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

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Abstract: [To come.]

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In this paper we use a new dataset to examine a longstanding question: what determines the salaries of top executives at publicly traded firms? This new dataset consists of the income tax paid by the richest executives in Japan in 2004, which we combine with generally available data on the publicly traded firms for which they work, data generated from the filings companies are required to make with the Japanese government. In the United States, publicly traded companies are required to make public detailed data on how much their top executives are paid, and how that breaks down between components such as salary and bonus. In Japan, companies need not even disclose the total compensation of a top executive. On the other hand, we do not know the total incomes of executives in the United States, because the tax forms they submit to the government are strictly confidential.

Although tax forms are also confidential in Japan, until recently any taxpayer paying over 10 million yen in taxes was required to make public his identity and total tax bill. Some 578 corporate presidents are in this category. We also compile 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. This is the source of our data on executive incomes in Japan.

In contrast, the best-known analysis comparing the compensation of American and Japanese executives, Kaplan (1994), is limited to the largest 121 companies in Japan and takes as its measure of compensation the average amount paid to the some 22 (on average) members of the board of directors, a number that public corporations must report. Japanese boards have fewer outside members than American boards, but this measure is nonetheless far from ideal. Indeed, Kato (1997) has shown that this reporting requirement excludes much of even the cash compensation executives receive. Other studies, such as Abowd & Bognanno (1995) and Kato & Kubo (2006) have used data created by management consulting firms. Although these data which can be very rich (Kato & Kubo are able to track 51 firms for 10 years), the selection of companies is nonrandom and sample sizes tend to be small. One study, Kato & Rockel (1992), did make use of the same tax-reporting data source as we do, looking at the tax paid by 599 managers in 1985. That study did not look at the effect of corporate governance, however, and did not take into account certain features of the data such as the presence of entrepreneurial executives with sizeable capital income and the truncation problem caused by the tax data's minimum tax requirement.

Executive compensation interests researchers so much for a number of reasons. First, there is the question of how the free market allocates talent. Is an executive's marginal product bigger at a larger firm? If so, is the increase greater the more talented is the executive? Going beyond size, is a company's chief executive more important to its profitability in some industries than in others?

Second, there is the question of how pay relates 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. It is equally plausible, though, that non-material incentives are more important for agents of this income level, or that the ability of top executives to manipulate accounting numbers and the public release of information makes it too dangerous to try to base their pay on numerical targets. Even if we knew incentive pay was appropriate, however, that would not tell us how it should be shaped, another question to address.

Third, we might ask how corporate governance affects 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 of variables relates to the concentration of ownership -- the number of large shareholders, whether they are corporate, family, or individual, and how much of shareholding is by executives.

Fourth, we might ask how the answers to the first three questions vary across countries. Is the allocation of talent different in Japan than in the United States? Are the utility functions of executives there different enough that the relation between pay and performance is different? Do the laws and customs of corporate governance have a different effect on agency slack and resulting pay patterns?

We will address these questions, to the modest extent that regression analysis of our data permits. In brief, we find that there is a slight but definite tendency for executive incomes to be higher at larger firms (within the large, Tokyo Stock Exchange, firms in our dataset), that incomes depend on profitability only for executives with large shareholdings in their firms, that the influence of board composition on executive income is mixed, and that the presence of a few large shareholders is associated with lower executive income.

We begin by surveying the literature on executive compensation in the U.S. and Japan (Section I). We then introduce our own data and variables (Section II). We explore both the level of executive compensation in Japan (Section III.A.) and its determinants (Section III.B.). We check the robustness of our findings by looking at various specifications, and by trying to untangle the separate effects of executives' labor and capital income (Section IV).

I. The Literature

[To come.]

II. The Data

A. Tax Liability:

1. Method. -- To estimate what Tokyo Stock Exchange (TSE)-listed Japanese firms pay their senior executives, we take a largely unexplored approach.¹ Unlike U.S.

¹ This approach is not entirely new. Tachibanaki & Mori (2005) explore the taxpayer data in Japanese, though without using multivariate regressions. Kato & Rockel (1992) use the tax data to explore executive compensation at the largest 600 Japanese firms in 1985, but

companies, publicly traded Japanese companies are not required to disclose in securities filings 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. Thus, the standard approach to analyzing executive compensation in the United States is impossible. Faced with this quandary, some scholars have turned to headhunter surveys (e.g., Abowd & Bognanno, 1995), but the strategy imposes obvious limitations. Others have used the mean amounts firms pay all board members (e.g., Kaplan, 1994), but unfortunately for this strategy Japanese boards are large (14 members, in our database), and many directors are quasi-retired.

We use an entirely different data source: tax data provided by the executives themselves, not by their employers. More specifically, we estimate income levels from the amount of taxes senior corporate executives paid in 2004. We were able to obtain this data 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 the highest incomes. The amount of liability that triggered this public disclosure varied over the years, but in 2004 stood at 10 million yen (at the end-of-2004 exchange rate of 102.68 yen/\$, about \$97,000). To owe 10 million yen in taxes, a taxpayer would have earned taxable income of about \$400,000.

In 2004, some 73,000 Japanese paid 10 million yen or more in taxes. Compared to the U.S., this is few. Japan has about half the population of the U.S., and roughly the same median household income. Yet in 2003, U.S. taxpayers filed 536,000 returns with adjusted gross incomes of over \$500,000. They filed nearly 181,000 returns with over \$1,000,000 (www.irs.gov).

Japanese taxpayers pay a tax of 37 percent on ordinary income beyond 18 million yen.² 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 1 we use standard deductions and credits to calculate actual income that would generate the taxes given. By this approach, to owe the TSE-Section-1 median of 10.5 million yen, 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).

[Insert Table 1 about here.]

We obtained our tax data from the Japanese affiliate of the D&B credit-rating service, Tokyo shoko risaachi (TSR, 2005). Naturally, TSR uses the data for credit investigations. In some cases, it has added the professional affiliation of the taxpayers. Where it did, we generally followed its identification.

Because some executives 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. To date, however, others using this data to estimate Japanese executive compensation (Kato & Rockel, 1992; Kato, 19xx) have limited their studies to those executives who do pay more than the 10 million yen tax threshold. They have then treated the data as though

without addressing the fact that the data is truncated below by executives paying less than 10 million yen in taxes. Alexander & Tan (1984) use the data to explore attorney incomes. Below, we discuss ways our study differs from Tachibanaki & Mori and Kato & Rockel.

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. xx of 200x.

those observations were representative of executives more generally. In doing so, they obviously select for firms that, other things equal, pay their executives more, and bias their estimates of mean incomes upward.

Although we do not know the actual incomes of the executives not in the tax dataset, we do know that they paid less than 10 million yen in tax. This is relevant information, and we have just as good information for these men as for the high-tax executives on personal characteristics such as age, and firm characteristics such as corporate assets. To exploit this fuller universe of data, we use tobit, the standard technique for censored data. This lets us both avoid sample selection bias and increase the number of observations in our regression analysis.

2. Limitations. -- Most executives will report taxable income amounts that understate their real incomes. Like firms elsewhere, Japanese corporations lavish a wide array of untaxed perquisites on their senior-most executives. Crucially, though, we know of no reason this downward bias would vary systematically across our firms (the very largest firms listed on the TSE) in ways relevant to this study.

To the extent executives have income from other sources, however, their taxable income will overstate their firm compensation. Being rich, many of these men will earn substantial investment income. Although Kato & Rockel (1992) and Kato (19xx) ignore this potential bias as well, in Section IV.D. we explore this issue further, since we do expect investment income of executives to vary across the type of firms employing them.

Parenthetically, note the following: in Japan, couples may not file joint returns; taxpayers with rising incomes may not “average” their income across years; dividend income is taxed at the same rates as compensation; gains from the sale or exchange of real estate are taxed at 30 percent if held over 5 years and at 15 percent if held for 5 years or less; pension payments are taxed at lower rates than salaries; and capital gains on the sale or exchange of securities are taxed at 7 percent.

As a check on the reliability of the data, we compare an executive’s 2004 tax liability with the average land price of the neighborhood in which he lives (obtained from Toyo keizai shimpo sha, 2005c). To maintain comparability, we limit our sample to executives living in the greater Tokyo area. The correlation coefficient between an executive’s 2004 tax liability and the land values in his residential neighborhood is 0.11 - - statistically significant at greater than the 1 percent level. Executives living in more expensive neighborhoods do seem to be reporting higher taxable incomes.

3. Other issues. -- We focus on firms listed on Section 1 of the TSE. In general, these are the very largest publicly traded Japanese firms. Because banks differ from other firms in a variety of ways -- particularly in their accounting practices -- we exclude banks. This leaves us with a database of 1,568 firms.

We obtain our principal financial data on the firms from Nihon keizai shimbunsha (2005) and Toyo keizai shimpo sha (2005b). We add stock price data from Toyo keizai shimpo sha (2005a). We include selected summary statistics in Table 2.

[Insert Table 2 about here.]

We obtain the identity of the executives and the composition of the boards in 2004 from Toyo keizai shimpo sha (2005d). In turn, Toyo keizai takes the information

from securities filings. Because firms generally list board members in order of importance, we collect information on the first two members listed.

Starting in 2006, this taxpayer data has become unavailable. Under the newly passed Personal Information Protection Act, the government may not release a variety of private data.³ Because tax liabilities fall within the scope of the ban, the government no longer releases the taxpayer lists. Our 2004 data thus represents the last available set of this information.

B. Option Programs:

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:⁴ 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.

Suppose executive Z obtains qualified options to buy 10 shares at 10x 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. Z 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 the 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: used options in any year to buy less than 12 million yen's worth of stock (\$117,000); could not exercise the options less than 2 or more than 10 years after receiving them; could not transfer the options; and received them 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). 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.

C. Board Structure:

In the past, Japanese boards did not formally delegate decision-making to committees, and were thought by critics to include too few outsiders.⁵ Ostensibly to fix these "problems," since 2004 Japanese corporate law has allowed firms to choose what observers call a "U.S.-style" board structure.⁶ In opting for this structure, firms couple the appointment of statutorily defined outside directors with the use of nominating, compensation, and audit committees. Each of these committees they must staff with a majority of these defined outsiders. In exchange, they need not maintain the traditionally required "statutory auditor."

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

⁴ See generally Sozei tokubetsu sochi ho [Special Tax Measures Act], Law no. 26 of 1957, Sec. 29-2.

⁵ For a critique of this literature, see Miwa & Ramseyer (2005)

⁶ Kansa tokurei ho [Special Audit Act], Law No. xx of 200x.

Of our firms, less than 3 percent have opted for this committee structure. We take the list of firms that have chosen it from Nihon torishimariyaku kyokai, 2005).

III. Taxable Income

A. Levels:

1. Estimating levels. -- Compared to their U.S. counterparts, Japanese executives earn low pay. 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; www.Forbes.com).

In Japan, the highest paid corporate executive, Tadashi Yanai of Fast Retailing, paid taxes of \$10.6 million in 2004 -- suggesting taxable income of perhaps \$30 million (Table 3). Reflecting the much flatter income distribution in Japan than in the U.S., only two Japanese in any endeavor earned more (39 U.S. corporate CEOs earned more than \$30 million). From this high end in Japan, incomes fall rapidly. The fifth highest paid executive earned only half Yanai's amount, the 10th highest paid executive earned a third, and the 20th highest paid earned barely a fifth. Only 20 executives, in other words, earned over \$6 million, and only 224 Japanese in any endeavor earned more. In the U.S., 211 corporate CEOs earned more than \$6 million in 2004.

[Insert Table 3 about here.]

Japanese securities filings do not name the CEO. They do specify who serves on the board and usually name the president. Sometimes they also specify a chairman of the board. Generally, the president acts as CEO -- but not always. We suspect that the highest paid executive (who may or may not be the president) may be the CEO -- but obviously this will not always hold true either. Given the ambiguity, in Table 1 we report the incomes of both the presidents and the highest paid officers.

Among the largest 100 TSE Section 1 non-bank firms, the median highest paid officer earned \$610,000; among the largest 500 firms, he earned \$542,000; and among all TSE Section 1 firms, he earned \$401,000. The median president at the largest 100 earned \$534,000, and at the largest 500 earned \$420,000. The median president among all TSE Section 1 firms paid taxes of less than 10 million yen (Table 3).

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

[Insert Figure 1 about here.]

2. Change and composition. -- Executive compensation in the U.S. has risen rapidly in the last two decades, and much of that increase has come through option programs. Aboud & Kaplan (1999: 146), for example, suggest that real cash CEO compensation increased 80 percent in the U.S. from 1984 to 1996. Option income rose 350 percent.

Japanese executive compensation has apparently climbed too, but not as steeply. Kato and Rockel (1992; they study only TSE firms [check]) report that the presidents of

"more than 700 leading corporations" paid taxes of at least 10 million yen in 1985.⁷ 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 -- implying (at a 37 percent rate) mean taxable incomes of over 97 million.⁸

We doubt that Japanese executives earn large amounts of option income not reflected in our data (tax qualified options were unavailable at the time of Kato & Rockel, 1992). After all, recall our discussion of Japanese tax law. If an executive exercises "unqualified" options, he recognizes taxable compensation income immediately (though he does not have taxable income in the year he receives the options). He avoids income recognition upon the exercise of a "qualified" option only if both (a) those options have an exercise price at least as high as the price of the stock at the time he received the options, and (b) he buys in any year no more stock than he can obtain through an aggregate option exercise price of 12 million yen. Provided the firm uses a qualified plan, we miss only the option income involved in the right to buy \$117,000's worth of stock.

If (as seems probable) 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 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 that had adopted an option program, half had presidents who paid at least 10 million in taxes; among the rest, only 38 percent did.

B. Determinants:

1. Introduction. -- As in the U.S., the presidents of big firms and profitable firms earn higher incomes than the presidents of smaller and less profitable firms. In the section that follows, we address these points further. We also explore the possibility that several other factors may affect compensation -- but hesitate to reach any conclusions on these peripheral issues.

2. Variables. -- We construct the following variables:

Ln 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.

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

⁷ 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. Below, we do use it instead to compare our findings on the determinants of executive compensation.

⁸ From 1985 to 2004, the consumer price index in Japan increased xx percent. These mean figures obviously omit the presidents who did not pay 10 million yen in taxes.

Num Appearances: The number of times the executive appeared on the high-income taxpayer list.

Ln Assets: the log of the firm's assets in mid-2005, in 1000 yen.

Profitability: The firm's operating income (for the fiscal year beginning in 2004) divided by its legal capital, in 1000 yen.

Supra-Indus Prof: The difference between the firm's **Profitability** and the mean **Profitability** for all firms in its industry.

SEC Accounting: 1 if the firm reported its financials by U.S. accounting principles in 2004.

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

Exec S/h: the percentage of the firm's shares held by the executive, but 0 if the executive is not one of the top 10 shareholders.

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

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**, **Chuo U**, **Nihon U**, **Doshisha U**, **Any Jr College**, **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.

Own Fam Corp: 1 if the firm was a "family corporation" and the executive was a part of that family; 0 otherwise. We define a "family corporation" as one in which either at least two board members have the same last name, or the firm's name (e.g., Casio) is the same as that of at least one board member (e.g., Kashio).

Other Fam Corp: 1 if the firm is a "family corporation" and the executive is not a part of that family; 0 otherwise.

Top S/h: the percentage of the firm's shares held by its largest shareholder.

Top 5 S/h: the percentage of the firm's shares held by the largest 5 shareholders.

Top 10 S/h: the percentage of the firm's shares held by the largest 10 shareholders.

Other Bd S/h: the total percentage of the firm's shares held the members of the board other than the executive.

Top S/h Corp: 1 if the top shareholder of the firm is a corporation; 0 otherwise.

Committees: 1 if the firm had adopted the new American-style committee structure for its board (see Sec. II.C.).

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 not the definition used by the statute governing the new committee structure.

Industry dummies: industry affiliation (32 industries), as given by Toyo keizai simpo sha (2005b).

3. Determinants of taxable income. -- (a) Size and profitability. In Japan as in the U.S., the bigger and more profitable firms pay more than the smaller and less profitable. Consider Column 1 of Table 4: the marginal effect of firm size (in logs) and **Profitability** (operating income/capital) on a president's 2004 tax liability (in logs), evaluated at the median. Because that taxable income is censored below at 10 million yen, we use tobit. According to the regression, the elasticity of an executive's taxable income with respect to firm size is about .05. Its elasticity with respect to firm profitability is about .06.

[Insert Table 4 about here.]

[Compare these measures to other studies of Japanese compensation patterns.]

[Compare these measures to studies of U.S. compensation patterns.]

(b) Executive characteristics. In Column 2 of Table 4, we investigate the relation between pay and several personal characteristics. First, executives with positions at several firms (**Multiple Pos** = 1) report higher taxable incomes than those who work only at one firm. The effect presumably captures some of the executive's outside income.

Second, executives who own more shares at a firm (**Exec S/h**) report higher incomes than those with less. The effect captures either an executive's outside investment income or his use of his ownership interest to extract private benefits of control. Unfortunately, our data do not disentangle the two avenues toward higher incomes. Stock holdings are endogenous to compensation levels, of course (highly paid executives have more money with which to buy stock), and we return to this issue in Section IV.D.

Third, executives at firms with option programs (**Option Prog** = 1) report higher incomes than others. The effect probably captures the tendency of firms paying the most generous cash compensation to offer option programs as well. Hypothetically, it could also reflect either the use of unqualified plans or sales of stock acquired through qualified plans. Given the tax penalty incurred through either strategy, we consider them less likely.

Fourth, older executives (**Exec Age**) report higher incomes than younger executives. This effect could capture (i) the use of a seniority-based pay scale (as conventionally asserted about Japan), (ii) aspects of executive performance not captured by our **Profitability** measure, or (iii) the tendency of most executives to save over time and earn progressively more investment income. We address this issue in Section IV.D. as well.

Last, the executives from the most exclusive universities report the lowest incomes (Table 5). The omitted variable in the regression is "no university." For all universities except the mediocre Nihon University, the coefficients are negative. Indeed, for the most prestigious universities -- the seven formerly "imperial" universities -- the coefficients are significantly negative.⁹

[Insert Table 5 about here.]

We suspect that the negative coefficients on university degree illustrate the contrast between entrepreneurs and organization men. Few TSE firms hire men with no university background onto the management track. Indeed, the largest and most

⁹ Though the effect becomes more attenuated in the full specification of Column 8. Note that only 4 presidents had attended a junior college.

prestigious firms will not hire them unless they attended the very best schools. The only non-graduates who manage to head TSE firms, then, will be those who created their own firms themselves. We revisit this issue in Sec. IV.D.

As with several of the other phenomena here, these coefficients do not tell us why these high-school educated entrepreneurs report higher incomes. Presumably, they either dominate the firms sufficiently to enable them to extract private benefits of control, or have amassed enough wealth to earn substantial investment income. .

(c) Family firms. In the Column 3 of Table 4, we add two “family firm” (as defined above) variables: whether a firm is a “family firm” either of the executive’s own family, or of another family. According to the regression, if the executive runs another family’s firm, he earns no more and no less than if he ran a non-family firm: family-controlled firms do not pay their outside executives less. If he runs his own family firm, however, he reports significantly higher income. Whether he does so because the family control lets him extract private benefits of control or because his family earns substantial other income we cannot say.

(d) Shareholding variables. In Columns 4-6 of Table 4, we explore the effect of several shareholding variables. For all the reasons articulated by Demsetz & Lehn (19xx), we do not expect these variables necessarily to affect compensation levels. After all, most of these firms operate within competitive capital, product, and input markets. For many such firms, ownership patterns may not matter. If they do matter, Demsetz & Lehn suggest that they will maintain ownership levels near their firm-specific optimum -- for those that do not will incur a competitive penalty and find it harder to survive.

The evidence, however, is mixed. On the one hand, firms whose board members invest heavily in the firm (**Other Board S/h**) do not do not pay their executives less than other firms. Suppose unsupervised corporate presidents manipulated the corporate machinery to extract larger compensation packages for themselves. If so, then those firms where board members have the greatest incentive to monitor the president should (firm size and performance held constant) pay their presidents less. In fact, they pay more. We do not know why the coefficient on **Other Bd S/h** is positive, but -- crucially -- it is not significantly negative.¹⁰

Parent corporations do not pay the presidents of their subsidiaries (**Top S/h Corp** = 1) less than other firms either. Again, if badly supervised executives could divert firm assets to themselves, then executives at subsidiaries (after all, the parent firm does have an incentive to monitor) should earn less than their peers at free-standing firms. They do not. Instead (size and performance held constant), they earn more.

On the other hand, the more stock a firm’s lead shareholder owns, the less it pays its president. Whether we use the stock held by the top shareholder (**Top S/h**), top five shareholders (**Top 5 S/h**), or top 10 (**Top 10 S/h**), the more lead shareholders own, the less income the firm’s president reports. Apparently, however, the investment by the single largest shareholder has the largest effect. According to the results in Columns 4-6,

¹⁰ Presumably, the coefficient either (a) reflects aspects of executive performance not captured by our **Profitability** measure, or (b) reflects the way entrenched executives reward their friends on the board with stock.

neither the interests of the top five nor those of the top ten matter as much as that of the top shareholder.

(e) Board variables. Again for the reasons given by Demsetz & Lehn (19xx), we do not expect the coefficients on our board composition variables necessarily to affect compensation patterns. Here too, however, the regressions yield ambiguous results. On the one hand, the size of the board (**Board Size**) and the percentage of outside directors (**Ind Dir %**) bear no significant relation to executive pay (Column 7 of Table 4). On the other, boards with longer tenure (**Board Tenure**) do (performance and size held constant) pay their presidents more, while older boards (**Board Age**) pay them less. The former effect could reflect entrenchment,¹¹ but the latter seems simply a puzzle. The selection of the new committee structure (**Committee**) lowers compensation in some specifications but not others (compare Columns 7 and 8).

IV. Robustness Checks:

A. Introduction:

We close by exploring whether our principal findings are robust to alternative specifications. Toward that end, we first experiment with other regression techniques (Section B). We then substitute for the industry dummy variables used above the difference between (i) a given firm's **Profitability** and (ii) the mean **Profitability** for all firms in the industry (Section C). We partition the data set between those presidents most and least likely to have substantial outside income (Section D). Finally, we compare our findings with those of a recent research-institute survey of xx firms (Section E).

B. Alternative Regression Techniques:

Table 6 offers four alternative regressions of executive compensation on several of the principal variables used earlier: a tobit regression using the dependent variable used in Table 4 (Column 1); an OLS regression on only those presidents who appeared on the TSR high-income taxpayer list (Column 2); a probit regression using the **High Income TP** dummy as the dependent variable (Column 3); and a Poisson regression using the number of times an executive appeared on that list (**Num Appearances**) as the dependent variable (Column 4).

[Insert Table 6 about here.]

The tobit results largely track the three alternatives. In all four regressions the coefficients on firm size and profitability are significantly positive. The results are weakest on the OLS regression using only those presidents who appear on the TSR list. Yet even there, the coefficients on size, profitability, and executive shareholdings take the direction that they do in the other specifications and reach statistically significant levels.

C. Deviation from Industry Profitability:

In Table 7, we re-run our regressions with our prior variables and **Supra-Industry Profitability**. We define the latter as the difference between a given firm's **Profitability** (operating income/capital) and the mean for the industry in which the firm

¹¹ Though it need not -- for reasons given in note xx, above.

competes. Because **Supra-Industry Profitability** necessarily captures industry-specific variation in **Profitability**, we omit industry dummies.

According to these regressions, **Supra-Industry Profitability** does explain a significant portion of executive compensation (Table 7, Cols. 2, 4, 6, 8). The coefficients on the other variables largely track the results we reported earlier. Coupled with **Profitability** more generally, however, the coefficient on **Supra-Industry Profitability** becomes negative, while that on **Profitability** remains positive and significant.

[Insert Table 7 about here.]

D. Fat Cats and Company Men:

1. Questions. -- Some executives will report taxable income that significantly exceeds their cash salary. Wealthy men, they will earn substantial investment income in addition to the salary that they receive as firm president. This fact introduces several problems.

(a) Bias in levels. Because the tax office reports only the aggregate taxable income that the executives report, the estimates above serve only as an upper-bound on the levels of salary income.

(b) Bias in determinants. The aggregation of investment and salary income complicates our estimates of the determinants of executive compensation. After all, 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 will pay them a riskier compensation package than they would pay an executive without that diversified investment portfolio. Our earlier estimates obscure this effect by pooling rich and (relatively) poor executives.

(c) Endogeneity. The stake that an executive holds in his firm is fundamentally endogenous. If an executive 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, they will save some of their their earnings, and many will invest those savings in the firm. Necessarily, then, our **Exec S/h** variable is potentially endogenous.

2. Results. -- (a) Introduction. To begin to address these questions, we partition our dataset into **Fat Cats** (with more outside investment income) and **Company Men** (with less). More specifically, we divide corporate presidents into those more likely to hold substantial investment portfolios and those less likely to do so. Toward that end, we define a **Fat Cat** as a president: (i) who is one of the top ten shareholders of the firm (we lack information on shareholdings below the top ten), (ii) who serves at his family firm (**Own Fam Firm** = 1), (iii) who has managed to head a large TSE firm before reaching age 40 (the mean age of our presidents was 62), or (iv) who 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**.

(b) Levels. **Fat Cat** presidents do indeed report higher incomes than the **Company Men**. As illustrated in Table 8, the median **Fat Cat** 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. A simple tobit regression (unreported) of **Ln Tax Liability** on **Fat Cat** and the principal variables discussed earlier generates a positive coefficient on **Fat Cat** significant at more than the 0.1 percent level.

[Insert Table 8 about here.]

Combined with our earlier discussion, Table 8 lets us estimate some ranges for Japanese executive compensation. Table 3 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 8 gives us the comparable figure for those presidents least likely to have outside income. Because disproportionately they will also work at the lower-paying firms, these Table 8 figures suggest a lower bound on Japanese executive compensation estimates. According to this lower bound, the median president at the top 100 firms paid taxes of only 10.9 million. Apparently, outside investment income may have inflated our earlier median compensation estimates by as much as 30-40 percent. Among the largest 500 firms, the median **Company Man** paid taxes of less than 10 million yen -- making a lower-bound estimate impossible.

(c) Determinants. Risk. Japanese firms may indeed pay their richer presidents riskier compensation packages. When we interact **Profitability** with **Exec S/h** (Table 9, Col. 2), the effect of **Profitability** itself largely disappears. Instead, the interacted variable becomes strongly significant: among firms with presidents who hold large stakes at the firm, the extent to which executive compensation depends on performance increases with the executive's stake.

[Insert Table 9 about here.]

Columns 1 and 3 of Table 9 similarly suggest that Japanese firms offer their wealthier executives riskier packages. After all, the larger marginal effects of **Profitability** for **Fat Cats** (Col. 1) than for **Company Men** (Col. 3) indicates that the firms may tie the amounts they pay rich executives more closely to the firm's **Profitability** than the amounts they pay relatively poorer executives. Although the marginal effect for **Fat Cats** is over four times larger than for **Company Men**, however, Column 4 indicates that the difference is not statistically significant.

Age. Table 9 also lets us revisit the impact of age: does the positive coefficient on **Exec Age** in the earlier regressions reflect increased productivity not captured by **Profitability**, an age-graded salary scale, or higher investment income among older executives? Table 9 suggests the last. According to these regressions, the premium on age appears exclusively among those executives most likely to earn substantial outside income. Among the 900 executives least likely to have investment income, income does not rise with age.

University. The distinction between **Fat Cats** and **Company Men** also clarifies the effect of university background discussed earlier. Primarily, big TSE firms recruit

only elite university graduates for the management track. As a result, men without such backgrounds who manage to become highly paid presidents of TSE Section 1 firms disproportionately will be entrepreneurs (or sons of entrepreneurs): men who created (or whose fathers created) the firms they head.

Consider some simple observations. 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 **Fat Cat** presidents do. Seventeen of the **Company Men** presidents graduated from the third-tier mega-university Nihon University, while 16 of the **Fat Cats** did. By contrast, 109 of the **Company Men** presidents graduated from the preeminent University of Tokyo, while only 21 of the **Fat Cats** did. Elite university backgrounds, in other words, are more a function of men who rise through organizations than of men who create them.

This contrast between Company Men and elite university background also explains the negative university coefficients in Table 5. There, the regressions indicated that presidents with elite university backgrounds earned less than the others. When we rerun those 5 regressions (unreported) on only the **Company Men**, however, all coefficients on university affiliation except one (U Kyoto, which remains negative and significant) become insignificant. Among the nearly 900 **Company Men** presidents, in other words, those with elite educations do not report lower incomes.

(d) Endogeneity. **Exec S/h** (and executive wealth more generally) is endogenous to compensation levels. Executives who earn high salaries will save more; over time, they will buy more stock in their firms. The straightforward way to address this problem is instrumental variables regression. Unfortunately, we know of no suitable instrument.

Nevertheless, Column 3 of Table 9 allows us to explore the possible effect of this endogeneity on our regressions -- and that effect seems minor. By definition, **Exec S/h** = 0 for the **Company Men** presidents; they are not among the top ten shareholders of their firms. As discussed above, the coefficients on **Ln Assets** and **Profitability** are indeed lower in the **Company Men** regression (Col. 3) than the regression on the **Fat Cats** (Col. 1). Almost all the coefficients point in the same direction in the two regressions, however, and (as Column 4 shows) the differences are statistically significant only for **Exec Age** and **Top S/h**.

E. [To come.]

V. Conclusions

Japanese executives earn substantially less than U.S. executives. We find that the median president at the largest 500 firms earned about \$420,000. The median president at the largest 100 earned about \$530,000. We estimate that the elasticity of an executive's taxable income with respect to firm size is about .05. Its elasticity on with respect to firm profitability is about .06.

Other variables that lead to higher executive incomes are for the executive to hold positions at several firms instead of just one, to hold more shares in the firm that employs him, to be older, and to work at a firm that uses stock options to compensate executives. Graduating from a prestigious university is negatively correlated with income for

corporate presidents, because the richest executives are entrepreneurs who are less likely to go to the best colleges, or, indeed, to any college at all.

An executive who runs his own family's firm (or his own firm) has higher income. He could earn this premium because his family's control allows him to extract private benefits at the expense of other shareholders or because he earns more investment income, but that distinction our data cannot make. If the executive runs another family's firm, however, he earns neither more nor less than if he ran a firm not controlled by a family. Neither does it matter to the executive's compensation whether a firm is controlled by another corporation.

The amount of shareholding by board members does not directly affect executive incomes. The presidents of companies with a small number of lead shareholders, however, do have lower incomes. This is true whether we measure the number of lead shareholders by the stock held by the top shareholder, the top five, or the top ten.

The size of the board of directors and the percentage of outside directors are not significantly related to the president's income. His income is higher when the directors have had longer tenures on the board, but lower when the directors are older.

We divided company presidents into two categories, fat cats and company men, in an attempt to separate executives with substantial capital income and control of the firm from those whose income was mainly compensation for their position and who had less control. The median company man in the 100 largest firms earned about 30 percent less than the median president generally. This suggests the extent to which capital income and special control affect the level of income and might enter into its determinants.

Using this division, we found that the effect of a firm's profitability on executive income is different for the two kinds of executives. For a fat cat, profitability affects his income only through his shareholdings. For an organization man, profitability affects his income even though he is not a top ten shareholder. The aggregate effect on the two is statistically indistinguishable, but it seems to have different causes.

The effect of age on income is present only for the fat cats. This suggests that the effect of age in the aggregate is not due to increased productivity, or directly to an age-graded salary scale. Instead, it probably results from the fact that older executives have larger savings and thus higher investment income.

Thus, we find that the incomes of executives in Japan rise both with the profitability and the size of their firms, though modestly in both cases. Such things as age and university affiliation do not affect compensation; the market trumps culture. Nor do most of the visible signs of corporate governance have a clear effect on executive income, except that companies with more of the stock held by the top ten shareholders do seem to pay their executives less.

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TSR. See Tokyo shoko risaachi.

Table 1: Calculating Income from 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's 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
* Spouse 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. xx of 19xx, 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

Table 3: Levels of Taxable Income in JapanI. Median Amounts and Ranks:

	Fraction in High-Income Roster	Median Tax Liability (x 1,000 yen)	Taxpayer Rank (All)	Median Estimated Tax- able Income
A. 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 TSE §1	51.8	10,483	70,139	\$401,013
B. Presidents:				
Top 100	67.9%	15,259	35,092	\$534,164
Top 500	53.3	11,152	63,183	\$420,374
All TSE §1	41.4	--		
C. Top 2 Officers:				
Top 100	50.1%	10,508	69,508	\$402,532
Top 500	42.2	--		
All TSE §1	31.5	--		

II. Selected High-Income Executives:

Position	Tax Liability (x 1,000 yen)	Taxpayer Rank (Exec)	Taxpayer Rank (All)
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 Orix (Financial)	142,847	35	422

Notes:

a. "High-income roster" refers to all taxpayers paying more than 10 million yen in taxes in 2004.

b. 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.

c. "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.

d. We exclude banks from the data set.

e. "Top 2 officers" are the two directors listed first in the board rosters given in Yakuin shikiho, taken from securities filings.

f. In Part II, we give the rank of the officer among the executives in our data base (Exec) and among all taxpayers (All).

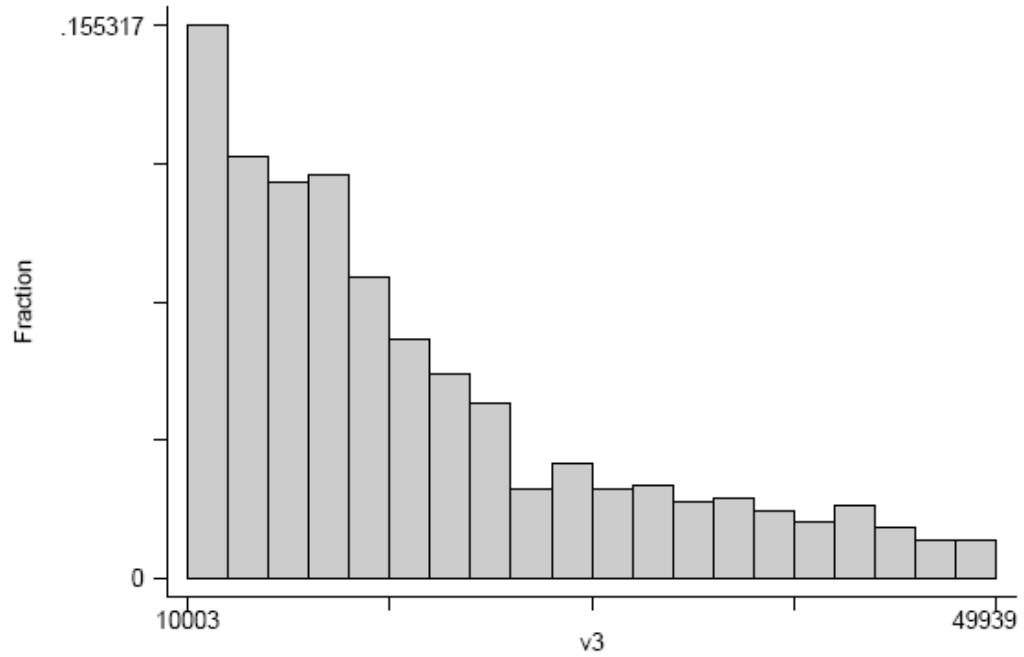
Sources: Tokyo shoko risaachi, Zenkoku kogaku nozeisha meibo: Jojo gaisha ban [Roster of High-Income Taxpayers] (CD-ROM, 2005); Toyo keizai shimposha, Yakuin shikiho [Board of Directors Report: Listed Companies] (Toyo keizai shimposha, 2005).

Table 2: Firms and Executives in Section 1 of the Tokyo Stock Exchange: Summary Statistics

	Percent	Minimum	Median	Maximum
<i>A. Firms</i>				
Assets (in 100 million yen)		14	878.5	344889
Profitability(oper inc/cap)		-1.00	.52	10.88
Growth in stock price (03-04)		-.99	.18	7.39
Family corp. (def. in text)	27.3			
Largest shareholder is corp.	86.6			
<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
<i>B. Presidents</i>				
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			
Nihon U	2.5			
No university	8.5			
% of employer's shares held		0	0	60.7

Sources: 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).

Figure 1: Distribution of Taxes Paid by Presidents of Firms Listed on Section 1 of the Tokyo Stock Exchange



Note: The figure gives the fraction of presidents of TSE Section 1 firms paying taxes between 10 and 50 million yen. The horizontal axis partitions taxes paid by 2 million yen increments.

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

Table 4: Determinants of Taxable Income among Presidents of TSE Section 1 Firms

	1	2	3	4	5	6	7	8
Ln Assets	.047 (3.61)	.071 (4.66)	.065 (4.46)	.051 (5.25)	.049 (5.20)	.049 (5.19)	.050 (4.99)	.058 (4.01)
Profitability	.084 (4.90)	.039 (2.94)	.035 (2.99)	.029 (3.14)	.027 (3.04)	.026 (2.93)	.022 (2.84)	.019 (2.07)
Multiple Pos		.144 (2.87)	.136 (2.93)	.122 (3.32)	.110 (3.19)	.106 (3.11)	.086 (2.82)	.117 (2.83)
Exec S/h		.029 (6.40)	.024 (5.73)	.021 (6.92)	.019 (6.77)	.019 (6.76)	.015 (6.34)	.019 (4.77)
Option Prog		.089 (2.82)	.070 (2.57)	.067 (3.07)	.067 (3.14)	.066 (3.10)	.052 (2.74)	.058 (2.53)
Exec Age		.004 (2.58)	.004 (2.70)	.004 (3.30)	.004 (3.29)	.004 (3.30)	.004 (3.03)	.005 (3.15)
Own Fam Corp			.228 (4.63)					.076 (2.35)
Other Fam Corp			-.015 (0.49)					-.045 (2.05)
Other Bd S/h				.009 (5.32)	.009 (5.44)	.009 (5.46)		.003 (2.14)
Top S/h Corp				.021 (2.44)	.020 (2.41)	.020 (2.36)		.020 (2.24)
Top S/h				-.003 (4.26)				-.005 (2.74)
Top 5 S/h					-.002 (3.13)			.003 (1.00)
Top 10 S/h						-.001 (2.29)		-.000 (0.03)
Board Size							.003 (1.63)	.003 (1.76)
Ind Dir %							.000 (0.78)	.001 (1.69)
Committee							-.088 (1.78)	-.109 (2.11)
Board Tenure							.023 (6.02)	.019 (4.14)
Board Age							-.011 (3.85)	-.010 (2.97)
n	1403	1288	1288	1390	1390	1389	1385	1280

Notes: The dependent variable is **Ln Tax Liability**, and the regressions are tobit. All regressions include **SEC Accounting**, a constant term, college dummies (reported in Table 5) and industry dummies.

The data cover all presidents of non-bank firms listed on Section 1 of the TSE.

For continuous variables, the table first gives the marginal effect of the independent variable, calculated at the median; for dummy variables, it gives the marginal effect of a discrete change from 0 to 1. On the line below the marginal effect, the table gives the corresponding z statistic.

Sources: See Table 2.

Table 5: Determinants of Taxable Income among Presidents of TSE Section 1 Firms: The Effect of College

	1	2	3	4	5	6	7	8	.
U Tokyo		-.110 (2.46)	-.083 (2.13)					-.007 (0.20)	
U Kyoto		-.160 (3.37)	-.126 (3.06)					-.061 (1.72)	
Other Imperial U		-.164 (3.54)	-.127 (3.17)					-.068 (2.04)	
Hitotsubashi U		-.050 (0.57)	-.043 (0.56)					-.003 (0.04)	
Keio U		-.050 (1.11)	-.044 (1.17)					.015 (0.44)	
Waseda U		-.062 (1.33)	-.040 (0.97)					.001 (0.03)	
Chuo U		-.136 (2.40)	-.104 (2.10)					-.053 (1.19)	
Nihon U		.037 (0.47)	.011 (0.17)					.023 (0.42)	
Doshisha U		-.044 (0.61)	-.034 (0.55)					-.013 (0.25)	
Junior college		-.182 (2.19)	-.132 (1.54)					-.107 (2.07)	
Other university		-.093 (2.33)	-.076 (2.21)					-.028 (1.04)	

Notes: The dependent variable is **Ln Tax Liability**, and the regressions are tobit. These are from the same regressions as Table 4, but show the college variables not reported there. Table 5 gives the marginal effect of a discrete change from 0 to 1 for each variable. On the line below the marginal effect, the table gives the corresponding z statistic.

Sources: See Table 2.

**Table 6: Determinants of Taxable Income:
Alternative Regression Forms**

	1. Tobit*	2. OLS**	3. Probit***	4. Poisson****
Ln Assets	.178 (6.83)	.100 (4.91)	.194 (5.79)	.160 (11.66)
Profitability	.136 (4.29)	.130 (5.16)	.089 (2.07)	.087 (6.25)
Multiple Pos	.296 (3.34)	-.083 (1.28)	.565 (4.71)	.339 (7.97)
Exec S/h	.076 (17.34)	.049 (15.72)	.071 (9.78)	.048 (29.89)
Option Prog	.214 (3.28)	.072 (1.41)	.230 (2.74)	.004 (0.11)
Exec Age	.012 (2.77)	-.001 (0.33)	.019 (3.37)	.058 (25.25)
Adj R2		.41		
n	1391	578	1388	1391

Notes:

* The dependent variable is **Ln Tax Liability**.

** The dependent variable is **Ln Tax Liability**. The data set is limited to those executives who paid at least 10 million yen in taxes in 2004.

*** The dependent variable is **High Income TP**.

**** The dependent variable is **Num Appearances**.

All regressions include **SEC Accounting**, a constant term, and industry dummies.

The data cover all presidents of non-bank firms listed on Section 1 of the TSE. The table gives the regression coefficient, followed by the corresponding t- (or z-) statistic on the line below.

Sources: See Table 2.

**Table 7: Determinants of Taxable Income:
Supra-Industry Profitability**

	1.	2.	3.	4.	5.	6	7	8
Ln Assets	.031 (2.99)	.027 (2.80)	.047 (6.94)	.044 (6.56)	.044 (7.39)	.041 (7.03)	.049 (8.13)	.045 (7.62)
Supra-Indus Prof	.082 (5.50)	-.315 (5.36)	.038 (4.15)	-.124 (3.25)	.033 (4.19)	-.113 (3.49)	.027 (3.41)	-.118 (3.57)
Profitability		.394 (6.96)		.164 (4.35)		.147 (4.59)		.148 (4.47)
Multiple Pos			.104 (3.02)	.097 (2.92)	.098 (3.21)	.092 (3.11)	.110 (3.52)	.107 (3.46)
Exec S/h			.022 (15.41)	.021 (14.82)	.018 (13.44)	.017 (12.93)	.019 (12.72)	.018 (12.47)
Option Prog			.090 (3.83)	.078 (3.47)	.075 (3.72)	.065 (3.35)	.077 (3.83)	.068 (3.50)
Exec Age			.003 (2.25)	.003 (2.83)	.003 (2.65)	.003 (3.25)	.004 (3.54)	.004 (4.03)
Own Fam Corp				.228	.228 (6.61)	.168 (6.68)	.169 (5.38)	
Other Fam Corp				-.013	-.015 (0.57)	-.023 (0.69)	-.023 (1.14)	
Other Bd S/h						.007 (6.11)	.007 (5.55)	
Top S/h Corp						.021 (2.70)	.018 (2.40)	
Top S/h							-.002 (3.97)	-.003 (4.47)
n	1403	1403	1391	1391	1391	1391	1390	1390

Notes: The dependent variable is **Ln Tax Liability**, and the regressions are tobit. All regressions include **SEC Accounting** and a constant term. The data cover all presidents of non-bank firms listed on Section 1 of the TSE.

For continuous variables, the table first gives the marginal effect of the independent variable, calculated at the median; for dummy variables, it gives the marginal effect of a discrete change from 0 to 1. On the line below the marginal effect, the table gives the corresponding z statistic.

Sources: See Table 2.

**Table 8: Levels of Taxable Income:
Fat Cats and Company Men**

I. Summary Statistics:

	Fat Cats		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 TSE §1	73	19,660	25	--

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

	10	30	50	70	90	110	130.	All
Fat Cats	352	154	85	51	31	22	18	483
Company Men	241	18	4	3	3	2	1	948

Notes:

"High-income roster" refers to all taxpayers paying more than 10 million yen in taxes in 2004. We exclude banks from the data set.

"Fat Cats" 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.

Sources: See Table 3.

**Table 9: Determinants of Taxable Income:
Fat Cats and Company Men**

	(1)	(2)	(3)	(4)	.
	<u>Fat Cats</u>	<u>Fat Cats</u>	<u>Co. Men</u>	<u>All</u>	.
Ln Assets	.191 (5.96)	.200 (6.11)	.024 (3.21)	.030 (4.04)	
Ln Assets * Fat Cats					.002 (0.23)
Profitability	.089 (2.69)	.029 (0.66)	.016 (2.44)	.022 (2.57)	
Profitability * Fat Cats					.009 (0.82)
Multiple Pos	-.006 (0.07)	-.006 (0.07)	.066 (2.27)	.084 (2.35)	
Multiple Pos * Fat Cats					-.046 (2.88)
Exec S/h	.034 (8.17)	.030 (6.64)			
Option Prog	.036 (0.59)	.044 (0.72)	.070 (3.02)	.079 (3.12)	
Option Prog * Fat Cats					-.024 (1.50)
Exec Age	.010 (2.98)	.010 (2.98)	.001 (1.39)	.000 (0.34)	
Exec Age * Fat Cats					.003 (2.45)
Own Fam Corp	-.107 (1.83)	-.104 (1.79)			
Other Fam Corp	-.069 (0.60)	-.079 (0.70)	-.005 (0.43)	-.005 (0.26)	
Other Fam Corp * Fat Cats					-.004 (0.11)
Other Bd S/h	.016 (3.76)	.017 (3.99)	.003 (1.89)	.002 (0.91)	
Other Bd S/h * Fat Cats					.002 (1.02)
Top S/h Corp	.035 (1.69)	.037 (1.82)	.027 (1.54)	.023 (0.57)	
Top S/h Corp * Fat Cats					-.026 (0.62)
Top S/h	-.000 (0.08)	.000 (0.04)	-.001 (2.44)	-.002 (2.96)	
Top S/h * Fat Cats					.005 (3.96)
Profitability * Exec S/h		.004 (1.94)			
n	466	466	924	1390	

Notes: "Fat Cats" 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.

The dependent variable is **Ln Tax Liability**, and the regressions are tobit. All regressions include **SEC Accounting**, a constant term, and industry dummies. The data cover all presidents of non-bank firms listed on Section 1 of the Tokyo Stock Exchange.

For continuous variables, the table first gives the marginal effect of the independent variable, calculated at the median; for dummy variables, it gives the marginal effect of a discrete change from 0 to 1. On the line below the marginal effect, the table gives the corresponding z statistic.

Sources: See Table 2.

Ideas, Feb. 18. Put both company return and return in excess of industry in the same regression. (or, equivalently, I guess, company return and industry return).

We'll want summary stats for fat cats vs. company men. That could go in a couple of new columns in Table 6.

At some point, we should use Estimated Income instead of Tax Paid. We'll need to construct Table 1 first.

We should compare variability of exec incomes with US variability of exec compensation. Also, the R2 of our regression compared with a US regression. People probably think Japanese execs have less variability. One general point we can make is that exec incomes in Japan are hard to predict. There is no age or asset formula, at least no more than in the US, yet another sign that the Japanese do things by the market, not by culture. That is the bright side of our lack of ability to explain incomes.