# Industrial Organization 13

The notion that Japan's economy operates on the basis of unique principles may have gained currency because of the country's singular pattern of industrial organization. The business groups that have long been ubiquitous in Japan do pose challenges for economists. Japan's business groups include the prewar zaibatsu and their postwar manifestation known as the financial keiretsu, and also include the enterprise groups consisting of large manufacturing firms and their respective families of suppliers, subcontractors, wholesalers, and retailers.

What can explain the persistent self-organization of Japanese economic activity into affiliated groups of quasi-independent companies; and, if this way of arranging production is truly economical, then why does it seem to be confined to Japan? Other peculiarities of Japanese industrial organization have also attracted notice.

Many of the world-famous Japanese companies are industrial behemoths, quite distinct from the atomistic pygmies of the perfect competition model. Japan's industries are on average rather more concentrated than their US analogues. Why, and what if anything does this indicate about the allocative efficiency of Japan's industries?

A further set of issues, interrelated with those just mentioned, has to do with government policy toward competition and monopoly. Japan's antimonopoly laws are a legacy of the American Occupation. The laws were first adopted in 1948 and significantly amended in 1953. Like the US statutes on which they are loosely based, Japan's antimonopoly laws prohibit price-fixing, mergers for monopoly, and other practices economists generally equate with cartelization (and also many practices not equated with cartelization). However, unlike the US antitrust statutes, penalties for violating Japan's antimonopoly laws are rather small, and significant exceptions to the laws have been extended to designated industries. Has the weakness of antitrust laws significantly affected the pricing and output of industries?

Besides antimonopoly laws, Japan also has laws that specify government control of prices, investments, and entry in industries as diverse as telecommunications, railroads, electric power, and agriculture. Government regulation is typically implemented in a less transparent manner in Japan than elsewhere, although the sorts of industries subject to regulation are the same. Also, Japan, like the United States, has significantly deregulated its transport, telecommunications, and other industries in recent years. What have been the purposes and consequences of government regulation of industry in Japan, and what are the reasons for deregulation? We begin our consideration of the industrial organization of Japan with the business groups.

## Japan's business groups

### Financial keiretsu

Business groups have been a feature of Japan's industrial organization since the Meiji period. As early as the 1870s, there had already emerged the

Yasuda banking complex, the Mitsubishi shipping conglomerate, and the Mitsui trading company, all of which later became cornerstones in the vast commercial empires known as the zaibatsu, precursors of the financial keiretsu.

As detailed in Chapters 3 and 4, each zaibatsu consisted of disparate firms, including banks, trading companies, and manufacturing concerns, much of whose stock reposed in a common holding company *qua* head office that was itself controlled by a wealthy family. In 1948, the Occupation authorities dissolved the zaibatsu shareholding interlocks; at about the same time the Antimonopoly Laws of Japan (1947, amended in 1953) abolished holding companies. In July 1997, the Antimonopoly Law was again amended, finally removing the prohibition against holding companies.

By the early 1960s, many of the companies previously associated with each of the four major zaibatsu had re-established shareholding ties with one another. These groups were widely referred to as the financial keiretsu, or just keiretsu. (But be warned that in Japanese the word *keiretsu* is also used to refer to other business groups, including subcontracting groups and directed marketing channels.) *Keiretsu* is a Japanese word that defies exact translation. A literal rendering into English might be "succession," in the sense of a sequence of entities joined together, as links in a chain. Besides the progeny of the big four zaibatsu—Mitsui, Mitsubishi, Sumitomo, and Fuyo (formerly Yasuda)—the six financial keiretsu included the Dai-Ichi Kangyo group, consisting mainly of former members of the smaller Kawasaki and Furukawa zaibatsu, and the Sanwa group, which had no prewar antecedent.

There were different ways of ascertaining which companies belonged to each financial keiretsu. The clearest evidence of affiliation was appearance on the roster of monthly "presidents' club" meetings of any one of the six respective groups. These rosters were public, though the agendas of the meetings were not. The descendants of these presidents' club members, as of March 2013, are listed by keiretsu affiliation and industry classification in Table 13.1. A few companies belonged to more than one presidents' club—Hitachi belonged to three of them—but these were the rare exceptions. The rosters of the presidents' clubs exhibited little change from one year to the next, and the changes that did occur were mostly the result of mergers.

Altogether, the members of the six presidents' clubs in 2000 numbered 173 companies, including most but not all of the largest companies in Japan. Some of the large companies never on the rosters of presidents' clubs include Honda Motor, Bridgestone, Matsushita, Sony, and Fuji Film.

The presidents' club companies spanned a wide selection of industries. In fact, the economist Miyazaki Yoshikazu famously characterized the financial keiretsu as organized on the basis of the "complete-set principle" (*wan setto shugi*); that is, each of them included at least one company in each major industry.[1] It is readily apparent, from Table 13.1, that in industry after industry the members of the differing financial keiretsu competed with one another. For instance, Toyota, Mitsubishi Motors, Nissan, Daihatsu, and Isuzu were each affiliated with a different keiretsu; Kirin Brewery belonged to the Mitsubishi presidents' club, but Sapporo Breweries belonged to the Fuyo presidents' club. There are many other similar examples. The financial keiretsu were not simply cartels, coalitions of suppliers of similar products. Rather, they represented suppliers of differing products, and in many instances fellow members of the same presidents' club traded with one another. Japan's Fair Trade Commission periodically surveyed the extent of transactions between fellow members of presidents' clubs. In 1980 it reported that 20 percent of the sales of presidents' club manufacturing firms were to fellow members of the same clubs, and 12 percent of purchases were from fellow club members.[2] These were all very large companies, most of whose transactions were probably with smaller firms, outside the presidents' clubs, so the Fair Trade Commission data just reported do suggest a disposition toward trade

[1] For an example of Miyazaki's dissection of the financial keiretsu, in English, see Yoshikazu Miyazaki, "Rapid Economic Growth in Post-War Japan—with Special Reference to 'Excessive Competition' and the Formation of 'Keiretsu'," *The Developing Economies*, vol. 5 (1967), pp. 329–50.

[2] Kosei Torihiki Iinkai, Keizaibu Jigyoka (Executive Office of the Fair Trade Commission of Japan, Enterprise Section, Economics Division), "Kigyo shudan no jittai ni tsuite" (Concerning the state of business groups), *Kosei Torihiki*, no. 394 (1983), pp. 20–4.

**Table 13.1.** Descendants of the presidents' club members of the six financial keiretsu

| | Mitsui | Sumitomo | Mitsubishi | Sanwa | Fuyo | Dai-Ichi Kangyo |
|---|---|---|---|---|---|---|
| Banks | *8316 Sumitomo Mitsui Financial Group<br>*8309 Sumitomo Mitsui Trust Holdings | *8316 Sumitomo Mitsui Financial Group<br>*8309 Sumitomo Mitsui Trust Holdings | *8306 Mitsubishi UFJ Financial Group | *8306 Mitsubishi UFJ Financial Group | *8411 Mizuho Financial Group | *8411 Mizuho Financial Group |
| Property Insurance | | | 8766 Tokio Marine Holdings | | *8755 Sompo Japan Insurance | *8755 Sompo Japan Insurance |
| Life Insurance | Mitsui Life Insurance | Sumitomo Life Insurance | *Meiji Yasuda Life Insurance | Nippon Life Insurance | *Meiji Yasuda Life Insurance | Fukoku Life Insurance<br>Asahi Mutual Life Insurance |
| Forestry | | 1911 Sumitomo Forestry | | | | |
| Mining | 3315 Nippon Coke and Engineering | 1514 Sumiseki Holdings | | | | |
| Construction | *1821 Sumitomo Mitsui Construction<br>1961 Sanki Engineering | *1821 Sumitomo Mitsui Construction | 1871 P.S. Mitsubishi Construction | 1802 Obayashi<br>Zenitaka<br>1890 Toyo Construction<br>1928 Sekisui House | 1801 Taisei | 1803 Shimizu Construction |
| Foods | 2001 Nippon Flour Mills | | 2503 Kirin Brewery | 2284 Itoham Foods<br>Suntory | 2002 Nisshin Seifun Group<br>2501 Sapporo Holdings<br>2871 Nichirei | |
| Textiles | 3402 Toray Industries | | | 3103 Unitica<br>3401 Teijin | 3105 Nisshinbo | 3407 Asahi Kasei |
| Paper And Pulp | *3861 Oji Holdings<br>*3893 Nippon Paper Group | | 3864 Mitsubishi Paper Mills | | *3893 Nippon Paper Group | *3861 Oji Holdings |
| Chemicals | 4061 Denki Kagaku Kogyo<br>4183 Mitsui Chemicals | 4005 Sumitomo Chemical<br>4203 Sumitomo Bakelite | 4188 Mitsubishi Chemical Holdings<br>4182 Mitsubishi Gas Chemical | 4043 Tokuyama<br>4204 Sekisui Chemical<br>4208 Ube Inds.<br>4217 Hitachi Chemical<br>4613 Kansai Paint<br>6988 Nitto Denko | 4004 Showa Denko<br>4023 Kureha Chemical Industry<br>4403 NOF | 4061 Denki Kagaku Kogyo<br>4205 Zeon<br>4401 Adeka<br>4911 Shiseido<br>4912 Lion |

(*Continued*)

**Table 13.1.** *(Continued)*

| | Mitsui | Sumitomo | Mitsubishi | Sanwa | Fuyo | Dai-Ichi Kangyo |
|---|---|---|---|---|---|---|
| Pharmaceutical | | | | 4503 Astellas Pharma | | 4151 Kyowa Hakko Kogyox |
| | | | | 4508 Mitsubishi Tanabe Pharma | | 4568 Daiichi Sankyo |
| Oil And Coal Products | | | 5020 JX Holdings | 5007 Cosmo Oil | | 5002 Showa Shell Sekiyu |
| Rubber Goods | | | | 5105 Toyo Tire and Rubber | | 5101 The Yokohama Rubber |
| Glass And Ceramics | *5233 Taiheiyo Cement | 5202 Nippon Sheet Glass | 5201 Asahi Glass | | *5233 Taiheiyo Cement | *5233 Taiheiyo Cement |
| | | 5232 Sumitomo Osaka Cement | | | | |
| Iron And Steel | | 5401 Nippon Steel & Sumitomo Metal | 5632 Mitsubishi Steel Mfg. | *5406 Kobe Steel | *5411 JFE Holdings | *5411 JFE Holdings |
| | | | | 5413 Nisshin Steel Holdings | | *5406 Kobe Steel |
| | | | | 5408 Nakayama Steel Works | | |
| | | | | 5486 Hitachi Metals | | |
| Non-Ferrous Metals | 5706 Mitsui Mining & Smelting | 5713 Sumitomo Metal Mining | 5711 Mitsubishi Materials | 5812 Hitachi Cable | | 5703 Nippon Light Metal Holdings |
| | | 5738 Sumitomo Light Metal Ind. | Mitsubishi Aluminum | | | 5715 Furukawa |
| | | 5802 Sumitomo Electric Industries | | | | 5802 Sumitomo Electric Industries |
| Machinery | 5631 The Japan Steel Works | 6302 Sumitomo Heavy Industries | 6331 Mitsubishi Kakoki | 6472 NTN | 6326 Kubota | 6310 Iseki |
| | *7013 IHI | | 7011 Mitsubishi Heavy Industries | 7004 Hitachi Zosen | 6471 NSK | 6361 Ebara |
| | | | | | | *7013 IHI |
| Electric Appliances | 6502 Toshiba | 6701 NEC | 6503 Mitsubishi Electric | *6501 Hitachi | *6501 Hitachi | *6501 Hitachi |
| | | | | 6704 Iwatsu Electric | 6703 Oki Electric Industry | 6504 Fuji Electric Holdings |
| | | | | 6753 Sharp | 6841 Yokogawa Electric | 6506 Yaskawa Electric Mfg. |
| | | | | 6971 Kyocera | 7751 Canon | 6702 Fujitsu |
| Information And Communication | | | | | | 6791 Nippon Columbia |
| Transport Equipment | 7003 Mitsui Engineering & Shipbuilding | | 7211 Mitsubishi Motors | 7224 ShinMaywa Industries | 7201 Nissan Motor | 7012 Kawasaki Heavy Industries |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 7203 Toyota Motor | | Mitsubishi Fuso Truck & Bus | 7262 Daihatsu Motor | | 7202 Isuzu Motors |
| Precision Machinery | | | 7731 Nikon | 7741 Hoya | | |
| Commerce | 2779 Mitsukoshi<br>8031 Mitsui | 8053 Sumitomo | 8058 Mitsubishi | *2768 Sojitz Holdings<br>8088 Iwatani International<br>8233 Takashimaya | 8002 Marubeni | *2768 Sojitz Holdings<br>5411 JFE Holdings<br>8001 Itochu<br>Seibu Department Store |
| Miscellaneous Financing | | | | 8591 Orix | | 8585 Orient Corp. |
| Real Estate | 8801 Mitsui Fudosan | 8830 Sumitomo Realty & Development | 8802 Mitsubishi Estate | | 8804 Tokyo Tatemono | |
| Transportation | *9104 Mitsui O.S.K. Lines | | 9101 Nippon Yusen | 9042 Hankyu Hanshin Holdings<br>9062 Nippon Express<br>*9104 Mitsui O.S.K. Lines | 9001 Tobu Railway<br>9006 Keikyu | 9062 Nippon Express<br>9107 Kawasaki Kisen |
| Warehousing | 9302 Mitsui Soko | 9303 The Sumitomo Warehouse | 9301 Mitsubishi Logistics | 9532 Osaka Gas | | 9304 The Shibusawa Warehouse |
| Services | | | | | | 7972 Itoki Crebio<br>9681 Tokyo Dome |

Number before company name is the securities identification code number.
* indicates affiliation with more than one presidents' club.

*Source*: Basic status of the groups as of December 2000 from: Japan Fair Trade Commission, Kigyō shūdan no jittai ni tsuite (State of corporate groups in Japan the 7th survey report), May 18, 2001. Updated to reflect subsequent mergers as reported in the business press.

between fellow members of the same financial keiretsu.

Presidents' club members borrowed principally but not exclusively from fellow members. The single largest lender to each of them was usually the city bank that belonged to the same presidents' club as the company itself. In the usual pattern, loans from the presidents' club city bank accounted for 10–20 percent of any other fellow presidents' club member's total outstanding debt. The presidents' club trust bank held another 5–10 percent of each fellow member's debt and the life insurance company, 1–5 percent. The balance of a typical presidents' club company's total borrowing was from outside the group, including borrowing from financial members of presidents' clubs other than the one of affiliation. Presidents' club members also borrowed from the three long-term credit banks, the city banks not affiliated with the six financial keiretsu, and from the regional banks. After 1980, large Japanese companies were allowed access to international financial markets as a source of funds, but they still relied quite heavily upon domestic loans.

Another visible linkage among fellow presidents' club members was cross-shareholding. The average fractions of outstanding shares held within the respective presidents' clubs in 1994 were Sumitomo: 23.4 percent; Mitsubishi: 27.5 percent; Dai-Ichi Kangyo: 11.7 percent; Sanwa: 16 percent; Mitsui: 16.5 percent; and Fuyo: 14.6 percent, but about half of these shares were held by financial institutions of the respective groups. The Antimonopoly Law of Japan limits the extent of shares that banks and insurance companies may hold in any one company. Since 1987 these limits have been set at 5 percent for banks and 7 percent for insurance companies. Few banks or insurance companies held share interests approaching these limits. The shareholding of banks in the companies to which they lend is an important aspect of Japan's bank-centered system of financial intermediation, a topic explored in detail in the next chapter. In any case, there does seem to have been a bit more to the presidents' clubs than financial intermediation.

About one-third of the (non-ordered) pairs of nonfinancial companies belonging to a same presidents' club were directly linked with one another by cross-shareholding, and in about half of these instances the cross-shareholding was reciprocal. Typically, the share interest of any one presidents' club company in another was around 1 percent. In other words, the cross-shareholding ties were usually insufficient to confer a controlling interest. Cross-shareholding between nonfinancial members of differing presidents' clubs was unusual. A convincing explanation for cross-shareholding between nonfinancial firms that are possibly trading partners would go a long way toward explaining the *raison d'être* of the financial keiretsu themselves—and, indeed, that of the other business groups in Japan.

The financial keiretsu occupied a sizable niche in the Japanese economy. Together, the six presidents' clubs in 1994 accounted for about one-eighth of the sales of nonfinancial businesses in Japan, one seventh of the paid-in capital, and one-fifth of the net profit. These and other such data, broken down for each of the six financial keiretsu, are represented in Table 13.2.

Attempts have been made to broaden the classification of the financial keiretsu beyond the rosters of the presidents' clubs, by identifying all the important loan clients of the presidents' club banks, and identifying the broader web of cross-shareholding linking presidents' club members to other companies. By focusing only on the presidents' club members, we may have grossly understated their scale in relation to the Japanese economy.

The financial keiretsu still exist but have been much transformed by major mergers involving the banks that in the 1970s and 1980s had been the linchpins of the six groups. In 2001 Fuji bank, the city bank of the Fuyo keiretsu, merged with the Dai-Ichi Kangyo Bank, the city bank of the DKB keiretsu, to form the *Mizuho Financial Group*. Also in that same eventful year 2001, Sakura, the city bank of the Mitsui keiretsu, merged with Sumitomo bank, the city bank of the Sumitomo keiretsu, to form the Sumitomo Mitsui Banking Corp, which in 2002 was folded into the newly formed *Sumitomo Mitsui Financial Group*. Finally, in 2005 the Mitsubishi Tokyo Financial Group, the city bank of the Mitsubishi keiretsu, absorbed UFJ Holdings, which had been the city bank of the Sanwa keiretsu, and was renamed *Mitsubishi UFJ*

Table 13.2. Scale of keiretsu presidents' club companies, excluding banks and insurance companies, in relation to the Japanese economy, 1994

| | % of respective totals for all industrial companies in Japan[a] | | | | | |
|---|---|---|---|---|---|---|
| | Employees | Assets | Paid-in capital | Sales | Operating profit | Net profit |
| Mitsui | 0.65 | 2.01 | 2.33 | 2.37 | 2.20 | 5.30 |
| Mitsubishi | 0.54 | 1.88 | 2.38 | 2.02 | 2.45 | 5.69 |
| Sumitomo | 0.31 | 1.14 | 1.60 | 1.57 | 0.67 | 1.15 |
| Fuyo | 0.75 | 1.98 | 2.91 | 2.17 | 1.40 | 2.09 |
| Sanwa | 0.94 | 2.50 | 3.25 | 2.50 | 3.14 | 4.52 |
| Dai-Ichi Kangyo | 1.11 | 3.29 | 3.71 | 3.80 | 2.46 | 2.46 |
| All six | 3.63 | 11.50 | 14.44 | 12.95 | 11.10 | 19.63 |

[a] 2.4mn companies in all.

*Source*: Tōyō keizai, *kigyō keiretsu sōran*, 1996, p. 25.

*Financial Group*. Thus, as shown in the first row of Table 13.1, Sumitomo Mitsui Financial Group is the city bank of both the former Mitsui and former Sumitomo keiretsu groups; Mitsubishi UFJ Financial Group is the city bank of the former Mitsubishi and former Sanwa keiretsu groups; and Mizuho Financial Group is the city bank of the former Fuyo and former Dai-Ichi Kangyo keiretsu groups. And what of the "presidents' clubs"?

Several of the presidents' clubs persist as public affairs committees that have monthly meetings, engage in civic activities and maintain web sites. On those web sites are posted the rosters of member companies. The roster of the Mitsubishi Public Affairs Committee includes mostly the descendants of the companies that had been members of the Mitsubishi keiretsu presidents' club (the Mitsubishi Friday Meeting), and *vice versa*. Similar statements apply to the Mitsui Public Relations Committee and the Sumitomo Group Public Relations Committee. The analogue of these for the Fuyo keiretsu presidents' club (*Fuyō kondan kai*) is called FINES, which seems to be an English acronym. The descendants of the former Sanwa keiretsu presidents' club (the third Wednesday of the month club) are core members of the Midori Kai, also a public affairs committee (it has 158 members in all). The Dai-ichi Kangyo keiretsu presidents' club, alone among the six, seems not to have survived in any form.

The Japan Fair Trade Commission had been periodically monitoring some details of the six financial keiretsu and posting summaries. Its seventh such report in 2001 was its last.[3] The private publisher Tōyō Keizai Shinpōsha also used to publish annual details of the member firms of the six financial keiretsu presidents' clubs, mostly drawn from financial statements, but did so for the last time in 2000.[4] It has since become more difficult to learn about the transactions ties, loans, and cross-shareholding among the six groups of firms listed in Table 13.1. But it is revealing that the private demand for such information seems to have diminished (had it not diminished, Tōyō Keizai Shinpōsha would presumably still be issuing its annual reports).

## Enterprise groups (*kigyō shūdan*)

The financial keiretsu are not the sole identifiable business groups of Japan. There are also groups of firms centered, respectively, around several of the largest industrial companies. These might be referred to as enterprise groups, but there is no standard term of reference for them, and in Japanese, the phrase *kigyō shūdan* (lit. "enterprise group") is also, somewhat confusingly, used to refer to the financial keiretsu. Here, let us reserve

[3] See kōsei torihiki iinkjai (Japan Fair Trade Commission), *nenji hōkoku* (annual report), 8–2, dokusen teki jittai chōsa (survey of monopolistic situations): http://www.jftc.go.jp/info/nenpou/h13/13kakuron00002-8.htm

[4] Tōyō Keizai Shinpōsha, *kigyō keiretsu sōran* (enterprise keiretsu handbook), annual, 1972–2000.

**Table 13.3.** Companies that head the 40 most significant enterprise groups (Presidents' club memberships are stated in parentheses)

| | |
|---|---|
| 1801 | Taisei (Fuyo) |
| 2503 | Kirin Brewery (Mitsubishi) |
| 2914 | Japan Tobacco |
| 3382 | Seven & I Holdings |
| 3402 | Toray Industries (Mitsui) |
| 3407 | Asahi Kasei (Dai-Ichi) |
| 3893 | Nippon Paper Group (Mitsui, Fuyo) |
| 4188 | Mitsubishi Chemicals Holdings (Mitsubishi) |
| 4204 | Sekisui Chemical (Sanwa) |
| 4452 | Kao |
| 4502 | Takeda Pharmaceutical |
| 4901 | Fuji Film Holdings |
| 5020 | JX Holdings |
| 5108 | Bridgestone |
| 5201 | Asahi Glass (Mitsubishi) |
| 5401 | Nippon Steel & Sumitomo Metal |
| 5411 | JFE Holdings (Fuyo, DKB) |
| 5711 | Mitsubishi Materials (Mitsubishi) |
| 5802 | Sumitomo Electric Industries (Sumitomo) |
| 6326 | Kubota (Fuyo) |
| 6501 | Hitachi (Fuyo, Sanwa, Dai-Ichi) |
| 6502 | Toshiba (Mitsui) |
| 6503 | Mitsubishi Electric (Mitsubishi) |
| 6701 | NEC (Sumitomo) |
| 6702 | Fujitsu (Dai-Ichi) |
| 6752 | Panasonic |
| 6758 | Sony |
| 7011 | Mitsubishi Heavy Industries (Mitsubishi) |
| 7201 | Nissan Motor (Fuyo) |
| 7203 | Toyota Motor (Mitsui) |
| 7267 | Honda Motor |
| 7751 | Canon (Fuyo) |
| 8031 | Mitsui (Mitsui) |
| 8058 | Mitsubishi (Mitsubishi) |
| 8263 | The Daiei |
| 8591 | Orix (Sanwa) |
| 8801 | Mitsui Fudosan (Mitsui) |
| 9501 | Tokyo Electric Power |
| 9613 | NTT Data |
| | JR-Higashi Nihon |

*Source*: Tōyō Keizai, Kigyō keiretsu sōran, 1996. Updated by the author to reflect changes in company names, etc.

the name "enterprise group" for this other category, a number of representatives of which are listed in Table 13.3. Many of the forty firms identified there as leaders of enterprise groups are themselves the descendants of keiretsu presidents' club members.

The enterprise groups generally include myriad subsidiaries as well as independent subcontractors and other suppliers, and some also include wholesalers and retailers of the group's products. Trading ties within the respective enterprise groups may be presumed to be a lot more extensive than is generally true in the financial keiretsu. Also, the shareholding of the enterprise group leader in the other members is typically strong enough to confer *de facto* control, not merely a silent financial interest. The enterprise groups are more tightly knit than the financial keiretsu.

The combined assets of the forty enterprise groups listed in Table 13.3 approached 10 percent of the total assets of all industrial firms in Japan in 1994. In other words, the scale of the forty largest enterprise groups roughly corresponded to that of all the industrial members of the presidents' clubs of the six financial keiretsu.

## The economics of cross-shareholding

Attempts to understand the economic rationale behind Japan's business groups have focused principally upon cross-shareholding. The advantages of banks holding stock in the firms to which they lend are fairly well understood, and are explored in detail in the next chapter. About half of the cross-shareholding within financial keiretsu presidents' clubs was of this sort, and roughly mirrored the pattern of lending by the banks. But bank stockholding in clients was not confined to the financial keiretsu. For instance, the smaller (regional) banks, too, often have held stock in clients. Bank stockholding in clients appears not to be a defining characteristic of the financial keiretsu. In fact, the zaibatsu antecedents of the financial keiretsu predate Japan's bank-centered system of financial intermediation.

In Chapter 3 it was argued that the zaibatsu evolved as an efficient mode of corporate governance in selected industries, such as mining, trading, and banking, in which close monitoring of managerial decisions was relatively productive. By consolidating controlling share interests in close holding companies, the wealthy families of zaibatsu founders were able to oversee the enterprise managers, and to capture the rewards from doing so. With the 1948 dissolution of the zaibatsu holding companies and deconcentration of shareholding, governance of the former members of the

zaibatsu was thrown into a state of disarray. Yet the enterprises had accumulated a number of valuable assets, including knowledgeable teams of employees, and so perpetuation of the enterprises as going concerns was worthwhile. One interpretation of the postwar reconfiguration of zaibatsu enterprises into the financial keiretsu is that it established a new mechanism of corporate governance. Eleanor Hadley, an economist on MacArthur's staff during the early Occupation era who helped to implement the zaibatsu dissolution, later argued in an influential monograph that in the financial keiretsu the large city banks had taken on essentially the same role as that of the holding companies in the zaibatsu.[5] As banks became the dominant financial intermediaries, a consequence of particular regulations of Japanese financial markets, it was natural that they should insinuate themselves into corporate governance. If this is true, then the organization of firms into bank-centered financial groups can have served an important purpose. Because any companies belonging to the same group had ongoing dealings with one another, banks' information about each of them was improved if the same bank was the close monitor of all of them. For many students of the subject, this is a satisfactory explanation for the financial keiretsu. And tied, as the explanation is, to the unique history of zaibatsu evolution and dissolution, it leaves little question why groups like the financial keiretsu did not also develop in the United States or other nations. But there remain puzzles. For example, why were industrial members of the respective presidents' clubs so often linked to one another by cross-shareholding?

A leading explanation of keiretsu cross-shareholding, not altogether convincing, is that its purpose was to forestall any hostile takeover, the amassing of a controlling share interest by an outside investor that was opposed by the incumbent managers of the company. In one interpretation, the prevention of such takeovers is merely in the selfish interests of the company's managers, not necessarily in the interests of the company's incumbent shareholders.[6] In a more sophisticated version of the argument, the prevention of takeovers actually enhances the value of the firm by protecting the firm's long-term contracts from abrogation.[7]

Takeovers are indeed quite rare events in Japan, but almost certainly not because company shares lie in the hands of fellow group members. For one thing, even companies outside the orbit of business groups in Japan have seldom been acquired by other companies or outside investors. Takeovers, and the threat of takeovers, are simply not an important aspect of corporate governance in Japan.[8] And in the United States, where takeovers are frequent occurrences, many indisputable examples of takeover defenses have been observed but self-organization of firms into cross-shareholding groups is not among them. Cross-shareholding in Japan is not to forestall hostile takeovers. What, then, can be its purpose?

One explanation for cross-shareholding[9] is that it slants the terms of trade between two firms in favor of the firm in which shares are held, and so gives the opposite firm a way of penalizing it, by divesting the stock, should things go wrong (but allowing trade between the two to continue). Bargainers may be presumed to set terms of trade in such a way that they divide the gains equally. But if one firm holds stock in the other, then its own gains include a share interest in the other's gains. Consequently, equal division of the gains from trade actually enriches a party in which shares are held by the other, relative to the case in which there is no cross-shareholding. A small

[5] Eleanor Hadley, *Antitrust in Japan*, Princeton University Press, 1970.

[6] For developments of this line of argument, see H. Odagiri, "Kigyo shudan no riron" (A theory of industrial groups), *Kikan Riron Keizaigaku*, vol. 26 (1975), pp. 144–54; Y. Kobayashi, "Kigyo shudan no bunseki" (Economic analysis of enterprise groups), Sapporo: Hokkaido University, 1980; and M. Aoki, "Shareholders' Non-unanimity on Investment Financing: Banks versus Individual Investors," in M. Aoki (ed.), *The Economic Analysis of the Japanese Firm*, Amsterdam: North-Holland, 1984.

[7] Examples of this kind of argument may be found in J. M. Ramseyer, "Takeovers in Japan: Opportunism, Ideology, and Corporate Control," *UCLA Law Review*, vol. 35 (1987), pp. 1–64; M. Aoki, "The Japanese Firm in Transition," in K. Yamamura and Y. Yasuba (eds.), *The Political Economy of Japan, i, The Domestic Transformation*, Stanford University Press, 1987, pp. 263–88; and Paul Sheard, "The Economics of Interlocking Shareholding in Japan," *Ricerche Economiche*, vol. 45 (1991), pp. 421–48.

[8] This, despite its title, is the essential theme of Carl Kester, *Japanese Takeovers: The Global Contest for Corporate Control*, Cambridge, Mass.: Harvard Business School, 1991.

[9] David Flath, "The Keiretsu Puzzle," *Journal of the Japanese and International Economies*, vol. 10 (1996), pp. 101–21.

share interest in a trading partner might, in this way, impart a small bias to the terms of trade, which is narrowly disadvantageous to the shareholder, but can serve a useful purpose, bonding the other party to observe otherwise unenforceable stipulations. For instance, presidents' club members may pay slightly higher prices when buying from fellow members in which they hold stock than if purchasing from outsiders, but they are assured of special consideration on quality, service, truthful revelation of private information and the like, by the implicit threat of divesting the stock if the stockholder ever becomes dissatisfied.

This theory of cross-shareholding among presidents' club members is a bit speculative, but does explain why the cross-shareholding should be more likely to link trading partners than others (and there is some evidence that it does[10]). It also would explain why the cross-shareholding is often insufficient to confer anything other than a silent financial interest. The theory does not account for the configuration of trading partners into (nearly) mutually exclusive, share-interlocked groups. The existence, in Japan, of mutually interacting groups of firms owes a lot to the fact that, historically, each zaibatsu group of large companies was controlled by the same wealthy family. (The Sanwa financial keiretsu, lacking any zaibatsu antecedent, remains something of an anomaly.) That each of the large banks at the center of a group economized by insinuating itself into the governance of a set of mutually interacting companies, rather than unrelated ones, probably also contributed to the perpetuation of the financial keiretsu.

The enterprise groups pose a different set of challenges for economists. Here, the central issue is vertical integration.

## Vertical integration

Each enterprise group represents a less vertically integrated structure than the one that would result if all of its activities were organized within a single firm, but is more vertically integrated than if each constituent enterprise were completely independent of the others, and not a subsidiary of the group leader or controlled directly by it. Vertical integration refers to the incorporation of successive steps of a production process within the same organization, and here production is defined in the broadest possible terms, including, for instance, the wholesaling and retailing of a product, as well as its manufacture. The question of what determines the extent of vertical integration in an economy lies at the core of industrial organization, and also at the intellectual frontiers of it.

Because of the complicated web of technology, in which the output of each industry is also a productive input in every industry, complete vertical integration would require that the entire economy consist of a single enterprise, so that it becomes a command or centrally-planned economy. The opposite extreme, a complete absence of vertical integration, would require that each individual person in the economy be self-employed, and that her production behavior be coordinated with that of others only through a decentralized price system. Vertical integration on the economy-wide scale—central planning—is cumbersome and wasteful of resources, as evidenced by its crashing failure in every nation in which it has been attempted. Yet, the spontaneous self-organization of production into partially vertically integrated structures called business firms is a ubiquitous feature of every market economy. If central planning on the economy-wide scale wastes resources, then how can central planning on a small scale, which is the nature of a business firm, conserve resources? The Nobel laureate Ronald Coase long ago gave a definitive answer to this question.[11] Just as there are costs of directing production that can be avoided by allowing the price system to coordinate things, so too are there costs of employing a price system that can be avoided by direct administration. The costs of employing a price system are the costs of activities that are either essential to trade or facilitate trade in some way. Such activities include the search for a trading partner, negotiation of mutually agreeable terms of trade, assurance of ownership rights in the traded items, evaluation of the characteristics of the traded items, and so on. Advertising, negotiation, search, and enforcement of exclusive ownership rights are all costly activities that can be dispensed with

[10] See Flath, "The Keiretsu Puzzle," for details.

[11] Ronald H. Coase, "The Nature of the Firm," *Economica*, vol. 4 (1937), pp. 386–405.

within a firm (not between firms), and so firms can be economical ways of organizing production, even though establishing and operating a firm itself gives rise to new costs.

In the market economy, vertical integration will proceed further, the greater are the costs of transacting through the price system, and the less are the costs of administering a directed system of production. One of the influences on the costs of transacting is the extent of the market. If a market is too small to allow middlemen to be profitable, or too small to allow more than a few sellers of similar goods to be profitable, then monopolistic distortions and limited gains from specialization in the costly activities that facilitate trading will elevate the costs of transacting and favor more complete vertical integration than otherwise. To put it another way, the division of labor is limited by the extent of the market.[12]

Vertically integrated production units are characteristic of the small economy with limited demand for final products, not the large economy. Japan's economy has grown large compared with those of most other nations, and so might have been expected to attain a quite decentralized organization of production. Whether the enterprise groups represent such a structure depends upon the object of comparison. The Japanese automobile manufacturers that lead enterprise groups are clearly less vertically integrated even than their American counterparts. For instance, Toyota relies on an extensive network of subcontractors to supply parts that General Motors manufactures itself. Yet, in thinking of the ways in which the Toyota group and Japan's other enterprise groups represent a more directed vertical structure than conceivable alternatives, one can be mindful of the added transactions costs that invariably accompany an expanded division of labor.

We next turn our attention to the horizontal integration of Japanese industry, the question of cartels, monopoly, and oligopoly.

## Industrial concentration and oligopoly in Japan

Many of the world-famous Japanese companies hold even more commanding positions within Japan itself than they do in export markets. Kirin Beer, Fuji Film, Toyota, Sony, Nippon Steel, Bridgestone, Shiseido, and others are all Gullivers; their rivals within Japan are mere Lilliputians by comparison (see Table 13.4). But this is hardly distinctive. The United States has Gullivers that match many of the ones in Japan, including Procter & Gamble, GM, and US Steel.

**Table 13.4.** Market shares of leading Japanese companies, 2003

| Product | Company | Share of industry output in Japan(%) |
|---|---|---|
| Crude steel | Nippon Steel | 29.5 |
| Cathode ray TVs | Sony | 16.8 |
| Passenger cars | Toyota | 44.3 |
| Tires | Bridgestone | 49.1 |
| Cosmetics | Shiseido | 17.5 |
| Beer | Kirin | 39.9 |
| Color film | Fuji | 68.7 |
| Personal computers | NEC | 21.2 |

*Source*: http://www.nni.nikkei.co.jp/FR/SR/market_share/.

Several authors have attempted systematic comparisons between the concentration of industries in Japan and in the USA. The general result is that if an industry is concentrated in the United States, its counterpart is likely to be relatively concentrated in Japan. To illustrate, let us consider a small but representative sample of industries. Scherer and Ross[13] report concentration measures for forty-four US manufacturing industries, a set that is "fairly representative, but excludes vaguely defined catchall categories and favors the larger, more highly concentrated industries."[14] Of these, thirty-three can be matched with industries in Japan for which concentration data are available from Seno.[15] The measure of concentration for

[12] The original author of this principle was Adam Smith, but it was George Stigler who reinterpreted it in roughly the terms expressed here: George Stigler, "The Division of Labor is Limited by the Extent of the Market," *Journal of Political Economy*, vol. 59, no. 3 (June 1951).

[13] F. M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance*, Boston: Houghton-Mifflin, 1990, table 3–6, p. 77; US Bureau of the Census, "Concentration Ratios in Manufacturing," *1982 Census of Manufacturers*, MC82-S-7 (April 1986).

[14] Ibid., p. 76.

[15] Seno Akira, "Gendai nihon no sangyo shuchu" (Industrial concentration in contemporary Japan), *Nihon Keizai Shinbunsha*, (1983), table 42, pp. 239–99.

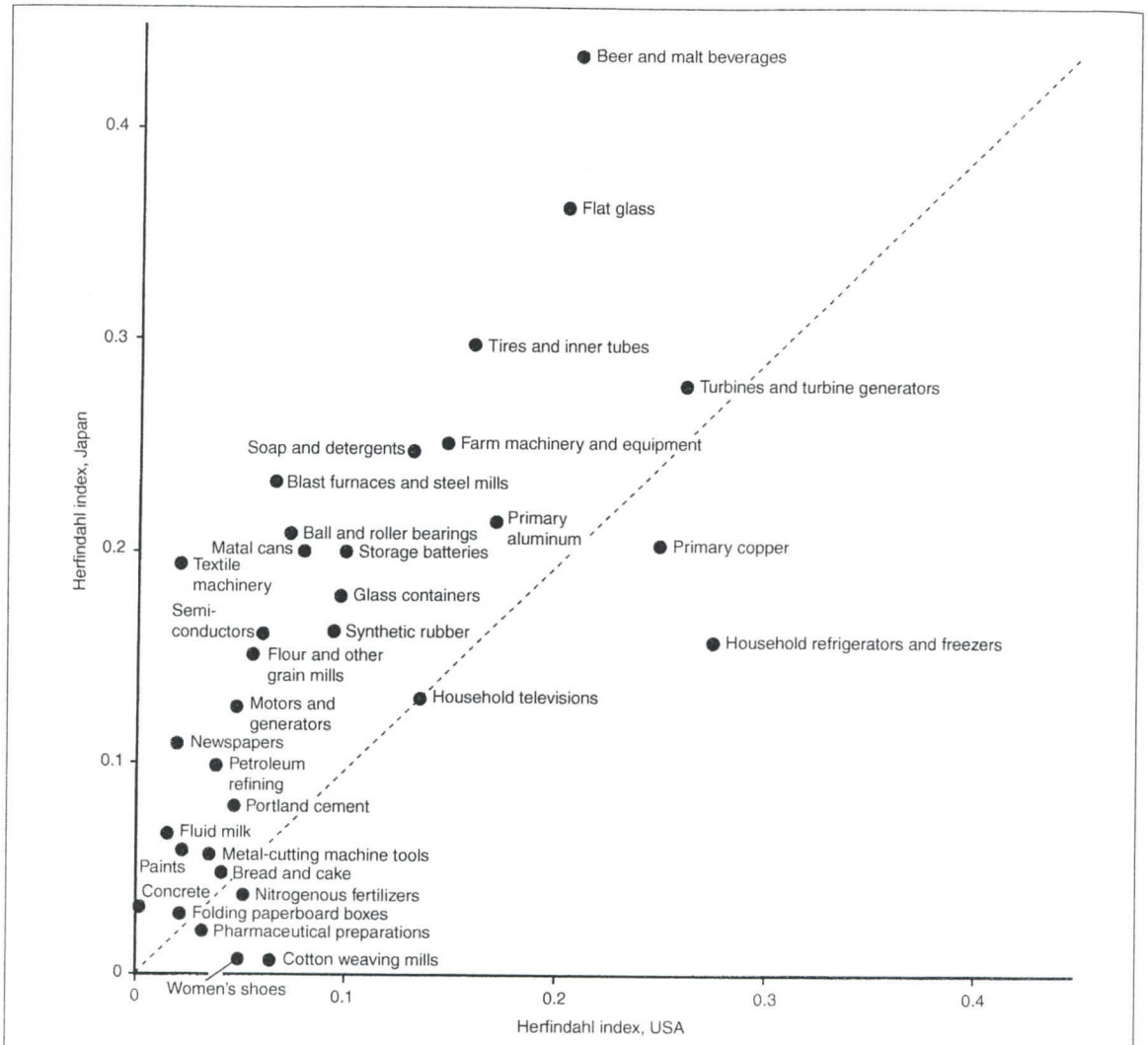


**Figure 13.1.** Herfindahl indices (summation of squared shares of industry sales) of matched industries in Japan and the United States, 1980

*Sources*: USA: F. M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance*, Boston: Houghton-Mifflin, 1990, table 3–6, p. 77 (primary source: US Bureau of the Census, 1982 Census of Manufacturer, "Concentration Ratios in Manufacturing," MC82-S-7 (April 1986)); Japan: Senō Akira, Gendai nihon no sangyō shūchū (Industrial concentration in contemporary Japan), Tokyo: Nihon keizai shinbunsha, 1983, table 42, pp. 239–99.

both countries is the Herfindahl index, the sum of squared shares of industry sales.[16] The Herfindahl indices are plotted in Figure 13.1.

The figure reveals two rather unsurprising facts. First, the Japanese analogues of relatively concentrated American industries themselves tend to be relatively concentrated—points in the diagram tend to fall along a positively sloping ray from the origin. Second, most Japanese industries are more concentrated than their US analogues—points in

[16] The Herfindahl index is bounded between 0 and 1, and in the symmetric case of n identical firms equals 1/n. The Cournot model of firms producing homogeneous products implies that the industry price–cost margin equals the Herfindahl index divided by elasticity of demand facing the industry.

the diagram tend to lie above the 45 degree line denoting matched industries of equal concentration in Japan and the United States.[17] Analyses of more global samples have yielded approximately similar conclusions to these.[18]

The similar patterns of industrial concentration in Japan and America no doubt reflect the likeness of technology in the corresponding industries of the two nations. Firms that use blast furnaces, refineries, or assembly lines have proportionately high fixed costs. In both Japan and America, where methods of production with high fixed costs are profitable, firms tend to be large, and their industries concentrated.

The greater concentration of Japanese industries compared with their US counterparts is also unsurprising. Because Japan is a much less populous nation than the USA, the scale of demand facing each industry is correspondingly less in Japan than in the United States. Where there exist economies of scale over some initial range of output, for example because of the fixed costs of setting up production facilities or establishing a new enterprise, then the the smaller the scale of demand the fewer the number of firms that can profitably coexist. Of course, this ignores foreign demand, but recall that exports in both Japan and the USA absorb only around 10 percent of aggregate output. A cross-industry regression analysis of 1961–1990 average concentration in 74 Japanese manufacturing industries shows that industries that use capital inputs more intensively and that employ less labor (that is, face a smaller scale of demand) tend to be more concentrated.[19]

What, if anything, does the pattern of concentration of Japanese industries imply about pricing and allocation of goods? The weight of expert opinion favors the view that concentration affects prices and allocation, but not as much as other factors, including government regulation, the nature of contractual arrangements between firms and their customers, and the degree of substitutability in demand among the products of competing firms. Some of the widely used theoretical models of oligopoly—such as the Cournot model—predict an inverse relationship between industry price and concentration, but in empirical investigations such a relationship has been detected only in the rare instances of natural experiment. For instance, positive relations between price and concentration may be discerned in the geographic pricing patterns of regional oligopolies in the United States.[20] Such patterns have been much less evident in cross-industry studies. Perhaps this is because concentration not only influences the strength of price competition but also reflects it. Concentrated industries may include those in which entry is perceived to be unprofitable because price competition is already intense; less concentrated industries may be those in which entry is perceived as profitable because price competition is weak.[21] Consequently, more concentrated industries will not necessarily exhibit larger divergences between price and marginal cost than do other, less concentrated, ones.

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[17] The regression equation is

$$H_J = \underset{(3.1)}{0.064} + \underset{(5.4)}{0.954} H_{US}, \quad \text{adj } R^2 = 0.468, n = 33.$$

The $t$-statistics are reported beneath coefficient estimates.

[18] See e.g. Richard E. Caves and Masu Uekusa, *Industrial Organization in Japan*, Washington, DC: Brookings Institution, 1972, table 2–3, p. 25. Caves and Uekusa, comparing US 3-digit SIC industries with their Japanese analogues in 1963, find that the average 4-firm concentration ratios (percentages of industry sales accounted for by the four largest in the industry, CR4) are 38.3% for US industries and 37.5% for Japanese ones and that the following regression relationship holds:

$$CR4_J = \underset{(4.2)}{13.2} + \underset{(8.1)}{0.573} CR4_{US}, \quad R^2 = 0.397, n = 99.$$

Also see Unotoro Keiko, "Shuchpdo no nichibei hikaku ni tsuite" (On comparing the degree of concentration in Japan and America), *Kosei Torihiki*, no. 448 (February 1988), pp. 75–9. Unotoro, using commodity-level data (5-digit SIC), for 1982: USA, 1984: Japan, finds that the Herfindahl indices (summation of squared shares of industry shipments, $H$) average 0.10514 for US industries and 0.15143 for Japanese ones, and that the following regression relationship holds:

$$H_{US} = \underset{(10.0)}{0.075} + \underset{(5.4)}{0.21} H_J, \quad R^2 = 0.35, n = 209.$$

The numbers in parentheses are $t$-statistics.

[19] David Flath, "Industrial Concentration, Price-Cost Margins, and Innovation," *Japan and the World Economy*, vol. 23, 2011, pp. 129–39.

[20] For a fairly comprehensive survey of empirical studies of the relation between industry concentration, prices, and profits, see Richard Schmalensee, "Studies of Market Structure and Performance," in R. Schmalensee and Robert D. Willig (eds.), *Handbook of Industrial Organization, ii*, Amsterdam: North-Holland, 1988, ch. 16, pp. 951–1009. Schmalensee discusses the few studies to isolate the relationship between concentration and pricing at pp. 987–8.

[21] This idea is developed by John Sutton, *Sunk Costs and Market Structure*, Cambridge, Mass.: MIT Press, 1991.

## Factors besides concentration that influence price competition in Japan

Because the relatively great industrial concentration of Japan affords a weak basis for judging the intensity of price competition there, attention may be directed to two factors that bear more directly on pricing behavior.

First, the antitrust laws of Japan are more permissive than those of the United States; the penalties for violating Japan's anti-monopoly laws are minute, and the resources devoted to their enforcement are minimal. To the extent that US antitrust laws do impede collusive practices, these considerations favor weaker price competition in Japan than in the United States.

Second, business firms in Japan are somewhat inclined to have long and persistent trading relations with one another. These relations are implicit—not detailed in written agreements—but are neither entered into lightly nor broken off abruptly. The most tangible manifestation of such long-term trading ties are the business groups of various kinds with which a large number of Japanese corporations are affiliated. But even households in Japan are far more likely than Americans to patronize the same shops repetitively and habitually. These durable ties between firms and their customers divert competition away from price reductions and toward higher product quality and more reliable service.

Both of these topics warrant further attention and to that we now turn.

### *Antimonopoly laws of Japan*

Japan's antimonopoly laws are a legacy of the American Occupation. Originally enacted in 1948 as a part of the package of reforms that also included the breakup of the zaibatsu, the antimonopoly laws of Japan have several features in common with the antitrust laws of the United States. First, some of the specific language of the Sherman Act and Clayton Act (the US antitrust laws) is incorporated into the Japanese statute—"conspiracy in restraint of trade," "tend to monopolize," and so on. Second, the Act established a new government agency, the Fair Trade Commission of Japan, charged with the responsibility for investigating violations of the antimonopoly laws, and also empowered to reach judgments and issue decrees. The Fair Trade Commission of Japan has an analogous role to that of the Federal Trade Commission of the USA. And third, many of the same practices that have been the subject of antitrust cases in the United States have also run foul of anti-monopoly law in Japan—resale price maintenance, exclusive dealing, customer restrictions, price-fixing rings, and mergers.

For all the similarities, however, there are also striking differences between Japanese and US antitrust laws. First, there are significant exemptions to the antimonopoly laws of Japan that have no counterpart in the US statutes. The Japan Fair Trade Commission can designate an industry as in recession, and therefore temporarily exempt from antimonopoly laws. Additionally, an industry may be granted exemption from antimonopoly laws for the purpose of "rationalization." There is no intellectually respectable basis for either exemption; neither promotes an economically efficient allocation of resources. In the ensuing years there have been hundreds of industries designated either as recession cartels or rationalization cartels. Perhaps surprisingly, there is very little evidence that this widespread legalization of blatant price-fixing has actually resulted in contractions of output or rises in price in the designated industries. A cartel, legal or illegal, is a prisoner's dilemma: though it is mutually advantageous for firms in the same industry to contract output or raise prices, it is more profitable for any one of them to do the opposite. Legal authorization to form a cartel does not in itself change this.

A second difference between Japan's antitrust law and that of the USA is that the resources devoted to investigating potential violations of antimonopoly laws are, by comparison, much limited in Japan. The Japan Fair Trade Commission is the only agency of the Japanese government authorized to pursue such cases. In the United States, not only the Federal Trade Commission (in many ways the model on which Japan's Fair Trade Commission was founded) but also the Justice Department and private citizens (if arguing that they themselves have been harmed) are empowered to bring suit

against antitrust violators.[22] Private citizens are encouraged in this by the prospect of receiving treble damages—compensation equal to thrice the value of harm inflicted as judged by a court. In Japan the executive branch prosecutions of antimonopoly cases are not strictly for violation of the antimonopoly laws, but for failure to comply with a Japan Fair Trade Commission order, always the end result of the Commission's own tortuous investigation and negotiations with the violator. The Japan Fair Trade Commission has a meager staff (fewer than 500 inspectors), with limited powers of subpoena and a small operating budget. It is therefore hardly surprising that it brings few actions (a total of twenty-two in fiscal year 2011, for instance) compared with the hundreds of antitrust actions brought in the USA each year.

A final difference between antitrust laws in Japan and the USA is that the penalties for violating the antimonopoly laws of Japan are both trivial and seldom even invoked. In 1977 the antimonopoly laws were amended to raise the highest civil fine allowed by a factor of ten to 5 million yen (well under $50,000) and also to allow the JFTC to set a surcharge of 0.5–2 percent of a cartel's earnings. Subsequent amendments in 2005 raised the highest civil fine for businesses to 500 million yen (it is still 5 million yen for individuals) and allowed the JFTC to set surcharges up to 10 percent of affected sales revenue for a first offense. The aggregate of such surcharges levied in 2011 totaled 44.2 billion yen. The highest fine or surcharge invoked against even the largest corporations is typically in the thousands of dollars only. The criminal penalties for violation of a Japan Fair Trade Commission order include imprisonment, but this penalty has hardly ever been applied. In contrast, the maximum fine for violating the US Sherman Act is currently set at $10 million for corporations ($350 thousand for individuals), and treble damage awards in US antitrust cases are essentially boundless and have reached millions of dollars. The usual outcome of antitrust actions brought by Japan's Fair Trade Commission is either a consent decree or a cease and desist order, neither entailing any fine at all. US companies often employ in-house attorneys to determine that each aspect of their ongoing operations is in compliance with antitrust laws. Few Japanese corporations bother to do this. This is hardly surprising when the worst penalty likely to be invoked is whatever adverse publicity attends a public reprimand from the Fair Trade Commission.

The antimonopoly laws of Japan have never received the enthusiastic support of the long-ruling Liberal Democratic Party. As early as 1953, the first year after the American Occupation ended, the antimonopoly laws of Japan were significantly amended to weaken proscriptions against mergers of large firms and widen the explicit exceptions even from prohibitions on price fixing. The "weak" anti-monopoly laws of Japan were the basis for US complaints in the Japan–US trade talks of the 1980s, and the government of Japan promised to devote more resources to investigating violations and has done so. Nevertheless, Japan's antimonopoly laws are still more permissive and less of a weight in the calculations of firms than is true of the US antitrust statutes. However, one can argue on this basis that price competition is weaker in Japan than in the United States only to the extent that US antitrust laws have proscribed collusive practices. And the many critics of antitrust laws argue, to the contrary, that their main effect on the operations of US companies has been to raise the costs of organizing production or informing customers about products.[23]

Besides antitrust laws, there is another important factor influencing price competition in Japan—the prevalence of long-term trading ties.

*Long-term trading ties*

Firms rely upon a variety of measures to assure that their trading partners comply fully with specifications pertaining to the characteristics of the product or service exchanged, the promptness of delivery, and so on. In the United States the threat of a lawsuit in event of contract breach is one of the important factors. But in Japan lawsuits are

[22] There is a formal provision in the anti-monopoly laws of Japan that allows private suits, but in fact there have only ever been a handful of such suits and none has ever resulted in compensation of the plaintiff: J. Mark Ramseyer, "The Costs of the Consensual Myth: Antitrust Enforcement and Institutional Barriers to Litigation in Japan," *Yale Law Journal*, vol. 94 (1985), pp. 604–45.

[23] For a cogent statement of this position, see Harold Demsetz, "How Many Cheers for Antitrust's 100 Years?" *Economic Inquiry*, vol. 30 (1992), pp. 207–17.

seldom resolved quickly, and even in the event of a favorable outcome are unlikely to fully compensate for business losses. The main protection against fraud in Japan, and to only a slightly smaller degree elsewhere, is the firm's diminished reputation. A reputation is, precisely, an expectation of a level of performance. As with expectations generally, reputations are based on the history of prior experiences. The longer the record of satisfactory performance, the greater is one's expectation of its continuance. There are, of course, other factors that contribute to reputation as well. The salesman who engages in small acts of kindness is seeking to enhance the prospective client's expectation of his future performance. But all is evaluated in light of the salesman's own narrow self-interest in raising such an expectation: "Is he buying me a drink only to set me up for his subsequent fraudulent deceit?" The salesman has to work doubly hard to convince us that the kindnesses reflect a virtuous disposition and are not a calculated deception.

There is much evidence that business reputations in Japan are neither easily acquired nor lightly discarded. Many Japanese companies have formed durable alliances with trading partners. The most visible examples are the various business groups with which many Japanese firms are affiliated, but there are other examples also. For instance, in their filing statements with the Tokyo stock exchange, Japanese corporations name their most important customers and suppliers. These public identifications of trading relationships that are durable and to the apparent mutual satisfaction of both firms, contribute to reputation. A history of satisfactory performance raises the expectation of its continuation. The permanence of trading ties among companies is analogous also to the permanence of ties between firms and their employees, and between firms and their major creditors in Japan.

Development of a strong reputation lowers the costs of trading and enlarges the gains from trade. But if incumbents have strong reputations, their customers will remain loyal in the face of entry and will switch patronage only if offered large price discounts to do so. It might seem that this would place new entrants at a distinct disadvantage. But offsetting this apparent barrier to entry is the fact that, when customers tend to be loyal, the rewards to successful establishment of a new reputation become that much greater, and worth a greater sacrifice. The net effect of long-term trading ties on product prices and on seller concentration, are, like the lack of a vigorous antitrust policy, uncertain. But, as we shall next discover, whatever allocative distortions result in Japan from the interplay among antitrust policy, private contractual arrangements, and pricing and entry decisions of firms, are little evident in the aggregate profits of Japanese businesses.

## Welfare losses arising from oligopolistic pricing in Japan

The welfare losses arising from oligopolistic distortions refer to the potential increase in national income that could result from reallocation of productive resources toward industries in which prices are above marginal costs. An industry's contribution to the welfare loss is the potential added value of its own output, the area of a triangular region under the demand curve and above the marginal cost curve (see Figure 13.2). In adding such welfare losses across industries to reach an economy-wide total, we should, to avoid double-counting, define industries as vertical chains of resource suppliers each of which faces a final demand only—for instance, the farmers, millers, and bakers facing a demand for bread. If economy-wide welfare losses are to be estimated, it is also necessary to make some presumption about how the demands for different final products are interrelated—the simplest of course being that they are unrelated, a fall in the price of one not affecting the demand for any other.

It is surely beyond the limits of our knowledge to estimate the welfare losses resulting from oligopoly with any great precision, as to do this requires knowledge of the elasticity of demand for each final product as well as knowledge of the shape of the marginal cost curve of each industry. However, it seems likely that oligopoly welfare losses are of the same order of magnitude as the economic profits of all firms in the economy. (That is, we would be greatly astounded if welfare losses were as great as four or five times aggregate profits and not at all astounded if welfare losses were less than

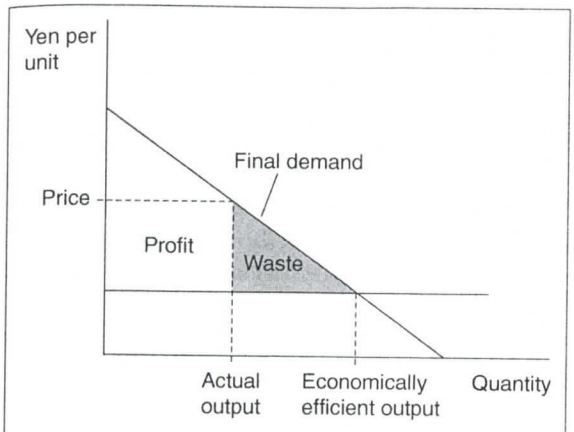


**Figure 13.2.** Welfare losses resulting from oligopoly
The area of the triangle labeled "waste" represents the net social value of having the industry produce the economically efficient output rather than its actual output.

profits.) And Harberger and many others have argued, based on evidence, that the combined economic profits of all industries are no more than a mere 1 percent of national income.[24] This is true for Japan as well. Consider the following.

Economic profits are profits net of all costs, including costs that are implicit only and that do not give rise to accounting entries. In other words,

*Economic profit = accounting profit – implicit costs.*

In Japan, in 1988, wages and salaries paid represented 67.7 percent of value-added by corporations.[25] The value-added of corporations (that is final sales of corporations) represented 60.1 percent of gross domestic product in that year. Thus, $(1 - 0.677) \cdot 60.1\% = 19.4\%$ of GDP was the gross income of corporations before taxes, including both implicit competitive payments for owned assets and any economic profit. Total corporate assets—excluding financial investments to avoid double-counting—represented 2.371 times the value of GDP. If the entire amount of gross corporate profit were considered a return on investment, then it would constitute an 8.18 percent rate of return (before taxes and gross of depreciation). The accounting rate of depreciation on corporate assets was 3.26 percent. Thus, 8.18% – 3.26% = 4.92% is the before-tax rate of return on corporate assets in 1988, net of depreciation. But this surely overstates the actual rate of return, as the book value of corporate assets likely understates their market value, the effects of both growth and inflation. Let us take the figure as an upper bound. In that year the average market rate of return on short-term debt (public and corporate bond transactions with repurchase agreement within a month (*gensaki*)) was 4.67 percent in Japan. Accordingly, the economic profits of corporations are estimated to be just under two-thirds of a percent of GDP: $0.59\% = (4.92\% - 4.67\%) \cdot 2.371$.

To reach an estimate of welfare losses requires further assumptions. For instance, assume that all economic profits are earned by profit-maximizing cartels which produce subject to constant returns to scale, and that the demand facing each is approximately linear. Then the contribution of each to the welfare loss is half its economic profit. By these assumptions, the aggregate welfare losses are about one-third of a percent of GDP. Shinjo and Doi, analyzing 1980 data, reach slightly larger estimates but use a different strategy. (They count all advertising expenditures as contributing to waste, for instance.[26]) The reduction in Japan's effective national income caused by contrived scarcities is not great, judging from the modest levels of the economic profits of Japanese corporations. But we should not overlook the possibility that monopoly profits are capitalized into asset prices, and therefore not reflected in the profits of the firms that employ those assets. The phenomenon of profits capitalized into asset prices is exemplified by the firm that pays a market price for a government license, valuable only because the licenses are kept scarce by government policy. Collusive profits that are unprotected by government regulation seem far less likely to attach themselves to specific saleable assets.

[24] Arnold C. Harberger, "Monopoly and Resource Allocation," *American Economic Review*, vol. 44 (May 1954), pp. 77–87. F. M. Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd edn, Boston: Houghton Mifflin, 1990, pp. 661–79, thoroughly review the many subsequent attempts to extend, refine, replicate, or criticize Harberger's original analysis of the oligopoly welfare losses of the US manufacturing sector.

[25] The figures cited in this paragraph are from the *Japan Statistical Yearbook, 1990*, table 11–1, pp. 368–71.

[26] Koji Shinjo and Noriyuki Doi, "Welfare Loss Calculations for Japanese Industries," *International Journal of Industrial Organization*, vol. 7 (1989), pp. 243–56.

We turn now to our next topic, the nature and scope of government regulation in Japan.

## Regulation

The regulated industries are those in which government controls entry, price, and the quality or quantity of output. In Japan the regulated industries are, with a few exceptions, utilities, transport, banking and finance, and telecommunications. Similar industries are now or once were regulated in the United States and indeed in all the developed countries.

### Regulatory institutions

In Japan regulations are administered by the national government, not by semi-autonomous national or local regulatory commissions as in the USA.[27] For instance, regulation of Japan's ten electric generating companies resides in METI (prior to 2001 MITI); the Ministry of Internal Affairs and Communications administers regulations of broadcasting, telephones, and cable; the Ministry of Land Infrastructure and Transport (prior to 2001 the Ministry of Transport MOT) regulates trucks, airlines, buses, taxis, and railroads; the Ministry of Finance (MOF) and the Financial Services Agency (FSA) regulate banks, securities markets, and insurance firms; and so on.

These ministries seem to have discretion regarding the manner in which to implement regulations, and this somewhat complicates attempts to describe the precise content of the regulations. For instance, the various statutes that vest ministries with the authority to regulate entry stipulate either permission (*kyoka*), licensure (*menkyo*), registration (*toroku*), or notification (*todoke*). Authority to regulate price entails either permission, authorization (*ninka*), guidance (*shidō*), or notification (*todoke*). In 1989 the Road Freight Law was revised so that entry into the trucking industry required a permit from the MOT rather than a license, and price changes required notification of MOT rather than authorization. This was widely hailed as a softening of regulation. Insiders seem to read meaning into these nuances. Outsiders are often hopelessly in the dark.

The history of regulation in Japan can be divided into three periods. The first period, from the Meiji Restoration to the 1930s, was a period of *laissez-faire* in most industries, including electric power, but government enterprises dominated in a few others, including rail, post, telecommunications, and broadcasting. The decade of the 1930s and continuing through the war years saw expanding state control, as Japan's military government commandeered resources. In some industries, including electric power, private firms were nationalized. In others, government production orders subverted private choices. The final period, dating from the American Occupation to the present, is one in which the utilities, transport, and finance sectors are either regulated or dominated by government enterprises, while other sectors are largely free of regulation. It may be that a fourth period is now commencing, a period of deregulation. Japan, like the USA, has loosened government regulations on pricing and entry in its airline, trucking, banking, and telecommunications industries. Also steps have been taken toward the privatization of the major government enterprises including JNR, NTT, JAL, and JTS.[28]

### Rationale for regulation

The fact that similar industries are regulated in Japan and elsewhere might indicate that regulations have a common rationale across nations. Explanations for regulation fall into two categories: public interest theories, and public choice theories. *Public interest theories* see regulation as

[27] An important reason why independent regulatory commissions are rarely created in Japan is that under the Japanese legal tradition, unlike that of America, authority does not reside primarily in coercive powers imparted by statutes. What authority the government has to regulate industry and trade resides not in its ability to prosecute violators, but only in its highly developed facility at persuading, bargaining, or cajoling firms into compliance. Statutory authority could be assigned to an independent commission, but facility at persuasion can clearly not be: John O. Haley, "Consensual Governance: A Study of Law, Culture, and the Political Economy of Postwar Japan," in Shumpei Kumon and Henry Rosovsky (eds.), *The Political Economy of Japan, iii, Cultural and Social Dynamics*, Stanford University Press, 1992, pp. 32–62.

[28] These are, respectively, Japan National Railways, Nippon Telephone and Telegraph, Japan Air Lines, and Japan Tobacco and Salt.

correcting market failures, raising national income, or improving resource allocation. Public interest theories include the natural monopoly argument and network externality argument.

*Public choice theories* argue that regulation benefits politically effective special interests, perhaps to the detriment of social welfare. Public choice theories include the capture thesis, which holds that producers tend to be more politically effective than consumers and capture the organs of government charged with formulating or implementing regulations.[29] The reason why producers of a good are effective is that they are less numerous than the consumers of the good and thus represent a more concentrated interest, one better able to overcome free-riding among its own members in mounting a political lobby.

The empirical difference between the public choice theories and public interest theories may be less profound than proponents of the strict capture thesis would imply. For Nobel laureate Gary Becker has argued that, all else the same, political lobbies in favor of government regulations that raise the national income or promote economic efficiency will encounter less strenuous opposition and thus be more effective: public choice considerations favor regulations that are in the public interest![30]

Becker's argument rests on the premise that a political test favors the side that has amassed the larger "war chest" for lobbying. Any deadweight loss that accompanies a government program that transfers resources from one group of citizens to another imposes a wedge between the net benefits anticipated by the program's supporters and the losses that the opponents of the program seek to avoid. Thus, compared to the proponents, the opponents of policies that impose deadweight losses have a heightened incentive to contribute to a lobby.

Proponents of such policies may nevertheless prevail, but they must overcome their inherent disadvantage in some way, either by superior facility at overcoming free-riding among their own members, superior rhetoric, or some other device. In other words, the general tenor of government regulation ought, in Becker's theory, to be toward economically efficient policies, but departures from that pattern ought not to surprise us very much. Let us consider some specific Japanese cases.

*Electric power*

The electric power industry is often cited as an example of a natural monopoly, an industry in which, because economical production entails large fixed costs, only one firm can be profitable. Government regulation of electric power, it is argued, assures that power companies do not exploit their monopolies by restricting output. But the history of regulation of electricity in Japan is unsupportive of the claim that the industry was a natural monopoly. In the first three decades of the twentieth century private power companies flourished in Japan, unimpeded by significant government regulation. Many of the urban centers were served by multiple companies. Vigorous competition kept prices low. Attempts to form effective cartels in the 1920s repeatedly failed because of price cutting by the colluders.[31] The private firms resisted the nationalization of power transmission (generation was nationalized) and survived the war to lobby for and obtain the reintegration of power and transmission and the division of the Japanese market for electricity into nine regional monopolies regulated by MITI. (The Okinawa Power Company became the tenth regional monopoly in 1972.) The practice of *amakudari* (bureaucrats regularly assuming jobs in the power companies upon retirement from the civil service) has cemented ties between the firms and the government bureaucracy.[32]

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[29] The seminal articles developing the capture thesis are George Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science*, vol. 2 (Spring 1971), pp. 2–21; and Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics*, vol. 19 (August 1976), pp. 211–40.

[30] Gary Becker, "A Theory of Competition among Pressure Groups for Political Influence," *Quarterly Journal of Economics*, vol. 98 (August 1983), pp. 371–400.

[31] By the early 1930s, "[c]ompetition between the five [leading] firms remained so fierce that some weak-willed Tokyo homeowners accepted contracts with two companies—one for the first floor and one for the second—while big companies alternated daily between Tokyo Electric Light and Toho Electricity in order to maintain peace with both suppliers": Laura E. Hein, *Fueling Growth: The Energy Revolution and Economic Policy in Postwar Japan*, Harvard University Press, 1990, p. 43.

[32] On the history of government regulation in the electric power industry of Japan, see Richard J. Samuels, *The Business of the State: Energy Markets in Comparative and Historical Perspective*, Cornell University Press, 1987.

One manifestation of the political influence of the electric power industry in Japan was the extensive building of nuclear power stations in Japan, with public spending targeted to overcome any local concerns about safety. The nuclear meltdown at Fukushima following the March 11, 2011, earthquake and tidal wave exposed this history for all to see. The political backlash was swift. Within a year after the earthquake, nearly all of the 54 nuclear reactors in Japan had been forced to suspend operations. Though these nuclear plants had provided 30 percent of the electrical power in Japan, electricity from conventional generating plants was able to fill the gap, even during the peak summer and winter seasons. As it turned out, Japan had a large, (and until then, idle) capacity of coal-powered and water-powered electrical generating stations. The overbuilding of generating capacity may have been a distorting effect of price regulation, an example of the Averch-Johnson effect.[33] This effect comes about when the regulatory authority sets prices that assure the firm earns a set predetermined rate of return on its productive assets. The regulated firm then has a distorted incentive to overinvest in those assets.

*Telecommunications*

Domestic telecommunications was a nationalized industry in Japan, practically from its inception in the late nineteenth century until 1985. Until 1952, the telecommunications monopoly was a section of the Ministry of Communications; and from 1952 to 1993 domestic telecommunications services were provided by the government corporation NTT and foreign telecommunications services were provided by the private corporation KDD (Kokusai Denshin Denwa), renamed KDDI in 2001. The 1985 Telecommunications Business Law mandated the privatization of NTT (though the government retains ownership of one third of its shares) and opened both domestic and international telecommunications to limited entry by new firms. By this same law, NTT is required to offer wired telephone service throughout Japan and its prices for this are subject to a ceiling set by the Ministry of Internal Affairs and Communications (MIC). The prices NTT charges for other services are subject to MIC approval. All licensed providers of telecommunications services are legally obliged to provide interconnection services to other providers but the price for this (called an interconnection charge) is subject to some wrangling and regulatory mediation.

An often-cited public interest rationale for government control of telecommunications industries is the presence of network externalities. According to this argument, demanders place a higher value on a phone service the greater the number of other subscribers, yet individually each fails to consider the value that others place upon their connecting to the system. The efficient network will be profitable only if higher prices are charged to those who attach greater value to expansion of the system, and lower prices to those subscribers who themselves value connection rather lightly. But such cross-subsidy pricing invites cream-skimming, entry by firms that only supply service to demanders who are charged high prices in order to cover the costs of extending service to other customers at prices below cost. The efficient network must be protected from entry if it is to remain profitable, and because such entry barriers invite contrived scarcity, prices and quantity must also be controlled. In Japan as in the USA, the government-controlled price of local telephone services has probably been below marginal cost, and the price of long-distance service above marginal cost. As long-distance callers would seem to value the expansion of the network more than local callers (there are closer substitutes for local calls than for long-distance ones), this pricing structure fits the argument just stated. The network externality argument is also invoked to rationalize regulation of postage and transport, and these industries also have set cross-subsidy pricing.

Since 2000, digital telecommunications have expanded dramatically in Japan. The demand for wired telephone service has been steadily displaced by demand for mobile phone and internet services. As matters stand in 2013, the market for digital telecommunications services in Japan is mainly divided among three companies, NTT, KDDI and SoftBank.

[33] Harvey Averch and Leland L. Johnson, "Behavior of the Firm Under Regulatory Constraint," *American Economic Review*, vol. 52, no. 5, 1962, pp. 1052–69.

*Railroads*

Japan's first railroads were government-operated and in 1906 and 1907 most of the extant major private rail lines (seventeen in all) were government-operated. By 1940 the fraction of rail lines that were organized into a public firm or *kosha* (*kokutetsu kosha*) had steadily fallen from the1906 peak of 91 percent to about two-thirds of the total in the country, based on kilometers of track. Following the war the government railways were nationalized. The private rail lines were and continue to be subject to price and entry regulation. In principle, the ticket price or freight charge per kilometer of distance is the same for short trips as for long ones—a further instance of cross-subsidy pricing, as the marginal cost of providing rail services is greater in more densely inhabited regions.

In the 1970s the perennially unprofitable Japan National Railways (*Kokutetsu*) was among the infamous "three Ks" of government red ink, along with government purchases of rice (*kome*) and government-provided health insurance (*kenko hoken*). And in 1986 a law was enacted to split JNR into several different companies and eventually to privatize them. As matters now stand, there are seven separate "JR" companies. Three of these were completely privatized in 2006 but in 2013 the other four are still wholly owned by an agency of the government.

*Trucking*[34]

The maintenance of effective price regulation of rail freight in Japan ultimately required the regulation of prices and entry in the trucking industry as well—just as was true in the USA—because some rail freight prices were kept above marginal costs, inviting cream-skimming by truckers. The Railway Express Enterprise Law of 1949 established price and entry regulation of the trucking services connected with rail shipments. The Road Transportation Law of 1951 divided remaining truckers into two categories: those licensed to serve particular routes on regular timetables, and those licensed to serve one customer at a time on consignment within a designated region. The Road Transport Law also forbade prices that "will probably cause unfair competition with other companies," and the Ministry of Transport acted on this mandate by posting elaborately detailed price schedules, which it updated annually, applicable to each specific category of service. It would appear on the face of it that the MOT, exercising the authority vested in it to restrict entry and set prices in commercial trucking, was the manager of a national cartel of the trucking industry.

Cartelizing regulations such as these have been the strongest evidence supporting the capture theory. And explaining the elimination of precisely such regulations has proved to be the greatest challenge facing proponents of the capture thesis.[35] But a big difference between the government-administered trucking cartel of Japan and the one extant in the United States between 1935 and 1980, is that the price regulation was widely evaded in Japan, but fairly strictly observed in the USA.

In short, the US government-administered trucking cartel significantly restricted the supply of commercial trucking services and raised their prices, but the Japanese trucking cartel did so to a far smaller extent. The restriction on entry into commercial trucking in Japan was enforced rather strictly, but this became a significant impediment to commercial trucking only with the advent of parcel delivery service in the 1980s. To offer nationwide parcel delivery service, it was necessary to obtain separate licenses for each local area. In 1992 illegal political bribes, paid years before by a trucking company in pursuit of the licenses needed for it to offer expanded parcel delivery service, were exposed. But by then, legislation had already put an end to the artificial scarcity of licenses to conduct parcel delivery service. In December 1989, the Diet passed the Motor Vehicle Law that abolished licenses and instated a system of permits, which are more freely bestowed than the earlier licenses and which authorize commercial truckers to supply more or less unlimited services within designated regions. The Ministry of Land, Infrastructure and Transport still requires notification of price changes and retains the authority to

[34] For more details on regulation of trucking in Japan, see David Flath, "Japanese Regulation of Truck Transport," *Journal of the Japanese and International Economies*, vol. 15, 2001, pp. 1–28.

[35] For a strong attempt at defending the capture thesis nevertheless, see Sam Peltzman, "The Economic Theory of Regulation after a Decade of Deregulation," *Brookings Papers on Economic Activity, Microeconomics* (1989), pp. 1–59.

disapprove them, but regulated prices were widely disregarded by the truckers anyway. Nevertheless, the Japanese trucking industry is not completely free of regulatory distortions. Private truckers, mostly businesses that use their own truck fleets to deliver merchandise to their own customers, are prohibited from competing directly with commercial truckers. Relaxing this prohibition would reduce the empty backhauls of private truckers and improve resource allocation but would decrease the profit of commercial truckers.

*Taxis*[36]

The main cost of supplying taxi services is the cost of the taxi drivers' labor. Nevertheless, taxi services are subject to economies of scale. To increase the supply of taxi services while holding constant the average waiting time to hire a taxicab, means holding constant the number of vacant cabs in the given local area. Because the costs of supplying taxi services include the costs of manning the vacant cabs, increasing the supply of taxi services, and holding the waiting time (and therefore the number of vacant cabs) constant, requires a less than proportionate increase in total costs. The upshot is that there are economies of scale at the industry level; average costs decline with the scale of output. The challenge for public policy is to organize the taxi industry in a way that assures both the optimal number of taxis under hire and the optimal number of vacant cabs. Laissez faire does not achieve this. In the zero-profit equilibrium with free entry and unregulated fares, there can be either too many or too few vacant cabs from the standpoint of social welfare. In principle, regulatory control of both the number of cabs and the allowable fare could achieve optimality, though in practice it does not. Typically, taxi regulation amounts to a government-managed cartel of the industry, which is not economically efficient, but possibly improves resource allocation compared to the case of free entry and unregulated fares. Perhaps this is why taxi services are regulated throughout the world, including Japan.

Taxi services throughout Japan have long been subject to regulation by the national transport ministry, now known as the Ministry of Land, Infrastructure, and Transport. In 1955, under the authority of the 1951 Road Transport Law enacted during the American Occupation, the transport ministry, which already controlled the number of licensed cabs, moved to also assure uniformity of cab fares within each local area. In effect this has meant that the cab firms coordinate their annual requests to revise the posted fare, all asking for virtually the identical revision. In February 2002, entry into the Japanese taxi industry was largely freed of restrictions, but the Ministry of Land, Infrastructure, and Transport has, with only a few recent exceptions, continued to insist on uniformity of taxi fares within each geographic region. The cab fares thus remain higher than would be economically efficient, but taxi profits are now dissipated in the costs of operating vacant cabs. Is it cynical to suggest that the resulting economically wasteful overemployment in the taxi industry may actually have been the true political objective of the 2002 relaxation of entry regulation?

*Airlines*

Japan is among the many countries that has long been served by a state-owned airline. Airlines were forbidden by SCAP from operation in Japan during the American Occupation. JAL was formed the very year after the Occupation ended, coexisting with two private airlines, each authorized to provide domestic service only on specified and differing routes. In 1987 the government-owned shares in JAL were sold and the awarding of routes liberalized. But only after further liberalization of pricing and entry in 2000 did the number of airlines increase, and fares diminish. Most of the new entrants offer flights to smaller airports only, not competing head-to-head with the industry giants, JAL and ANA. Even after its privatization JAL continued to receive government subsidies, made necessary by bloated costs and overly generous pensions. But in January 2010, following the sharp reduction in international air travel following the 2008 Lehman shock, JAL was forced into bankruptcy. Further government bailouts enabled JAL to keep flying anyway, and it emerged from bankruptcy in September 2012.

[36] This discussion is based on David Flath, "Taxicab Regulation in Japan," *Journal of the Japanese and International Economies*, 20 (2006), pp. 288–304.

## Deregulation: a new era?

In the 1980s not only Japan but also the United States and the major European countries all moved to deregulate telecommunications, transport, and financial service industries. It is natural to seek a common basis in the deregulation policies of the different countries. There are several common forces to consider: technological changes, demonstration effects, and international competition and cooperation. While all three forces seem to have played a role in the deregulation of telecommunications industries, technological changes played the main one. The development of microwave transmission in the 1960s obviated the need for costly switching stations. As the technology matured, it became economically feasible for large firms to erect their own transmission stations, avoiding the very high prices that government regulation required they pay to rent the use of transmission stations of authorized providers. The advent of computers further lowered the costs and expanded the capabilities of the new technology. The effect was that long-distance telecommunications had ceased to be a natural monopoly if indeed it ever was one.

The United States was the first country to deregulate long-distance telecommunications, perhaps as an indirect outcome of the antitrust suit that broke up AT&T. The beneficial effects on quality of service could be readily observed, increasing the likelihood of similar measures being taken elsewhere. Also, foreign companies were among the strongest proponents of breaking the KDD monopoly on international telecommunications in Japan, and immediately after 1985 the two new entrants competing directly with KDD were both foreign companies. But the more successful of these, the British company Vodafone, was in 2006 bought by the Japanese company SoftBank which has become the only major rival of KDDI and NTT.

Demonstration effects are apparent in the international movement to deregulate airlines. First, the United States deregulated its airline industry by a law enacted in 1978, with provisions coming into effect over the subsequent five years. The expansion of domestic air services and reduction in the relative price of air travel that accompanied these changes were obvious to all by the mid-1980s. In 1986 Germany privatized Lufthansa, in 1986 Australia deregulated its domestic routes, in 1987 the UK privatized British Airways, and, as already mentioned, in 1987 Japan privatized JAL, and in 2000 greatly liberalized its regulation of airline fares and entry. Here is an instance where the benefits of deregulation in the USA provided a strong impetus for deregulation in other countries.

The main basis for privatizing rail in Japan was that JNR had become a massive drain on public resources, owing to the escalating pension benefits the government was obliged to award JNR employees. Though it is illegal for government employees to strike in Japan, JNR employees had from time to time staged work slowdowns in support of their demands for enriched compensation. The division of JNR into twelve private companies was an attempt to weaken the bargaining power of the workers. There is no obvious parallel to the 1980 deregulation of rail in the USA, where air and trucking had long since eroded whatever benefits accrued to rail companies as a result of regulatory control of rail prices and routes, weakening industry support for perpetuating the regulation.

The deregulation of the banking and securities industries of the United States, European countries, and Japan in the 1980s is largely an indirect result of the liberalization of controls on international financial transactions. As the world economy has grown, the important trading countries have relaxed their regulations that interfered with international trading generally, perhaps spurred by the increasing gains from such trade. When international financial transactions became free, domestic interest rates became tied to an unregulated international interest rate. Domestic regulation of banking became redundant at best and an encumbrance to banks and their customers at worst. Here is a case where international competition and cooperation was the driving force in deregulation as each country, Japan included, sought to protect its own citizens' gains from international transactions.

Convincing economic explanations for regulation that are also capable of throwing light on instances of deregulation do not in every case exist. Regulation, like politics generally, remains some-

what unpredictable, not strictly governed by economic considerations nor totally removed from the chance play of random events.

## Conclusion

For all its peculiarities, the industrial organization of Japan exhibits some remarkable points of consistency with those of other developed nations. If an industry is dominated by large firms in Japan, then so is its analogue in the United States. The same market forces seem to be shaping the pattern of industrial concentration in both nations, even though Japan's large firms are self-organized into business groups and America's are not; the antimonopoly laws of Japan impose weak penalties and are weakly enforced; and Japanese businesses are prone to form long-term trading ties. Also, economic profits are a trivial percentage of national income in Japan, as in the United States, which strongly suggests that oligopolistic pricing has not very much distorted the allocation of resources in either nation.

It is often suggested that the hand of government falls more heavily on industry in Japan than it does in other nations. This view is unsupported by careful observation. The incidence of government control of entry and pricing across Japanese industries is actually quite similar to that of the other developed nations. The regulated industries in Japan include public utilities, transport, telecommunications, banking, finance, and insurance. These are all regulated in some form or another by every developed nation.

## FURTHER READING


- Richard E. Caves and Masu Uekusa, *Industrial Organization in Japan*, Washington, DC: Brookings Institution, 1976. The noted Harvard economist Caves joins with Tokyo University's Uekusa in exploring the structure, conduct, and performance of Japanese industries.
- H(iroyuki) Iyori and A(kinori) Uesugi, *The Antimonopoly Laws of Japan*, New York: Federal Legal Publications, 1983. Details the specific stipulations of Japan's antimonopoly law.
- David Weinstein, "Foreign Direct Investment and Keiretsu: Rethinking US and Japanese Policy," in Robert C. Feenstra (ed.), *The Effects of US Trade Protection and Promotion Policies*, Chicago: University of Chicago Press, 1996, ch. 4, pp. 81–116. Argues that Japan's business groups exist mostly to take advantage of idiosyncratic features of Japanese government regulation and taxation; a useful counterbalance to the many other studies that identify them as novel forms of economic organization. Weinstein may be closer to the truth.
- Jean McGuire and Sandra Dow, "Japanese *keiretsu*: Past, present, future," *Asia Pacific Journal of Management*, vol. 26, 2009, pp. 333–51. Surveys the vast academic literature on Japanese business groups, both the financial keiretsu and enterprise groups, including contributions by management scholars, sociologists, and others.