
***Keiretsu*, Competition, and Market Access**

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Japan's distinctive forms of interfirm business organization, known as *keiretsu*, have become a contentious issue in policy and academic debates concerning the nature of competition in Japan, the openness of the Japanese market, and Japan's place in the international trading system. *Keiretsu*, in Japanese, is an informal term used to refer to various forms of interfirm relationships and sets of related firms. Three forms of *keiretsu* are usually distinguished: financial *keiretsu* or enterprise groups such as the Sumitomo group or the Mitsubishi group; vertical *keiretsu* or supplier networks centering on assembly firms such as Toyota or Matsushita; and distribution *keiretsu* or the networks of affiliated wholesalers and retailers that manufacturers of consumer goods use to distribute their products.

Two contrasting views about *keiretsu* can be found, roughly corresponding to the US and the Japanese policy positions. One is that *keiretsu* are collusive, anticompetitive, and exclusionary and that they allow

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Japanese firms to gain an unfair advantage in domestic and international competition and to close off the Japanese market to foreign entrants. This view has become predominant in US policy thinking, spurred in large part by the so-called revisionist literature on Japan (Johnson 1987, 1990a, and 1990b). Japanese observers frequently counter that *keiretsu* are misunderstood in the West and that they represent efficient forms of economic organization, conditioned by historical circumstance and well adapted to Japan's unique business and market environment (Komiya 1990, 186; Yoshitomi 1990). Advocates on both sides of the debate can point to studies that support their position and marshal confirming anecdotal and survey evidence. (For recent surveys of these arguments see Goto and Suzumura 1994; Lawrence 1991b and 1993; Saxonhouse 1993; Sheard 1991 and 1992).

Keiretsu have become a contentious issue in the context of US-Japan trade frictions. There is a deep-rooted feeling in US policy and business circles that the Japanese market is closed to imports, particularly of manufactures, that the closedness of the market is a primary cause of the large and persistent US current account deficit with Japan, and that *keiretsu* are an important factor contributing to this closedness. (For academic views see Bergsten and Noland 1993; Dornbusch 1990; Johnson 1990a; Krugman 1991; Lawrence 1991b and 1993; Noland 1992; Yamamura 1990.) In this view, *keiretsu* are a "problem" and a legitimate target of policy action, such as the application of antitrust policy or trade pressure. Descriptions of *keiretsu* as cartels or as collusive or exclusionary reinforce this perception. An influential study by Lawrence (1991a) on the effects of *keiretsu* on Japanese imports and exports and a much-cited survey by Kreinen (1988) on the purchasing preferences of Japanese firms seem to provide the hard evidence.

Other observers see *keiretsu* as being more about how Japanese firms have organized their input and ownership structures to compete successfully in domestic and international markets (Aoki 1994). Supplier systems that capture the benefits of both hierarchical coordination and market incentives have been identified as a key factor in the success of Japan's machinery industries in achieving cost and quality competitiveness and leading world market shares (Dyer 1993; Fruin 1992; Nishiguchi 1994; Sako 1992; Smitka 1991). The financial *keiretsu* have attracted attention for their role in corporate governance, providing a stable but disciplined environment for corporate management. Stable shareholding arrangements, centering on key financiers and trading partners, and relations with the group's so-called main bank create an insider-based system of contingent corporate governance, which balances the benefits of managerial autonomy against the need for the capital market to monitor and intervene. (For detailed arguments see Abegglen and Stalk 1985, chapter 7; Aoki et al. 1994; Gilson and Roe 1993; Hoshi 1994; Sheard 1994a, 1994d, and 1994e. For important empirical evidence see Kang and Shivdasani

1994; Kaplan 1994; Kaplan and Minton 1994; Morck and Nakamura 1992; Sheard 1994c).

In terms of outcomes, the two views about *keiretsu* yield similar predictions. In both, *keiretsu* structures are associated with Japanese firms capturing or holding on to market share. The two hypotheses are difficult to distinguish by simply observing economic or market outcomes. The mechanisms involved and the implications for policymakers and business persons, however, are quite different. If the advantage to *keiretsu* organization rests on unfair and anticompetitive practices, a strong policy response is called for, and the burden of action should fall on the Japanese side. If, on the other hand, *keiretsu* structures reflect legitimate competitive strategies on the part of Japanese firms, it may be less a public policy than a corporate strategy response that is called for, with the burden of action resting on the side of US and other foreign business.

Quantitative studies can shed light on this dispute. Indeed, a large literature examining the economic effects of *keiretsu* organization has developed, part of it concerned with the market access issue.¹ Useful as it is, however, the empirical literature on *keiretsu* has been inconclusive. *Keiretsu* relationships are complex, multidimensional, and variable across firms, yet empirical studies, partly because of data limitations and the demands of tractability, have taken a crude, black-box approach to their measurement and modeling. Much insight into the issues raised in the *keiretsu* debate can be gained, however, by carefully considering the economic logic of the arguments in the light of what is known about Japanese industrial organization. That is the approach taken in this chapter.

The term *keiretsu* in Japanese is both vague and ambiguous, and the phenomena it refers to are both diverse and inherently imprecise, so much so that *keiretsu* is almost a synonym for "Japanese industrial organization." Partly because of this, and partly because so much is at stake in the US-Japan economic relationship, confusions and misunderstandings have abounded. Some of these are at a factual level, and some relate to conceptual issues. One aim of this chapter is to contribute to the policy debate by presenting some key facts and conceptual insights about *keiretsu*.

Two kinds of policy issue arise in the *keiretsu* debate, namely, antitrust and market access. In the debate to date, there has been a tendency to lump antitrust issues and market access issues together in an indiscriminate manner. The issues do overlap, but it is necessary to maintain a clear distinction between them. Anticompetitive practices in a domes-

1. On the trade issue, see in particular Fung (1991), Lawrence (1991a, 1991b), Noland (1992), Petri (1991), and Weinstein and Yafeh (1993), and on economic effects more generally the line of studies following Nakatani (1984) by Beason (1994), Ferris and Sarin (1993), Hoshi et al. (1990a, 1990b, and 1991), Kato (1994), Kato and Schallheim (1993), and Prowse (1992).

tic market can be a cause of market access being limited. But market access can be limited for reasons other than anticompetitive behavior.

One set of claims is that *keiretsu* are anticompetitive, that is, that they facilitate collusive practices and cartels, that they create entry barriers to markets, that they allow firms to behave in a predatory fashion both domestically and in international markets, and that they involve exclusionary practices, particularly in the distribution of intermediate and final products.² If *keiretsu* serve to cartelize markets and exclude imports, as some suggest, this would constitute a market access issue.

On the other hand, there are market access issues raised by *keiretsu* that go beyond traditional antitrust concerns of cartelization and market foreclosure. It is argued that the nature of interfirm ties in Japan implies that markets are not as open there as elsewhere.³ In this view, it is not that there is anything particularly “wrong” with Japanese corporate organization; it is just that it is different, and that this difference creates problems for Japan’s trading partners. Private preferences create barriers to trade (Noland 1992). As Dore (1986, 248) puts it, “Imports penetrate into markets, and where there *are* no markets, only a network of established ‘customer relationships,’ it is hard for them to make headway.”

It is important to be clear about the policy issue involved. If antitrust concerns about *keiretsu* prove valid, the onus for a policy response lies on the Japanese side, and stronger antitrust oversight and enforcement to eliminate anticompetitive and undesirable effects are called for. If, however, the difficulties of market access reflect the lack of competitiveness of foreign firms in the Japanese market or systems of business that do not mesh, the appropriate policy response is less clear. Constructive efforts by governments to facilitate entry, as opposed to attempts at managed trade and market sharing, may help. It may be more a case, however, of foreign business needing to devise entry strategies that are suited to the Japanese market.

The *keiretsu* debate reflects deeper conceptual and policy issues relating to the problems that cross-country differences in economic organization and business practices pose for international trade, competition, and

2. This image of *keiretsu* has been projected particularly by so-called revisionist writers such as Johnson (1990a, 1990b) and by business people frustrated in their dealings with Japanese firms or attempts to sell into Japanese markets. Lawrence (1991a) calls this the “trust-busting” position. Lincoln (1990, 5) claimed that the US policy position was essentially an antitrust position.

3. The Office of the US Trade Representative (1989, 112) has argued that “Japan’s *keiretsu* system involves close intercompany linkages which impede the importation of many U.S. products into the Japanese market.” As Tyson and Zysman (1989a, xix) put it, “even when the government reduces policy barriers to market access in Japan, foreign firms continue to confront barriers that stem from the long-term contractual relationships among Japanese firms” and this results in the market being “[sealed off] at very low levels of import penetration” (1989b, 126).

market access. Trade policy is traditionally concerned with access to markets; its aim is to remove artificial barriers to markets. Competition policy is concerned with firm behavior in markets; it sets the rules under which firms compete with one another in markets. A key insight of the new industrial organization literature (on transaction cost economics and contractual theories of the firm) concerns the endogenous nature of markets, especially in intermediate products: which markets are open and how they operate depends on where firms locate their own boundaries and how they choose to contract across those boundaries. Firms do not just operate *in* markets; their contractual choices help to shape the design of markets. Economic organization varies across countries. Neither “firms” nor “markets,” particularly intermediate product markets, are necessarily the same in each country.

Intermediate product markets do not exist independently of the way in which firms have organized themselves and their interfirm transactions. Prying open markets that have been closed because of direct or indirect government restrictions on trade is a relatively straightforward matter (to contemplate, but not necessarily to implement). Opening markets that are closed because firms have internalized them or turned them into markets for long-term contracts presents a qualitatively different set of issues. The issues raised by *keiretsu* are in the latter category. The debate has been confused, however, because there has been an understandable tendency to use the vocabulary of traditional trade and competition policy—to speak of “closed markets,” “collusive behavior,” and “exclusionary practices”—to come at these issues. In this paper, I hope to provide some insights into the policy issues raised by the fact that firms in different national economies draw and manage their boundaries in different ways.

The paper is organized as follows. The next section provides some background information on the structure of *keiretsu*. The following two sections examine the antitrust arguments about *keiretsu*, namely, that they are collusive and that they foreclose markets through vertical relationships among member firms. The paper concludes with a discussion of the market access concerns that arise from the vertical organization of firms and markets in Japan.

The Structure of *Keiretsu*

Because the term *keiretsu* has entered the vocabulary of trade negotiators, academics, businesspeople, and even the general public interested in Japan, it is important that all who use the term have a clear understanding of what *keiretsu* means in Japanese and what aspects of Japanese industrial organization it refers to. The word *keiretsu* is written in Japanese with two Chinese characters *kei*, meaning “lineage” or “system,”

and *retsu*, meaning “row” or “line” (Nelson 1974). In general use, the word means “ordered sequence” or “series.” As an economic term, as we have seen, *keiretsu* is widely used to refer to various forms of corporate affiliation or the groups of firms formed by such affiliations. The first character is frequently used by itself as a suffix indicating affiliation, as in *Nissan-kei no kaisha*, “a firm affiliated with Nissan.” In Japanese at least, the term *keiretsu*, in and of itself, is vague and nonspecific. The affiliation to which it refers can fall within a range of forms, from parent-subsidiary relations to close trading ties between independent firms. It is not surprising, then, that Japanese have often appeared perplexed, defensive, or even dismissive when confronted with broad claims by Westerners about the effects of *keiretsu*.

As already noted, it is common to distinguish three kinds of *keiretsu*. One of these, financial *keiretsu*, involves a collection of leading firms from a diverse range of industrial sectors. Six major financial *keiretsu* are commonly identified in Japan, all of them based around major city banks and related financial institutions. Four of these groups (Mitsui, Mitsubishi, Sumitomo, and Fuyo) evolved from the prewar *zaibatsu*, which were broken up after World War II, and the other two (Sanwa and Daiichi Kangyo) formed around major banks in the high-growth era of the 1950s and 1960s. Firms in these groupings are linked by interlocking shareholdings, close relations with a common main bank and a general trading company (GTC), and supply relationships, and the core firms participate in executive gatherings known as presidents’ clubs (*shachokai*). In 1991, 8 percent of firms listed on Japanese stock exchanges belonged to one or more presidents’ clubs (Toyo Keizai Shinposha 1991, 50, 100). Classifying firms on the basis of financial and other ties, Keizai Chosa Kyokai (1992, 1) identified 59 percent of nonfinancial firms listed in the first section of the Tokyo exchange as being affiliated with one of the six groups.

Table 1 provides some data on interfirm ties among these group-affiliated firms. Whether the groups are defined narrowly or broadly, the average level of intragroup shareholding is about the same, at around 18 percent, as is the average level of intragroup bank and insurance company financing, also about 18 percent. On average, 9 percent of input purchases are from other member firms (almost two-thirds of these from the GTC), and 8 percent of sales are made to other member firms (three-quarters of these to the GTC).

A second form of *keiretsu* comprises a large parent firm and its network of subsidiaries and affiliated suppliers. Typical examples are the Toyota and Nissan groups in the automobile industry; the Matsushita, Hitachi, and Toshiba groups in the electrical goods industry; and the Nippon Steel group in that basic materials industry. A leading Japanese corporate directory lists 40 main “pyramid-style” groups of this kind, each having on average 192 subsidiaries or associated companies (Toyo

Table 1 Measures of intragroup ties in the six enterprise groupings, 1990^a (percentages except in first row)

Measure	Mitsui	Mitsubishi	Sumitomo	Fuyo	Sanwa	DKB	Average
Number of firms in group	24 106	29 130	20 107	29 117	44 60	47 88	32 101
Intragroup borrowing ^b	19.6 15.6	19.4 20.2	21.5 14.1	17.4 18.9	18.2 18.4	12.5 15.8	18.1 17.2
Intragroup shareholding ^c	16.5 (19.5 17.4)	26.9 35.5 25.2	24.1 27.5 23.7	15.4 16.4 17.1	16.4 16.5 10.6	12.1 14.6 13.6	18.6 21.7 17.9
Intragroup directors ^d	2.2	12.9	8.7	2.4	5.0	6.9	6.4
Intragroup purchases ^e	7.7	16.1	12.8	7.1	4.2	3.3	8.9
Of which GTC purchases ^f	4.5	10.8	9.5	5.4	2.4	2.3	5.8
Intragroup sales ^g	6.5	14.3	12.2	6.4	3.6	4.8	8.0
Of which sales to GTC ^h	4.0	9.3	9.0	7.5	4.8	2.1	6.1
Purchases from GTC ⁱ	10.1	9.9	13.2	2.0	2.6	3.0	6.8
Sales to GTC ^j	13.6	20.3	33.6	10.2	4.2	5.9	14.6

GTC = general trading company.

a. Upper- or single-row figures are for the groups as defined by membership in a presidents's club (*shachokai*); lower row figures, where they appear, are for the same groups as more extensively defined by the *Nenpo keiretsu no kenkyu* annual directory. For the row in brackets, see note c.

b. Percentage of member firms' total borrowings supplied by the group financial institutions (city bank, trust bank, life and casualty insurance companies).

c. Percentage of member firms' shares held within the group. The first row is calculated only for the top 20 (in a small number of cases, the top 10) shareholdings. The second (bracketed) row, from Kosei Torihiki linkai (1992), is also for presidents's club members (for 1989) and appears to include non-top 20 shareholdings.

d. Percentage of total directors of member firms who moved to the firm from another member firm (or are serving concurrently as part-time directors).

e. Percentage of total input purchases of nonfinancial member firm supplied by member firms (including general trading companies).

f. Percentage of total input purchases of nonfinancial member firms (including GTC) supplied by group GTC.

g. Percentage of total output sales of nonfinancial member firms going to member firms (including GTCs).

h. Percentage of total output sales of nonfinancial member firms (including GTC) going to group GTC.

i. Percentage of total input purchases of nonfinancial member firms (excluding GTC) made from group GTC.

j. Percentage of total output sales of nonfinancial member firms (excluding GTC) sales made to group GTC.

Sources: Keizai Chosa Kyokai, 1992, 3 and 5; Kosei Torihiki linkai, 1992, 124; Toyo Keizai Shinposha, 1991, 40-49.

Keizai Shinposha 1991, 54). Most attention has focused on the vertical *keiretsu* of the automakers, which comprise hierarchically structured supplier networks. For instance, data for 1977 show Toyota having 168 first-tier suppliers, which in turn had 5,437 suppliers (indirect or second-tier suppliers to Toyota), which in turn had 41,703 lower-level suppliers (Fruin 1992, 271).⁴

Table 2 provides some data on four of the best-known supplier groups, two from the automobile industry and two from the electrical goods and machinery industry. Toyota's 41 most important first-tier direct suppliers and subcontractors, shown in table 2, accounted for 75 percent of its total purchases of inputs in the 1991 financial year. These suppliers are not totally independent of Toyota. There is partial vertical integration in an ownership sense, with Toyota having an average shareholding of 25 percent in these firms. On average, these firms supplied 43 percent of their output to Toyota. The situation with Nissan is similar. The 30 suppliers shown accounted for 70 percent of Nissan's input purchases in the 1991 financial year and supplied on average 55 percent of their output to Nissan, with the automaker owning 30 percent of their shares on average. Matsushita's 15 principal subsidiaries and suppliers accounted for 49 percent of its purchases of final products and material inputs and supplied on average 51 percent of their output to the parent company, which had an average ownership share in them of 54 percent. Hitachi's 16 principal subsidiaries and suppliers accounted for 39 percent of its purchases, and on average they supplied 30 percent of their output to Hitachi, which owned on average 50 percent of their shares.

The third form of *keiretsu* consists of a parent firm and the set of firms that comprise its distribution system or network. Conceptually, these "distribution *keiretsu*" are analogous to supplier *keiretsu*: they involve vertical ties, which, however, are downstream rather than upstream (Flath 1989). Less attention has been paid to this aspect of corporate organization, particularly in a comparative context, although vertical ties loom large in discussions of anticompetitive behavior.

The notion of a "distribution *keiretsu*" is very broad, as every large firm in Japan has some kind of distribution system, and the nature of these varies greatly by industry and even across leading firms in a given industry (Ariga et al. 1991, Itoh 1992, Miwa and Nishimura 1992). Producers of final consumer goods distribute these goods through affiliated dealer and chain store networks. These networks tend to be vertically integrated in a product market sense—outlets specialize in the brand names of the maker—but only partially integrated in an ownership sense.

4. Strictly speaking, however, this type should be distinguished from cases where subsidiaries produce related final (or intermediate) products rather than supply intermediate inputs to the parent firm. So-called vertical *keiretsu* comprise a mixture of the two types.

Table 2 Shareholding and output links in four leading vertical subsidiary/supplier groups, 1992

Toyota group				
Name of subsidiary or supplier	Product/ operations	Toyota's shareholding ^a (percent)	Sales to Toyota ^b (millions of yen)	Share of output sold to Toyota
Nippon Denso	Electrical parts	23.5	742,738	na
Toyota Body	Vehicle assembly	43.1	495,000 (223,151)	98
Toyota Auto Loom	Vehicle assembly	23	416,180 (186,339)	71.3
Kanto Motors	Vehicle assembly	49.4	382,582 (222,568)	99.9
Aishin Seiki	Transmissions	21.9	373,661 (46,032)	67.5
Toyoda Trading	Trading company	21.8	349,026 (197,065)	16.4
Hino Motors	Deisel trucks	11.2	251,106	39.4
Daihatsu Ind.	Light vehicles	15.4	210,960	26.1
Aishin A.W.	Automatic transmissions	41.1	209,226	na
Toyoda Gosei	Synthetic resins, rubber	41.1	145,154 (8,728)	59.1
Tokai Rika Elec.	Switches, locks, seat belts	30.8	125,738 (9,657)	62.3
Toyoda Koki	Machining tools, components	21.4	118,352 (17,573)	67.8
Kojima Press	Press, resins	3.7	101,340	na
Takashimaya Hatsujo Ind.	Interior parts	24.2	94,144 (47,605)	na
Central Motors	Bodies	47	92,279 (57,585)	na
Fujitsu Ten	Audio equipment	35	91,138	na
Futaba Ind.	Mufflers	13.2	77,406	54.6
Koito Manuf.	Lamps	19	72,610	46.4
Aisan Ind.	Electronic fuel injection equipment	31.8	61,346	73.8
Aishin Takaoka	Brake drums	37.3	56,175	na
Koyo Seiko	Bearings	21.9	55,542	19
Horie Metal Ind.	Fuel tanks	50	50,996	na
Shiroki Ind.	Door frames	14.1	45,730	51.2
Toyo Rubber	Tires	4.5	37,014	16.6
Topi Ind.	Press, wheels	na	28,319	17
Chuo Hatsujo	Springs, cable	23.6	28,000 (891)	42.8

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Table 2 Shareholding and output links in four leading vertical subsidiary/supplier groups, 1992 (continued)

Toyota group				
Name of subsidiary or supplier	Product/operations	Toyota's shareholding ^a (percent)	Sales to Toyota ^b (millions of yen)	Share of output sold to Toyota
Taiheiyo Ind.	Tire valves	45.8	21,858	45.8
Nihon Hatsujo	Springs, seats	1.1	18,879	11.7
Ichiko Ind.	Lamps	6.1	18,304	16
Toyoda Spinning	Filters, interior	9.3	11,588	24.8
Jeko	Auto clocks	34.3	10,476	38.3
Chuo Katan Ind.	Forging, casting	5.1	9,186	44.3
Toyo Radiators	Radiators	4.9	7,560	13.9
Trinity Ind.	Painting equipment	30.2	7,422	64.1
Teikoku Piston Rings	Piston rings	6.8	5,630	18.8
Nihon Gaskette	Gaskets	0.3	4,427	70.5
Araki Works	Lifting equipment	na	3,689	na
Ohari Seiki	Screws, forged products	5.2	3,326	23.5
Tokyo Shoketsu	Products, pumps	25.3	2,070	17.2
Kyoto Machinery	Tools	na	1,805	13.3
Kyowa Leather	Interior leather	33.5	220	na
Average/total		24.7	4,838,202	42.9
Nissan group				
Name of subsidiary or supplier	Product/operations	Nissan's shareholding ^a (percent)	Sales to Nissan ^b (millions of yen)	Share of output sold to Nissan
Nissan Body	Vehicle assembly	43.4	568,048 (260,267)	99.8
Aichi Machinery	Vehicle assembly	33.5	281,047 (135,634)	99.0
Karusonikku	Radiators	33.8	169,034 (7,209)	76.1
Atsugi Yunishia	Parts	34.0	139,131 (7,423)	77.6
Nissan Deisel	Truck assembly	40.2	101,877 (33,119)	26.2
Ikeda Bussan	Seats	58.0	89,324 (3,802)	62.2
Kansei	Meters	32.1	84,402 (134)	68.8
Yamakawa Ind.	Pressed components	30.3	60,261 (18,865)	72.0

Table 2 Shareholding and output links in four leading vertical subsidiary/supplier groups, 1992 (continued)

Nissan group				
Name of subsidiary or supplier	Product/ operations	Nissan's shareholding ^a (percent)	Sales to Nissan ^b (millions of yen)	Share of output sold to Nissan
Ichiko Ind.	Lamps	20.9	52,621	46.0
Fuji Heavy Ind.	Vehicle assembly	4.3	51,153 (44,935)	na
Clarion	Audio equipment	11.5	50,626	33.1
Kawanishi Ind.	Doors	23.1	47,178 (637)	64.7
Yorozu	Locks	28.5	44,100 (15,748)	64.9
Kinugawa Rubber	Rubber components	29.1	42,544 (279)	56.2
Sekuseru	Fuel injection pumps	11.2	39,403	15.3
Hashimoto Forming	Exterior components	25.2	37,899 (2,325)	55.3
Fuji Yunibansu	Transmissions	34.4	37,794 (7,209)	68.0
Fuji Kiko	Belts, seats	24.1	32,637 (4,977)	54.5
Daiwa Ind.	Pressed components	34.0	32,547 (659)	na
Daii Works	Suspensions	29.0	29,969 (4,423)	63.3
Tsuchiya Works	Air filters	57.2	28,965 (1,341)	54.1
Tachiesu	Seats	20.5	27,596 (3,354)	26.0
Nihon Plastics	Resin products	27.3	23,224 (621)	43.2
Jidosha Electric	Control parts	25.0	23,101	40.0
Nairusu Parts	Electrical components	40.0	22,168 (1)	na
Akebono Brake	Brakes	15.6	18,267	16.9
Tochigi Fuji Ind.	Axles	21.0	18,069	43.6
Kisei Machinery	Brake drums	50.6	16,621 (1,415)	58.8
Nihon Kikaki	Converters	24.2	13,452	43.9
Tosoku	Parts	28.5	9,186 (275)	44.9
Average/total		29.7	2,192,244	54.6

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Table 2 Shareholding and output links in four leading vertical subsidiary/supplier groups, 1992 (continued)

Matsushita group				
Name of subsidiary or supplier	Product/operations	Matsushita's shareholding ^a (percent)	Sales to Matsushita ^b (millions of yen)	Share of output sold to Mitsushita
Matsushita Communications	Communications, auto equipment	57.0	442,199 (11,305)	96.6
Kyushu Matsushita Electric	Electrical equipment, parts	52.0	329,255 (7,498)	94.9
Matsushita Electronic Parts	Electronics materials, parts	98.7	322,683 (17,269)	84.5
Matsushita Reiki	Refrigerators, vending machines, air conditioners	51.8	200,607 (9,521)	98.8
Matsushita Battery Ind.	Batteries	97.6	178,389 (3,710)	89.2
Matsushita Judenshi Ind.	Visual, audio, heating equipment	57.7	171,561 (22,387)	62.9
Matsushita Seiko	Air conditioning, fans	59.0	91,241 (3,048)	96.1
Matsushita Denso	Fax machines	60.0	58,084 (10,937)	70.4
Matsushita Denko	Lighting, electrical, information equipment	32.0	29,480 (38,331)	2.9
Matsushita Butsuryu	Warehousing, transportation	30.0	27,479	na
Miyata Ind.	Bicycles, fire extinguishers	44.4	1,596	5.0
Nihon Victor	Visual, audio equipment	52.4	1,488 (41,194)	0.2
Wakayama Precision Ind.	Compressors	54.0	533 (726)	13.0
National Housing Ind.	Housing, housing materials	26.3	336 (2,851)	0.2
National Securities	Securities	29.1	17	0.1
Matsushita Electronics Ind.	Semiconductors, light bulbs, TV screens	65.0	na (na)	na
Average/total		54.2	1,854,948	51.1

Table 2 Shareholding and output links in four leading vertical subsidiary/supplier groups, 1992 (continued)

Hitachi group				
Name of subsidiary or supplier	Product/operations	Hitachi's shareholding ^a (percent)	Sales to Hitachi ^b (millions of yen)	Share of output sold to Hitachi
Hitachi Plant Construction	Plant construction	56.0	159,816 (1,519)	65.5
Hitachi Butsuryu	Transportation, warehousing	62.0	85,823 (3,984)	41.3
Nissei Ind.	Electronic equipment sales	58.1	84,529 (225,712)	14.4
Hitachi Software Engineering	Software	64.2	57,549 (16,872)	62.9
Kokusai Electric	Communications equipment, electronics components	21.9	56,446	45.6
Hitachi Electric Wire	Electric wire, copper wire	52.3	36,128 (999)	10.8
Hitachi Koki	Electrical tools	31.6	32,215	24.9
Hitachi Information Systems	Software	64.1	30,281 (15,201)	27.6
Hitachi Kasei Ind.	Electronics components, housing equipment	57.2	26,088 (907)	8.4
Faicomu High-Tech	Calculator sales, software	50.0	25,808	na
Hitachi Electronics	Broadcasting, video, information equipment	64.4	21,885 (1,199)	35.8
Tokiko	Hydraulic equipment	38.7	14,014 (1,380)	12.9
Nakayo Communications Equip.	Telephones, switchboards	21.5	11,509 (1,149)	43.4
Hitachi Kiden Ind.	Cranes, water treatment equipment	65.8	11,197 (536)	48.3
Hitachi Metal	Special steel, magnetic materials	54.5	7,913 (9,083)	2.4
Shinmeiwa Ind.	Special vehicles, industrial machinery	29.4	6,849	5.2
Average/total		49.5	668,050	30.0

na = not available.

a. Including some indirect holdings.

b. Figures in parentheses are amount of purchases from the parent company.

Source: Toyo Keizai Shinposha, 1992, 18-25.

For example, Japan's nine automakers in 1992 had 3,759 affiliated dealers, with a total of 17,423 dedicated outlets (Kosei Torihiki Inkai 1993a). In almost all cases, the dealers sold only the affiliated parent's vehicles. In only 16 percent of cases did the automakers own shares in the dealerships. However, for the largest dealers (the 14 percent with ¥100 million—about \$1 million—or more in capital) the picture was different: close to half (45 percent) were wholly owned by the automakers; on the other hand, in nearly a third of cases the automakers had no shareholding. Shareholding levels vary widely even for the same maker. Toyota's three Tokyo dealers are all consolidated subsidiaries, but Toyota does not even figure as a top-20 shareholder in its main dealer in its home prefecture of Aichi, Aichi Toyota Motor, even though this firm alone accounts for about 4 percent of Toyota's domestic passenger vehicle sales (as calculated from Nihon Keizai Shinbunsha 1994).

Firms producing intermediate products frequently distribute their outputs to user firms through wholesalers and sales outlets, which carry out informational, order processing, transportation, inventory, financing, and in some cases finishing, processing, and assembly operations. For example, the three leading makers of sheet glass distribute their outputs through 381 wholesale agencies, which in turn deal with a further 15,000 sales outlets (Kosei Torihiki Inkai 1993b). Almost all of the agencies handle only their affiliated maker's products. The glassmakers hold shares in the wholesalers in about one-quarter of cases, and in 80 percent they hold a majority of shares.

The Small and Medium Enterprise Agency's periodic survey of wholesale and retail industry defines "being in a *keiretsu*" as "having entered into a special agency (*tokuyakuten*) contract or agency (*dairiten*) contract or being in receipt of managerial or other assistance from a transaction partner, and in return selling the transaction partner's products on a preferential basis." Although not rigorous or conceptually founded, this definition is a practical one understandable to business people. On this basis, the 1992 Basic Survey found that 30.7 percent of wholesale firms and 28.9 percent of retail firms (most having fewer than 50 employees) said that they belonged to a *keiretsu*, with 67.4 percent and 68.7 percent, respectively, replying that they did not. *Keiretsu* affiliation was most prevalent in household equipment and utensils retailing (74.4 percent), fuel retailing (71.1 percent), and pharmaceuticals and cosmetics wholesaling (50.8 percent), and least prevalent in knitwear and clothing retailing (17.0 percent), furniture and fixtures retailing (17.3 percent), recycled materials wholesaling (18.1 percent), and textiles wholesaling (19.7 percent; Chusho Kigyochō 1994, 62-65).

A key point is that, from an industrial organization viewpoint, the relations observed in all three forms of *keiretsu* are not horizontal. Firms associated with supplier or distribution *keiretsu* are firms that are linked in vertical input-output supply relations. Firms associated with financial

keiretsu are either linked in vertical relations (including factor inputs in the case of bank-firm ties) or operate in different intermediate or final product markets. Firms in a given *keiretsu*, generally speaking, are not direct competitors in a given market. For instance, Central Glass and Nissan are in a vertical relationship because the former supplies material inputs to Nissan, and both are in vertical relationships with the distribution outlets through which Central Glass supplies its output to Nissan. Nissan and Tokyo Nissan Auto Sales are in a vertical relationship because Nissan supplies the latter's inputs. Fuji Bank supplies capital to Nissan in the form of loans and equity, and thus can also be viewed as an upstream supplier of inputs.

Although analytically the relations involved are vertical, there are important differences between the various forms of *keiretsu*. One is that financial *keiretsu* are highly diversified across sectors at a groupwide level (although particular firm pairs within them may have direct vertical relations), whereas supplier and distribution *keiretsu* involve firms producing a single product or related set of products. A second difference is that, although both types of grouping involve financial and input-output ties, these differ between the three types. In financial *keiretsu*, financial ties are based mainly on extensive, diffuse interlocking shareholdings and main bank financing relations. In supplier networks (and subsidiary networks more generally) shareholdings are centered on parent firms: the parent firm holds shares in subsidiaries (and not the other way around to any large extent), and the shareholdings are often majority or large minority holdings. As regards transactional ties, these are strong within and lie at the heart of supplier networks, but apart from particular pairs of firms they are fairly minor in the financial *keiretsu*. Many firms identified as belonging to a particular financial *keiretsu* have minimal or no direct contact or ties with each other. However, they do share the same group banks and trading company for financing and handling of inputs and outputs (table 1). At the risk of oversimplification, it can be said that production links are the driving force in supplier networks, and financial (financing and interlocking shareholding) ties the main aspect of multimarket groups.

The different kinds of *keiretsu* are not mutually exclusive. Leading industrial firms in financial *keiretsu* typically are parent firms in their own supplier networks, distribution networks, or subsidiary groups. Although financial and supplier *keiretsu* are presented as separate categories in empirical work such as Lawrence (1991a), there is considerable overlap in their membership, with firms in assembly-supplier systems such as Toyota or Matsushita or parent-subsidary firm groups such as Nippon Steel being associated with a financial *keiretsu* as well, either as a member of a presidents' club, as in the case of Hitachi (member of the Fuyo, Sanwa, and DKB presidents' clubs), Toyota (Mitsui), Nissan (Fuyo), and Toshiba (Mitsui), or through a main bank relation-

ship as with Matsushita (Sumitomo Bank) and Nippon Steel (Industrial Bank of Japan).⁵

Relations in a given *keiretsu* are multifaceted, involving such aspects as ownership, financing, transfers of intermediate products, movement of personnel, sharing of information, and joint research and product development, even between a given pair of firms. Not only is membership better conceived in terms of a continuum rather than a zero-one condition, but it is also better viewed as connoting a vector of attributes rather than a single one. Indeed, it is the bundling together of various attributes that makes these business structures so interesting from the viewpoint of industrial organization theory (Aoki 1994; Flath 1992) and that magnifies the concerns about them with respect to competition policy and market access.

***Keiretsu* and Collusion**

Terms such as “cartel-like,” “collusive,” and “exclusionary” are often used to suggest that *keiretsu* have anticompetitive aspects.⁶ In general, however, these concerns are not warranted—the language of antitrust has been applied in far too cavalier a fashion to these relationships.

Any antitrust issues raised by *keiretsu* must relate to their vertical organization. To characterize *keiretsu* as “cartels” or “collusive” is therefore misleading. Cartels and collusion involve firms selling the same products fixing prices or tacitly coordinating on a monopoly price (Jacquemin and Slade 1989; Tirole 1989, chapter 6).⁷ Firms in a *keiretsu* cannot form cartels or collude because they do not operate in the same market. It is spurious to associate *keiretsu* affiliation with cartels or collusion.

The potential confusion is exacerbated by a widespread misuse of terminology in the literature. Following the tradition in the Japanese literature, financial *keiretsu* are sometimes referred to as “horizontal” or “horizontally connected” groupings. But this terminology reflects an

5. Lawrence does not make clear how he handled this overlap issue in his empirical estimation.

6. For instance, Taira (1993) defined *keiretsu* as “cartel-like alliances of firms,” and Pickens (1992) defined them as “government-sponsored cartels.” Lawrence (1991a, 324) referred to the possibility of “collusive behavior by *keiretsu* firms.”

7. *The MIT Dictionary of Modern Economics* defines a cartel as a “formal agreement between firms in an oligopolistic market to co-operate with regard to agreed procedures on such variables as price and output,” collusion as “agreement between firms to cooperate in order to avoid mutually damaging rivalry,” horizontal as “at the same stage of production,” and vertical as “belonging different stages of the same production process” (Pearce 1992). It follows from both formal and economic logic that vertically related firms cannot collude or form cartels.

implicit theory of power relations rather than any industrial organization concept. Financial *keiretsu* comprise leading firms in distinct industries, some of which are vertically linked. They are loosely conglomerate, but the product-market transactions between these firms are vertical. “Horizontal” in this context captures the notion of equality in status or lack of hierarchy, in the sense that no firm stands at the pinnacle of the group in an ownership or decision-making sense.

“Horizontal” in industrial organization and antitrust, on the other hand, refers to behavior in a market. For example, a “horizontal merger” is a merger between two firms in a market (Jacquemin and Slade 1989), and “horizontal shareholding” is shareholding among competing firms (Flath 1994). If *keiretsu* were horizontal in an antitrust sense, issues of collusion or cartel formation would warrant consideration. But they are not. To use terms such as “horizontal groups” and “collusion” or “cartel-like” in the same context is to invite the misconception that *keiretsu* links exist between firms in a given market. Although there are instances of this, it is not common.

This kind of confusion is evident in Lawrence’s (1991a, 329) influential paper. He summarized his results as follows:

While antitrust violations should be punished, there are cases where *keiretsu* relationships improve efficiency. As might be expected, these efficiencies tend to be associated with vertical rather than horizontal linkages. Given the complexity and pervasiveness of the vertical *keiretsu*, it is difficult to support extreme approaches that would either entirely ban these linkages or unreservedly tolerate them. Instead, vigilance and a “rule of reason” approach, which pays particular attention to horizontal linkages, seems most appropriate.

Lawrence is correct to point to the need for vigilance regarding “horizontal linkages,” but the analysis of “horizontal *keiretsu*” in his paper has nothing to do with that issue, because what he terms “horizontal *keiretsu*” in fact involve vertical linkages or conglomeratelike (multimarket) linkages, not within-market horizontal linkages.

The confusion of important substantive issues by misleading terminology is clearly in evidence in the general discussion following Lawrence’s paper in the Brookings Papers, as the following passage shows:

Steven Salop [noted] that more recently antitrust economists and lawyers have become increasingly concerned with vertical restraints on trade, especially where they are accompanied by horizontal restraints. As vertical and horizontal *keiretsu* often coexist, there was probable cause for antitrust concerns. Lawrence observed that if antitrust policy was concerned with efficiency, it should look closely at horizontal *keiretsu* which, according to his findings, might lead to discrimination against foreign goods while not increasing efficiency. (Lawrence 1991a, 337)

The term “horizontal” is being used in two different senses here, the first corresponding to the normal antitrust usage, the second borrowing

the usage peculiar to Japanese, which has nothing to do with “horizontal” in the antitrust sense. Exactly the same confusion is evident in the continuation of the above passage:

The panelists discussed some ambiguities in the empirical results. Nordhaus noted that horizontal concentration increased imports while horizontal *keiretsu* reduced them. (Lawrence 1991a, 337)

There is only an ambiguity if the first “horizontal” is being used in the same sense as the second, which readers of this passage would assume to be the case, but which the above discussion makes clear is not the case.

It is a small step from here to another fallacy, namely, to conclude that, because particular markets appear to be dominated by firms with *keiretsu* ties and *keiretsu* are believed to be characterized by cozy insider relations, the market somehow is prone to be collusive. The firms in question belong to different *keiretsu* and compete with one another; firms in the same *keiretsu* may have cozy relations but these are relations *across* two vertically linked markets, not between firms in the same market.

Collusion and cartel formation do occur in Japanese markets, but they involve firms belonging to different *keiretsu* that operate in the same market. Any collusion that occurs must be across *keiretsu* lines. Cartels in Japan, like those elsewhere, are typically organized, sanctioned, or facilitated by some kind of government action. Financial and insurance markets, in which the government regulates prices and restricts entry (McKenzie 1992); *dango*, or public-procurement bidding cartels, which involve the government as buyer (McMillan 1991); and government-sanctioned recession, structural depression, and export cartels readily come to mind (Dick 1992). But these have little or nothing to do with *keiretsu*.

There are two possible ways in which *keiretsu*, given their structure, could conceivably lead to cartelization or collusion. The first is a multimarket collusion story that focuses on the loosely conglomerate nature of the diversified financial *keiretsu*. Because these groups comprise firms from diverse markets, as described above, they may facilitate multimarket collusion as studied in the industrial organization literature (Tirole 1989). Lawrence (1993) makes reference to this possibility. Although interesting at a theoretical level, this argument is totally lacking in plausibility as it applies to actual Japanese circumstances.

First of all, multimarket oligopoly models are developed for oligopolists operating in multiple markets that are *single* decision-making units. Financial *keiretsu* are loose collections of *independent* firms. It is implausible to suggest that these loose collections can coordinate their actions sufficiently well to implement the credible multimarket retaliation strategies necessary for the multimarket effect to appear. The assumptions of the model are stringent enough for a single decision-making multimarket unit, let alone an organization with multiple decentralized decision units.

Equilibrium in the model would involve firms in all *keiretsu* tacitly colluding on a monopoly price in each market. The model would require, for example, that if Nissan, a Fuyo group firm, undercut Mitsubishi Motors, a Mitsubishi group firm, not only would Mitsubishi Motors retaliate against Nissan with reversion to competitive (technically Bertrand or Cournot) behavior in all future periods, but all other Mitsubishi firms (and firms in all other groups) would retaliate against all other Fuyo group firms in their markets, even though no defection took place there. One theoretical possibility is that the main bank in each group provides the coordinating function. Main banks do play an important role in investment and corporate governance (Aoki et al. 1994), but it stretches credulity to its limits to suggest that they can control product market decisions such as prices and outputs.

Second, multimarket oligopoly models have in mind a set of unrelated final product markets. The argument does not make sense for firms linked in vertical input-output relations, because this would lead to successive monopolies and double (or multiple) marginalization effects, raising costs through the input-output production chain and leading to final-product market prices above their monopoly price levels (Tirole 1989, 174-75). The argument only makes sense in relation to final product markets, in which the groups tend to be less represented anyway.

These considerations raise a serious doubt about the way in which Lawrence (1991a) interpreted his results. Lawrence found that the prevalence of horizontal *keiretsu* was associated with a reduction in imports but no increase in exports, whereas vertical *keiretsu* were associated with both a reduction in imports and an increase in exports. Lawrence interpreted the latter result to mean that there may be some efficiency gains from vertical *keiretsu*, but he took the absence of an export-promoting effect for horizontal *keiretsu* as evidence for his trust-busting hypothesis “that *keiretsu* create entry barriers for newcomers and engage in anticompetitive practices” (1991a, 314). As argued above, however, it is difficult to identify anything anticompetitive in the structure of financial *keiretsu*.⁸ The diversified composition of the groups does not, of itself, raise any anticompetitive concerns, and the vertical input-output supply linkages, which have been weakening over time, are generally less tight than those found in the supplier *keiretsu*. It is hard to see any logical reason why one set of supplier ties would be anticompetitive and another efficient.

There is a more innocuous explanation for Lawrence’s results, which is consistent with the historical development of these business forms. It is well documented in the literature that in the high-growth period of the 1950s and 1960s the financial *keiretsu* exhibited a form of herd investment behavior, in which each of the six groups strove to establish a group

8. See also the comment on Lawrence’s paper by Saxonhouse (1991a) and Saxonhouse’s (1991b) comment on Lawrence (1991b).

presence in each major industry. This is the “one set” phenomenon documented by Miyazaki (1967). As a result, each of the six groups, as defined by presidents’ club membership, today has a presence in the commercial banking, life insurance, wholesale trading, construction, chemicals, cement, steel, engineering and shipbuilding, and electrical machinery industries; five have a presence in the trust banking, casualty insurance, fiber and textiles, nonferrous metals, automobile, and shipping industries; and four have a presence in the real estate, oil refining, paper, and warehousing industries (Gerlach 1992, 83-84).

There seem to be two main factors at work. First, in an economy that was growing rapidly but was relatively closed (particularly the financial sector), the banks found it useful to forge close ties (main bank relations) with the leading firms in key sectors, and so carry out their role as financial intermediaries and promote their own growth. Second, given that the banks were going to hold diversified portfolios of major corporate investments, it made sense to link these investments in a coherent input-output way. If a bank is going to finance a major capital investment, it wants to make sure that the firm making the investment has a stable supply of high-quality inputs and a market for its output. Investing as a main bank in both upstream and downstream firms linked to the firm in question is a way of helping to ensure this. There was also a legacy of concerns about stability of supply and production bottlenecks from the earlier wartime planned economy and postwar recovery (Okazaki 1994). By organizing their investments into affiliated groups of vertically linked firms, banks could reduce uncertainties associated with input supplies and output demands and internalize spillover effects (Goto 1982). There is nothing anticompetitive about any of this, although the coordination mechanism is surely different from a pure market mechanism (for more discussion, see Sheard 1994b). It is more a description of how investment and production coordination was achieved and competitive forces played out in an economy that was growing rapidly but had a highly regulated financial system.

This historical perspective suggests that it is the investment behavior more than the trading behavior of groups that lies at the root of foreign concerns about multimarket *keiretsu*. A common complaint has been that there is preferential intragroup trading among affiliated firms and that this reduces market access for imports. There is some truth in this, but it is important to consider the mechanisms through which this comes about and understand the policy implications. In the real world, particularly in industries requiring large capital investments, investment decisions and decisions about how inputs will be procured and outputs disposed of in the future are made simultaneously. The fact that two firms transact on a continuous basis, making it difficult for new firms to break in, is likely to reflect the fact that the firms made prior capital investments with a view to having a supply relationship, rather than exclu-

sionary behavior or inherent group preferences. At the macroeconomic level, if *keiretsu* impede imports, it is mainly because investment decisions have been made to source inputs from particular domestic sources rather than from elsewhere. These may have been good or bad investment decisions, but it is not necessary to resort to the language of anti-trust to describe their ramifications.

Another possibility regarding *keiretsu* and collusion that needs to be considered is that firms use vertical ties to maintain higher prices, that is, that they tacitly collude with other firms (in other *keiretsu*) at their stage of production. This is an argument that has been debated at length in the US antitrust literature and largely rejected (Demsetz 1992). The argument rests on the assumption that firms at a given stage, rather than directly colluding among themselves, can better enforce collusion indirectly through relations with downstream firms, in particular distributors or retailers. Firms that are vertically linked cannot collude to set a monopoly price. Such collusion has to be between competing firms. But their joint action may enhance the ability of competing upstream firms to collude on a monopoly price. For instance, long-term contracts with downstream firms, by creating captive customers, may be a better way of committing not to undercut rivals' prices than tacit collusion in an environment of arm's-length relations with downstream customers (conceptually, it is analogous to creating a form of product differentiation, in that lock-in effects reduce substitutability with rivals' outputs).

The problem with this argument is that the upstream and downstream firms' interests are diametrically opposed, since upstream monopoly prices translate into higher costs for downstream firms. The argument requires that downstream firms willingly agree to a course of action that is detrimental to their interests. Although one can generate hypothetical examples where this kind of prisoners' dilemma behavior is induced, it is hardly a robust theory of corporate behavior in Japan or elsewhere (Rasmusen et al. 1991).

Vertical Foreclosure and Market Access

Observers who characterize *keiretsu* as cartel-like or collusive seem to have in mind a market foreclosure argument of the antitrust kind, namely, that *keiretsu* firms use upstream-downstream links to exclude competing firms from entering either the upstream or downstream market. However, the foreclosure argument does not apply automatically to the market access issues raised in the *keiretsu* debate. It is necessary to examine the arguments carefully to ascertain when it does.

Vertical (or market) foreclosure occurs when a firm at one stage of production "closes off" a vertically adjacent stage of production to its

rivals. Vertical foreclosure involves contracts or agreements between upstream and downstream firms aimed at other firms at either stage (but not both stages, because that would lead to “double marginalization”). Vertical foreclosure can take either of two forms, depending on whether the foreclosing firm is upstream or downstream. *Downstream foreclosure* occurs when an upstream firm enters into contracts with downstream firms with the aim of shutting out other upstream firms from its output market (the downstream input market). *Upstream foreclosure* occurs when a downstream firm enters into contracts with upstream firms with the aim of putting other downstream firms in its output market at a disadvantage by raising the costs of supply of inputs. For instance, a traditional concern in the antitrust literature involves the case of a downstream monopolist foreclosing entry to its market by denying the potential entrant access to an essential input that it controls.

Two market access issues are raised in relation to *keiretsu*. One concerns the alleged closedness of parts-supply systems and intermediate product markets. The second concerns the distribution system. Arguments about the distribution system have been raised at two levels: the final distribution system and the distribution system between firms in intermediate product markets. It is useful to examine these market access issues from the perspective of vertical foreclosure.

The argument that *keiretsu* are exclusionary and limit market access for imported parts and products concerns the allocation of Japanese downstream firm input demand. Foreign exporters complain that Japanese firms allocate their input demands to affiliated suppliers or group-related firms under preferential purchasing arrangements. For instance, in the case of supplier systems (so-called vertical *keiretsu*), much policy pressure has been directed at the downstream assembly firms (e.g., the automakers) to open up their input purchases to foreign parts suppliers. In the case of the presidents’ club enterprise groups (financial *keiretsu*), concerns have been expressed about high levels of intragroup trading based on group purchasing preferences. For example, Nissan, a downstream firm, purchases a large part of its glass inputs from Central Glass, and both are members of the Fuyo group presidents’ club. In the case of distribution *keiretsu*, much concern is expressed about exclusive trading relationships between manufacturers and downstream affiliated distributors who take all or a large fraction of their inputs from a related upstream manufacturer.

The Japan Fair Trade Commission conducts regular surveys on the extent of within-group trading by the big six enterprise groups. According to the most recent survey, in the 1989 financial year (on average for each grouping), 7.3 percent of the total sales of nonfinancial presidents’ club member firms were to other member firms; 8.1 percent of member firm input purchases were from other member firms (table 1). The averages for the Mitsui, Mitsubishi, and Sumitomo groups (the core former

zaibatsu groups), 11.1 percent of sales and 12.2 percent of input purchases, respectively, were considerably higher than for the Fuyo, Sanwa, and DKB groups, at 4.9 percent and 5.4 percent, respectively.

It is important to note that arguments relating to how Japanese firms allocate their input demands are not issues of foreclosure. A basic principle of a free enterprise market economy is that firms are free to decide how to allocate their input purchases as they see fit, including to their own plants. Indeed, decisions about such issues are key decisions in the firm's competitive arsenal, analogous to decisions about product mix, R&D strategy, human resource management, advertising, and design of decision-making structures. It can be assumed that the firm will seek to allocate these input demands in a cost-minimizing way (adjusted for quality and dynamic considerations). If a given firm exhibits a "preference" for dealing with a particular upstream supplier, presumably it is because that supplier suits its needs well and the firm perceives benefits from the ongoing relationship. Outside observers sometimes term these relationships as "cozy," but management scholars would probably term them "value-adding partnerships" (Johnston and Wallace 1988).

To see more clearly that the market access concerns raised in connection with parts-supply systems and intermediate product markets are not issues of foreclosure, consider the case of the automobile industry. Downstream foreclosure would correspond to the case where suppliers of parts or of material inputs such as glass and steel tried to exercise market power in their output markets by tying up the downstream automakers' input markets and foreclosing them to other suppliers, including foreign ones. In this case it is not the automakers but the upstream suppliers that are keeping foreign supplies out. As noted earlier, it is not in the interest of the automakers to allow upstream firms to monopolize their output markets, as it only serves to raise their costs.

The second possibility is upstream vertical foreclosure by the Japanese automakers. This corresponds to the case where Japanese automakers put their foreign rivals at a disadvantage by not allowing them access to their supply networks. This has not been raised as a serious issue. US automakers are not complaining that Toyota, Nissan, and other Japanese automakers are limiting their ability to compete by discouraging their affiliated suppliers from supplying them. Rather, US parts suppliers are complaining that the Japanese automakers will not buy from them (in sufficient amounts, at least). The US automakers are not complaining that the Japanese glassmakers will not supply them; rather the US glassmakers are complaining that the customers of the Japanese glassmakers will not buy from them. Ironically enough, were Japanese assembly firms to open up their input markets to foreign suppliers by bringing them into their *keiretsu* structures, they would be

acting in a way that more closely resembled classic vertical foreclosure behavior.⁹

The arguments about the distribution system, however, correspond more closely to a foreclosure argument and need to be considered more seriously. Distribution refers to various activities associated with the supply of output to customers: either other firms in the case of intermediate product market transactions, or individual consumers in the case of sales of final products. Distribution occurs after production and so can be thought of as being downstream from the seller and upstream from the buyer. Conceptually, however, it more useful to think of distribution as being another kind of input that the seller uses in producing its output.

Viewed in this light, the market access arguments about distribution can be given an interpretation in terms of upstream foreclosure. Upstream foreclosure in this setting would involve Japanese manufacturers using their control of distribution channels to put foreign suppliers at a disadvantage by denying them access to a needed input. Vertical foreclosure concerns about distribution are more acute than those about other inputs such as raw materials or parts, because distribution has in large measure the characteristics of a nontraded good. If Japanese glass-makers or auto parts suppliers refused to supply US automakers, this would not prevent the latter from producing automobiles and attempting to market them in Japan. However, “distribution of outputs in Japan” is not a service that can be acquired in the exporter’s home market or in the world market; at least some component must be produced in Japan.

It is unlikely, however, that foreign firms with competitive products could be shut out of the Japanese market through refusal of competing Japanese firms to supply the distribution inputs that they control. The conditions under which vertical foreclosure can occur are strict in theory (Hart and Tirole 1990). Attempts at foreclosure are made difficult by two things. Firms that attempt to foreclose can do so only by denying competitors access to the upstream or downstream units that they control. A firm faced with foreclosure always has the option of mobilizing resources itself, for example, by vertically integrating or by securing its own suppliers or distribution outlets. This means that, except in exceptional circumstances, vertical foreclosure is unlikely to be sustainable in the long run. It is unlikely that a firm with a competitive product (that is, lower

9. As should be clear from the earlier discussion, this is not to imply that they could achieve foreclosure or would even be trying to do so. It is only to say that the behavior involved, namely, extending supply relations to rivals’ upstream suppliers, would more clearly resemble a foreclosure argument than if downstream firms dedicated their input demand to a particular set of established upstream suppliers.

prices, and therefore lower input costs for customers) will be prevented from entering the market in the long run.

The second factor making it difficult to implement foreclosure strategies is that, as in the earlier example, the interests of upstream and downstream firms are opposed. In downstream foreclosure, the upstream firm enters into contracts with downstream firms to lock out other upstream suppliers. But downstream firms will have incentives to enter into such contracts only if it lowers their costs, which contradicts the assumption that the upstream firm is exercising market power. In the case of upstream foreclosure, the downstream firm may be able to transfer some of the rents it captures in its output market to the monopsonized upstream suppliers. However, the point remains that, if successful, vertical foreclosure strategies must be raising costs at some point in the vertical chain. Downstream firms have no incentives to participate in arrangements that raise their costs, and if they are unwilling victims of such attempts upstream, they have every incentive to switch their input demands to lower cost supplies. Foreclosure, like cartelization, contains the seeds of its own destruction, because if it is successful, monopoly profits must be being earned at some horizontal stage, and these will provide incentives for entry to occur.

Firms enter long-term contracts because they make themselves better off by doing so. There are two ways they can do this, namely, by generating value through lowering joint costs or raising demand (e.g., by increasing quality), or by capturing monopoly rents. It is obvious that firms linked in vertical transactions have incentives to lower costs and raise demand for their outputs. How efficiently the firm acquires its inputs influences the price and quality of its outputs. To a large extent, final producers of assembly goods establish their competitiveness and compete with one another through the design of their production systems, including how they procure inputs. It is misleading to describe this process in antitrust or market closure terms.

While vertically related firms have clear incentives to jointly minimize costs, which leads to an expansion in output, they do not have incentives to exercise joint monopoly power, which must involve a restriction of output. For a firm in a vertical production chain to capture monopoly profits, it has to charge monopoly prices to the purchasers of its outputs or behave as a monopsonist with respect to its input purchasers. Such monopoly gains ultimately can only come from outside the vertical chain; otherwise one party is gaining at the expense of the other, and the arrangement is inherently unstable. But monopolizing vertical chains also tend to be unstable because the extraction of monopoly profits from suppliers or customers itself creates profitable opportunities for new entry. Incentives to engage in cost saving are endemic, but incentives to exercise monopoly power among vertically related firms, unlike among competitors at the same stage of production, are not automatic.

Vertical Organization and Market Access

Although the language of foreclosure is used, the market access concerns raised by *keiretsu* do not appear to be of the traditional market foreclosure kind. Rather they appear to relate to the vertical contractual organization of Japanese firms and not directly related to antitrust issues as such.

At an analytical level, issues relating to *keiretsu* can be thought of as organizational and contracting issues relating to the vertical structure of the firm. Vertical issues in industrial organization have to do with where firms locate their boundaries and how firms organize transactions across those boundaries. A key insight from the industrial organization literature is that the vertical organization of the firm is endogenous in an economic sense. Consider two units in adjacent vertical stages of production or distribution, for example steel production and steel fabrication, or parts production and assembly, or final production and distribution. The two stages could be linked in various ways. At one extreme is vertical integration—the two plants belong to the same firm; at the other extreme are arm's-length contracting or pure-market transactions. In between is a continuum of possible intermediate forms of organization, including the patterns described as *keiretsu*.

The vertical organization of firms and markets in Japan (as elsewhere) reflects the choices that firms have made about where to locate their boundaries and how to structure their transactions there (Katz 1989; Perry 1989; Williamson 1985). Market access concerns can arise purely from differences in the vertical organization of firms and markets. It is important to keep the distinction in mind, because it is blurred by the language that is used. All firms are vertically integrated to a certain extent, and some more than others, but it is only in rare cases that vertical integration has anything to do with vertical market foreclosure (Perry 1989). The same can be said for *keiretsu*. *Keiretsu* have a lot to do with vertical organization but probably little to do with vertical foreclosure. That does not mean that *keiretsu* pose no problems for business managers and trade negotiators who want to see their firm or country have a larger market share in Japan. Rather the market access problem is of a different dimension from either traditional antitrust or traditional trade policy. The market access problems concerning *keiretsu* are better seen as systemic ones stemming from the contracting and organizational choices of firms rather than reflecting strategies at the individual firm level aimed at creating market power. There is just too much competition among existing firms in the market for foreclosure of the antitrust kind to be a plausible argument.

The argument that *keiretsu* ties are exclusionary or based on preferential trading biases, reinforced by interlocking shareholdings, needs to be examined with care. Analytically, *keiretsu* relations are just various forms

of long-term contracting or, in some cases, degrees of vertical integration between vertically related firms. A number of points can be noted.

First of all, a distinction needs to be made between the use of the term “exclusionary” in the long-term contracting sense and its use in an antitrust context. By definition, all long-term contracts are exclusionary *ex post*, when the contract is carried out, because the parties have committed themselves to a certain course of action. For instance, if a parts supplier signs a contract with a parent firm to supply it with goods in the next period, when the next period comes the parent firm cannot unilaterally turn to the spot market without breaching the contract. Spot market suppliers in that period will find themselves excluded from supplying that part of the firm’s input demand.

In a world of long-term contracts or transaction arrangements, a clear distinction needs to be made between *ex post* and *ex ante* exclusion. Whereas *ex post* exclusion merely reflects the implementation of long-term contracts, *ex ante* exclusion means that potential suppliers are prevented from bidding for contracts at the initial stage (or, in the real world, at the recontracting stage). Needless to say, *ex ante* exclusion is a stronger concept than *ex post* exclusion and has more serious trade consequences, because it says that new suppliers can never enter. It is an unlikely situation, however, because a downstream firm in a vertical production process has no interest in permanently excluding potential suppliers from competing with its current sources of supply. The downstream firm’s interest is in obtaining supply on advantageous terms, which, besides price, include a vector of quality attributes such as low defect rates, reliability, stability of supply, follow-up service, and ability to respond to contingencies. Permanently shielding one’s suppliers from potential competition neither makes sense economically nor corresponds to what is known about the way markets operate in Japan. It is true that, when it comes to recontracting—at the time of a model change or retooling, for example—incumbent suppliers will enjoy incumbency advantages due to learning effects, accumulation of goodwill capital, and switching costs. However, this is a general argument about industrial production and does not apply only, or even particularly, to Japan.

The cost-minimizing calculus will not be a static, unidimensional one but rather a dynamic, multidimensional one. A customer firm will not switch to a new supplier in a given period just because a lower price is offered; it will also consider switching costs (sunk investments and learning costs), a vector of quality attributes, and its expectation of the likely future path of costs. A spot market supplier might have to charge a high price next period, making the discounted expected cost over two periods higher than the expected cost if the established supplier is used.

The logic can be illustrated with a simple example. Let e_j and i_j denote the costs of the outside supplier (a new entrant) and the incumbent supplier, respectively, in time period j , where $j = 1, 2$. Suppose

that $e_1 < i_1$. In a single time period setting, the parent firm should switch to the new supplier, but it will not necessarily do so in a dynamic, multiperiod setting, which needless to say better captures business reality. It may be that the expected price in the spot market next period, $E(e_2)$, is higher than the expected price of the existing supplier, $E(i_2)$. Allowing for a discount factor d , a rational parent firm will not switch if $i_1 + dE(i_2) < e_1 + dE(e_2)$. In this situation it is true algebraically that $e_1 + dE(e_2) < i_1 + dE(i_2)$; that is, the parent firm would be better off if it could choose the spot market supplier when it offered a lower cost and switch back to the established supplier when it offered a lower cost. This is not likely to be a feasible strategy, however. It can be assumed that the ability of the established supplier to offer a lower price next period is predicated on it being able to transact with the parent company in the current period, reflecting the existence of specific investment effects, learning effects, contract-economizing effects, or incentive or other effects that have been identified in the literature as providing benefits to repeated transactions. The parent firm cannot have its cake and eat it, too.

An important feature of the vertical structure of *keiretsu* and industrial organization in Japan more generally is that firms that have long-term trading ties also tend to hold each other's shares. Firms that expect to have a long-term trading relationship commonly take up minor equity positions (typically less than 1 percent) in each other. But when the small equity positions of a large number of transaction partners are combined with the larger holdings of financial institutions, the result is that the typical Japanese firm is 60 percent owned by firms with which it does business.

Table 3 presents evidence on interlocking shareholdings between Japanese automakers and their suppliers for four important upstream input markets. Three pieces of information are presented: the percentage shareholding that each firm has in the other, the market value of this shareholding, and the market value expressed as a percentage of the value of the automaker's total input purchases or the supplier's sales. The third item has no intrinsic meaning but is presented to provide a measure of relative size from the shareholding firm's perspective. In 70 (55 percent) of the 128 potential relationships, there was evidence of a shareholding relationship, and in more than half of these cases (54 percent) shareholding was in both directions.¹⁰ In 108 (42 percent) of the 256 potential cases,

10. Reliable information on supply relationships was available only for the sheet glass industry. In that case, there was clear evidence that cross-shareholdings and transactional ties were correlated. In 9 out of the 10 cases in which there was evidence of a major transactional relationship (the automaker appeared on the firm's list of principal sources of accounts receivable), shareholding relations were in evidence. In only 3 of the 13 cases in which there was no evidence of a major transactional relationship were shareholding relations observed.

Table 3 Interlocking shareholdings between Japanese automakers and their transaction partners^a

Automaker	Steel makers									
	Nippon Steel (25.6)		Nippon Kokan (11.1)		Kawasaki Steel (10.2)		Sumitomo Metal (10.2)		Kobe Steel (5.7)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Toyota (36.4)										
Percent shares	0.29	0.76	0.21	0.28	–	0.13	–	0.40	–	0.22
Market value (in millions of dollars)	69.0	618.6	18.5	227.7	–	102.1	–	322.4	–	182.1
As share of material purchases or sales	0.11	2.87	0.03	1.89	–	1.02		3.09	–	1.70
Nissan (19.2)										
Percent shares	0.32	0.99	0.21	0.22	0.40	0.95	–	0.44	0.30	0.26
Market value (in millions of dollars)	75.2	217.5	19.0	48.3	46.2	209.6	–	97.4	23.8	56.2
As share of material purchases or sales	0.29	1.01	0.07	0.40	0.18	2.08	–	0.93	0.09	0.53
Honda (12.4)										
Percent shares	0.10	1.15	–	–	0.04	0.59	–	0.12	–	–
Market value (in millions of dollars)	22.6	193.2	–	–	4.4	99.3	–	20.7	–	–
As share of material purchases or sales	0.15	0.89	–	–	0.03	0.99	–	0.20	–	–
Mitsubishi (10.3)										
Percent shares	–	–	–	–	–	–	–	–	–	–
Market value (in millions of dollars)	–	–	–	–	–	–	–	–	–	–
As share of material purchases or sales	–	–	–	–	–	–	–	–	–	–

Table 3 Interlocking shareholdings between Japanese automakers and their transaction partners^a (continued)

Automaker	Steel makers									
	Nippon Steel (25.6)		Nippon Kokan (11.1)		Kawasaki Steel (10.2)		Sumitomo Metal (10.2)		Kobe Steel (5.7)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Mazda (8.3)										
Percent share	0.05	0.54	–	–	–	0.46	0.03	0.53	0.04	0.19
Market value (in millions of dollars)	11.2	28.9				24.8	2.8	28.7	2.8	10.3
As share of material purchases or sales	0.08	0.13				0.25	0.02	0.28	0.02	0.10
Suzuki (5.0)										
Percent shares	–	–	–	–	–	–	–	0.51	–	–
Market value (in millions of dollars)	–	–	–	–	–	–	–	30.1	–	–
As share of material purchases or sales	–	–	–	–	–	–	–	0.29	–	–
Fuji H.I. (4.3)										
Percent shares	0.04	0.53	0.06	0.70	–	–	–	–	–	–
Market value (in millions of dollars)	10.5	12.2	4.9	16.1	–	–	–	–	–	–
As share of material purchases or sales	0.20	0.06	0.09	0.13	–	–	–	–	–	–
Daihatsu (4.1)										
Percent shares	–	–	–	–	–	–	–	–	–	–
Market value (in millions of dollars)	–	–	–	–	–	–	–	–	–	–
As share of material purchases or sales	–	–	–	–	–	–	–	–	–	–

Automaker	Sheet glass suppliers					
	Asahi Glass (48.0)		Nippon Sheet Glass (32.0)		Central Glass (20.0)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Toyota						
Percent shares	0.85	0.48	2.19	0.22	–	–
Market value (in millions of dollars)	108.0	391.7	52.7	175.8	–	–
As share of material purchases or sales	0.17	4.06	0.08	8.19	–	–
Nissan						
Percent shares	0.32	0.41	1.17	0.26	7.80	0.43
Market value (in millions of dollars)	41.0	91.0	28.2	56.5	69.3	94.2
As share of material purchases or sales	0.16	0.94	0.11	2.63	0.26	6.34
Honda						
Percent shares	0.07	0.51	–	–	–	–
Market value (in millions of dollars)	9.3	85.3	–	–	–	–
As share of material purchases or sales	0.06	0.88	–	–	–	–
Mitsubishi						
Percent shares	0.15	0.82	–	–	–	–
Market value (in millions of dollars)	19.0	61.6	–	–	–	–
As share of material purchases or sales	0.12	0.64	–	–	–	–

Table 3 Interlocking shareholdings between Japanese automakers and their transaction partners^a (continued)

Automaker	Sheet glass suppliers					
	Asahi Glass (48.0)		Nippon Sheet Glass (32.0)		Central Glass (20.0)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Mazda						
Percent shares	–	–	0.78	0.54	–	–
Market value (in millions of dollars)	–	–	18.9	28.9	–	–
As share of material purchases or sales	–	–	0.14	1.35	–	–
Suzuki						
Percent shares	–	–	–	–	0.26	0.47
Market value (in millions of dollars)	–	–	–	–	2.0	27.7
As share of material purchases or sales	–	–	–	–	0.03	1.86
Fuji H.I.						
Percent shares	–	–	0.15	0.21	0.63	0.25
Market value (in millions of dollars)	–	–	3.7	4.9	5.6	5.8
As share of material purchases or sales	–	–	0.07	0.23	0.11	0.39
Daihatsu						
Percent shares	0.03	–	–	–	–	–
Market value (in millions of dollars)	3.4	–	–	–	–	–
As share of material purchases or sales	0.08	–	–	–	–	–

Automaker	Tire suppliers							
	Bridgestone (46.4)		Yokohama Rubber (20.0)		Sumitomo Rubber (13.8)		Toyo Rubber (12.0)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Toyota								
Percent shares	0.52	0.04	0.98	0.13	–	0.04	4.56	0.12
Market value (in millions of dollars)	49.9	31.5	15.2	106.4	–	33.5	39.3	98.7
As share of material purchases or sales	0.08	0.50	0.02	4.12	–	1.41	0.06	5.27
Nissan								
Percent shares	–	0.14	0.20	–	–	0.03	2.50	0.21
Market value (in millions of dollars)	–	31.9	–	44.8	–	5.9	21.5	47.0
As share of material purchases or sales	–	–	–	1.73	–	0.25	0.08	2.51
Honda								
Percent shares	0.03	0.30	0.33	0.16	0.73	0.17	–	–
Market value (in millions of dollars)	2.5	49.6	5.1	27.0	11.4	27.7	–	–
As share of material purchases or sales	0.02	0.79	0.3	1.05	0.08	1.17	–	–
Mitsubishi								
Percent shares	–	0.06	0.28	0.15	–	–	–	0.02
Market value (in millions of dollars)	–	4.4	4.3	11.4	–	–	–	0.9
As share of material purchases or sales	–	0.07	0.03	0.44	–	–	–	0.05

Table 3 Interlocking shareholdings between Japanese automakers and their transaction partners^a (continued)

Automaker	Tire suppliers							
	Bridgestone (46.4)		Yokohama Rubber (20.0)		Sumitomo Rubber (13.8)		Toyo Rubber (12.0)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Mazda								
Percent shares	–	0.43	0.14	0.09	–	0.01	–	–
Market value (in millions of dollars)	–	23.1	2.1	5.0	–	0.6	–	–
As share of material purchases or sales	–	0.37	0.02	0.19	–	0.02	–	–
Suzuki								
Percent shares	–	0.28	0.11	0.18	–	0.04	–	–
Market value (in millions of dollars)	–	16.4	1.8	10.8	–	2.1	–	–
As share of material purchases or sales	–	0.26	0.02	0.42	–	0.09	–	–
Fuji H.I.								
Percent shares	–	0.67	–	0.06	–	–	–	–
Market value (in millions of dollars)	–	15.3	–	1.3	–	–	–	–
As share of material purchases or sales	–	0.24	–	0.05	–	–	–	–
Daihatsu								
Percent shares	–	0.47	–	–	–	–	–	0.07
Market value (in millions of dollars)	–	10.3	–	–	–	–	–	1.5
As share of material purchases or sales	–	0.16	–	–	–	–	–	0.08

Automaker	Paint suppliers							
	Kansai Paint (21.3)		Nippon Paint (20.3)		Dainippon Paint (8.2)		Shinto Paint (4.5)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Toyota								
Percent shares	2.99	0.03	1.93	0.05	–	–	–	0.003
Market value (in millions of dollars)	40.3	23.2	31.0	44.2	–	–	–	2.8
As share of material purchases or sales	0.06	1.49	0.05	2.96	–	–	–	0.73
Nissan								
Percent shares	–	–	0.93	0.06	–	–	–	0.002
Market value (in millions of dollars)	–	–	15.0	12.8	–	–	–	0.5
As share of material purchases or sales	–	–	0.06	0.86	–	–	–	0.13
Honda								
Percent shares	–	–	–	0.06	–	0.04	–	0.001
Market value (in millions of dollars)	–	–	–	10.4	–	7.0	–	0.2
As share of material purchases or sales	–	–	–	0.70	–	11.2	–	0.45
Mitsubishi								
Percent shares	–	–	–	–	–	0.003	–	–
Market value (in millions of dollars)	–	–	–	–	–	0.3	–	–
As share of material purchases or sales	–	–	–	–	–	0.44	–	–

Table 3 Interlocking shareholdings between Japanese automakers and their transaction partners^a (continued)

Automaker	Paint suppliers							
	Kansai Paint (21.3)		Nippon Paint (20.3)		Dainippon Paint (8.2)		Shinto Paint (4.5)	
	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker	Automaker's share in supplier	Supplier's share in automaker
Mazda								
Percent shares	–	–	0.38	0.21	–	–	–	–
Market value (in millions of dollars)	–	–	6.1	11.6	–	–	–	–
As share of material purchases or sales	–	–	0.04	0.77	–	–	–	–
Suzuki								
Percent shares	–	–	–	0.05	–	–	–	–
Market value (in millions of dollars)	–	–	–	3.1	–	–	–	–
As share of material purchases or sales	–	–	–	0.21	–	–	–	–
Fuji H.I.								
Percent shares	–	–	–	0.03	–	–	–	0.001
Market value (in millions of dollars)	–	–	–	0.8	–	–	–	0.03
As share of material purchases or sales	–	–	–	0.05	–	–	–	0.07

Daihatsu									
Percent shares	0.21	-	-	-	-	-	-	-	-
Market value (in millions of dollars)	2.9	-	-	-	-	-	-	-	-
As share of material purchases or sales	0.07	-	-	-	-	-	-	-	-

- = the other firm does not appear in that firm's list of principal shareholdings.

a. Market values are calculated using an average of the high and low share price of firm in the last month of fiscal 1993 using an exchange rate of US\$1=¥100. The market value of shareholdings are shown as percentages of total material purchases for automaker's shareholdings and of total sales for other firms. Numbers in parentheses are market shares.

Sources: Yuka shoken hokokusho soran, No. 16-21 (Toyota Jidosha Kabushiki Kaisha), No. 16-19 (Nissan Jidosha Kabushiki Kaisha), No. 16-35 (Honda Giken Kogyo Kabushiki Kaisha), No. 16-30 (Matsuda Kabushiki Kaisha), No. 16-92 (Mitsubishi Jidosha Kogyo Kabushiki Kaisha), No. 16-37 (Fuji Juko Kogyo Kabushiki Kaisha), No. 16-36 (Suzuki Kabushiki Kaisha), No. 16-31 (Daihatsu Kogyo Kabushiki Kaisha), No. 10-1 (Asahi Garasu Kabushiki Kaisha), No. 10-2 (Nippon Ita Garasu Kabushiki Kaisha), No. 7-22 (Sentoraru Garasu Kabushiki Kaisha), No. 9-8 (Kabushiki Kaisha Burijisuton), No. 9-1 (Yokohama Gomu Kabushiki Kaisha), No. 9-16 (Sumitomo Gomu Kogyo Kabushiki Kaisha), No. 7-72 (Kansai Peinto Kabushiki Kaisha), No. 7-71 (Nippon Peinto Kabushiki Kaisha), No. 7-70 (Dainippon Toryo Kabushiki Kaisha), No. 7-123 (Shinto Toryo Kabushiki Kaisha), Okurasho Insatsukyoku, Tokyo, 1994 (fiscal 1993 corporate financial reports of companies); Nihon Keizai Shinbunsha, 1993: *Shijo senyuritsu '94* (Market shares '94), Tokyo, Nihon Keizai Shinbunsha; Nihon Keizai Shinbunsha, 1994: *Nikkei kaisha joho '94-IV shugo* (Nikkei company information, 1994 4th quarter autumn edition), Nihon Keizai Shinbun, Tokyo.

there was evidence of shareholding. The shareholdings were typically minor in percentage terms: less than 1 percent in 100 out of 108 cases (93 percent) and less than half a percent in 81 cases (75 percent).

Interlocking shareholding among trading partners is closely related to the Japanese system of corporate governance (Berglof and Perotti 1994 and Sheard 1994a). In effect, the system of interlocking shareholdings and main bank relations creates a situation where the stakeholders in a large Japanese firm constitute a latent corporate governance coalition, able collectively to block hostile takeover bids by external parties but also able to exercise corporate control rights if circumstances require.

Whether interlocking shareholdings have an effect on purchasing behavior is a subtle issue. Japanese businessmen claim that share interlocks help to cement business relations and support long-term transactions: in a recent survey, 27.0 percent of listed firms surveyed cited “long-term stabilization of business transactions” as the most important merit of interlocking shareholdings, and an additional 69.4 percent viewed it as an important merit (Fuji Research Institute Corporation 1993, 106). Interlocking shareholdings may result in trading biases, although the magnitudes involved seem too small to have other than fairly marginal effects (Flath 1992).

Even if there is a trading bias, however, this does not mean that such practices are anticompetitive or unfair to other firms (Flath 1994). Following the earlier logic, the aim of interlocking shareholdings must be to lower the costs of doing business; otherwise firms would not have a positive incentive to engage in them. To the extent that share interlocks create lock-in effects, it is the logic of long-term contracting and commitment that applies rather than antitrust. Any lock-in effects of vertical interlocking shareholdings must be anticipated and factored into the intertemporal calculus of the costs and benefits of doing business.

There exists an important distinction, not sufficiently stressed in the literature on economic organization, between final and intermediate product markets, that is relevant to the issues raised in the market access debate. For all intents and purposes, we can take the set of final goods markets as given (by technology and consumer preferences). Whether these markets are open or closed is an important trade policy issue. For advocates of free trade, the existence of a closed market is cause for concern, and arguments justifying closure (such as those marshalled to justify protection of the Japanese rice market) are viewed with a healthy dose of skepticism, if not antipathy.

The situation for intermediate product markets is quite different. Issues of access to intermediate as opposed to final goods, markets are complicated, because whether and in what form an intermediate market exists depends on where and how the entities we call firms have located their boundaries, *and* on what goes on at that boundary in the contracting between firms. An intermediate market may fail to exist, or

to be visible as an “open market,” because upstream firms have internalized (vertically integrated across) that stage of the vertical production chain, or it may exist but depart from the arm’s-length interactions that characterize relations between buyers and sellers in final goods markets. That a market may be “closed” may be more a statement about the extent and nature of vertical integration than about barriers to trade of the kind that traditionally concern advocates of free trade.

A stylized example, abstracting from the particular structures of *keiretsu*, highlights the key point that intermediate markets reflect the vertical organization of firms. Consider a production process comprising three stages—parts production, subassembly, and final assembly—and compare the structure of the industry in two countries. Suppose that in country A final producers purchase parts and carry out subassembly and final assembly in-house, whereas in country J final producers specialize in final assembly and purchase subassemblies from suppliers that are integrated over subassembly and parts production. In this case the degree of vertical integration is the same in both countries, but the intermediate product markets differ. In country A the intermediate product market is for parts, whereas in country J it is for subassemblies. The degree of vertical integration and the location of firms’ boundaries influence whether a given intermediate good is transferred to the downstream stage internally or between firms as a market transaction.

The implications of differences in vertical organization for international trade and market access are immediately apparent. Suppose that parts suppliers in country A want to export their output to country J; they would find that the intermediate product market was internalized or “closed,” and similar circumstances exist for producers of subassemblies in country J, should they attempt to export to country A. To say that an intermediate product market is closed in this way is quite different from saying that a final product market is closed. Market access concerns about *keiretsu* seem to be mainly issues of this kind, relating to differences in vertical contractual organization, that is, differences in the mechanisms used to coordinate the production process, rather than vertical foreclosure in the antitrust sense.

Actual comparisons of the openness or closedness of intermediate product markets in national economies are more complicated. To say which system is more open or closed requires a reckoning not only of how transactions are structured at the boundary of the firm—say, between arm’s-length and long-term contracting—but of how extensive the internal organization of the firm is as well. For example, it is well known that US automakers are more vertically integrated than Japanese automakers and that interfirm relations for the former are more arm’s-length and for the latter more long-term oriented. Dyer (1993) presents some interesting data on this: he finds that 48 percent of total component cost is internal for US automakers, versus 27 percent for Japan, but that for

Japanese makers 38 percent of cost is accounted for by partner suppliers as against 18 percent for the United States; Japanese automakers utilize arm's-length suppliers for 35 percent and US makers for 42 percent. On this reckoning, the level of openness (crudely measured) of the two systems is roughly comparable. Absent comparable data for the whole range of industrial sectors, it may be premature to conclude that the level of closedness of the Japanese economy—measured in terms of tightness of vertical links—is more or less than that of other economies.

Failure to distinguish between arguments at the level of the firm and at the level of the industry or the overall economy is a source of confusion in the market access debate. Arguments about *keiretsu* are arguments at the firm level, that is, about the way individual firms have structured their input, output, and financial contracts. Arguments about market access, however, are pitched at the aggregate level of the market or the economy as a whole. Arguments about *keiretsu* and market closure confuse the two. To say that, by preferentially allocating its purchases to a given set of *keiretsu* suppliers, a firm “closes the market” to outside suppliers is misleading, because a single firm, in allocating its demand for inputs, can “control” only that part of the market that relates to its own purchases. It is meaningless to say that an individual firm “closes the market” when it allocates its input demand to certain suppliers; it does not control “the market,” but only its own purchases. At this level of analysis, “closing the market” and “procuring its inputs” are just two ways of describing the same thing, as are, from the viewpoint of a supplier, “failing to win the deal” and “being denied access.”

Market access concerns at the firm level appear misguided. When an individual firm allocates its input demand (including its demand for distribution inputs), it is not closing the market; rather it is organizing its production and distribution system, and presumably doing so in a cost-minimizing way. It might allocate that demand by deciding to produce the input itself, it might rely on arm's-length transactions, or it might attempt to secure a long-term supply under a long-term contract or under a regime conducive to continuous transactions.

Aggregating up to the industry level, however, presents a somewhat different picture, and this is the level at which trade negotiators operate. It is easy to understand foreign frustration with the degree of openness of access to Japanese intermediate product markets when potential sellers observe the entire population of potential buyers tied up in long-term contracts or enjoying established incumbency advantages. This defines a challenge for business, however, more than an agenda for politicians and trade negotiators.

A final point to note, relating to the distinction between intermediate and final product markets, is that even if, because of decisions about procurement and organizational design, intermediate product markets are closed to foreign suppliers, it does not mean that suppliers are ex-

cluded from the market. As long as the final market is open they are able, in principle, to access the final market through supply relations with other firms. The demand for parts or intermediate products is a derived demand; that is, demand for the input derives from the demand that exists for the final product. Even if foreign parts makers are excluded from supplying Japanese automakers because of the structure of Japanese parts supply systems, they are not necessarily excluded from the final market. They can supply the final market as long as they can supply other downstream firms selling into the final market. It is the relative loss of market share by the firms that they traditionally supplied, rather than the exclusionary behavior of Japanese automakers, that lies at the root of foreign parts suppliers' calls to open the Japanese market. These in effect are demands for their competitors in the Japanese parts supply market to give up part of their market share through trade deals rather than competition. Japanese automakers are not competing with US parts suppliers; Japanese parts suppliers are. That is not to deny that there is room for policy measures to improve market access for foreign suppliers. It is merely to say that government interference in how firms structure their procurement systems and interfirm ties does not qualify as one of them.

Conclusion

This chapter has attempted to clarify the arguments surrounding *keiretsu*, competition, and access to the Japanese market. The key argument is that *keiretsu* rest on vertical and financial ties that reflect the organization of firms and markets in Japan. Despite the frequent use of terms such as “cartel-like” and “collusive” to describe them, *keiretsu* are not anticompetitive and have nothing to do with price-fixing. Market access concerns about *keiretsu* reflect the vertical organization of firms and intermediate product markets and the way in which firms have structured their input transactions. Vertical foreclosure due to *keiretsu* does not appear to be a serious concern, even in distribution markets, where the vertical foreclosure argument carries most force. It is more fruitful to regard *keiretsu* as reflecting the way that firms have structured their boundaries and organized their interfirm transactions to achieve competitive advantage, involving relationships with financiers, with input suppliers, trading companies, and distributors, and with customer firms, all of which participate in corporate governance through cross-holdings of equity. It may be convenient to apply the language of trade policy and negotiation to *keiretsu*, but it is not correct. The markets that are closed to new entrants because of *keiretsu* ties are markets that, in the main, need to be pried open by the excluded firms themselves, not by government officials. Japanese firms have no sensible interest in shield-

ing their suppliers from foreign competition. They do not need Japanese or US government officials to guide them to make cost-minimizing input purchase decisions. There may be good reasons to increase foreign access to the Japanese market. The justification for these actions, however, must lie elsewhere than in the anticompetitive and market foreclosure rhetoric in which they are clothed.

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