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COSMETIC SURGERY IN JAPAN

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**Talent and Expertise under Universal Health Insurance:  
The Case of Cosmetic Surgery in Japan**

**By J. Mark Ramseyer\***

*Abstract:* The Japanese national health insurance provides universal coverage. Necessarily, this entails a subsidy that dramatically raises the demand for medical services. In the face of the increased demand, the government suppresses costs by suppressing prices. By combining extensive biographical (including income) data on all 449 Tokyo cosmetic surgeons and a random sample of 499 other Tokyo physicians, I explore the effect of this price suppression on the allocation of talent and the development of expertise. Crucially, the national health insurance does not cover services -- like elective cosmetic surgery -- deemed medically superfluous. Facing price caps in the covered sector but competitive prices in these "superfluous" sectors, the most talented doctors should tend to shift into the "superfluous" sectors and there to invest heavily in their expertise. I find evidence consistent with this: cosmetic surgeons earn higher incomes than other doctors; are more likely to have attended a national (generally more selective) medical school; are more likely to have served on the faculty of a medical school; and are more likely to be board-certified. I speculate on the broader implications this phenomenon poses for the allocation of talent in medicine.

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Through a complex set of subsidies, the Japanese government supplies universal health insurance. These subsidies necessarily raise demand, and the increase in demand should raise prices. As prices rise, so then should aggregate health costs as well. Yet health costs are low. Among the wealthy industrialized countries, health costs in Japan are among the lowest.

The Japanese government suppresses costs by suppressing prices. Every other year, it sets the prices it will pay for medical services, devices, and pharmaceuticals -- and sets them low. One consequence is straightforward and well known: physicians depreciate quality. In a wide variety of ways, they lower the quality of the services they provide, and allocate their services by queue.

Yet the price suppression has another effect as well: it affects the career choices people make and the investments they make in their expertise. Crucially, the Japanese insurance system covers all services deemed medically "necessary" -- but only those services. As a result, doctors face suppressed prices for any "necessary" services they sell, but competitive prices for "superfluous" work like cosmetic surgery. Disproportionately, the most talented doctors in such a world should opt to sell in the "superfluous" sectors where they can obtain competitive prices. Disproportionately, once there they should invest more heavily in their expertise than doctors in price-suppressed sectors.

In the article that follows, I collect biographical information on the approximately 450 Tokyo cosmetic surgeons and about 500 other randomly sampled Tokyo physicians. Coupling this data with micro-data on the tax liabilities of all high-income Japanese, I show that cosmetic surgeons earn higher incomes than the random Tokyo doctor. Although cosmetic surgeons earn high incomes in the U.S. as well, the relative incomes of the other physicians in Japan bear no relation to the relative incomes of other physicians in the U.S. -- reflecting the lack of much real specialization in these other sectors. Additionally, I show that the Japanese cosmetic surgeons are more likely to have attended one of the more prestigious public medical schools, to have been appointed to the faculty of a medical school, and to hold board certification.

I begin by describing the Japanese national health insurance system and health care industry (Section I). I trace the implications the system poses for the allocation of talent and the investment in human capital (Section II). I describe my dataset (Section III), and explore the determinants of income (Section IV) and of the allocation of talent (Section V.A.-C.). I close with several qualifications (Section V.D.).

## I. Industry and Coverage

### A. National Health Insurance:

The Japanese government adopted the current national health insurance scheme in the early 1960s. The economy was growing rapidly, but so was the electoral threat posed by the socialist and communist left. In their bid for power, these leftist parties had championed European welfare-state policies. Strategically to trim their appeal, the conservative government fashioned from existing government health plans a universal health insurance scheme of its own.

In the 40-plus years since its adoption, the scheme has evolved, but several sets of insurance plans lie at its core. One set of policies (covering 30.6 million people in 2004;

Kameoka, 2005: 8-13) comprises a network of employer-based plans at large firms. Within this network -- mandatory for all firms that fall within its scope -- employers pay insurance premia on behalf of their employees. Through the insurance, those employees and their dependents then obtain most physician services. A second program covers employees at smaller firms (35.9 million). Still other plans cover the self-employed, the unemployed, the retired, and so forth.

The insurers under these plans range from private firms (for the larger employers) to the Japanese government (for smaller employers) to municipal governments (for the self- and un-employed). Co-payments run from 10 to 30 percent depending on the plan, but were capped in the mid-2000s at 140,000 yen (at the close of 2005, \$1.00 = 118 yen) plus 1 percent of the excess over 466,000 yen (or less, for low-income patients). Because the government uses revenue from the employer-based plans to pay for the others, cross-subsidies are large (*id.* at 8-13, 42).

Through this national health insurance, Japanese obtain a wide panoply of services. Of the 31 trillion yen in 2001 health care costs, outpatient charges comprised 41 percent, and hospitalization costs added another 37 percent (Nakamura, 2006: 32). Personnel costs (*e.g.*, doctors, nurses) comprised 49 percent of the health care costs, and pharmaceuticals added another 20 percent. Patients under age 65 generated 46 percent of the health care costs (2007 data), and those over 75 consumed 35 percent (Nakamura, 2006: 19, 32).

Every other year, the Ministry of Health, Labor & Welfare (MHLW) publishes an elaborate price schedule. Minutely, it details the prices providers may charge for medical, hospital, and pharmaceutical treatments. In setting the prices, bureaucrats primarily negotiate with the physician trade association, the Japan Medical Association (JMA; Campbell & Ikegami, 1998: ch. 6).

These prices are mandatory. For services billed under the national health insurance, providers may not charge more. Other than a few exceptions for services like private hospital rooms, neither may they charge patients supplementary amounts.

And the set prices are low. According to Campbell & Ikegami (*id.*: 147), the leading study of the Japanese health care industry, they average about a quarter of the reimbursement rates in the U.S. Apparently, they do keep costs down. As of 2003, the OECD estimates that Japan spent 8.0 percent of GDP on insured health care. Canada spent 9.9 percent, France spent 10.4 percent, Germany spent 10.9 percent, and the U.S. spent 15.2 percent (Nihon iryo, 2007: 246-47).<sup>1</sup>

Given the inevitable variation in medical service quality, basic logic suggests that high-quality physicians and high-reservation-price patients will selectively supplement the set prices with side-payments. They do, though the bribes do not cover the gap between the official Japanese and U.S. medical costs. According to one estimate, patients pay about 389 billion yen in illegal bribes, or about 1.3 percent of total health expenditures (Campbell & Ikegami, 1998: 5).

Because the insurance keeps out-of-pocket costs so low, few patients willingly buy medical services outside the system. The law does not stop physicians from charging higher prices if patients pay the full amount out-of-pocket. Yet few do. Other than a

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<sup>1</sup> On the problems in international comparisons of health-care expenditures, see generally Berndt, et al. (2000).

small number of clinics catering primarily to expatriates (e.g., the Hiroo International Clinic), physicians competing in sectors covered by the insurance take the lower government-set prices and degrade quality instead (Sec. C, below).

**B. Physicians and Hospitals:**

1. Licensure. -- Over 259,000 licensed physicians practice in Japan (2004 data; Nihon iryo, 2007: 232-33). At 2.0 doctors for every 1000 potential patients, the figure falls below those for comparably wealthy countries: 2.1 for Canada, 2.3 for the U.K., 2.4 for the U.S., 3.4 for France, and 3.4 for Germany (*id.*). Physicians, in short, are few.

Incumbent doctors complain of excess supply, but physicians are scarce because the government limits entry. As in the U.S., would-be physicians must first enter a university medical department. Once admitted, they study six years, and take a national licensing examination. Approximately 88 percent of the graduates pass.<sup>2</sup> Before opening a practice, new doctors then work at least two years in a hospital-based residency program.<sup>3</sup>

2. Incomes. -- Over all, physicians earn modestly high incomes. According to the MHLW ([www.mhlw.go.jp](http://www.mhlw.go.jp)), in 2005 they earned a mean 14 million yen. At the end of the year conversion rate of 118 yen/\$, that came to \$116,000. In the U.S. (according to the Bureau of Labor Statistics; [www.bls.gov](http://www.bls.gov)), a new pediatrician in 2004 could expect a median income of \$133,000; an anesthesiologist with over a year's experience could expect \$322,000.

Among Japanese physicians, those who make the most run their own private hospitals (statutorily defined as institutions with at least 20 beds) or clinics. Effectively, they sell expensive hotel stays (typically to elderly patients) at government expense. Predictably given the incentives involved, they keep their patients hospitalized longer than physicians elsewhere. Where doctors kept mean in-patient stays at 36.3 days in 2004 Japan, they kept them barely 13.4 days in France, 10.4 days in Germany, 7.2 days in the U.K., and 6.5 days in the U.S. (Nihon iryo, 2007: 242-43).

Because many physicians run pharmacies in their clinics, they also profit on the drugs that they prescribe (again at government expense). The effects are unclear. On the one hand, observers do complain that physicians prescribe too much. On the other, Iizuka (2006) finds the agency problems modest, and aggregate levels do remain in-line internationally: U.S. patients spend \$702 per capita in 2003 on pharmaceuticals, the French spent \$582, Japanese \$509, Germans \$468, and Canadians \$453 (Nihon iryo, 2007: 217, 247, 253).

3. New clinics. -- Disproportionately, these doctors with private hospitals and clinics are old. They are not old because a physician needs to accumulate wealth or build a credit history to buy the facilities. Neither are they old because -- in the language of a Stanford University study -- younger physicians are not "interested in clinic-based medicine," because "the escalation of land prices in Japan has made the creation of clinics

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<sup>2</sup> <http://venacava.seesaa.net/article/37185957.html>

<sup>3</sup> Ishi ho [Physicians Act], Law No. 201 of 1948, Sec. 16-2.

by young doctors financially prohibitive," or because young doctors "are attracted to ... sophisticated medical equipment" at the bigger hospitals (Yoshikawa, et al., 1996: 27).

Instead, the doctors with the hospitals and clinics are old because of regulation. Nominally to limit hospitalization costs, the Japanese government in 1985 capped the number of hospital beds per medical district. As of 2005, only ten prefectures out of 47 had fewer beds than allowed. All others remained beyond their allowed capacity. Tokyo was 6 percent above its cap (106,000 beds, with only 100,000 allowed), and Osaka 16 percent above (Kokuritsu shakai, 2006: 428 tab. 229). In effect, the hospital bed cap bans new construction in most areas of Japan.

Not altogether implausibly, the government claimed that these caps would cut costs. Obviously, theories of supplier-induced demand remain controversial in private markets (see Dranove & Wehner, 1994), but they become more credible when a supplier can just bill the government for its services. To prevent physicians from providing an ever-larger number of patients their high-priced hotel stays at government expense, the government banned new beds.

4. Public hospital doctors. -- Some of the most talented doctors in Japan work on the staff of university and government hospitals. Over the course of their careers, however, many of these doctors too will shift into the private sector. They will shift for the income. The public-sector hospitals simply do not pay as much as many physicians can earn at their own institutions. To capture a return on their abilities, these doctors will need eventually to run their own clinics or hospitals.

Individual biographies (see, e.g., JMA, 2004) detail this dynamic. Although a large fraction of JMA members operate their own clinics, many came to the clinics from a career at a public-sector hospital. Before the ban on new beds, they could build their own clinic. In the years since the ban, in most cities they must buy an existing clinic, build a bed-less clinic, or move beyond the national insurance system altogether.

### C. Quality Degradation:

Campbell & Ikegami (1998: 1-2) detail what many scholars find so attractive about the Japanese system:

- \* Virtually the entire population is included in mandatory health insurance. ...
- \* The benefit package in all programs covers nearly all regular health care.
- \* Payment for health insurance is largely determined by ability to pay, through contributions as a share of income.
- \* Differences in burdens across social groups are reduced by such mechanisms as support from general revenue and cross-subsidization among insurance plans. ...
- \* Total health-care spending is tracked and controlled, at least indirectly.

The patients themselves, however, nurse a long litany of complaints. Most represent predictable consequences of a regulatory regime that pairs fixed prices with heavy subsidies.<sup>4</sup> Typically, they constitute variations on one or more the following four phenomena.

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<sup>4</sup> Obviously, readers should not take this discussion as somehow implying that the U.S. market is one of perfect competition. For a survey of the industrial organization of the U.S. health care industry, see Dranove & Satterthwaite, 2000: 1093).

First, waits are long. Because the government limits the number of physicians, subsidizes the cost, and suppresses prices, physicians allocate their services by queue. Most doctors take no appointments, and treat all patients on a first-come first-served basis. When patients do make an appointment, it avails them little. According to a 2005 MHLW survey, only 45 percent of the patients who arrive at a hospital without an appointment see a doctor within 30 minutes, and another 23 percent see the doctor within the next 30 minutes. With an appointment, the fraction able to see a doctor within 30 minutes rises only to 53 percent.<sup>5</sup>

Patients typically consider physician quality highest at the biggest hospitals, and there they wait even longer. At the largest hospitals, only 22 percent of the appointment-less patients see a physician within 30 minutes, with another 22 percent seeing one in the next 30 minutes. Thirty-two percent wait 1 to 2 hours, and the remaining quarter wait over two hours.<sup>6</sup>

Second, visits are short. Again because the government limits physician supply, subsidizes purchases, and suppresses prices, physicians maximize income by seeing as many patients as possible per day. This, of course, is equivalent to spending as little time with each as possible. According to one Japanese adage, "you wait 3 hours for a 3 minute consultation."

To one ambitious internist (Ikegami, 2004), the adage was a chance to sell books. The question, as he saw it, was how to make the most of the inevitably short consultation. "How to Be Ten Times Happier with Even the Three Minute Consult," he titled his book. *Inter alia*, he offered advice on how to "make the most of an emergency three-minute consult." More poignantly, he offered advice on "making the most of your child's three-minute consult" as well.

Third, facilities are poor. To be sure, doctors will invest in equipment if the reimbursement rates cover the investment. Yet if they can fill their days at the specified rates with poor rather than attractive facilities, they will offer poor facilities. And they do.

Last, specialization is minimal. A 1996 Stanford study declared that "[s]pecialty board certification does not exist in Japan" (Yoshikawa, et al., 1996: 27). The study overstated the point, but came remarkably close to the truth nonetheless. There are indeed board certification standards in Japan, but because physicians can fill their days at government-mandated rates without specializing, few bother (more on this below).

A majority of Tokyo clinic operators in 2004 (61 percent; dataset described below) advertised themselves as specialists in at least two areas, often many more, and often in fields U.S. physicians would not find related. Many claimed expertise in both internal medicine and surgery, for example. And some advertised themselves as much more. Takushi Kudo, for instance, held himself out as an internist, orthopedic surgeon, cardiologist, dermatologist, allergist, rheumatologist, pulmonologist, gastroenterologist (including endoscopies), and nephrologist -- and claimed to practice rehabilitation medicine and physical therapy besides (JMA, 2004: 456).

## II. Implications for Talent and Expertise

### A. The Logic:

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<sup>5</sup> <http://www.mhlw.go.jp/toukei/saikin/hw/jyuryo/05/kekka2.html>

<sup>6</sup> <http://www.mhlw.go.jp/toukei/saikin/hw/jyuryo/05/kekka2.html>

Consider how the national health insurance might skew the allocation of talent and expertise. The insurance does not cover all procedures. Instead, it excludes those elective procedures thought medically most unnecessary. In effect, it bifurcates the medical services industry into the covered (non-competitive; medically necessary) sector, and the non-covered (competitive; medically superfluous) sector. Within the covered sector, it suppresses prices and subsidizes demand, and physicians respond by degrading quality and allocating service by queue. Within the non-covered sector, they allocate service by quality and price.

For two reasons, this situation creates an incentive for the best doctors to shift into the medically least necessary sectors, and invest in skills and facilities at higher rates than their peers. First, in the competitive sector prices vary by physician quality, but in the covered sector do not. As a result, the most talented physicians conceivably (obviously, the answer depends on the level of prices, subsidies, and inherent demand) could earn higher returns in the competitive sector through the higher prices they could charge. The less talented would earn more in the subsidized, price-controlled sector. Studies in the U.S. do find, after all, that would-be physicians respond to financial incentives: a 1 percent increase in expected life-time earnings in a medical specialty induces a greater-than-1-percent increase in the number of physicians entering the specialty (Hurley, 1991; Nicholson, 2002).

Second, in the competitive sector physicians will earn a market return on investments in human and physical capital. If consumers value specialized expertise highly enough, under competition physicians will find it worthwhile to acquire the expertise. If they value the certification of that expertise, physicians may find it worthwhile to obtain the certification. And if they value attractive facilities, physicians may find it profitable to build high-quality clinics besides.

Three potentially observable implications follow. First, if physicians sell their services in a competitive market they will offer the level of expertise, certification, and facilities that they can profitably acquire at the price patients are willing to pay. Second, if they sell their services in a market governed by subsidized demand and suppressed prices, they may (depending on the levels of subsidy and suppression) find less investment cost-justified. Last, if the talented do shift to the competitive sector for the higher pay, and if physicians do make greater investments in the competitive sector because of the higher returns -- if both propositions hold true, then observed incomes will be higher in the competitive sector than in the covered.

## B. Cosmetic Surgery:

1. The coverage. -- Crucially, the Japanese national health insurance excludes cosmetic surgery.<sup>7</sup> To be sure, it covers corrective operations for a child burned in a fire or a passenger disfigured in a car crash. It does not cover cosmetic surgery for otherwise "normal" people. Should patients want a differently shaped nose, less facial hair, less body fat, or larger breasts, the national health insurance system will not pay. If they hire a physician to perform the operation, they will need to pay for it themselves.

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<sup>7</sup> Purely for discursive convenience, by "cosmetic surgery" I refer to all procedures undertaken for cosmetic purposes. Some of these procedures (e.g., the use of lasers to remove unwanted hair) are not surgical.



2. The sector. -- Despite this exclusion from the national system, Japanese physicians do offer cosmetic surgery. According to the MHLW, only 715 physicians practiced in the field, and only 239 of them in Tokyo (Kosei, 2006: 183; 2004 data). But the MHLW collects data only on services covered by the national insurance. Among cosmetic surgeons, it thus counts only those who handle the insured burns, accidents, and medically "necessary" procedures. Regarding doctors outside the system, it collects nothing at all.

Google "cosmetic surgery," however, and 449 physicians advertise cosmetic surgery on the web in Tokyo alone. Google the two professional associations of cosmetic surgeons, and one has 987 members and the other 667 ([www.jsaps.com](http://www.jsaps.com); [www.jsas.or.jp](http://www.jsas.or.jp)). These doctors offer a wide range of procedures. One of the cheapest and most common involves eyelids. Westerners tend to have a crease in their eyelids, while Japanese do not. Over the past two decades, many Japanese (particularly women) have added that crease through surgery. Specialists describe the operation much the way French chefs describe the omelette -- any chef can make one, but only the most skilled and best trained can appreciate the subtleties that distinguish the average omelette from the exquisite (Otake, 2002: 232).

The price for the eye-lid operation depends on the physician's reputation and method, but -- like the omelette -- it can be cheap. The massive (34 outlets nation-wide; [www.kanacli.net](http://www.kanacli.net)) Kanagawa Clinic chain offered the crease for as little as 60,000 yen (\$484). The chain's lead physician, Katsumi Izawa, claimed to have done over 15,000 eyelid operations. His colleague Katsuyuki Yoshitane reported 16,000.

According to the web sites, most cosmetic surgeons cater to women. Some procedures (e.g., lasic surgery for near-sightedness) they offer to both sexes, and a few (e.g., penile inserts) they sell only to men. But mostly the clinics target women. For them, they offer face lifts, nose jobs, liposuction, breast enhancements, hair removal, Botox treatments, sweat-gland removal, and a wide variety of other procedures.

Cosmetic surgeons work hard to attract clients, and their web sites illustrate how hard. Japanese medical clinics are famously run down; the cosmetic clinics advertise interiors as swank as anything in Architectural Digest. The typical Japanese doctor either uses no web site or posts gruesomely clinical photographs only a fellow physician would appreciate; the cosmetic surgeon hires a professional web designer and lavishly illustrates his site with professional models, lyrical motifs, and soft pastels.

With its nearly three dozen clinics, the Kanagawa Clinic epitomizes the successful cosmetic firm. It does not succeed by pastels alone. Head of the clinic's lasic-surgery practice is Yoshihiro Kitazawa. Formerly on the faculty of the prestigious Tokyo Medical & Dental University, by 1996 he could claim 17,000 lasic operations.<sup>8</sup> The chain employed 28 other physicians at its Tokyo lasic center. In Osaka, it employed another 21. In the notoriously board-specialty certification-free Japan, all 50 were board-certified ophthalmologists.

And with its stylish design and medical expertise, the Kanagawa Clinic couples consumer-friendly finance. In the fall of 2004, it offered its usually 60,000 yen eye-lid crease at the loss-leader price of 9,800 yen (\$79). For all its patients, it offered group discounts, referral discounts, student discounts. For frequent users among them, it

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<sup>8</sup> His expertise paid off: in 2004, he paid 15.9 million yen (\$155,000) in taxes.

offered a "point card system" with which to accumulate credit from one operation toward a discount on another. It arranged loans from consumer credit firms. And it let its patients pay on a 60-payment installment plan.

### III. Data and Variables

#### A. Data:

1. Introduction. -- Ask now how substantially the Japanese national health insurance system (a) shifts talented Japanese physicians into cosmetic surgery, and (b) induces those already in the field to invest more heavily in their expertise. To explore the question, I couple data on physician backgrounds with income data from the national tax office (Subsec. 2). I collect the information on both all physicians who advertise Tokyo-area cosmetic services on the web (449 doctors; Subsec. 3), and a reference group composed of a random sample of Tokyo members of the JMA (499 doctors; Subsec. 4).

2. Income. -- To measure physician incomes, I take from government records the income tax each physician paid in 2004 (TSR, 2004). This information is available only for the highest-income taxpayers (HIT). The amount of tax a person needed to pay to trigger 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). Because the Japanese marginal tax rates peak at 37 percent,<sup>9</sup> a person paying \$97,000 in taxes would have made about \$390,000.<sup>10</sup>

Since 2005, this information is no longer available. Under the new privacy statute, the government may not publish the HIT list.<sup>11</sup> My 2004 data thus represent the last available installment of this information.

In 2004, some 73,000 Japanese paid the 10 million yen or more in taxes that landed them on the list. For the physicians in this group, I know the amount of taxes they actually paid. For physicians not on the list, I know that they paid less than 10 million yen.

As a source of information, tax records inherently present several limitations. Most obviously, taxpayers have an incentive to under-report. With a top marginal bracket of 37 percent, the incentive is strong. Although the Japanese tax and prosecutors' offices punish cheaters severely, my data will still include some doctors who hide income.

Second, the amount of under-reporting will vary with a physician's practice. If a doctor bills the national health insurance, the government (as payor) will maintain records on most of his revenue. If he offers elective cosmetic surgery, he need never enter his income on his books. As a result, the tax data should reflect relatively accurately the income of most of the doctors in the sectors covered by the national insurance. It may significantly understate the income of the cosmetic surgeons.

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<sup>9</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.

<sup>10</sup> We detail the calculations involved in Nakazato, Ramseyer & Ramseyer (2006a, 2006b).

<sup>11</sup> Kojin joho no hogo ni kansuru horitsu [Act Relating to the Protection of Personal Information], Law No. 57 of 2003.

Last, to the extent physicians earn returns from their outside investments, their taxable income will overstate their returns from medicine. Because the oldest physicians will have accumulated the greatest wealth, they will also earn the most investment income. As a result, the fraction of taxable income from medical practice should fall with age.<sup>12</sup>

Parenthetically, note the following: in Japan, couples may not file joint returns; taxpayers with rising incomes may not use "income averaging" across years; and gains from the sale or exchange of real estate are taxed at 15 percent if held over 5 years and at 30 percent if held for 5 years or less. For complex reasons detailed elsewhere, my data exclude most taxes on dividends from exchange-listed firms, but do include some (though not all) taxes on capital gains from securities transactions.<sup>13</sup>

3. Cosmetic surgeons. Cosmetic surgeons differ from the random Tokyo doctor along several dimensions. First, cosmetic surgeons are young. The field itself is a new specialty, and the age of its specialists reflects this. According to the MHLW, the number of cosmetic surgeons (practicing within the ambit of the national insurance) doubled from 1984 to 1994, and doubled again by 2004 (Kosei, 2006: 46). Table 1 compares the age distribution of all Tokyo physicians (given in Kosei, 2006) with the distribution of cosmetic surgeons and the randomly sampled JMA members. The median male Tokyo physician is 45-49 years old; the median Tokyo cosmetic surgeon is 40-44 (Table 1). Seventeen percent of male Tokyo physicians are 65 or older; only 6 percent of the male Tokyo cosmetic surgeons are that old.

[Insert Table 1 about here.]

Second, women are more likely to choose cosmetic surgery. As in the U.S., women in Japan disproportionately shoulder the burden of childcare and housework. Predictably, they choose specialties with fewer emergency procedures: ophthalmology, dermatology, and anesthesiology (Table 2). At least outside the national insurance system (with its burns and traffic accidents) cosmetic surgery similarly involves few emergencies. Among all male Tokyo doctors, 0.16 percent Tokyo became cosmetic surgeons. Among all female doctors, 0.26 percent did.

[Insert Table 2 about here.]

Note that the use of the web to identify cosmetic surgeons prevents me from assembling more than one-year's data. Because cosmetic surgeons are outside of the national insurance system, the government does not collect data on all of them. Because membership is voluntary, neither do the professional associations. To locate physicians

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<sup>12</sup> Even if a physician paid the full amount of taxes he owed, he could skirt its disclosure through one of two tactics. He could pay a penalty and submit his return late. The tax office included on its list only those high-income taxpayers who filed within 2 weeks of the March 15 return deadline. By filing after April 1, he could avoid publication. Alternatively, he could file an initial return that included only income below the amount that triggered disclosure, and then submit an amended return with the remaining income. Because the tax office compiled its list from the initial returns, he avoided publication this way as well. I do not know how many taxpayers used either strategy.

<sup>13</sup> See the discussions in Nakazato, Ramseyer and Rasmusen (2006a, 2006b). Both dividends and securities capital gains were subject to a national tax of 7 percent.

Although some tax provisions (e.g., regarding deductions) are particularly advantageous for physicians, they should be equally advantageous for the JMA and the cosmetic surgery physicians.

hoping to sell cosmetic surgery, I thus turn to the web -- on which most appear to advertise. The constantly updated nature of the web, however, prevents me retrospectively from collecting data on physicians who sold cosmetic surgery in the past. Unfortunately, the recent privacy protection statute prevents me from obtaining any income data based on tax liabilities in the future.

4. JMA membership. -- For a reference group, I randomly sample Tokyo-area members of the JMA. This practice, though, introduces several biases. The association does not include all physicians, or even most. Where Japan has 270,371 licensed physicians, the JMA includes only 164,110 (61%).<sup>14</sup> Where 34,463 physicians work in Tokyo, the JMA has only 19,418 (56%). Unfortunately, micro-level data on all Japanese doctors are unavailable, and an unbiased reference group is thus not an option.

The biases come from several factors. First, the JMA overwhelmingly recruits its members from doctors who own and operate their own clinics or hospitals. Of all Japanese physicians, 76,897 (28%) operated their own hospital or clinic; of all Tokyo physicians, 8,878 (26 %) did. As the JMA roster listed 84,562 owner-operators on its roster, either the MHLW is under-counting owners or the JMA is over-counting. Either way, virtually all owner-operators must have joined the JMA. Within Tokyo, the JMA claimed 9,909 owner-operators. Again, nearly all owner-operators must be in the JMA.

Second, as one would expect of doctors who own their own clinics, JMA members are old. Where the median male Tokyo physician is 45-49, the median male JMA member is 60-64. Where the modal male Tokyo physician is 40-44, the modal JMA physician is 75-79. And where 17 percent of male Tokyo physicians are 65 or older, fully 44 percent of the male JMA members are.

Third, JMA members are male. Women attended medical school less commonly decades ago, and less frequently own hospitals or clinics today. Given that JMA members are older than most and more likely to own their own facilities, they are also more likely to be male. In Tokyo, 77 percent of all physicians were male. In our JMA sample, 87 percent were.

Last, as one might expect of a group of older, male, clinic- (or hospital-) owners, the JMA members are rich. In part to illustrate this point, I construct Table 3. For this table, I define a JMA member's specialty (when in doubt) as the first field he lists in the Association directory. In the first column, I then give the percent of JMA members on the HIT list, and in the second the number of physicians in the database. For comparative purposes, in the third column I add the average salaries of U.S. physicians with over three years of practice.

Of all Japanese doctors (as identified by the TSR, 2004), 2.64 percent appear on the HIT list; of the randomly sampled JMA members, 5 to 22 percent (depending on field) appear (Table 3). More generally, the HIT list identifies 7,013 doctors.<sup>15</sup> Of these, it identifies virtually all (98 percent) as operators of clinics or hospitals, and only 145 as working at institutions they do not run. Given (i) that virtually all HIT list doctors are

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<sup>14</sup> Data in this section on total physicians are from Kosei (2006) for 2004. Data on the JMA membership is from the association website, [www.med.or.jp](http://www.med.or.jp) for 2006.

<sup>15</sup> That is, these are the taxpayers identified as physicians by the private firm (Tokyo shokorisachi, an affiliate of the D&B credit rating service) that published this edition of the HIT list.

owner-operators, and (ii) that virtually all owner-operators join the JMA (as explained immediately above), the JMA must include virtually all HIT-list doctors.

[Insert Table 3 about here.]

#### B. Variables:

With this data, I create the following variables:

**Cosmetic Surgeon:** 1 if a physician advertises his services on the web as a Tokyo-area cosmetic surgeon. The variable obviously does not capture expertise. It does capture the decision to try to sell services in this market.

**JMA Member:** 1 if a physician is a member of the JMA.

**Faculty experience:** 1 if a physician has worked on the faculty of a medical school (including service as a "joshu"). The variable thus indicates whether the doctor impressed scholars in his field and at his university enough for them to appoint him to the faculty.

**Hospital doctor:** 1 if a physician is on the staff of a hospital.

**Certified specialist:** 1 if a physician is a board-certified specialist.

**Age:** the physician's age, estimated from year of school graduation if year of birth be unavailable.

**Sex:** 1 if a physician is male.

**Tax liability:** the physician's tax liability (in 1000s) in 2004 if he is on the HIT list; 10,000 if not.

Selected summary statistics appear in Table 1 and Panel A of Table 6.

#### IV. Income in Cosmetic Surgery

##### A. Introduction:

By the logic above, cosmetic surgeons may earn high incomes. Some women may choose the field for the hours. But many doctors will choose it because of their talent, and the opportunity the field gives them to exploit that talent financially. Once in the field, they may invest in expertise and in the certification of that expertise at higher levels than their peers. They may invest in their clinics and hospitals at similarly high levels. And they will make these choices if but only if they earn a market return. Earning a return that other physicians do not, they may -- by the logic above -- report higher incomes.

For this inquiry, I compare the incomes of Tokyo cosmetic surgeons against the incomes of the reference group, the randomly selected JMA members. Note three caveats, all of which militate against my finding that the cosmetic surgeons earn more than that reference group. First, JMA physicians are disproportionately older, owner-operators, and male -- all characteristics associated with higher wages. Second, being older, JMA members will have more investable assets. Third, because cosmetic surgeons do not bill the government for their services, they should find it easier than others to hide their income.

Nonetheless, according to Tables 3 and 4, cosmetic surgeons do make high incomes. Among the JMA members in the dataset, cosmetic surgeons have the highest fraction of members on the HIT list -- 22 percent. Of the over 900 doctors in the pooled database, 8 of the 10 with the highest incomes were cosmetic surgeons.

Fumihiko Umezawa, the highest-paid doctor, headed one of the two professional associations in cosmetic surgery and ran the Jujin cosmetic surgery hospital ([www.jujinhospital.com](http://www.jujinhospital.com)). In September 2007, the hospital's web site offered the ever-popular eye-lid creasing for 52,000 to 339,000 yen depending on method used. It promised discounts to patients who ordered the procedure by the end of the month. And it offered nose jobs, Botox facials, breast enlargements, sweat-gland removal, navel shaping, and "anti-aging therapy."

[Insert Table 4 about here.]

Second-ranked Hajime Watahiki ran the 21-outlet Shinagawa cosmetic surgery chain ([www.shinagawa.com](http://www.shinagawa.com)). In the fall of 2007, the clinic offered introductory "petite" operations for patients new to cosmetic surgery: "petite" Botox for 14,800 yen, for example, or hyaluronic-acid wrinkle removal for 24,500 yen. Third-ranked Yoshihiro Kitamura directed the Kitamura clinic ([www.kitamura-clinic.com](http://www.kitamura-clinic.com)). To introduce its services on its ravishingly stylish web-site, the clinic offered a movie -- a remarkably content-free film that mostly cross-cut shots of a svelte model in a Lamborghini with those of a trim doctor preparing for an operation. Fourth ranked Toshitsugu Hirohi operated the five-office Ritz Cosmetic Surgery clinic ([www.ritz-cs.com](http://www.ritz-cs.com)), and fifth-ranked Yoshikazu Komuro ran yet another 5-office clinic chain ([www.komuro.or.jp](http://www.komuro.or.jp)).

#### B. Regressions:

In Table 5, I confirm this logic more systematically. Consider Regressions (1) and (2). I take as my dependent variable a physician's tax liability in 2004. Because for a majority of the doctors I know only that they paid less than 10 million yen, I use Tobit and report the results as Regression (1). A physician will choose his specialty with an eye to his expected income, of course, and this makes **Cosmetic Surgery** endogenous. To deal with the endogeneity, in Regression (2) I instrument **Cosmetic Surgery** by a physician's **Age**, **Age Squared**, and **Sex**. I limit the database to physicians listed in the JMA directory.

[Insert Table 5 about here.]

Among the JMA members, cosmetic surgeons earn substantially more than the others. Doctors associated with hospitals (among JMA members, many of them effectively own the hospitals) also report higher incomes. The other variables are insignificant, though men probably earn more than women. Cosmetic surgeons earn higher incomes in both the instrumental variables specification (Reg. (2)) and the straight Tobit specification (Reg. (1)).

For reasons discussed earlier, among Japanese physicians JMA members will tend to have higher incomes than the non-members. Regressions (3) and (4) confirm this result: among cosmetic surgeons, the JMA members do indeed earn more than the non-members. In (3), I include all variables and use Tobit; in (4), I instrument JMA membership with **Age**, **Age Squared**, and **Sex**, and use instrumental variables Tobit. In both cases, the JMA-member cosmetic surgeons earn more than the non-member cosmetic surgeons.

### V. Selection and Investment

#### A. Introduction:

Turn to the questions of (i) whether talented physicians disproportionately select into cosmetic surgery, and (ii) whether, once there, they invest at higher levels in their expertise. Begin with the summary statistics in Panel A of Table 6. Because married women may select into the field because of the hours, the correlation between talent and the field should be strongest among the men. To capture that potential complication, in the second set of columns I give the statistics for male doctors alone.

[Insert Table 6 about here.]

#### B. Selection:

I offer two indices of physician quality: whether a physician attended a public or private medical school, and whether he spent time on the faculty of a university. All else equal, the public Japanese universities are more selective and prestigious than the private. According to one national network of exam-preparation centers, only 6 private universities (led by Keio and Jikeikai Universities) maintain more selective medical schools than the bottom-ranked public university (Gunma University; see Yoyogi, 2007). Yet where 41 percent of the cosmetic surgeons studied medicine at a public university, only 36 percent of the others (the JMA random sample) did (Table 6, Panel A). Among the men, 46 percent of the cosmetic surgeons attended public universities, but only 37 percent of the others.<sup>16</sup>

As in the U.S., medical schools in Japan typically recruit their faculty from among their most talented students. The Tokyo cosmetic surgeons were far more likely to have spent time on medical school faculties than the others: 25 percent of the cosmetic surgeons had spent time on a university faculty (27 percent of the men); only 14 percent (17 percent of the men) of the others had done so.

In Panel B, I regress (through probit) **Cosmetic Surgery** on several variables, including **Public University** and **Faculty Experience**. The calculated coefficients on **Public University** are positive in all specifications, and statistically significant in several. The calculated coefficients on **Faculty Experience** are positive and strongly significant.

#### C. Certification:

Cosmetic surgeons are much more likely than other doctors to be board certified. Most Japanese doctors never obtain board certification. Able to fill their days without it, they do not bother. Cosmetic surgeons, however, sell their services in a market where price depends on perceived value, and the patient pays the entire cost of procedure.

In that environment, cosmetic surgeons apparently find board certification profitable. Among JMA members, only 8 percent were board certified; among cosmetic surgeons, a full 45 percent (47 percent of the men) were. The typical cosmetic surgeon obtained his certification in the much broader field of plastic surgery. In the subfield of cosmetic surgery itself, two rival professional associations also certify expertise: the Japan Society of Aesthetic Plastic Surgery and the Japan Society of Aesthetic Surgery. Perhaps because of problems stemming from the competition between the two groups, or perhaps because certification from an older, bigger, and a better established group provides greater credibility -- whatever the reason, cosmetic surgeons tend to turn to the

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<sup>16</sup> Although there are more public than private universities, the vast majority of public universities are located in distant provinces. Note that I study only Tokyo physicians.

larger field of plastic surgery for their certification.<sup>17</sup> Other doctors in cosmetic medicine obtain certification in fields like dermatology or ophthalmology.

#### D. Discussion:

1. The U.S. comparison. -- Cosmetic surgeons make high incomes in the U.S. too, of course; the principal point here is not about the high income. The point is not that cosmetic surgeons make surprisingly much in Japan, for anyone aware of what American surgeons make would not be surprised. Instead, the point is that cosmetic surgery appears as a focus of specialization in a market almost entirely devoid of it. Medical specialization requires long training, and the high incomes for cosmetic surgeons in the U.S. reflect in part (only in part; see Dranove & Satterthwaite, 1991: 52) the returns to that human capital investment. The high incomes in Japan reflect the same.

Yet where cosmetic surgeons invest in their field-specific expertise, most other Japanese doctors do not. Outside of cosmetic surgery (and a few small sectors), serious specialization in Japanese medicine simply does not exist. The reason is simple: doctors must sell their services in a price-suppressed market, and the suppressed prices preclude their earning much of a return on any field-specific investments they make. Cosmetic surgeons, however, do sell their services in a competitive market. There, consumers will indeed pay for talent, for specialization, and for certification. The high incomes that the cosmetic surgeons earn reflect the talent they willingly bring and the investments they willingly make in response.<sup>18</sup>

Table 3 illustrates the peculiar status of cosmetic surgery within the Japanese medical services industry. Most obviously, cosmetic surgeons earn high incomes. They earn high incomes in the U.S., and they earn high incomes in Japan. Crucially, however, note that the other physicians earn relative incomes (incomes relative to each other) that bear no connection to the relative incomes U.S. physicians earn. If I rank the physicians other than cosmetic surgeons by field and income (the first and third columns of Table 3), the rankings in the two countries are entirely uncorrelated. Indeed, the correlation coefficient is actually negative -- -0.17. As explained above, the reason is simple: the putative "specialization" in Japan is largely nominal. Outside of cosmetic surgery and a very few other sectors, Japanese doctors simply do not specialize in any serious way.

2. Broader implications. -- In fact, this discussion of cosmetic surgery understates the extent of the distortions caused by the price controls. Logically, the price controls should not just skew a physician's choice of specialty. Logically, they should skew a talented student's more basic career choice as well. More specifically, they should skew the most talented science students away from any career in medicine at all.

Speculative evidence (but only speculative; the question is obviously beyond the scope of this article) consistent with this broader effect appears in the relative attractiveness of engineering and medicine. Forty-seven universities maintain both

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<sup>17</sup> See [www.jsprs.or.jp/senmon/index.htm](http://www.jsprs.or.jp/senmon/index.htm) for certification standards.

<sup>18</sup> Much the same analysis applies to the non-random distribution of ability. According to the analysis here, cosmetic surgeons in Japan bring higher levels of talent than one observes in medicine generally. The same may well be true in the U.S. (see Dranove & Satterthwaite, 1991: 67; Marder & Willke, 1991: 276). The point is that this occurs where market pricing allows talents to shift to sectors where they produce the highest value-added.



engineering and medical schools. The seven worst universities have bad schools in both fields. But among the other 40, the relative attractiveness of medicine falls as university quality rises. More specifically, consider the correlation between (i) the selectivity of the medical school, and the (ii) the ratio of the selectivity of the university's medical school to the selectivity of the university's engineering school (with selectivity measured by Yoyogi, 2007). The coefficient is strongly negative (-.60) and significant at more than the 99 percent level. The better the students at a university, the less attractive a medical career will be compared to an engineering career.

#### VI. Conclusions

In Japan, the government provides universal health insurance. Toward that end, it heavily subsidizes demand. Yet as here, it also limits the supply of medical services with a rigid licensing requirement.

Subsidizing demand while limiting supply raises market prices, of course, and the Japanese government keeps costs down by suppressing prices by fiat. One effect is obvious, and has been often noted: suppliers depreciate quality. Much the way landlords let apartments deteriorate in rent-controlled cities, doctors depreciate quality in worlds with suppressed prices.

But the distortions are more basic, for they affect the very career choices physicians make. More specifically, they create an incentive for the most talented doctors to opt for sectors beyond the price controls, to invest in human capital specific to those sectors, and to certify that sector-specific expertise. Ironically, most of the sectors excluded from the Japanese insurance scheme are those deemed medically least "necessary," and cosmetic surgery is one. Ironically, the price distortions drive the brightest Japanese doctors into cosmetic surgery -- there, to invest heavily in cosmetic expertise, and to certify that expertise to a level never seen in the medically "necessary" sectors.

Cosmetic surgeons earn high incomes in the U.S. as well of course. In large part, their incomes represent the returns to the human capital investments they make in their specialty. The point is not that Japanese cosmetic surgeons earn a premium not available here. The point is that by operating beyond the scope of the universal health insurance, they can profitably do what few other Japanese physicians can cost-effectively do: invest in field-specific training. In most medical fields, the price controls preclude a physician from earning a large enough return to his training to make any serious specialization worthwhile. In cosmetic surgery, however, those controls do not apply. Like their peers here, Japanese physicians respond to the price signals by specializing, training, and certifying their expertise.

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**Table 1: Tokyo Physicians -- Age Distribution**

	All Tokyo .				JMA Members .				Cosmetic Practice			
	Male .		Female .		Male .		Female		Male .		Female	
	n	%	n	%	n	%	n	%	n	%	n	%
≤ 24	41	0.2	38	0.5	0	0	0	0	0	0	0	0
25-29	2448	9.2	<b>1645</b>	<b>20.7</b>	0	0	0	0	9	3.8	4	5.3
30-34	3433	12.9	1512	19.1	1	0.2	4	5.8	18	7.7	18	23.7
35-39	3340	12.6	<u>1114</u>	<u>14.0</u>	10	2.2	5	7.2	33	14.1	20	26.3
40-44	<b>3663</b>	<b>13.8</b>	951	12.0	43	9.3	5	7.2	<b>67</b>	<b>28.6</b>	<b>20</b>	<b>26.3</b>
45-49	3404	12.8	725	9.1	54	11.6	10	14.5	44	18.8	6	7.9
50-54	2578	9.7	480	6.1	52	11.2	<b>10</b>	<b>14.5</b>	22	9.4	3	3.9
55-59	1978	7.5	380	4.8	53	11.4	<u>6</u>	<u>8.7</u>	12	5.1	1	1.3
60-64	1173	4.4	218	2.7	<u>47</u>	<u>10.1</u>	3	4.3	14	6.0	2	2.6
65-69	1007	3.8	164	2.1	46	9.9	5	7.2	6	2.6	1	1.3
70-74	1046	3.9	190	2.4	54	11.6	2	2.9	6	2.6	0	0
75-79	1547	5.8	292	3.7	<b>70</b>	<b>15.1</b>	7	10.1	3	1.3	1	1.3
80-84	639	2.4	143	1.8	27	5.8	9	13.0	0	0	0	0
≥ 85	234	0.9	80	1.0	7	1.5	3	4.3	0	0	0	0
Total	26531	100	7932	100	464	100	69	100	234	100	76	100
Mean age	48.2		42.6		61.7		58.9		45.9		39.8	

Modal group in bold; median group underlined.

Notes: The first two columns represent aggregate statistics distributed by the MHLW; the second two columns are from the randomly sampled JMA members (discussed in the text); the last two columns are from cosmetic surgeons advertising Tokyo services on the web (discussed in the text).

Sources: Distribution of all Tokyo doctors from Kosei rodo sho, ed., *Ishi shikaishi, yakuzaishi chosa*, Heisei 16 nen [Investigation of Physicians, Dentists and Pharmacists: 2004] (Tokyo: Kosei tokei kyoka, 2006); JMA members from *Iji koron sha*, *Iseki soran: Higashi Nihon ban* [Physician Directory: Eastern Japan Edition] (Tokyo: Iji koron sha, 2004); cosmetic practitioners from web search.

**Table 2: Most Common Specialities  
(2004 - Nation-wide Data)**

Men	A	B	.	Women	A	B	.
Internal medicine	29.2	85.1		Internal medicine	26.0	14.9	
Surgery	10.3	95.4		Ophthalmology	10.9	36.8	
Orthopedic surgery	8.4	96.3		Pediatrics	10.9	31.2	
Pediatrics	4.7	68.8		Dermatology	7.0	38.0	
Psychiatry	4.6	81.5		Psychiatry	5.3	18.5	
GI	4.3	89.5		OB/GYN	5.3	21.8	
Cardiology	3.8	90.3		Anesthesiology	4.4	29.1	

Notes: A -- % of total male or female population; B -- % of that speciality.

Sources: Kosei rodo sho, ed., Ishi shikaishi, yakuzaishi chosa [Investigation of Physicians, Dentists and Pharmacists (Tokyo: Kosei tokei kyoka, 2006)].

**Table 3: Comparative HIT Rates, by Specialty  
(JMA Members)**

	% docs on HIT	Number of docs	Mean U.S. Salaries
Cosmetic Surgery	22.1	(113)	\$412,000*
Surgery	20.8	(48)	291,000
Pediatrics	20.0	(25)	175,000
Ophthalmology	17.1	(35)	314,000
ENT	16.1	(31)	311,000
Internal medicine	13.7	(219)	176,000
Dermatology	8.8	(34)	308,000
Orthopedics	8.0	(25)	342,000
Neurology	7.7	(13)	228,000
Ob/Gyn	5.3	(38)	261,000
Other	17.1	(35)	

Notes: The first two columns give the fraction of doctors in each specialty on the HIT list, followed by the number of doctors in the database in parenthesis. When in doubt, I define a doctor's specialty as the first field he advertises in the JMA directory. I limit myself to those specialties with 10 or more physicians in the database.

The third column gives the salary for U.S. physicians with more than three years' experience.

\* Plastic surgery.

Sources: For first two columns, see JMA members from Iji koron sha, Iseki soran: Higashi Nihon ban [Physician Directory: Eastern Japan Edition] (Tokyo: Iji koron sha, 2004); cosmetic practitioners from web search; income data from Tokyo shoko risaachi, Zenkoku kogaku nozeisha meibo [Roster of High-Income Taxpayers] (CD-ROM) (Tokyo: Tokyo shoko risaachi, 2005). For third column, see [http://www.allied-physicians.com/salary\\_surveys/physician-salaries.htm](http://www.allied-physicians.com/salary_surveys/physician-salaries.htm)

**Table 4: High Income Physicians  
(Pooled Sample)**

Name	Primary Field	2004 Tax (x1000)	Taxpayer Rank	Age	Medical School	Institution	Board Certification	.
Umezawa, F.	Cosmetic Srg	313,796	102	70	Keio	Jujin Hosp	Cosmetic Surg	
Watahiki, H.	Cosmetic Srg	203,986	225	46	Kagoshima	Shinagawa Cosm		
Kitamura, Y.	Cosmetic Srg	159,647	346	41	Jikei	Kitamura Clinic	Cosmetic Surg	
Hirohi, T.	Cosmetic Srg	78,832	1366	45	Yamanashi	Ritz Cosm Surg		
Komuro, Y.	Cosmetic Srg	73,558	1584	47	Showa	Komuro		
Ikeda, Y.	Cosmetic Srg	65,723	2019	36	Kyorin	Ikeda Yuko Clinic		
Boku, M.	Cosmetic Srg	59,730	2405			Omote sando Clinic	Plastic Surg	
Nomura, Y.	Surgery	54,916	2842	44	Nihon	Nomura Hosp		
Shimizu, Y.	Ophthal	51,842	3202	49	Tokyo	Shimizu		
Yoshihara, H.	G.I.	46,893	3864	47	Kitasato	Kita-Aoyama Hosp		

Notes: The table gives the physicians with the highest incomes in the pooled sample of Tokyo-area cosmetic surgeons (449 doctors), and randomly sampled JMA members (499 doctors). Data collection discussed in the text.

Sources: JMA members from Iji koron sha, Iseki soran: Higashi Nihon ban [Physician Directory: Eastern Japan Edition] (Tokyo: Iji koron sha, 2004); cosmetic practitioners from web search; income data from Tokyo shoko risaachi, Zenkoku kogaku nozeisha meibo [Roster of High-Income Taxpayers] (CD-ROM) (Tokyo: Tokyo shoko risaachi, 2005).

**Table 5: Determinants of Income Among Tokyo Physicians, 2004**

Regression:	(1) Tobit	(2) IV Tobit	(3) Tobit	(4) IV Tobit .
Cosmetic Surgery	22555 (1.96)**	108053 (2.84)***		
JMA Member			66186 (3.31)***	142466 (2.25)**
Public University	-8011 (0.92)	-15133 (1.41)	-22483 (1.21)	-14700 (0.71)
Faculty experience	-3744 (0.36)	-2873 (0.23)	-36495 (1.73)*	-30575 (1.27)
Hospital doctor	22538 (2.25)**	38267 (2.75)***	43704 (1.17)	50872 (1.15)
Certified specialist	5569 (0.53)	-27070 (1.27)	2885 (0.16)	-255 (0.01)
Age	-1195 (0.41)		5259 (0.69)	
Age Squared	3.131 (0.13)		-43.126 (0.71)	
Sex	22434 (1.54)		48734 (1.78)	
Database:	JMA	JMA	Cosm Prac	Cosm Prac
Instrumented:		Cosm Prac		JMA
n	491	491	304	304

Notes: The dependent variable is 2004 tax liability (in 1000s) if on the HIT list, or 10,000 if not. In the instrumental variable tobit specifications, the instruments are Age, Age Squared, and Sex; the endogenous variable is Cosmetic Surgery (Regression (2)) or JMA Member (Regression (4)). The parentheses give the absolute value of the t- and z-statistics. All regressions include a constant term.

\*\*\*, \*\*, 1: Statistically significant at the 1, 5, and 10 percent levels, respectively.

Sources: See Table 3.



**Table 6: Selection of Tokyo Physicians into Cosmetic Practice****A. Sample Statistics:**

	<u>Full Sample .</u>		<u>Men Only .</u>		<u>JMA Members Only .</u>	
	Cosm	Non-cosm	Cosm.	Non-Cosm	Cosm.	Non-Cosm.
Public Univ:	.411	.349	.457	.365	.359	.349
n	(350)	(393)	(254)	(351)	(103)	(303)
Certification:	.457	.084	.472	.084	.566	.084
n	(449)	(499)	(339)	(427)	(113)	(499)
Faculty Exper:	.249	.144	.277	.166	.265	.144
n	(449)	(499)	(339)	(427)	(113)	(499)

**B. Probit Estimates:**

	(1)	(2)	(3)	(4) .
Public University	.044 (1.20)	.120 (2.45) **	.057 (1.54)	.143 (2.88) ***
Faculty Experience	.112 (2.26) **	.285 (5.49) ***	.083 (1.74) *	.263 (4.77) ***
Age	-.017 (1.27)	-.078 (4.68) ***	-.0005 (0.04)	-.061 (3.44) ***
Age Squared	.00004 (0.33)	.0004 (2.94) ***	-.0001 (0.77)	.0003 (1.94) *
Sex	.004 (0.08)	-.084 (1.23)		
Data base	JMA only	All docs	JMA only	Men only
n	491`	695	Men only 435	581

Notes: The dependent variable is equal to 1 if a physician is in cosmetic surgery. The table gives the marginal effects (not the coefficients), calculated at the mean. The absolute values of the z- statistics are given in parentheses.

\*\*\*, \*\*, 1: Statistically ignificant at the 1, 5, and 10 percent levels, respectively.

Sources: See Table 3.