67-103

Adams, R. B., H. Almeida and D. Ferreira, 2008, "Understanding the Relationship between Founder-CEOs and Firm Performance," (February 2008). Available at SSRN: http://ssrn.com/abstract=470145 or DOI: 10.2139/ssrn.10.2139/ssrn.470145

Alexander, A.J. and H.W. Tan, 1984, Barriers to U.S. Service Trade in Japan," *Rand Publication Series R-3175* (Santa Monica: RAND, September 1984).

Baranchuk, N., G. MacDonald, and J. Yang, 2007,"The Economics of Super Managers," (Indiana University working paper, March 15, 2007). Available at SSRN: http://ssrn.com/abstract=894276

Basu, Sudipta, Lee-Seok Hwang, Toshiaki Mitsudome and Joseph Weintrop, 2007, "Corporate Governance, Top Executive Compensation and Firm Performance in Japan," *Pacific-Basin Finance Journal*, 15(1), 56-79.

Bebchuk, L. and J. Fried, 2004, *Pay without Performance: The Unfulfilled Promise of Executive Compensation*, Cambridge, MA: Harvard University Press.

Bertrand, M. and S. Mullainathan, 2001, "Are CEOs Rewarded for Luck? The Ones Without Principles Are," Quarterly Journal of Economics, 116, 901-932.

Boyd, B.K., 1994, "Board Control and CEO Compensation," *Strategic Management Journal,* 15(5), 335-344.

Brickley, James A., Jeffrey L. Coles and Gregg Jarrell, 1997, "Leadership Structure: Separating the CEO and Chairman of the Board," *Journal of Corporate Finance,* 3(3), 189-220.

Brickley, J. A., J. L. Coles and J. S. Linck, 2000, "Does the Decision to Retain Retiring Executives on the Board of Directors Help to Control Agency Problems in American and Japanese Firms?" *Banking, Capital Markets and Corporate Governance*, New York: Palgrave Publishers – formerly Macmillan Press, 233-249

Cadman, B., S. Klasa and S. Matsunaga, 2007, "Evidence on How CEO Compensation Functions Differ between Execucomp Firms and Non-Execucomp Firms," (working paper, December 2007). Available at SSRN: http://ssrn.com/abstract=869459

Coles, Jeffrey L., Michael L. Lemmon and Felix Meschke, 2007, "Structural Models and Endogeneity in Corporate Finance: the Link between Managerial Ownership and Corporate Performance" (working paper, February 15, 2007). Available at SSRN: http://ssrn.com/abstract=423510 or DOI: 10.2139/ssrn.10.2139/ssrn.423510

Coles, Jeffrey L., Michael L. Lemmon and Yan A. Wang, 2008 "The Joint Determinants of Managerial Ownership, Board Independence, and Firm Performance" (working paper, Second Singapore International Conference on Finance 2008, July 2, 2008). Available at SSRN: http://ssrn.com/abstract=1089758.

Conyon, M. J., J. E. Core and W. R. Guay, 2006, "How High is US CEO Pay? A Comparison with UK CEO Pay" (working paper, June 2006). Available at SSRN: http://ssrn.com/abstract=907469.

Coombs, J. E. and K. M. Gilley, 2005, "Stakeholder Management As a Predictor of CEO Compensation: Main Effects and Interactions with Financial Performance," *Strategic Management Journal*, 26(9), 827–840.

Daiwa shoken SMBC, 2005, Nihon no kokai kigyo ni okeru sutokku opushon donyu nendo betsu suii [Year to year trends in the introduction of stock options at Japanese public firms]. http://202.214.40.216/stock.html.

Davis, J. H., F. D. Schoorman and L. Donaldson, 1997, "Toward a Stewardship Theory of Management, *Academy of Management Review*, 22, 20–47.

Deckop,J. R. R. Mangel and C. C. Cirka, 1999, "Getting More than You Pay for: Organizational Citizenship Behavior and Pay-for-Performance Plans," *Academy of Management Journal,* 42(4), 420-428.

Edmans, Alex, Xavier Gabaix and Augustin Landier, 2007, "A Calibratable Model of Optimal CEO Incentives in Market Equilibrium" (NBER Working Paper No. W13372, September 2007). Available at SSRN: http://ssrn.com/abstract=1012826.

Fama, E. F. and M. L. Jensen, 1983, "Separation of Ownership and Control," *Journal of Law and Economics*, 26, 301–325.

Gabaix, X. and A. Landier, 2008, "Why Has CEO Pay Increased So Much?" *Quarterly Journal of Economics*, 123(1), 49-100.

Hall, B. J. and J. B. Liebman, 1988, "Are CEOs Really Paid Like Bureaucrats?" *Quarterly Journal of Economics,* 113(3), 653-691.

Hart, R. A. and S. Kawasaki, 1999, *Work and Pay in Japan*, Cambridge CB2 2RU, UK: Cambridge University Press.

Hartzell, J.C., and L.T. Starks, 2003, “Institutional Investors and Executive Compensation,” *Journal of Finance*, 58, 2351-2374.

Henderson, A. D. and J. W. Fredrickson, 1996, “Information-Processing Demands as a Determinant of CEO Compensation,” *The Academy of Management Journal*, 39(3), 575-606.

Hermalin, B.E. and M.S. Weisbach, 1998, "Endogenously Chosen Boards of Directors and Their Monitoring of the CEO," *American Economic Review*, 88, 96-118.

Himmelberg, C.P., R.G. Hubbard, and D. Palia, 1999, "Understanding the Determinants of Managerial Ownership and the Link Between Ownership and Performance," *Journal of Financial Economics,* 53, 353-384.

Holmstrom, B., 2005, “Pay Without Performance and the Managerial Power Hypothesis: A Comment,” *Journal of Corporation Law,* 30, 703-716.

Jensen, M. and W. Meckling, 1976, “Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure,” *Journal of Financial Economics*, 3, 305–360.

Jensen, M. C. and K. J. Murphy, 2004, “Remuneration: Where We’ve Been, How We Got to Here, What Are the Problems, and How to Fix Them,” (Finance Working Paper N°. 44/2004) Available at SSRN: http://ssrn.com/abstract=561305.

Jensen, M. C. and Murphy, K. J., 1990, “Performance Pay and Top-Management Incentives,” *Journal of Political Economy*, 98(2), 225-264.

Joh, S.W., 1999, “Strategic Managerial Incentive Compensation in Japan: Relative Performance Evaluation and Product Market Collusion,” *Review of Economics and Statistics,*81, 303-313.Kanda, H., 2006, *Kaisha ho nyumon [Introduction to Corporate Law],* Tokyo, JP:Iwanamishoten.

Kaplan, S. N., 1994, "Top Executive Rewards and Firm Performance: A Comparison of Japan and the United States," *Journal of Political Economy*, 102, 510-546.

Kaplan, S.N. and J.D. Rauh, 2006, "Wall Street and Main Street: What Contributes to the Rise in the Highest Incomes?" (CRSP Working Paper No. 615, July 2007). Available at SSRN: http://ssrn.com/abstract=931280.

Kato, T. and C. Long, 2006, "Executive Compensation, Firm Performance, and Corporate Governance in China: Evidence from Firms Listed in the Shanghai and Shenzhen Stock Exchanges," *Economic Development and Cultural Change*, 54, 945-983.

Kato, T. and M. Rockel, 1992, "Experiences, Credentials, and Compensation in the Japanese and U.S. Managerial Labor Markets: Evidence from New Micro Data," *Journal of the Japanese & International Economies*, 6, 30-51.

Kato, T., 1997, "Chief Executive Compensation and Corporate Groups in Japan: New Evidence from Micro Data," *International Journal of Industrial Organization*, 15, 455-67.

Kato, T. and K. Kubo, 2006, "CEO Compensation and Firm Performance in Japan: Evidence from New Panel Data on Individual CEO Pay," *Journal of the Japanese & International Economies*, 20, 1-19.

Kornhauser, M. E., 2005, "Doing the Full Monty: Will Publicizing of Tax Information Increase Compliance?" *Canadian Journal of Law and Jurisprudence*. 18, 95.

Kubo, K.. 2004, "The Determinants of Executive Compensation in Japan and the UK: Agency Hypothesis or Joint Determination Hypothesis?" Hanazaki, M., Fan, J., Teranishi, J., eds. *Designing Financial Systems for East Asia and Japan*, , London: Routledge, 273-95.

Miwa, Y. and J.M. Ramseyer, 2005, "Who Appoints Them, What Do They Do? Evidence on Outside Directors from Japan," *Journal of Economics & Management Strategy*, 14, 299-337.

Nakazato, M., J.M. Ramseyer and E. B. Rasmusen, 2007, "The Industrial Organization of the Japanese Bar: Levels and Determinants of Attorney Income," (unpublished paper). http://www.rasmusen.org/papers/jpnbar.nakazato.ramseyer.rasmusen.doc.(INACTIVE LINK)

Nihon keizai shimbun sha, 2005, *Nikkei kaisha joho: Natsu [Nikkei corporate information: Summer*], Tokyo,JP: Nihon keizai shimbun sha.

Nihon torishimariyaku kyokai, 2005, *Iinkai setchi gaisha [Firms adopting committees]*, Available at http://www.jacd.jp.

Piketty, T. nd E. Saez, 2006, "The Evolution of Top Incomes: A Historical and International Perspective," *The American Economic Review: Papers and Proceedings*, 96, 200-205.

Ramseyer, J. M. and E. Rasmusen, 2003, *Measuring Judicial Independence: The Political Economy of Judging in Japan*, Chicago,IL: University of Chicago Press.

Rebick, M. E., 1995, "Rewards in the Afterlife: Late Career Job Placements as Incentives in the Japanese Firm," *Journal of Japanese & International Economies*, 9, 1-28.

Tachibanaki, T. and T. Mori, 2005, *Nihon no okanemochi kenkyu [Research on the Japanese rich]*, Tokyo, JP: Nihon keizai shimbun.

Tokyo shoko risaachi, 2005, *Zenkoku kogaku nozeisha meibo [Roster of High-Income Taxpayers]* (CD-ROM) (TSR).

Tosi, H.L., V.F. Misangyi, A. Fanelli, D.A. Waldman and F. J. Yammarino, 2004, "CEO Charisma, Compensation, and Firm Performance," *The Leadership Quarterly*, 15, 405-420.

Tosi, H.L., S. Werner, J.P. Katz and L.R. Gomez-Mejia, 2000, "How Much Does Performance Matter? A Meta-Analysis of CEO Pay Studies," *Journal of Management,* 26, 301–339.

Toyo keizai shimposha, 2005a, *Kabuka chaato: Natsu [Stock Price Charts: Summer]* Tokyo,JP: Toyo keizai shimposha (CD-ROM).

Toyo keizai shimposha, 2005b, *Kaisha shiki ho: Natsu [Corporate Report: Summer]* Tokyo,JP: Toyo keizai shimposha (CD-ROM).

Toyo keizai shimposha, 2005c, *Toshi deeta banku [Metropolitan Data Bank]*, Tokyo,JP: Toyo keizai shimpo sha.

Toyo keizai shimposha, 2005d, *Yakuin shikiho: jojo gaisha ban [Board of Directors Report: Listed Companies*]. Tokyo,JP: Toyo keizai shimposha.

TSR. See Tokyo shoko risaachi.

Wasserman, N., 2006, "Stewards, Agents, and the Founder Discount: Executive Compensation in New Ventures," *Academy of Management Journal,* 49, 960-976.

Xu, P., 1997, "Executive Salaries as Tournament Prizes and Executive Bonuses as Managerial Incentives in Japan," *Journal of Japanese & International Economies*, 11, 319-346.

Table I

Estimating a Taxpayer's Income from His Tax Liability

The amount of income that would generate a tax liability of 10 million yen is about 39.9 million yen. To reach this conclusion, we make the following calculations:

A. The Principles:

1. Assume the taxpayer has only salary income. If so, he will have the standard salary income deduction of 5 percent plus 1,700,000 yen. See Shotoku zei ho [Income Tax Act], Law No. 33 of 1965, Sec. 28.

2. Assume further that this taxpayer has no children, no life insurance, no charitable donations, no medical expenses, etc. If so, he will have only the three basic personal deductions: his own deduction, his spouse' deduction, and a social security deduction. Assume the last equals 1 million yen (in fact, it varies by salary level). See Shotoku zei ho, Secs. 74, 83, 86.

* Basic personal deduction	380,000 yen
* Spousal deduction	380,000
* Social security deduction	1,000,000

3. A taxpayer with an income in this range will face the full maximum marginal rate: 37 percent. The actual amount of the tax is given as 37 percent of his income, less a deduction of 2.49 million yen.

4. This taxpayer will also have the currently standard lump-sum tax credit of 250,000 yen. Shotokuzei to futan keigen sochi ho [Act to Reduce the Burden of the Income Tax], Law. 8 of 1999, Sec. 6.

B. Tax calculation:

Gross income: 39,900,000

Salary income:
39,900,000 x .95 - 1,700,000 = 36,205,000

Taxable income:
36,205,000
380,000
380,000
- 1,000,000
34,445,000 34,445,000

Income Tax:
34,445,000 x .37 - 2,490,000 = 10,254,650

Less lump-sum tax credit:
10,254,650 - 250,000 = 10,004,650

Table II

Corporations and Their Presidents: Summary Statistics

Sources: Tokyo shoko risaachi, Zenkoku kogaku nozeisha meibo: Jojo gaisha ban [Roster of High-Income Taxpayers] (CD-ROM, 2005); Toyo keizai shimposha, Yakuin shikiho [Board of Directors Report: Listed Companies] (Toyo keizai shimposha, 2005); Nihon keizai shimbun sha, Nikkei kaisha joho: Natsu [Nikkei Corporate Information: Summer] (Tokyo: Nihon keizai shimbun sha, 2005); Toyo keizai shimposha, Kabuka chaato: Natsu [Stock Price Charts: Summer] (Tokyo: Toyo keizai shimposha, CD-ROM, 2005); Toyo keizai shimposha, Kaisha shiki ho: Natsu [Corporate Report: Summer] (Tokyo: Toyo keizai shimposha, CD-ROM, 2005); Toyo keizai shimposha, Yakuin shikiho: jojo gaisha ban [Board of Directors Report: Listed Companies] (Tokyo: Toyo keizai shimposha, 2005)

A. Corporations

	Percent	Minimum	Median	Maximum
Assets (in 100 million yen)		14	878.5	344889
Profitability (oper inc/cap)		-1.00	.52	10.88
Stock Returns (04-03)		-.99	.18	7.39
Family corp. (def. in App.)	27.3			
Largest shareholder is corp.	86.6			
Option Programs	29.1			
Percent shares held by				
Largest shareholder		3.1	11.9	90.6
Largest 5 shareholders		7.5	33.9	98.2
Largest 10 shareholders		9	45.9	98.9
Board (excl. executive)		0	.50	60.5
Boards				
Size		5	13	55
Percent outside directors		0	37.5	100
Average age		38.3	59.6	72.1

B. *Presidents*

	Percent	Minimum	Median	Maximum
Tax paid (if on TSR list; 1000 yen)		10,003	19,662	1,083,937
Age		33	61.6	90
Years on the tax list	--	1	7.3	33
% holding multiple positions	11.7			
% of employer's shares held	----	0	0	60.7

Table III

The Incomes of Top Corporate Officers

"High-income roster" refers to all taxpayers paying more than 10 million yen in taxes in 2004. "Estimated taxable income" is calculated by estimating the taxable income that would generate the amount given, and converting to $U.S. at the December 31, 2004 rate of 102.68 yen/$. We assume the taxpayer has three personal deductions: a basic deduction of 380,000 yen, a deduction for spouse of 380,000 yen, and a deduction for social security of 1,000,000. "Highest paid officer" is the higher paid of the two directors listed first in the rosters given in the Yakuin shikiho, taken from securities filings. "Top 2 officers" are the two directors listed first in the board rosters given in Yakuin shikiho, taken from securities filings. The data set includes all firms listed in Section 1 of the Tokyo Stock Exchange except banks.

Sources: Tokyo shoko risaachi, Zenkoku kogaku nozeisha meibo: Jojo gaisha ban [Roster of High-Income Taxpayers] (CD-ROM, 2005); Toyo keizai shimposha, Yakuin shikiho [Board of Directors Report: Listed Companies] (Toyo keizai shimposha, 2005).

Note that our findings in Table IV will suggest that incomes on average exceed executive compensations by some 40%.

A. Median Amounts and Ranks:

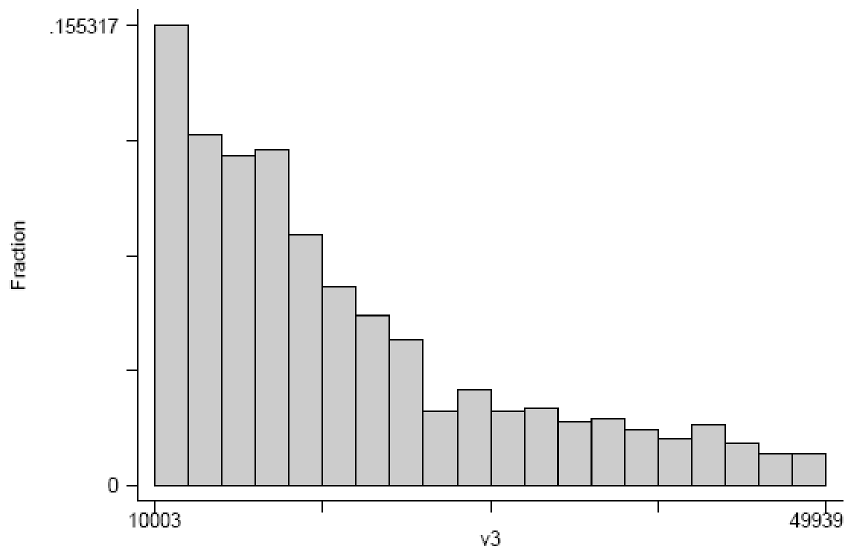
	Percentage in High-Income Roster	Median Tax Liability (x 1,000 yen)	Taxpayer Rank (All)	Median Estimated Taxable Income
1. Highest Paid Officer:				
Top 100	77.0	17,997	26,412	U.S. $610,031
Top 500	65.4	15,554	35,092	$542,345
All	51.8	10,483	70,139	$401,013
2. President (rank):				
Top 100	67.9	15,259	35,092	$534,164
Top 500	53.3	11,152	63,183	$420,374
All	41.4	--		
3. Top 2 Officers:				
Top 100	50.1	10,508	69,508	$402,532
Top 500	42.2	--		
All	31.5	--		

B. Selected High-Income Executives:

Name	Position	Tax Liability (x 1,000 yen)	Rank among: Executives	Rank among: All taxpayers
Tadashi Yanai	Chairman, Fast Retailing	1,083,937	1	3
Yasumitsu Shigeta	Chairman, Hikari Comm.	549,430	5	29
Masaya Nakamura	Chairman, Namuko (Services)	375,799	10	68
Hidetoshi Yasukawa	Pres., Gold Crest (Real est.)	205,219	20	224
Yoshihiko Miyauchi	Chairman, Orix (Financial)	142,847	35	422

Figure 1

The Distribution of Taxes Paid by Corporate Presidents



<u>Note</u>: The figure gives the fraction of the 504 presidents of firms listed in Section 1 of the Tokyo Stock Exchange who pay various levels of taxes, excluding those who pay less than 10 million or the 89 who earned more than 50 million yen. The horizontal bins are in 2-million yen increments. <u>Source</u>: Tokyo shoko risaachi, *Zenkoku kogaku nozeisha meibo: Jojo gaisha ban [Roster of High-Income Taxpayers*] (CD-ROM, 2005).

Table IV
The Incomes of Capitalists and Company Men: Levels

"High-income roster" refers to all taxpayers paying more than 10 million yen in taxes in 2004. "Capitalists" presidents who are among the top 10 shareholders of the firm, or who work at their own family firm (as defined in Appendix). "Company Men" are all other presidents. Banks are excluded. For sources, see Table II.

I. Summary Statistics:

	Capitalists			Company Men		
	Fraction in High-Income Roster	Median Tax Liability (x 1,000 yen)	n	Fraction in High-Income Roster	Median Tax Liability (x 1,000 yen)	n .
Top 100	100%	209,180	4	67%	14,289	73
Top 500	75	22,185	55	50	10,005	362
All	66	57,409	383	32	--	1047

II. Number of Presidents Paying Taxes Above (Million Yen) --

	10	30	50	70	90	110	130.	All
Capitalists	254	137	78	48	28	21	17	383
Company Men	339	35	11	6	6	3	2	1048

Table V

Determinants of the Taxable Income of Corporate Presidents

The dependent variable is **Log Tax Liability**, and the regressions are tobit, using Stata 9. All regressions include industry dummies. The dat cover all non-bank firms listed on Section 1 of the Tokyo Stock Exchange. Under the coefficients are the absolute values of the correspondin z statistics. Significant effects are boldfaced, and given one, two and three stars for significance at the 10%, 5%, or 1% levels. The "Capitalis Extra Effects" columns represent the coefficient on the interaction variable X*(Capitalist dummy) -- that is, the additional effect of th executive being a Capitalist. "Capitalists" are corporate presidents who either are among the top 10 shareholders of the firm or who work a their own family firm (as defined in the Appendix). "Company Men" are all other corporate executives. For sources, see Table II. Th number of observations varies from 1,345 to 1,352.

	(a)	(b)(i) Company Men	(b)(ii) Capitalist Ext effect	(c)(i) Company Men	(c)(ii) Capitalist Ext effect	(d)(i) Company Men	(d)(ii) Capitalist Ext effect.
Constant	**7.569*** **	**6.732*** **	**.805** **	**5.561*** **	**1.376** **	**6.707*** **	.257
	(31.27)	**(27.08)**	**(1.98)**	**(11.82)**	**(2.16)**	**(8.04)**	(0.21)
Log (Assets)	**.180*** **	**.263*** **	.034	**.217*** **	-.027	**.237*** **	.001
	(6.08)	**(8.87)**	(0.60)	**(7.54)**	(0.48)	**(7.17)**	(0.02)
Profitability	**.047*** **	**.034*** **	.010	**.034*** **	.010	**.029*** **	.001
	(6.87)	**(4.57)**	(0.83)	**(4.78)**	(0.83)	**(4.00)**	(0.09)
Stock Price Gr	.019	-.134	**.278** **	-.109	**.234** **	-.078	.124
	(0.29)	(1.63)	**(2.27)**	(1.38)	**(2.00)**	(1.00)	(1.06)
Multi Positions				**.395*** **	-.268	**.404*** **	**-.315* **
				(3.92)	(1.40)	**(4.11)**	**(1.70)**
Option Program				**.187** **	-.153	**.150* **	-.120
				(2.32)	(1.18)	**(1.91)**	(0.94)
Executive Age				**.022*** **	-.002	**.027*** **	-.006
				(3.37)	(0.24)	**(3.79)**	(0.63)
Exec Share Value					**.078*** **		**.061*** **
					(5.75)		**(4.52)**
Other Family Co						**-.234** **	.130
						(2.28)	(0.44)
Top 5 Shareh %						**-.005* **	**.020*** **
						(1.65)	**(3.85)**
Board Tenure						**.089*** **	**-.059** **
						(5.61)	**(2.53)**
Board Age						**-.035** **	.009
						(2.29)	(0.42)
Oth Board Sh %						.011	-.004
						(1.44)	(0.42)
Board Size						.008	.006
						(1.08)	(0.40)
Ind Director %						.001	.003
						(0.67)	(0.85)
SEC Accounting	.396	.219		.265		.245	
	(1.45)	(0.95)		(1.21)		(1.16)	

Table VI

Determinants of Changes in Taxable Income

The dependent variable is **Δ Tax Liab.** The regressions are OLS and are limited to presidents of non-bank firms listed on Section 1 of the Tokyo Stock Exchange who paid at least 10 million yen in taxes in both 2003 and 2004. Columns (b) and (c) include only presidents with income changes in the 5th to 95th percentiles. Under the coefficients are the absolute values of the corresponding z statistics. Significant effects are boldfaced, and given one, two and three stars for significance at the 10%, 5%, or 1% levels. The "Capitalist Extra Effects" columns represent the coefficient on the interaction variable X*(Capitalist dummy)-- that is, the additional effect of the executive being a Capitalist. "Capitalists" are either are among the top 10 shareholders of the firm or work at their own family. For sources, see Table II.

	(a)(i) Company men	(a)(ii) Capitalist extra effect	(b)(i) Company men	(b)(ii) Capitalist extra effect	(c)(i) Company men	(c)(ii) Capitalist extra effect
Constant	3582.664	-3396.615	**3239.506*** **	-739.883	**3476.441*** **	**-756.271**
	(0.99)	(0.79)	**(4.30)**	(0.79)	**(2.63)**	**(0.80)**
Δ Profitability	0.001	-0.006	**700.051*** **	**-825.285*** **	**714.178*** **	**-801.478*** **
	(0.03)	(0.18)	**(2.61)**	**(2.51)**	**(2.63)**	**(2.42)**
Δ Sales	80.419	1681.041	114.617	**6165.561** **	102.952	**6072.977** **
	(0.03)	(0.43)	(0.18)	**(2.24)**	(0.16)	**(2.18)**
Stock Price Growth	-1744.773	**19472.22*** **	-1583.435	**2776.607* **	-1765.731	**2755.631* **
	(0.27)	**(2.60)**	(1.19)	**(1.69)**	(1.32)	**(1.66)**
SECActg	-11610.53		**0.483*** **			
	(1.16)		**(3.85)**			
R^2	0.06		0.05		0.04	
Observations	439		403		403	

Table VII

Determinants of Taxable Income: Alternative Measures of Size and Performance

The dependent variable is **Log Tax Liability**, and the regressions are tobit. All regressions include industry dummies except Reg (d), which would not converge with them. The data cover all non-bank firms listed on Section 1 of the TSE. Significant effects are boldfaced, and given one, two and three stars for significance at the 10%, 5%, or 1% levels. Z-statistics appear in parentheses. The second column of each series (e.g., (aii)) gives the "Capitalist Extra Effects" -- the coefficient on interaction variable X*(Capitalist dummy). This gives the additional effect of the executive being a Capitalist. "Capitalists" are corporate presidents who either are among the top 10 shareholders of the firm or work at their own family firm (as defined in the Appendix) "Company Men" are all other corporate executives. For sources, see Table II. The number of observations varies between 1345 and 1347.

	(ai)	(aii)	(bi)	(bii)	(ci)	(cii)	(di)	(dii)	(ei)	(eii)
	Assets		Capitalization		Sales		Mean Capitaliz'n		Rel Profit'y	
Constant	**5.561**	**1.376**	**3.153**	**2.447**	**4.757**	**1.770**	**2.930**	**2.971**	**5.261**	**.998**
	(11.83)* **	**(2.16)** **	**(5.22)*** **	**(2.60)*** **	**(8.82)*** **	**(2.28)** **	**(2.87)*** **	**(1.62)**	**(7.81)*** **	**(1.43)**
Ln(Assets)	**.217**	-.027							**.215**	-.020
	(7.54)* **	(0.48)							**(7.45)*** **	(0.35)
Ln(Capitalizat'n)			**.252**	-.075			**.241**	-.054		
			(9.19)* **	(1.42)			**(8.88)*** **	(1.02)		
Ln(Sales)					**.194**	-.059				
					(6.76)* **	(1.10)				
Ln(Mean Capital'n)							.029	-.054		
							(0.50)	(0.53)		
Profit'y	**.034**	.010	**.015**	.011	**.028**	.011	**.019**	.010	.112	.061
	(4.78)* **	(0.83)	**(2.11)** **	(0.95)	**(3.93)*** **	(0.96)	**(2.67)*** **	(0.92)	(1.13)	(1.50)
Rel Profitability									-.077	-.055
									(0.77)	(1.32)
Stock Price Growth	-.109	**.234**	-.127	**.241**	-.102	**.242**	-.089	**.220**	-.113	**.232**
	(1.38)	**(2.00)** **	(1.61)	**(2.07)** **	(1.31)	**(2.08)** **	(1.23)	**(1.93)* **	(1.42)	**(1.98)** **
Multi Offices	**.395**	-.268	**.376**	-.249	**.428**	-.274	**.367**	-.288	**.403**	-.287
	(3.92)* **	(1.40)	**(3.79)*** **	(1.32)	**(4.23)*** **	(1.42)	**(3.80)*** **	(1.53)	**(4.00)*** **	(1.50)
Option Program	**.187**	-.153	.123	.111	**.197**	-.165	**.153**	-.133	**.194**	-.176
	(2.32) **	(1.18)	(1.53)	(0.87)	**(2.42)** **	(1.26)	**(1.93)* **	(1.03)	**(2.40)** **	(1.34)
Executive Age	**.022**	-.002	**.025**	-.005	**.022**	-.001	**.023**	-.003	**.021**	-.001
	(3.37)* **	(0.24)	**(3.95)*** **	(0.56)	**(3.38)*** **	(0.11)	**(3.61)*** **	(0.38)	**(3.27)*** **	(0.15)
Exec Share Value		**.078**		**.071**		**.083**		**.076**		**.079**
		(5.75)* **		**(5.23)*** **		**(6.22)*** **		**(5.50)*** **		**(5.83)*** **
SEC accounting	.265		.202		**.410**		.265		.267	
	(1.21)		(0.95)		**(1.88)* **		(1.26)		(1.22)	

Table VIII
Determinants of Income: Alternative Regressions

All regressions include industry dummies. The data cover non-bank firms listed on Section 1 of the TSE. We omit z- and t- statistics, and bold-face significant effects and attach one, two and three stars for significance at the 10%, 5%, or 1% levels. For sources, see Table II.

Panel A: Alternative Regression Techniques

	(a)		(b)		(c)		(d)	
Dep. Variable:	Ln Tax Liab		Ln Tax Liab		High Inc TP		No. Appearances.	
	Co Men	Cap ExEt	Co Men	Cap Ex Et	Co Men	Cap Ex Et	Co Men	Cap Ex E
Constant	**5.561*** **	**1.376** **		.082		**.720*** **		-.438
Log (Assets)	**.217*** **	-.027	**.097*** **	.060	**.101*** **	-.045	-.021	**.220*** **
Profitability	**.034*** **	.010	**.032*** **	.008	**.012*** **	-.000	.008	-.005
Stock Pr Gr	-.109	**.234** **	-.090	**.214** **	-.032	.043	**-.105***	**.159** **
Multi Positions	**.395*** **	-.268	-.020	-.156	**.259*** **	-.041	**.321*** **	**-.500*** **
Option Program	**.187** **	-.153	.010	.073	**.096** **	**-.116***	**-.201*** **	**.149** **
Executive Age	**.022*** **	-.002	.005	.000	**.013*** **	-.003	**.037*** **	-.005
Exec Sh Value		**.078*** **		**.065*** **		.033		-.009
SEC Accounting	.265		.133		.144		**-.200***	.
Technique used:	Tobit		OLS (R^2=.43)		Probit		Poisson	

Notes:

Regressions (b) and (d) are limited to those executives who paid at least 10 million yen in taxes in 2004.

Regression (c) gives the marginal effect of the variables rather than the coefficients.

The "Capitalist Extra Effects" gives the coefficient on the interaction variable X*(Capitalist dummy) -- that is, the additional effect of the executive being a Capitalist.

"Capitalists" are corporate presidents who are among the top 10 shareholders of the firm, or who work at their own family firm (as defined the Appendix). "Company Men" are all other corporate executives.

Panel B: Alternative Capitalist Definitions

Capitalist:	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
	Co Men	Cap ExEt	Co Men	Cap Ex Et	Co Men	Cap Ex Et	Co Men	Cap Ex E
Constant	**5.778*** **	**1.765*** **	**5.561*** **	**1.355** **	**8.569*** **	-1.457	**5.899*** **	**1.211***
Log (Assets)	**.215*** **	**-.076***	**.218*** **	-.026	**.083***	-.038	**.211*** **	.030
Profitability	**.034*** **	.000	**.034*** **	.010	**.039** **	.003	**.035*** **	-.004
Stock Pr Gr	-.130	**.247** **	-.108	**.229** **	-.032	.083	-.069	.166
Multi Positions	**.286** **	**-.297***	**.394*** **	-.267	-.053	**.506** **	**.366*** **	-.298
Option Program	**.254*** **	**-.201***	**.187** **	-.150	.048	.166	**.186** **	-.165
Executive Age	**.017** **	-.000	**.022*** **	-.002	.006	.011	**.018*** **	-.002
Exec Sh Value		**.083*** **		**.078*** **		**.131*** **		**.066*** **
SEC Accounting	.201		.263		**.467***		.329	.

Dependent variable: Ln Tax Liability
Technique used: Tobit

Definitions:

Alternative 1: corporate presidents who either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defin in the Appendix), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40.

Alternative 2: corporate presidents who meet requirements (i), (ii), or (iv) above.

Alternative 3: corporate presidents who meet requirements (i) or (iii) above.

Alternative 4: corporate presidents who are among the top 10 shareholders of the firm.