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EXECUTIVE COMPENSATION IN JAPAN:  
ESTIMATING LEVELS AND DETERMINANTS  
FROM TAX RECORDS

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## **Executive Compensation in Japan: Estimating Levels and Determinants from Tax Records**

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### **ABSTRACT**

*Most studies of executive compensation have data on pay, but not on total income. Studies of executives in Japan do not even have good data on pay. Although we too lack direct data on Japanese salaries, from income tax filings we compile data on total executive incomes, and from financial records obtain some indication of which executives have substantial investment income. We find that Japanese executives earn far less than U.S. executives -- holding firm size constant, about one-third the pay of their U.S. peers. Using tobit regression analysis, we further confirm that executive pay in Japan depends on firm size, with an elasticity of .24, but not on accounting profitability or stock returns. Corporate governance variables such as board composition have little or no effect on executive compensation, except that firms with large lead shareholders do appear to pay less.*

**Keywords:** Executive compensation, Japan, Incentive pay, Corporate governance

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In this paper we use a new dataset to look at the pay of executives at large publicly traded firms. Most studies of this topic use data on American firms from regulatory filings, data most conveniently available via ExecuComp, as Cadman, Klasa, and Matsunaga (2006) describe. Publicly traded corporations must disclose not only financial accounting data, but also detailed information about how they compensate their top executives. This information breaks down the pay among components such as salary, options, and bonus. Since it is the company rather than the executive who discloses the material, however, the data do not include anything about the executive's income from any source but the reporting firm, and do not even include his capital income from that firm.

By contrast, our data consists of the income tax paid by the richest executives in Japan in 2004, which we combine with data from the securities filings of the publicly traded firms for which they work. Although the tax forms themselves are confidential in Japan, until recently the government disclosed the identity and total tax bill of all taxpayers paying over 10 million yen in taxes -- some 578 corporate presidents in 2004. To that group, we add personal and company information on 813 other presidents whose tax bills we know must be less than 10 million yen, even though we do not know the exact amount.<sup>1</sup> We thus have a measure of an executive's total income from all sources. Because a publicly traded Japanese corporation need not disclose even the total pay of its very top executive, we do not have a direct measure of the amount the company pays the executive. Instead, we have a different (but not strictly better or worse) dataset than the one conventionally used for U.S. executives.

Ideally, if we had data on both an executive's labor income and his capital income, we could address questions involving both his value to the company and how much he is affected by fluctuations in company performance. On the one hand, with just labor income it is hard to know how much he is affected by his company's profits. An increase in his yearly bonus is a trivial incentive for Bill Gates relative to the increase in his wealth when Microsoft's stock price rises. On the other, with just total income -- the sum of labor and capital income -- it is hard to know how much an executive is worth or how his company's governance style affects his income. If we just had Bill Gates's total income, we could not tell whether Microsoft paid him more than what is typical for large software companies or not.

In our case, although we do not have labor income broken out separately, we do know which executives are most likely to have substantial capital income. We postulate that an executive is more likely to be in this category (we call them "capitalists" as contrasted with "company men"), if he is one of the top shareholders of the firm, if his family controls his firm, if he has long had high income, or if he rose to the rank of president at a

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<sup>1</sup> Some Japanese firms cross-list on American exchanges. Cross-listed foreign firms do have to disclose some financial numbers to the SEC, but nothing about executive pay.

young age. We will separate the two categories with the aim of generating a set of executives with little capital income (whose incentives necessarily are more sharply determined by the terms of their employment contract).

What we find is that Japanese executive incomes are about one third of U.S. executive compensation (Table III below). (Our income figures include capital income, so Japanese executive compensation, as opposed to total income, is closer to one fourth that in the United States.) This finding is important in itself, because previous estimates have been anecdotal or based on limited surveys. In the regression analysis, we find that, as in studies of U.S. executives, the most important determinant of compensation (Table V) is the size of the company -- with an elasticity of presidential income to firm market capitalization of about 0.25, remarkably similar to U.S. estimates despite the difference in pay levels. Neither accounting profitability, stock price change, nor sales significantly affects compensation (Tables V, IX). Corporate governance variables similarly have little effect (Table V), though the presence of a large shareholder does reduce compensation.

## I. The Literature

With our new data we are able to tackle a number of longstanding questions about executive pay from a new angle. First, how does the market for executives allocate talent? Is an executive's marginal product bigger at a larger firm? If so, is the increase greater the more talented is the executive? Size held constant, is a company's chief executive more important to its profitability in some industries than in others? Gabaix & Landier (2006) construct a matching model of the supply and demand of top executives and suggest, with data to support the argument, that a firm's market value and the market value of other firms in its industry are all that is needed to explain executive compensation (see Baranchuk, MacDonald, & Yang (2006) for further development of that model). Holmstrom (2005) provides valuable informal comments on the importance of market value and benchmarking, which is supportive of the Gabaix-Landier theory. Murphy & Zabojnik (2004) models the effect of a general increase in demand for executives on inside vs. outside hiring, and Kaplan & Rauh (2006) concludes that the recent rise in the incomes of the highest earning Americans—with special attention to executives--- represents returns to superstars, the effect of skill-based technological changes, and the impact of increases in firm size.

Second, how does pay relate to performance? It is unclear how important monetary incentives are to executives, at least in the range we ordinarily observe. It may be that companies can and do use variable pay to give their executives proper incentives, despite the first-cut tiny magnitude of the relation between pay and performance noted in Jensen & Murphy (1990). Yet it is equally plausible that non-material incentives are more important for agents at this income level. Concomitantly, the ability of top executives to manipulate accounting numbers and the public release of information may make it too dangerous to try to base their pay on numerical targets, as warned against in Jensen & Murphy (2004).

It is in looking at pay as an incentive that data on executive capital holdings is useful. Hall & Liebman (1998) do not have direct data on executives' overall stock holdings.

They do, however, find considerable relation between CEO wealth and stock return. That relation, they conclude, comes not through their compensation, but through their stock and option holdings as estimated by cumulating ExecuComp data from previous years.

Third, how does corporate governance affect pay? Does weaker control by shareholders result in higher executive pay, or pay less linked to performance? Weaker control might be measured in a variety of ways. One set of variables relates to the board of directors -- its size, the number of outside directors, and the length of their tenure. 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. Both of these possibilities are addressed in Bebchuk & Fried (2004), who argue that high salaries are due to poor governance. The question of governance clearly interacts with those of productivity and of incentives. Hartzell & Starks (2003), for example, find that ownership by institutional investors is correlated with increased sensitivity of CEO pay to company performance.

Fourth, do the answers to these questions vary across countries? Is the allocation of talent different in Japan than in the United States? Is one reason for higher U.S. pay that Japanese pay is less incentive-based, as Conyon, Core & Guay, 2006 argue is why British pay is lower? Are the utility functions of executives different enough that the relation between pay and performance is different? Do the laws and customs of corporate governance affect agency slack and resulting pay patterns?

The extant studies of Japanese executive compensation leave several issues unanswered. The best-known comparison of the compensation of American and Japanese executives is Kaplan (1994). It limits itself to the largest 121 companies in Japan and takes as its measure of compensation the mean amounts paid to the some 22 (on average) members of the board of directors, a number that public corporations must report. John (1999) also uses 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 these boards and the fact that many members work only part time this measure is not ideal. Indeed, Kato (1997) says that this reporting requirement excludes even much of the cash compensation executives receive.

Other studies of Japanese executive pay, such as Abowd & Bognanno (1995), Xu (1997) and Kato & Kubo (2006), use data created 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 tend to be small. More recently, Kato, Lemmon, Luo & Schallheim (2005) examine the adoption of stock option plans in Japan -- and find them largely value-enhancing.

Two studies, Kato & Rockel (1992) and Kato (1997) (on the effect of belonging to a "keiretsu"), use the same tax-reporting data source that we do, looking at the tax paid by 599 managers in 1985. Those studies do not examine the effect either of corporate governance or of the presence of entrepreneurial executives with sizeable capital income, and -- more basically -- ignore the truncation problem caused by the tax data's minimum tax requirement.

We should mention one other issue involved in executive pay: being a CEO is not the end of a man's life, and his retirement years are affected by his performance as CEO. In particular, retired executives often join the boards of their own or other companies. This

practice brings both monetary and psychic benefits, and has been studied in both the United States and Japan, notably in Brickley, Coles, & Linck (2000) and Rebick (1995).

## II. The Data

### 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. Necessarily, this includes the very largest public firms, those listed in Section 1 of the Tokyo Stock Exchange that we consider here. Unlike U.S. companies, however, Japanese companies need not disclose how much they pay their executives. Instead, the law requires only that they disclose the total amounts they pay all members of the board of directors together. This forecloses the standard U.S. approach to analyzing executive compensation.

Instead, for our data we use the tax liabilities of the executives for the year 2004. This is not information provided by their companies. We were able to obtain it because of traditional -- but now discontinued -- Japanese government policy. Through 2004, the tax office published the names, addresses, and tax liabilities of those taxpayers who reported high enough incomes. 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/\$.). A taxpayer who owed 10 million yen in taxes had taxable income of about \$400,000.

Japanese taxpayers pay a tax of 37 percent on ordinary income beyond 18 million yen.<sup>2</sup> For a crude approximation of income from tax liability, readers can simply divide the tax liability by .37. To illustrate a more nuanced approach, in Table I we use standard deductions and credits to calculate actual income that would generate the taxes given. By this approach, to owe the median of 10.5 million yen for top 100 firms (see Table III), a CEO would need to make about 41 million yen (\$401 thousand). By the crude approach, he would need about 28 million yen (\$276 thousand).

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<sup>2</sup> 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.

**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:	
$39,900,000 \times .95 - 1,700,000 =$	36,205,000
Taxable income:	
36,205,000	
380,000	
380,000	
<u>- 1,000,000</u>	
34,445,000	34,445,000
Income Tax:	
$34,445,000 \times .37 - 2,490,000 =$	10,254,650
Less lump-sum tax credit:	
$10,254,650 - 250,000 =$	10,004,650

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 (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 are public information, the Japanese government does not provide the data in convenient form. Therefore, we 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.<sup>3</sup> Our 2004 dataset thus represents the last available installment for studies like ours.

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. Instead, 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 do 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. This is because observations with negative disturbances are more likely to result in incomes below the threshold and drop out of the sample. At minimum, a technique should be used that takes into account this truncation.

But in fact, this is censoring, rather than truncation-- we don't observe income below the threshold, but we do observe other things about those executives -- which leads to the third problem with the approach: not all available information is used. 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 for low-tax executives as we do for high-tax executives on personal characteristics such as age, and firm characteristics such as company size. Thus, we use the full dataset and employ tobit, the standard technique for censored data. This eliminates sample selection bias and increases the amount of information in our regression analysis.

### *B. The Corporation Financial and Governance Data*

The executives in our sample are the presidents of firms listed on Section 1 of the Tokyo Stock Exchange. In general, these are the very largest publicly traded Japanese firms. 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 our principal 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). We obtained the identity of the executives and the composition of the boards in 2004 from Toyo keizai shimpo sha (2005d). Toyo keizai 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.

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



**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 text)	27.3			
Largest shareholder is corp.	86.6			
Option Programs	29.1			
<i>Percent shares held by</i>				
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
<i>Boards</i>				
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			
<i>University background --</i>				
U Tokyo	9.9			
U Kyoto	5.0			
Other imperial univ	7.5			
Hitotsubashi U	1.4			
Waseda U	8.6			
Keio U	14.0			
No university	8.5			
% of employer's shares held	----	0	0	60.7

*C. Tax Law: True Income versus Taxable Income*

(a) *The relationship.* Most executives will report taxable incomes that understate their true incomes. Like their counterparts elsewhere, Japanese executives receive a wide array of untaxed perquisites from their employers (estimated in Abowd & Bognanno, 1995). Crucially, though, we know of no reason this downward bias would vary systematically across our firms in ways relevant to this study.

To the extent 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. We do expect investment income of executives to vary across the type of firms employing them. To understand how our data will reflect these differences, however, some sense of Japanese tax law is crucial.

(b) *Dividend income.* For those executives who are major shareholders at their firms, the tax data will include the dividends they earn from their firm; for those who are not major shareholders, the data will exclude it. 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 available they would generally have found it advantageous to pay the withholding tax and exclude the dividend income.<sup>4</sup>

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<sup>4</sup> 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/gensen/h16/data/01.pdf> (amounts reported on returns) (last visited March 29, 2006).

(c) *Capital Gains.* Nineteen percent of taxpayers reporting more than 30 million yen in income in 2004 reported some capital gains income.<sup>5</sup> 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 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.

Unlike dividend tax payment, however, capital gain tax payment had no clear best policy for a rich taxpayer. 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, however, we cannot say. Regardless of whether an investor elected to include the gains on his return, 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 also 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.

(d) *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 buys stock; and pays tax only at (very low) capital gains rates when he eventually sells that stock.<sup>6</sup>

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. As a result, he pays no tax in years 1 and 4, but has capital gains income of  $220x \text{ yen} - 100x \text{ yen} = 120x \text{ yen}$  in year 5. By contrast, suppose he obtains only unqualified options. He still incurs no tax liability in year 1. In year 4, however, he has taxable compensation income of  $(14x \text{ yen} - 10x \text{ yen})10 = 40x \text{ yen}$ , and capital gains of  $220x \text{ yen} - 140x \text{ yen} = 80x \text{ yen}$  in year 5.

To qualify for advantageous tax treatment, an option program must stay within several limits. The rules have changed over time, but as of 2004 a program qualified only to the extent an executive: (a) used options in any year to buy less than 12 million yen's worth of stock (\$117,000); (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 them with an exercise price at least as high as the stock price at the time of receipt.

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<sup>5</sup> Whether securities, real estate, or other capital gains. National Tax Office statistics, <http://www.nta.go.jp/category/toukei/tokei/menu/shinkoku/h16/data/01.pdf> (last visited on March 29, 2006).

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

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. We will return to the discussion of options below when we discuss our estimate of the levels of income.

*(e) 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, most wealthy Japanese resented the publication of their tax liability. To skirt disclosure, they could plausibly 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, they again avoided publication. We do not know how many taxpayers used either strategy.

As a 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. 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 living in more expensive neighborhoods do report higher incomes.<sup>7</sup>

### **III. How High Is Executive Income in Japan?**

#### *A. Levels*

Compared to their American counterparts, Japanese executives have low income. In 2004, the highest paid CEO among the Forbes 500, Reuben Mark of Colgate-Palmolive, earned total compensation of \$147.9 million (\$131.0 million as option income). The median CEO among the Forbes 100 earned total compensation of \$14.9 million (\$1.0 million in option income), and the median among the Forbes 500 earned \$3.4 million (none of it in options; <http://www.Forbes.com>).

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<sup>7</sup> In a related study of Japanese attorney incomes, we learned that one large law firm paid its equity partners by a strict age-graded pay scale. We found that all equity partners did indeed appear on the TSR list, and that in almost all cases their tax liability matched their seniority. See Nakazato, Ramseyer & Rasmusen (2007).

**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 from Table IV suggest that these 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
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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. Presidents:

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	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

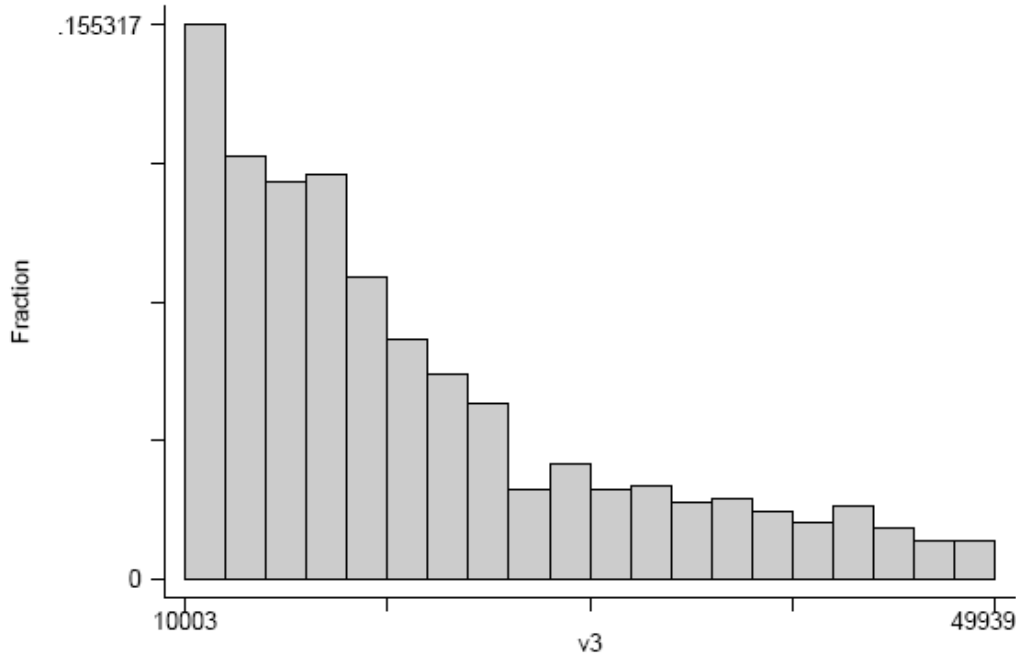
In Japan, the highest paid corporate executive, Tadashi Yanai of Fast Retailing (holder of the Uniqlo clothing brand), paid taxes of \$10.6 million in 2004, suggesting taxable income of \$30 million, as shown in Table III. Reflecting the flatter income distribution in Japan, only two Japanese in any endeavor earned more than Mr. Yanai, whereas 39 CEOs in America earned more than \$30 million. From this high end in Japan, incomes fall rapidly. The 5th highest paid executive earned only half Yanai's income, the 10<sup>th</sup> highest earned a third, and the 20<sup>th</sup> highest barely a fifth. Only 20 executives, in other words, earned over \$6 million, and only 224 Japanese in any endeavor earned more than that. In the U.S., 211 corporate CEOs earned more than \$6 million in 2004.

Japanese security filings do not name the CEO. They always list the directors, they usually name the president, and they sometimes name the chairman of the board. Generally, but not always, the president acts as CEO. We suspect that the highest paid executive (who may or may not be the president) is the CEO, but obviously this will not always hold true either. Given the ambiguity, in Table III we report the incomes of both the presidents and the highest paid officers.

Table III shows that among the largest 100 non-bank firms, the median highest paid officer earned \$610,000; among the largest 500 firms, he earned \$542,000; and among 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). The median president at the largest 100 earned \$534,000, and at the largest 500 earned \$420,000. The median president among all firms paid taxes of less than 10 million yen. Other studies suggest that Japanese compensation, though lower than U.S. compensation, do track compensation patterns in Western Europe (Abowd & Bognanno, 1995: 7).

In both the U.S. and Japan (as we detail below) larger firms pay higher salaries than smaller firms, but Japanese firms are smaller than American ones. 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 thousand). Within the same size range of \$1.87 to 2.85 billion, the COMPUSTAT database contains 151 U.S. firms. Their CEOs earned a median total current compensation of \$1.5 million.

Figure 1 shows the distribution of taxes paid by corporate presidents in Japan for taxes between 10 million and 50 million yen. They constitute 504 of the 593 presidents with taxes over 10 million. The distribution is declining and convex, and continues to higher values of taxes with a long right tail.

**Figure 1: The Distribution of Taxes Paid by Corporate Presidents**

**Note:** 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.

**Source:** Tokyo shoko risaachi, *Zenkoku kogaku nozeisha meibo: Jojo gaisha ban [Roster of High-Income Taxpayers]* (CD-ROM, 2005).

### B. Change over Time

Executive pay in America rose rapidly between 1980 and 2005. Aboud & Kaplan (1999: 146), for example, say that real cash CEO compensation increased 80 percent from 1984 to 1996, and option income rose 350 percent. The increase in total compensation has, however, accompanied an increase of about the same percentage in the market value of the firms, as Gabaix & Landier (2006) point out.

Japanese executive pay has climbed too, but not as steeply. Kato & Rockel (1992) report that the presidents of "more than 700 leading corporations" paid taxes of at least 10 million yen in 1985.<sup>8</sup> These presidents, they calculate, reported mean taxable incomes of about 44 million yen. In 2004, we locate only 593 non-bank presidents who paid that much in taxes, but find that they reported mean tax payments of 36 million yen --

<sup>8</sup> Because Kaplan (1994) uses the mean amounts paid to all board members (many of which are quasi-retired), we cannot use Kaplan as a benchmark by which to compare levels of executive compensation. We do use it later, in Table IX, for comparison with our findings on the determinants of executive compensation.

implying (at a 37 percent rate) that the mean taxable incomes of these 593 presidents was over 97 million.<sup>9</sup>

### *C. Option Income*

We doubt that many Japanese executives earn much option income absent from our data. After all, if a firm gave its CEO unqualified 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](http://www.econstats.com/eqty/eqem_mi_4.htm)), which helps explain why Japanese corporations rely less than American ones on options. .

Most (albeit not all) executives would have 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. Again, 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.

## **IV. What Determines Executive Income?--- Capitalists and Company Men**

### *A. Labor and Investment Income*

In the preceding section, we used tax data to estimate of the incomes of Japanese executives, estimates hitherto available only from limited surveys or using the average

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<sup>9</sup> From 1985 to 2004, the consumer price index in Japan increased 16 percent. Much of the apparent decline in the number of top-income executives seems attributable to our decision to exclude banks. Kato & Rockel include banks in their study; we do not. Over 60 bank executives were on the HIT list in 2004.



income of all directors. The natural next step is to ask what determines that income using regression analysis.

First, though, we must address a complication that could make comparison with studies of American executive compensation misleading. Executives have both labor and capital income. Studies of American executives can identify only the labor income; our study of Japanese executives can only identify the total income. This creates a number of problems for comparison with American analyses, since for that we would like to separate out labor income.

*Bias in levels.* Because the tax office reports only the aggregate tax that executives pay, on both capital and labor income, estimates of income based on taxes give only an upper-bound on executive compensation.

*Bias in determinants.* The aggregation of labor and capital income could bias our estimates of the determinants of executive compensation. 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 may pay them a riskier compensation package than they would pay an executive without that diversified investment portfolio.<sup>10</sup>

*Endogeneity.* 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 as well. Indeed, the 593 presidents who appeared on the high-income taxpayer list in 2004 had appeared a mean 7.3 times. Three hundred twenty-two had appeared on the list 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 would be endogenous. This is a problem for any study of executive compensation, not one caused by our aggregation of capital and labor income.

To address these various issues, we will divide our executives into **Capitalists** -- those engaged in both ownership and management of firms, who have substantial capital income only weakly related to their compensation as executives -- and **Company Men** -- those who just manage, whose capital income is lower, and whose capital income bears a stronger correlation to their labor income. Toward that end, we define a Capitalist as a president satisfying one of the following four conditions:

- (i) he is one of the top ten shareholders of the firm (we lack information on shareholdings below the top ten), or
- (ii) he serves at his family firm, or
- (iii) he has managed to head a firm listed on the Tokyo Stock Exchange before reaching age 40 (the mean age of our presidents was 62), or

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<sup>10</sup> 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.

- (iv) he has appeared on the high-income taxpayer list more than five times.

This yields a population of 483 presidents. All others we define as Company Men.

Capitalists do indeed report higher incomes than Company Men. As illustrated in Table IV, the median Capitalist paid a 19.7 million yen in taxes. Only 27 percent paid less than 10 million yen, while over 10 percent more than 70 million. By contrast, the median Company Man paid less than 10 million yen, and only 1 percent (3 observations) paid more than 70 million.

Combined with our earlier discussion, Table IV lets us estimate some ranges for Japanese executive compensation. Table III gives us the upper-bound: according to the unpartitioned data, the median president of the 100 largest firms paid taxes of 15.3 million yen -- suggesting income of about \$534 thousand. Table IV gives us the comparable figure for those presidents least likely to have outside income. Because disproportionately they also work at the lower-paying firms, these Table IV figures suggest a lower bound on Japanese executive compensation estimates. According to this lower bound, the median Company Man president at the top 100 firms paid taxes of only 10.9 million. Apparently, outside investment income made our earlier estimates of executive income exceed executive compensation by some 40 percent. Among the largest 500 firms, the median Company Man paid taxes of less than 10 million yen, making a lower-bound impossible to estimate with our data.

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**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" are corporate executives who either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defined in the text), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40. "Company Men" are all other corporate presidents. We exclude banks from the data set. For sources, see Table II.

I. Summary Statistics:

	Capitalists		Company Men	
	Fraction in High-Income Roster	Median Tax Liability (x 1,000 yen)	Fraction in High-Income Roster	Median Tax Liability (x 1,000 yen)
Top 100	100%	26,015	56%	10,950
Top 500	87	22,756	41	--
All	73	19,660	25	--

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

	10	30	50	70	90	110	130	All
Capitalists	352	154	85	51	31	22	18	483
Company Man	241	18	4	3	3	2	1	948

## B. Determinants of Executive Income

As in the United States, in Japan the presidents of big firms earn higher incomes than the presidents of small firms, and it would be interesting to know by how much. We would also like to see whether company performance and governance affect executive compensation. To this end, we will construct various size, performance, and governance variables and use them in tobit regressions.

### B.1. Variables

We construct the following variables which we will use in various regressions (director variables are as of mid-2004).

#### (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. For all such executives, we enter the log of 10,000.

**Δ Tax Liab:** the fractional 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 %:** the percentage of the firm's shares held by the executive, but 0 if the executive is not one of the top 10 shareholders.

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

**University dummies:** dummy variables for the executive's university background -- **U Tokyo**, **U Kyoto**, **Other Imperial Univ**, **Hitotsubashi U**, **Keio U**, **Waseda U**, **Other Univ**, and **No Univ**. Of these schools, the University of Tokyo is the most selective. The University of Kyoto, the other 5 universities that had once been "imperial" universities, and Hitotsubashi University are the principal other prestigious national universities. Keio and Waseda represent the two most traditionally prestigious private universities.

#### (b) Corporation business 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 legal capital (fiscal year ending in 2005; million yen).

**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 1568 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.*

**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).

## *B.2. Regression Results*

### *(a) Main Results*

Table V shows the results of three specifications of a tobit regression for the determinants of executive income. (Recall that we use tobit because we do not observe a president's tax bill if it was below 10 million yen.) All specifications include industry

dummies and an SEC accounting dummy.<sup>11</sup> In addition, Specification (a) includes company asset and profitability variables, Specification (b) adds executive variables, and Specification (c) adds both executive and governance variables.

Before coming to the substantive results, let us explain how to interpret the numbers in Table V. Each regression has two columns: column (i) for the variable's effect on Company Men and column (ii) for the additional effect, if any, on Capitalists. The effects on Company Men represent the purer effect of the variables on executive pay, while the effects on Capitalists come from two sources: capital income, and, possibly, the different governance of a firm headed by a Capitalist. Each entry shows the coefficient on the log of an executive's tax liability of an increase in the independent variable, as computed at the median using STATA 9.0.<sup>12</sup> Thus, the number 0.28 in column (a-i) says that an increase of X in the log of company capital value multiplies the log of executive income by  $.28 \cdot X$ , or, since these are both logarithms, the elasticity of income with respect to company value is +28%. The number -0.09 in column (a-ii) is the additional effect for Capitalists, from the coefficient for the interaction variable **Log(Capitalization)\*Capitalist**. Hence, the total elasticity of income with respect to capital value for Capitalists is  $.28 - .09 = .19$ .

Discrete variables must be interpreted somewhat differently. The number 4.33 in column (a-i) is the constant. It is the effect on **Log(Tax Liability)** of simply being in the dataset. The number 2.51 in column (a-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  $4.33 + 2.51 = 6.86$ . For discrete variables that have small effects (e.g., **Option Program** in column (b-i), with its marginal effect of 0.21), the effect is close to the percentage increase, but that approximation fails for large values. The value 2.51 is large, and when **Log(Tax Liability)** rises from 4.33 to 6.86, **Tax** rises not by 251% but by 1150%.

Focus on specification (b) in Table V, which we will use as our main regression. Specification (b) shows that for both types of executives, income rises with the size of the company – the typical result from U.S. ExecuComp data. For both types, moreover, income rises by about the same amount since the extra effect for capitalists is not

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<sup>11</sup> As Table V shows, the accounting system does 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). Running regression V-b without the industry dummies only reduces the log likelihood from -1895 to -1913, not enough for them to be jointly significant. We also experimented with interacting the SEC variable with Profitability. When we take the simple specification (a) of Table V without the Capitalist variables and then add SEC Accounting \* Profitability, the interaction term is insignificant and the Profitability coefficient remains largely unchanged.

<sup>12</sup> 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 how they affect the taxes themselves. A predicted level of taxes—8 million, for example—below the censoring bound makes sense in our regression. Thus the tobit coefficient itself, the “linear predictor”, is the correct measure of the marginal effect.

statistically significant. The stock return has an insignificant effect on income. This result too appears commonly in ExecuComp data.

Holding positions at multiple companies increases the income of Company Men but has less effect on the income of Capitalists (the total effect on Capitalists is  $.28 - .28 = 0$ , though the capitalist extra effect is insignificant). Of the 483 Capitalist presidents, 15 percent held multiple positions, but only 10 percent of the 948 Company Man presidents did. We suspect that the Capitalists held positions at affiliated firms (with compensation tied to their work at the principal firm), while Company Men held additional directorships at genuinely independent firms. Option programs similarly increase incomes of Company Men but not Capitalists (the total effect is  $.21 - .22 = -.01$ , insignificantly different from zero). Of our Capitalist presidents 37 percent had an option program while only 25 percent of the Company Men did. Nonetheless, Capitalists apparently do not need the incentive of options to make their value to their companies higher.

We include regression (a) in Table V because it uses only the three variables most commonly included in executive pay regressions. In this simpler specification, it seems that Capitalists do have a higher constant and that accounting and stock returns both increase Capitalist but not Company Man income. The effect is spurious, however, as regression (b) shows that they result from omitting the executive variables. As regression (b) shows, a Capitalist's income very significantly increases with his shareholdings at the firm—4 percent for each percentage of stock ownership, e.g., 40% if he owns 10% of the firm. This no doubt comes from their dividend and other capital income. If we re-run Specification (b) with only those executives holding more than 5 percent of the stock, the coefficient on **Exec Share %** remains strongly significant (0.019, with a z-statistic of 2.79); if we run it on those with less than 5 percent, the coefficient turns insignificant.

(b) *Governance variables.* Specification (c) adds the governance variables.<sup>13</sup> Most of these do not have statistically significant effects for either Company Men or Capitalists. Concentration of ownership by the top 5 shareholders seems to reduce pay for Company Men (a 1% decline per 1% increase in ownership by them) but to have no effect on Capitalists (a net effect of  $1 - 1 = 0$  percent). Serving at firms whose directors have long tenure seems to increase pay. Everything else comes in insignificant -- suggesting either that these governance variables have no effect, or that the firms have adopted firm-specifically optimal governance structures and executive compensation levels. This is a form of endogeneity inherent in any study of why different firms choose different policies, and it tends to make coefficients too small, as one of us has analyzed in detail (see Rasmusen [1998]).

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<sup>13</sup> 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, the 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 from this version.

**Table V**  
**Determinants of the Taxable Income of Corporate Presidents**

The dependent variable is **Log Tax Liability**, and the regressions are tobit. All regressions include industry dummies. The data cover all non-bank firms listed on Section 1 of the Tokyo Stock Exchange. 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 corporate presidents who either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defined in the text), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40. "Company Men" are all other corporate executives. For sources, see Table II. The number of observations varies from 1,340 to 1,347.

	(a)(i) Company men	(a)(ii) Capitalists extra effect	(b)(i) Company men	(b)(ii) Capitalist extra	(c)(i) Company men	(c)(ii) Capitalist extra effect
<b>Constant</b>	<b>4.33**</b> <b>(9.03)</b>	<b>2.51**</b> <b>(3.78)</b>	<b>3.74**</b> <b>(5.90)</b>	1.12 (1.40)	<b>4.48**</b> <b>(4.72)</b>	-0.17 (0.14)
<b>Log(Capitalization)</b>	<b>0.28**</b> <b>(9.26)**</b>	<b>-0.09*</b> <b>(2.19)</b>	<b>0.24</b> <b>(8.61)**</b>	-0.01 (0.22)	<b>0.25**</b> <b>(8.05)</b>	-0.01 (0.20)
<b>Profitability</b>	0.02 (0.45)	<b>0.14*</b> <b>(2.17)</b>	0.05 (1.28)	0.04 (0.68)	0.04 (1.11)	0.02 (0.27)
<b>Stock Price Growth</b>	-0.15 (1.66)	<b>0.27*</b> <b>(2.34)</b>	-0.13 (1.61)	<b>0.22*</b> <b>(2.14)</b>	-0.12 (1.42)	0.18 (1.70)
<b>Multiple Positions</b>			<b>0.28**</b> <b>(2.69)</b>	-0.28 (1.89)	<b>0.31**</b> <b>(2.91)</b>	<b>-0.30*</b> <b>(2.00)</b>
<b>Option Program</b>			<b>0.21**</b> <b>(2.76)</b>	<b>-0.22*</b> <b>(1.97)</b>	<b>0.20*</b> <b>(2.52)</b>	-0.18 (1.62)
<b>Exec. Age</b>			<b>0.02**</b> <b>(2.72)</b>	-0.00 (0.05)	<b>0.02**</b> <b>(2.90)</b>	-0.01 (0.64)
<b>Exec. Share %</b>				<b>0.04**</b> <b>(10.79)</b>		0.04 (9.07)**
Family Company					-0.13 (1.32)	-0.02 (0.12)
Other Board Share %					0.01 (0.83)	0.01 (0.77)
<b>Top 5 shareh.%</b>					<b>-0.01**</b> <b>(2.98)</b>	<b>0.01*</b> <b>(2.11)</b>
Board size					0.00 (0.15)	0.00 (0.33)
Ind. dir. %					0.00 (0.75)	-0.00 (0.33)
<b>Board tenure</b>					<b>0.04*</b> <b>(2.28)</b>	-0.02 (0.79)
Board age					-0.02 (1.26)	0.02 (1.16)
SECActg	0.04 (0.18)		0.10 (0.56)		0.12 (0.64)	

(c) *Control variables.* The accounting system is insignificant in all three specifications in Table V. We also experimented with interacting the SEC variable with Profitability. If we take the simple specification (a) of Table V, for example, whether we include **SEC Accounting \* Profitability** or not, the coefficients on **Profitability** and **Profitability \* Capitalist** remain largely unchanged. The coefficient on the **SEC Accounting \* Profitability** interaction term, moreover, is insignificant.

Table VI reports the industry dummies. Surprisingly, they make little difference. Compared to our omitted dummy, for the Wholesale industry, only three industries are significantly different even at the 10% level, an unsurprising number even randomly when we have 31 industries. The one importantly different industry is Insurance, which appears to have a large negative effect on executive income. That we explain incomes in the insurance industry so poorly perhaps shows the wisdom of our exclusion of banks from the sample, though “Other Financial Services” incomes do fit our regression well.



**Table VI**  
**Industry Effects: Summary Statistics and Regression Results**

Column (a) gives the number of firms in each industry. Column (b) gives the percentage of firms in that industry that appear on TSR's high-income taxpayer list. Columns (c) and (d) give the results of the tobit specification given in regression (b) of Table V: a regression of **Log Tax Liability** on **Log(Capitalization)**, **Profitability**, **Stock Price Growth**, **Multiple Positions**, **Option Program**, **Exec Age**, , those variables interacted with **Capitalist**, **Capitalist**, **Exec Share %**, **SEC Actg.** and industry dummies (the omitted dummy is **Wholesale**)**Log(Tax Liability)**. The data covers all presidents of non-bank firms listed on Section 1 of the Tokyo Stock Exchange. Stars indicate significant difference from **Wholesale** at the 1% (\*\*\*) , 5% (\*\*), and 10% (\*) levels. For sources, see Table II.

Industries, ranked by effect on income, Column (c)	Summary Statistics		Regression Results	
	(a) n	(b) Hi-Inc %	(c) Coefficient	(d) Standard error
Wholesale	125	41.6	(omitted	dummy)
Pulp	13	53.8	0.40	(0.25)
Warehousing	14	42.9	0.31	(0.26)
Other Financial Services	28	42.9	0.29	(0.19)
Precision Equipment	21	42.9	0.22	(0.22)
Security	14	42.9	0.14	(0.25)
Transportation Equipment	55	50.9	0.13	(0.15)
Textiles	47	36.2	0.11	(0.16)
Pharmaceuticals	34	64.7	0.11	(0.17)
Service	68	48.5	0.05	(0.14)
Electrical Products	140	45.7	0.05	(0.12)
Chemicals	105	46.2	0.03	(0.12)
Other Products	43	48.8	-0.05	(0.16)
Real Estate	42	50	-0.06	(0.17)
Retail	122	54.1	-0.11	(0.12)
Machinery	111	32.4	-0.12	(0.12)
Metals	34	23.5	-0.13	(0.22)
Petroleum	9	44.4	-0.14	(0.33)
Glass	22	27.3	-0.14	(0.23)
Fisheries	6	33.3	-0.15	(0.43)
Foods	70	37.1	-0.16	(0.14)
Construction	99	24.2	-0.20	(0.14)
Steel	32	25	-0.22	(0.20)
Rubber	11	36.4	-0.28	(0.32)
Information & Communication	73	38.4	<b>-0.31</b>	<b>(0.14)*</b>
Land Transportation	30	50	-0.32	(0.19)
Electricity & Gas	15	66.7	-0.33	(0.24)
Air Transportation	4	25	-0.51	(0.54)
Sea Transportation	9	11.1	-0.64	(0.49)
Mining	7	28.6	-0.75	(0.61)
Non-Ferrous Metals	21	4.8	<b>-0.98</b>	<b>(0.39)*</b>
Insurance	7	71.4	<b>-4.28</b>	<b>(0.01)***</b>

## V. Robustness Checks

### A. *Alternative Measures of Size and Performance*

In Table VII, we re-run our regressions with our principal variables and alternative proxies for firm size and performance. Because some studies of executive compensation in the U.S. measure firm size by assets or sales, we begin by using those measures rather than market capitalization. The results indicate that compensation depends much more closely on capitalization than on these accounting measures of size. The coefficient on logged capitalization remains significant and relatively stable across most specifications, while the coefficient on logged sales is insignificant. The coefficient on logged assets is negative for Company Men, indicating that executive salaries in Japan increase with market capitalization, but -- holding market capitalization constant -- actually fall with the firm's assets. Apparently it is firms with future opportunities out of proportion to their present assets that demand the highest-quality managers. Stock price matters for Capitalists (who of course tend to hold significant blocks), but not for Company Men.

Second, we ask whether **Relative Profitability** (the difference between a firm's **Profitability** and the industry mean) and **Log (Mean Capitalization)** (the mean capitalization of the firms in an industry) better explain compensation patterns than the combination of firm **Profitability** and **Capitalization** employed above. They do not. **Capitalization** remains significant and **Profitability** insignificant while both **Log (Mean Capitalization)** (specification (d)) and **Relative Profitability** (specification (e)) are insignificant.

### B. *Alternative Regression Techniques*

In Table VIII, we offer four alternative regressions of executive compensation -- an exercise that again yields results very close to those reported 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); 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. The results of (b), (c), and (d) are similar enough to those in our main regression, (a), to reassure us that the results are not an artifact of our technique.

### C. *First Differences*

In Table IX we estimate the determinants of pay in first differences. For those taxpayers who paid at least 10 million yen in taxes in both 2003 and 2004, we calculate the change in their tax liability. In Column (b) we limit the dataset to the 100 firms with gross assets of at least 1,550 billion yen, allowing a closer comparison with Kaplan (1994). The calculated coefficients, however, are almost uniformly insignificant and only a few reach even the 10 percent level. As elsewhere, Capitalists with large shareholdings do earn larger incomes. Yet among the largest firms the Company Men seem to earn lower incomes when their firms increase their profitability. Given the presence of only 40

men in the dataset (they must make the HIT list two years in a row to be in this regression), we hesitate to place any confidence in the result.

**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 Specification (d) which would not coverge with them. The data cover all non-bank firms listed on Section 1 of the TSE. We omit the z statistics. Significant effects are boldfaced, and given one, two and three stars for significance at the 10%, 5%, or 1% levels. 4.315/0.130 gives the coefficient of 4.315 followed by the "Capitalist Extra Effects" of 0.130, which represents 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 either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defined in the text), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40. "Company Men" are all other corporate executives. For sources, see Table II. . The number of observations is 1,345.

	(a) Capitalization	(b) Assets	(c) Sales	(d) Mean Cap.	(e) Relative Prof.
Constant	<b>3.737***</b> /1.121	<b>2.818***</b> / <b>2.752***</b>	<b>3.667***</b> / <b>1.755*</b>	<b>3.239***</b> / <b>2.583*</b>	<b>3.316***</b> /1.119
Log(Capitalization)	<b>0.239***</b> /-0.009	<b>0.341***</b> / <b>-0.203***</b>	<b>0.242***</b> /-0.021	<b>0.225***</b> /0.021	<b>0.239***</b> /-0.009
Profitability	0.048/0.039	0.026/0.076	0.046/0.051	0.054/0.038	0.632/0.041
Stock Price Growth	-0.130/ <b>0.223**</b>	<b>-0.132*</b> / <b>0.222**</b>	-0.125/ <b>0.207**</b>	<b>-0.094</b> / <b>0.184*</b>	-0.130/ <b>0.223**</b>
Multiple Positions	<b>0.281***</b> / <b>-0.281*</b>	<b>0.317***</b> / <b>-0.341**</b>	<b>0.277***</b> / <b>-0.270*</b>	<b>0.223**</b> / <b>-0.256*</b>	<b>0.281***</b> / <b>-0.281*</b>
Option Program	<b>0.213***</b> / <b>-0.217**</b>	<b>0.176**</b> /-0.148	<b>0.213***</b> / <b>-0.209*</b>	<b>0.222***</b> / <b>-0.230**</b>	<b>0.213***</b> / <b>-0.218**</b>
Exec Age	<b>0.019***</b> /-0.000	<b>0.022***</b> /-0.005	<b>0.019***</b> /-0.001	<b>0.018***</b> /0.000	<b>0.019***</b> /-0.000
Exec Share %	-----/ <b>0.043***</b>	-----/ <b>0.045***</b>	-----/ <b>0.043***</b>	-----/ <b>0.042***</b>	-----/ <b>0.043***</b>
SECAccounting	0.105/-----	0.152/-----	0.099/-----	0.162/-----	0.105/-----
Log(Assets)		<b>-0.118**</b> / <b>0.231***</b>			
Log(Sales)			0.009/-0.102		
Log(Mean Capitalization)				0.043/-0.116	
Relative Profitability					-0.584/ -0.002

**Table VIII**  
**Determinants of Income: Alternative Regression Techniques**

Column (b) and (d) are limited to those executives who paid at least 10 million yen in taxes in 2004. All regressions include industry dummies. The data cover non-bank firms listed on Section 1 of the TSE. We omit the z statistics. Significant effects are boldfaced, and given one, two and three stars for significance at the 10%, 5%, or 1% levels. 4.315/0.130 gives the coefficient of 4.315 followed by the "Capitalist Extra Effects" of 0.130, which represents 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 either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defined in the text), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40. "Company Men" are all other corporate executives. For sources, see Table II.

Dependent Variable	(a) Ln Tax Liability	(b) Ln Tax Liability	(c) High Income TP	(d) Number Appearances
Technique used	Tobit	OLS (R <sup>2</sup> =.58)	Probit	Poisson
<b>Constant</b>	<b>3.737***</b> /1.121	<b>7.716***</b> / <b>-1.176*</b>	<b>-7.578***</b> /2.292	<b>-1.938**</b> /1.139
<b>Log(Capitalization)</b>	<b>0.239***</b> /-0.009	<b>0.109***</b> / <b>0.097***</b>	<b>0.309***</b> /-0.064	<b>0.092***</b> /-0.012
<b>Profitability</b>	0.048/0.039	<b>0.111***</b> /-0.047	-0.003/0.117	0.030/-0.000
Stock Price Growth	-0.130/ <b>0.223**</b>	-0.098/0.218**	-0.117/0.085	-0.019/0.017
<b>Multiple Positions</b>	<b>0.281***</b> / <b>-0.281*</b>	0.003/-0.233**	<b>0.496***</b> /0.198	0.045/-0.146
<b>Option Program</b>	<b>0.213***</b> / <b>-0.217**</b>	0.046/0.003	<b>0.298***</b> / <b>-0.491***</b>	-0.137/0.064
<b>Exec. Age</b>	<b>0.019***</b> /-0.000	0.003/0.001	<b>0.032***</b> /0.001	<b>0.023***</b> /0.008
<b>Exec. Share%</b>	-----/ <b>0.043***</b>	-----/ <b>0.041***</b>	-----/ <b>0.023***</b>	-----/ <b>-0.000</b>
<b>SEC Accounting</b>	0.105/	-0.011/	0.326/-----	<b>-0.392***</b> /-----
Observations	1342	556	1342	556

**Table IX**  
**Determinants of Changes in Income**

The dependent variable is  $\Delta$  Tax Liab. The regressions are OLS and are limited to executives who paid at least 10 million yen in taxes in both 2003 and 2004. Regressions (b) is limited to the 100 firms with gross assets of at least 1,550 billion yen. The data cover all non-bank firms listed on Section 1 of the Tokyo Stock Exchange. 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  $X^*(\text{Capitalist dummy})$  -- that is, the additional effect of the executive being a Capitalist. "Capitalists" are corporate presidents who either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defined in the text), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40. "Company Men" are all other corporate executives. For sources, see Table II.

	(a)(i) Company men	(a)(ii) Capitalists extra effect	(b)(i) Company men	(b)(ii) Capitalist extra effect
Constant	-1.117 (1.02)	0.079 (0.06)	-0.412 (0.20)	-0.402 (0.14)
Log(Capitalization)	0.065 (1.46)	0.002 (0.03)	0.029 (0.35)	0.033 (0.24)
<b>Multiple Positions</b>	-0.013 (0.08)	-0.143 (0.71)	0.006 (0.05)	<b>-0.330*</b> <b>(1.76)</b>
Option Program	0.088 (0.65)	0.025 (0.15)	-0.005 (0.03)	<b>0.583*</b> <b>(1.77)</b>
Exec. Age	0.004 (0.32)	-0.003 (0.26)	-0.001 (0.05)	-0.004 (0.19)
<b>Exec. Share %</b>		<b>0.009*</b> <b>(1.77)</b>		-0.021 (0.79)
Stock Price Growth	-0.055 (0.36)	0.264 (1.51)	0.282 (1.34)	0.103 (0.33)
$\Delta$ Profitability	0.001 (0.03)	-0.006 (0.18)	<b>-0.172*</b> <b>(1.82)</b>	-0.291 (0.88)
$\Delta$ Sales	0.006 (0.09)	0.189 (0.78)	-0.038 (1.35)	0.288 (0.22)
Negative Profitability	0.378 (0.50)	-0.353 (0.44)	0.000 (.)	0.000 (.)
<b>SECActg</b>	-0.024 (0.10)		<b>0.483***</b> <b>(3.85)</b>	
Industry effects?	yes		no	
R <sup>2</sup>	0.09		0.66	
Observations	439		40	

*D. University effects*

Table X looks at a different question: whether one can predict the income of an executive from his alma mater. Elsewhere, we find that both judges and lawyers who attend elite universities are more successful (see Ramseyer & Rasmusen [2003], Nakazato, Ramseyer & Rasmusen [2006]). In the case of executives, we would not expect to find the same result even if graduates of the elite Tokyo University are smarter or better trained. For one thing, to become a judge or lawyer there is a single filter, albeit a very fine one: passage of the extraordinarily difficult bar-exam equivalent in Japan. We would expect those who pass the exam to still vary considerably in quality, even though all would be unusually talented. Presidents of large companies, on the other hand, have gone through many filters, in the form of the many rungs of the corporate ladder. Moreover, we have already seen that larger companies pay higher salaries. It is not clear to us why two presidents of companies of equal size would have different abilities and pay simply because one of them went to Tokyo University.

At the same time, some might wonder whether social norms matter enough that a president's college background does affect his pay -- that somehow a company might feel it could get away with paying a Nihon University graduate less because the school is not a top-ten, or even top-twenty, university in Japan. And, indeed, a regression not reported here of executive income on the variables we have already mentioned plus dummies for college attendance does show a college effect. The college effect is not what one might expect, though: the richest executives are not those with Tokyo University diplomas, but those who never finished any college at all!

This result is easily explained by the regression in Table X. Table X shows that if we split off the effect of being a Capitalist, an executive's university seems to make no difference to his income (except that attending the better universities seems to hurt a Capitalist's income). Our previous paragraph's seeming advantage of not going to college is what we might call a "Bill Gates Effect", after the Microsoft billionaire who dropped out of Harvard. The richest executives are Capitalists, not Company Men, and between inherited wealth and entrepreneurial spirit, going to an elite university is not the best way to accumulate capital. Although two-thirds of the presidents in our dataset are Company Men, only 46 of the Company Men presidents lack a university degree while 66 of the Capitalist presidents do. Seventeen of the Company Men presidents graduated from the third-tier mega-university Nihon University, but 16 of the smaller number of Capitalists did. By contrast, 109 of the Company Men presidents, but only 21 of the Capitalists, graduated from the University of Tokyo. Elite university backgrounds, in other words, are more a function of men who rise through organizations than of men who create them.

**Table X**  
**The Effect of University on Taxable Income**

The dependent variable is **Log(Tax Liability)**, and the regressions are tobit. All regressions include **SEC Accounting** and industry dummies. The data cover all presidents of non-bank firms listed on Section 1 of the Tokyo Stock Exchange. Below the coefficients are the z-statistics. Significant effects are boldfaced, and given one, two and three stars for significance at the 10%, 5%, and 1% levels. The "Capitalist Extra Effects" columns for variable row X represents 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 either (i) are among the top 10 shareholders of the firm, (ii) work at their own family firm (as defined in the text), (iii) have appeared on the TSR high-income taxpayer list more than five times, or (iv) are under age 40. "Company Men" are all other corporate presidents. For sources, see Table II. The number of observations is 1,249.

	Company Men	Capitalist Extra Effect
Constant	<b>3.409***</b> <b>(3.89)</b>	1.214 (1.42)
<b>Log(Capitalization)</b>	<b>0.237***</b> <b>(8.17)</b>	-0.028 (0.66)
Profitability	0.044 (1.17)	0.008 (0.14)
Stock Price Growth	<b>-0.159*</b> <b>(1.88)</b>	<b>0.268**</b> <b>(2.46)</b>
<b>Multiple Positions</b>	<b>0.289***</b> <b>(2.73)</b>	-0.240 (1.57)
<b>Option Program</b>	<b>0.241***</b> <b>(3.04)</b>	<b>-0.244**</b> <b>(2.13)</b>
<b>Exec. Age</b>	<b>0.017**</b> <b>(2.36)</b>	0.002 (0.31)
<b>Exec Share %</b>	-----	<b>0.045***</b> <b>(10.21)</b>
U Tokyo	0.029 (0.17)	-0.098 (0.36)
U Kyoto	-0.286 (1.31)	-0.090 (0.28)
Oth Imp U	-0.101 (0.54)	-0.236 (0.74)
Hitotsu	-0.027 (0.08)	0.415 (0.82)
Keio	-0.013 (0.08)	-0.103 (0.45)
Waseda	-0.125 (0.65)	0.206 (0.80)
Oth Univ	-0.010 (0.06)	-0.054 (0.28)
SEC Actg	0.181 (0.94)	-----



## **VI. Concluding Remarks**

Most studies of executive pay use data on labor income (salary, bonus, and options), but have no data on investment income, though executives respond not just to salaries but to the value of their entire portfolio. To date, studies of Japanese executives have not even had good data on pay, in contrast to the detailed filings on executive pay required in the United States. Lacking direct data on salaries, we instead use tax records. Standard data from corporate filings plus this unusual tax data combines 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-third as much as their U.S. peers— one fourth as much if we look only at compensation from the firm and not capital income. Using tobit regression analysis, we conclude that executive salaries in Japan increase at a rate of 24% of the increase in market capitalization, but holding market capitalization constant they actually fall with the firm's assets. Apparently it is firms with future opportunities out of proportion to their present assets who demand the highest-quality managers. Salaries also increase with age, but not with stock returns or accounting profitability. Corporate governance variables such as board composition have little or no effect, except that firms with large lead shareholders appear to pay less.

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