



# HOKKAIDO UNIVERSITY

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# GROUP AFFILIATION AND INDUSTRIAL ORGANIZATION

Yoshihiro KOBAYASHI

## INTRODUCTION

This paper aims to clarify the role and significance of group affiliation in the economic performance of this country. One of the most distinguished features of industrial organization here is in fact that many large enterprises are grouped in various patterns of combination, including cross-tie ownership and grouped financing by main banks, although they are not so tightly integrated as were coalesced by Zaibatsu in the pre-war days.

Industrial organization has been extensively studied as to the structure of a market dealing only in a single commodity, using an industrial concentration ratio or market share as the index of the structure of this market and considering market performance to be mainly dependent on the market structure represented by such a ratio or share. Modern corporation are characterized, however, by the largeness of magnitude and the great degree of diversification of activity. Even if a corporation has a small market share in the business of a commodity, it may wield its market power in that business by the largeness of its magnitude. A firm doing a diversified business may increase its market share in a branch of the business lowering the prices of a commodity even if it sustains a loss in that branch, as it can offset the loss by higher profits in other branches which enjoy monopolistic advantages.

A firm belonging to a group may gain a similar position in the market to that of the foregoing firm. The main theme of analyses of grouping of firms or group affiliation is to look into the reason why a firm forming a group has a superior position in the market to independent firms.

First of all, the author will show the scale and power of affiliated groups in Japan in Section I. Next, he is going to classify their types and describe their features in Section II. In Section III, he will set forth the features of shareholdings which characterize the states of combination in group members. Finally he will examine what effects a group bring about on each of its members.

### 1. THE WEIGHT AND POWER OF GROUPED FIRMS IN JAPANESE ECONOMY

Different in patterns as it may be to have a group affiliation organized in this country, the so-called Big Six stand out. They are Mitsui Group,

Mitsubishi Group, Sumitomo Group, Fuji Group, Sanwa Group and Dai-Ichi Kangin Group. Called Big Three, the first three, were the so-called Zaibatsu until they were dissolved in 1947, while the second three were also once, more or less, Zaibatsu entities, although they were smaller than the former. Having uprisen in the post-war period, Shin Nittetsu Group, Nissan-Hitachi Group, Matsushita Group and Toyota Group have attended to such key industries as manufacture iron and steel products, electric machinery, and automobiles<sup>1)</sup>. The Independent Groups, as they are called, have the scale and weight bearing significantly on the national economy as well.

Table 1 shows the ratio of total value of sales of each Big Six group to the value of sales of the whole industries. Mitsui Group occupies 3.66% ;

TABLE 1 RATIO OF TOTAL VALUE OF SALES OF EACH BIG SIX GROUP TO THE VALUE OF SALES OF WHOLE INDUSTRIES

|                  | Number of Members | Year     |          |          |          |
|------------------|-------------------|----------|----------|----------|----------|
|                  |                   | 1970 (%) | 1973 (%) | 1974 (%) | 1975 (%) |
| Whole Industries |                   | 100.00   | 100.00   | 100.00   | 100.00   |
| Mitsui           | 19                | 4.32     | 4.02     | 4.10     | 3.66     |
| Mitsubishi       | 22                | 4.35     | 4.12     | 4.34     | 3.93     |
| Sumitomo         | 12                | 1.96     | 2.10     | 2.31     | 2.22     |
| Sanwa            | 33                | 4.32     | 3.84     | 3.87     | 3.46     |
| Fuji             | 25                | 4.12     | 3.48     | 3.71     | 3.60     |
| Dai-ichi Kangin  | 60                | 6.33     | 5.61     | 5.77     | 5.52     |

Source: Tōyō Keizai, Kigyo Keiretsu Sōran, 1977.

TABLE 2 RATIO OF TOTAL ASSETS OF EACH BIG SIX GROUP TO THE SUM OF ASSETS OF WHOLE INDUSTRIES

|                  | Number of Members | Year     |          |          |          |
|------------------|-------------------|----------|----------|----------|----------|
|                  |                   | 1970 (%) | 1973 (%) | 1974 (%) | 1975 (%) |
| Whole Industries |                   | 100.00   | 100.00   | 100.00   | 100.00   |
| Mitsui           | 19                | 4.17     | 3.71     | 3.56     | 3.41     |
| Mitsubishi       | 22                | 4.70     | 4.28     | 4.19     | 3.98     |
| Sumitomo         | 12                | 2.26     | 2.06     | 2.08     | 2.07     |
| Sanwa            | 33                | 4.46     | 4.00     | 3.98     | 3.81     |
| Fuji             | 25                | 4.74     | 3.98     | 4.01     | 3.93     |
| Dai-ichi Kangin  | 60                | 9.07     | 6.43     | 6.48     | 6.34     |

Source: Tōyō Keizai, Kigyo Keiretsu Sōran, 1977.

<sup>1)</sup> Shin Nittetsu was formed by a merger in 1970 between Yawata Iron & Steel and Fuji Iron & Steel, the merger being biggest in scale after the end of WW II.

Mitsubishi 3.93%; and Sumitomo 2.22%<sup>2)</sup>. Dai-Ichi Kangin Group accounts for a large part of sales in the whole industry; it consists of a large number of firms served by a core bank, Dai-Ichi Kangyo Bank, which was formed by a merger in 1972 between The Dai-Ichi Bank and The Nippon Kangyo Bank. Indeed it is large in scale and number of firms, but the members find themselves loosely to the group, a little differently from other groups.

Table 2 shows the ratio of total assets of each Big Six group to the sum of assets of the whole industries. Both the ratio of the value of sales and the ratio of assets are fairly large. It must be noted that the total values of sales and the total assets of each group in Tables 1 and 2 represent only those of the main firms, which are called presidents' club members<sup>3)</sup>. Since Tables 1 and 2 represent only larger firms belonging to the groups, if one sums up the total value of sales including smaller firms, the ratio to the whole industries will be larger than the ratios in both the tables.

Table 3 shows the ratio of total value of sales of each Independent Group to those of the whole industries. Percentages are also large. Thus, it can be said that the groups of firms stand for a fairly large part of the economy of this country.

TABLE 3 RATIO OF TOTAL VALUE OF SALES OF EACH INDEPENDENT GROUP TO THOSE OF WHOLE INDUSTRIES

|                  | Number of Members | Year        |             |             |
|------------------|-------------------|-------------|-------------|-------------|
|                  |                   | 1970<br>(%) | 1974<br>(%) | 1975<br>(%) |
| Whole Industries |                   | 100.00      | 100.00      | 100.00      |
| Shin Nittetsu    | 28                | 1.20        | 1.09        | 1.06        |
| Nissan-Hitachi   | 13                | 1.51        | 1.23        | 1.18        |
| Matsushita       | 11                | 0.79        | 0.63        | 0.58        |
| Toyota           | 11                | 1.46        | 1.14        | 1.25        |

Source: Keizai Chosa Kyokai, Keiretsu no Kenkyu, 1971, 1976 and 1977.  
Tōyō Keizai, Kigyo Keiretsu Sōran, 1977.

## 2. TYPES OF GROUP AFFILIATION IN JAPAN

Types of group affiliation can be classified using criteria as means of combination, decision making format as a group, and composition of various

<sup>2)</sup> The total value of sales of each group represents only the sum of sales of the larger firms, namely, presidents' club members. Therefore, if the sales of the smaller groups not belonging to the clubs are added, the total value of sales will be much larger.

<sup>3)</sup> Presidents' club: A regular meeting attended by presidents of member firms of a group in which leadership is taken by the presidents representing such leading firms of the group as the general trading company and/or the bank thereof.

industries. From the three criteria the groups can be classified into two types: Type A and Type B.

Type A represents the Big Six groups as mentioned above; Type B the Independent Groups. A comparison of types of groups with the types of integration indicates that Type A corresponds to a mixed integration or conglomerate integration and Type B to a vertical integration. The latter is based on such a relation as exists between the seller and the buyer of raw material, so some technical relation connects the group members.

Type A and Type B are different from one another concerning means of combination. Type A is characterized by intercorporate shareholdings within a group. As for Type B, generally speaking, a large part of the shares of a member firm are held one-sidedly by the giant firm, that is, the leader of the group. As to a decision making format as a group, the role is executed by its presidents' club in Type A, whereas in Type B, a decision made within a core firm has an influence on other members of the group. Type B can be called a pyramidal type group. Concerning the composition of industries, Type A consists of various industries, including city banks and trading companies as core firms, while Type B consists of interrelated industries with seller-buyer relations, consisting of neither city banks nor general trading companies. The core firm of this group is a giant firm which is almost always within the main manufacturing industries<sup>4)</sup>.

### 3. THE FEATURES OF GROUPED FIRMS FROM VIEWPOINT OF SHAREHOLDINGS

Table 4 shows the intercorporate shareholdings of the Big Three groups. In Mitsui Group, financial institutions are main shareholders, while manufacturing industries are relatively weak in the ownership of shareholders. Mitsubishi Group has the make-up resembling to that of Mitsui Group, but the shareholdings of manufacturing industries are relatively larger than in Mitsui. In Sumitomo Group the degree of shareholdings of each group member is more balanced than in other groups.

The ratio of shares held by each group member in their total stocks are 17.23% in Mitsui Group, 26.41% in Mitsubishi Group and 24.71% in Sumitomo Group. The ratio of shareholdings by group members has remarkably increased since 1972.

Table 5 shows the make-up of shareholdings in the Independent Groups.

<sup>4)</sup> Independent Groups have rather grown, different from Type A groups, in the period of rapid growth, since their composition of industries corresponds to such a sector that experienced a rapid growth. During the period of the rapid growth, even among Type A, Mitsubishi Group, which has heavy manufacturing firms, for example, Mitsubishi Heavy-Industries, Ltd. was able to grow faster than Mitsui Group.

TABLE 4 THE INTERCORPORATE SHAREHOLDINGS

| Mitsubishi Group                                       |                                                 |              |      |                                  |      |      |      |      |
|--------------------------------------------------------|-------------------------------------------------|--------------|------|----------------------------------|------|------|------|------|
| Corporations Whose Shares Are<br>Held by Group Members |                                                 | Corporations |      |                                  |      |      |      |      |
|                                                        |                                                 | 1            | 2    | The Mitsubishi<br>Life Insurance | 3    | 4    | 5    | 6    |
| 1                                                      | The Mitsubishi Bank, Ltd.                       |              | 1.41 | 5.95                             | 4.70 | 0.81 | 0.52 | 0.34 |
| 2                                                      | The Mitsubishi Trust & Banking Corporation      | 2.58         |      | 7.69                             | 1.81 | 0.89 | 0.64 | 0.51 |
| 3                                                      | The Tokyo Marine & Fire Insurance Co., Ltd.     | 5.82         | 3.12 | 4.80                             |      | 0.53 | 0.04 | 0.08 |
| 4                                                      | Kirin Brewery Co., Ltd.                         | 3.07         | 1.55 | 3.73                             | —    |      | —    | 0.09 |
| 5                                                      | Mitsubishi Rayon Co., Ltd.                      | 7.63         | 3.59 | 7.63                             | —    | —    |      | 0.09 |
| 6                                                      | Mitsubishi Paper Mills, Ltd.                    | 7.45         | 3.40 | 8.36                             | 4.94 | —    | —    |      |
| 7                                                      | Mitsubishi Chemical Co., Ltd.                   | 5.50         | 2.92 | 7.77                             | 3.67 | —    | 0.47 | 0.02 |
| 8                                                      | Mitsubishi Gas Chemical Co., Inc.               | 5.88         | 4.04 | 3.83                             | 1.77 | —    | 0.22 | 0.83 |
| 9                                                      | Mitsubishi Petrochemical Co., Ltd.              | 7.95         | 2.86 | 5.55                             | 5.55 | —    | 3.21 | —    |
| 10                                                     | Mitsubishi Plastics Industries Ltd.             | 1.63         | 1.14 | 1.56                             | 0.93 | —    | —    | —    |
| 11                                                     | Mitsubishi Oil Co., Ltd.                        | 2.65         | 2.37 | 3.38                             | 2.75 | —    | —    | 0.08 |
| 12                                                     | Asahi Glass Co., Ltd.                           | 7.66         | 4.21 | 4.54                             | 5.83 | 1.08 | 0.36 | —    |
| 13                                                     | Mitsubishi Mining & Cement Co., Ltd.            | 4.52         | 3.39 | 9.62                             | 2.21 | 0.66 | 0.60 | 0.55 |
| 14                                                     | Mitsubishi Steel Mfg. Co., Ltd.                 | 5.00         | 3.71 | 5.12                             | 2.43 | —    | —    | 0.27 |
| 15                                                     | Mitsubishi Metal Corporation                    | 4.72         | 4.12 | 7.00                             | 1.24 | —    | 0.24 | —    |
| 16                                                     | Mitsubishi Kakoki Kaisha, Ltd.                  | 5.88         | 5.73 | 5.56                             | 2.76 | —    | 0.46 | 0.10 |
| 17                                                     | Mitsubishi Electric Corporation                 | 3.37         | —    | 5.02                             | 1.57 | 0.09 | 0.09 | 0.02 |
| 18                                                     | Mitsubishi Heavy-Industries, Ltd.               | 5.76         | 2.60 | 3.72                             | 3.20 | 0.28 | 0.11 | 0.17 |
| 19                                                     | Nippon Kogaku K. K.                             | 10.00        | 6.50 | 4.80                             | 2.80 | —    | 0.13 | 0.33 |
| 20                                                     | Mitsubishi Corporation                          | 7.86         | 4.10 | 4.87                             | 7.66 | —    | 0.31 | 0.34 |
| 21                                                     | Mitsubishi Estate Co., Ltd.                     | 3.95         | 2.68 | 3.97                             | 3.97 | 0.17 | 0.13 | 0.00 |
| 22                                                     | Nippon Yusen Kabushiki Kaisha                   | 4.36         | 2.78 | 2.49                             | 6.64 | 0.33 | —    | 0.03 |
| 23                                                     | Mitsubishi Warehouse & Transportation Co., Ltd. | 5.71         | 4.57 | 8.08                             | 6.19 | 0.66 | —    | 0.10 |

The leading firm in each group is almost always the largest shareholder among group members.

Table 6 shows the number of members in the main Independent Groups, including such firms whose shares are held by leading firms by 100 per cent.

## OF BIG THREE GROUPS (1975)

(U: per cent  
(Nos. correspond to those on the first column.)

| as Shareholders |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Group |
|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 7               | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | Total |
| 1.15            | 0.46 | 0.53 | 0.11 | 0.02 | 2.08 | 0.30 | 0.00 | 0.34 | 0.11 | 1.21 | 3.74 | 0.25 | 0.97 | 0.92 | 1.09 | 0.43 | 28.33 |
| 0.73            | 0.73 | 0.46 | 0.11 | 0.43 | 2.50 | 0.96 | 0.01 | 0.78 | 0.22 | 1.70 | 3.24 | 0.40 | 3.72 | 1.50 | 1.40 | 0.35 | 33.36 |
| 0.38            | —    | —    | —    | —    | 1.76 | —    | —    | 0.07 | 0.05 | 0.10 | 2.07 | 0.11 | 2.32 | 0.66 | 1.14 | 0.21 | 23.26 |
| 0.26            | —    | 0.22 | 0.05 | —    | 1.04 | 0.13 | —    | —    | 0.06 | 0.17 | 0.69 | 0.04 | —    | 0.30 | 0.17 | 0.09 | 11.66 |
| 3.04            | 0.31 | 2.48 | —    | —    | 1.94 | 0.54 | —    | —    | 0.15 | —    | 2.65 | 0.16 | 2.03 | 0.60 | —    | —    | 32.84 |
| —               | 2.75 | —    | —    | —    | —    | 1.06 | 0.16 | —    | 0.12 | —    | 2.67 | 0.24 | 5.10 | —    | —    | 0.06 | 36.31 |
| —               | 0.40 | —    | 0.10 | 0.06 | 0.97 | 2.08 | —    | 0.19 | 0.25 | 0.31 | —    | 0.06 | —    | 0.47 | 0.20 | 0.10 | 25.54 |
| 1.67            | —    | —    | 0.29 | 0.20 | 3.46 | 0.42 | —    | —    | 0.21 | 0.71 | 1.25 | 0.09 | 0.65 | 0.21 | 0.63 | —    | 26.36 |
| 8.94            | —    | —    | —    | —    | 9.00 | 2.65 | —    | 1.36 | 0.02 | —    | —    | —    | 4.44 | —    | 0.16 | —    | 51.69 |
| 51.00           | 0.79 | —    | —    | —    | —    | 0.35 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 57.40 |
| 0.24            | 0.17 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 1.35 | —    | 1.00 | —    | 13.99 |
| 0.72            | 0.68 | —    | —    | 0.04 | —    | 0.25 | —    | —    | 0.23 | 0.29 | 1.77 | 0.27 | 1.81 | 1.45 | 0.27 | 0.29 | 31.75 |
| 5.21            | 0.28 | 0.74 | —    | 0.19 | 5.08 | —    | 0.04 | 1.75 | —    | —    | 2.46 | 0.30 | 1.45 | 2.47 | 1.07 | 0.26 | 42.85 |
| —               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 5.24 | 0.69 | 2.84 | —    | —    | —    | 25.30 |
| —               | —    | —    | —    | —    | —    | 0.66 | 0.02 | —    | 0.03 | 0.70 | 1.27 | —    | 1.44 | —    | —    | —    | 21.44 |
| 1.58            | 0.40 | —    | —    | —    | 1.76 | 0.52 | —    | —    | —    | —    | 5.88 | 0.24 | 5.21 | 0.92 | 0.40 | 0.17 | 37.57 |
| 0.22            | 0.15 | 0.03 | 0.04 | —    | 0.16 | 0.06 | 0.01 | 0.16 | 0.03 | —    | 2.55 | 0.04 | 1.70 | 0.78 | 0.05 | 0.08 | 16.22 |
| —               | 0.14 | 0.08 | —    | —    | 0.95 | 0.13 | —    | 0.18 | 0.06 | 1.41 | —    | 0.09 | 2.45 | 0.79 | 0.60 | 0.04 | 22.76 |
| —               | —    | —    | —    | —    | 3.78 | 0.14 | 0.19 | —    | 0.14 | —    | 2.06 | —    | 5.47 | 0.64 | —    | 0.13 | 37.11 |
| —               | 0.11 | 0.32 | —    | 0.54 | 1.50 | 0.68 | 0.02 | 0.42 | 0.25 | 2.35 | 5.64 | 0.56 | —    | 1.19 | 2.67 | 0.80 | 42.19 |
| 0.61            | 0.04 | —    | —    | —    | 1.71 | 0.66 | 0.02 | —    | 0.06 | 0.82 | 1.51 | 0.06 | 1.06 | —    | 0.30 | 0.25 | 21.97 |
| —               | 0.17 | —    | —    | —    | 0.25 | 0.24 | 0.01 | —    | 0.05 | 0.11 | 7.14 | 0.05 | 1.66 | 0.33 | —    | 0.22 | 26.86 |
| —               | —    | —    | —    | —    | 3.29 | —    | —    | —    | 0.30 | —    | —    | 0.58 | 2.05 | 2.39 | 0.86 | —    | 34.78 |

Table 7 lists up large firms which are above a billion yen in issued equity capital in each Independent Group and the ratio of shares which the leading firm holds. As seen in the table, the leading firm is the largest shareholder of big firms in its group.

## Mitsui Group

| Corporations Whose Shares Are<br>Held by Group Members |                                             | Corporations |      |                                 |      |       |           |
|--------------------------------------------------------|---------------------------------------------|--------------|------|---------------------------------|------|-------|-----------|
|                                                        |                                             | 1            | 2    | The Mitsui<br>Life<br>Insurance | 3    | 4     | 5 6       |
| 1                                                      | The Mitsui Bank, Ltd.                       |              | —    | 4.19                            | 1.76 | —     | 0.11 0.12 |
| 2                                                      | The Mitsui Trust & Banking Co., Ltd.        | —            |      | 2.97                            | 1.59 | —     | 0.17 0.19 |
| 3                                                      | Taisho Marine & Fire Insurance Co., Ltd.    | 5.63         | 5.38 | 3.60                            |      | —     | — 0.02    |
| 4                                                      | Mitsui Mining Co., Ltd.                     | 1.75         | —    | —                               | —    |       | — 1.07    |
| 5                                                      | Hokkaido Colliery & Steamship Co., Ltd.     | —            | —    | —                               | 2.07 | —     | —         |
| 6                                                      | Mitsui Construction Co., Ltd.               | 2.48         | 2.59 | 3.49                            | 0.91 | 13.15 | —         |
| 7                                                      | Sanki Engineering Co., Ltd.                 | 4.15         | 2.03 | 10.00                           | 1.80 | —     | — 0.38    |
| 8                                                      | Nippon Flour Mills Co., Ltd.                | 7.27         | 7.14 | 6.12                            | 7.26 | —     | — 0.34    |
| 9                                                      | Toray Industries, Inc.                      | 2.13         | 2.70 | 3.20                            | —    | —     | — —       |
| 10                                                     | Oji paper Co., Ltd.                         | —            | 3.80 | 4.84                            | —    | —     | — —       |
| 11                                                     | Mitsui Toatsu Chemicals, Inc.               | 2.91         | 3.11 | 3.01                            | 2.35 | —     | — 0.23    |
| 12                                                     | Mitsui Petrochemical Industries, Ltd.       | 9.73         | 8.28 | 4.43                            | 2.64 | 0.40  | — 0.10    |
| 13                                                     | The Japan Steel Works, Ltd.                 | 6.51         | 3.28 | 6.04                            | 2.02 | —     | — —       |
| 14                                                     | Mitsui Mining & Smelting Co., Ltd.          | 2.30         | 2.37 | 2.84                            | 1.55 | —     | — 0.30    |
| 15                                                     | Tokyo Shibaura Electric Co., Ltd.           | 2.34         | 1.06 | 1.69                            | —    | —     | — —       |
| 16                                                     | Mitsui Shipbuilding & Engineering Co., Ltd. | 2.18         | 3.23 | 4.95                            | 2.72 | —     | — —       |
| 17                                                     | Mitsui & Co., Ltd.                          | 6.76         | 4.16 | 3.14                            | 3.67 | —     | — 0.19    |
| 18                                                     | Mitsukoshi, Ltd.                            | —            | 1.98 | 2.87                            | —    | —     | — 0.04    |
| 19                                                     | Mitsui Real Estate Development Co., Ltd.    | 8.48         | 9.56 | 2.66                            | 2.26 | —     | — 2.48    |
| 20                                                     | Mitsui O.S.K. Lines, Ltd.                   | 3.37         | 3.02 | —                               | 3.53 | —     | — —       |
| 21                                                     | The Mitsui Warehouse Co., Ltd.              | 6.48         | 7.89 | 9.77                            | 6.48 | —     | — 1.00    |
| 22                                                     | Toyota Motor Co., Ltd.                      | 5.20         | —    | —                               | —    | —     | — —       |

## 4. REASON FOR GROUP AFFILIATION

This section is devoted to seek the reason why the grouping of firms is created. The ultimate purpose of the interfirm combination is to raise more profits. It will be performed by either pricing useful for a firm or cost reduction. The former proposes the question about how the group of firms is able to influence the pricing or the market power in each market. It is the most important problem in the analysis of the group by the method

(U: per cent  
(Nos. correspond to those on the first column.)

| as Shareholders |      |       |      |      |      |      |      |      |      |      |      |       |      |      |      | Group |
|-----------------|------|-------|------|------|------|------|------|------|------|------|------|-------|------|------|------|-------|
| 7               | 8    | 9     | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19    | 20   | 21   | 22   | Total |
| 0.30            | 0.93 | 1.40  | 0.22 | 0.59 | 0.45 | 0.91 | 0.66 | 1.86 | 1.15 | 3.00 | 0.35 | 1.76  | —    | 0.38 | 2.88 | 23.02 |
| 0.26            | 1.39 | 1.39  | 0.46 | 0.76 | 0.99 | 0.73 | 1.22 | 1.03 | 0.53 | 3.52 | —    | 3.18  | —    | 0.75 | 0.96 | 21.99 |
| 4.40            | 1.55 | 0.83  | 0.17 | 0.51 | 0.11 | 0.31 | 0.56 | 0.27 | 2.11 | 5.77 | —    | 1.68  | —    | 0.51 | 1.07 | 30.48 |
| —               | —    | —     | —    | —    | —    | —    | 1.25 | —    | —    | —    | —    | 0.56  | —    | —    | —    | 4.63  |
| —               | —    | —     | —    | —    | —    | —    | —    | —    | —    | —    | —    | —     | —    | —    | —    | 2.07  |
| 0.62            | 0.09 | —     | —    | —    | —    | —    | 0.83 | —    | —    | 4.82 | —    | 18.89 | —    | 0.27 | —    | 48.14 |
| —               | —    | —     | 0.78 | —    | —    | —    | —    | —    | 1.25 | 1.25 | —    | 0.63  | —    | 0.24 | —    | 22.51 |
| —               | —    | —     | 0.83 | —    | —    | —    | —    | —    | —    | 7.98 | —    | —     | —    | 0.66 | —    | 37.60 |
| —               | —    | —     | —    | —    | 0.05 | —    | —    | —    | 0.21 | 2.31 | —    | —     | —    | 0.08 | —    | 10.68 |
| —               | 0.05 | —     | —    | —    | —    | —    | —    | —    | 0.45 | 1.24 | —    | —     | —    | —    | —    | 10.38 |
| —               | —    | 0.34  | —    | —    | 0.30 | 0.10 | —    | —    | 0.20 | 2.28 | —    | 0.49  | —    | 0.18 | —    | 15.50 |
| —               | —    | 21.19 | —    | 3.37 | —    | 0.20 | 1.45 | —    | 4.20 | 7.56 | —    | 0.88  | —    | 0.09 | —    | 64.52 |
| 0.10            | —    | —     | —    | —    | —    | —    | —    | —    | 0.26 | —    | —    | 1.16  | —    | —    | —    | 19.37 |
| —               | —    | —     | —    | —    | 0.23 | —    | —    | —    | —    | 1.89 | —    | 0.46  | —    | —    | —    | 11.94 |
| —               | —    | —     | 0.06 | —    | —    | 0.05 | —    | —    | 0.10 | 0.69 | —    | 0.09  | —    | —    | —    | 6.08  |
| 0.56            | —    | 0.56  | 0.25 | —    | —    | 0.19 | —    | —    | —    | 3.71 | —    | 0.54  | 2.47 | —    | 0.82 | 22.18 |
| 0.19            | 0.26 | 1.37  | 0.28 | 0.17 | 0.09 | 0.02 | 0.15 | 0.23 | 0.46 | —    | —    | 0.20  | 1.47 | 0.11 | 0.55 | 23.47 |
| —               | —    | 0.14  | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.06  | —    | —    | —    | 5.09  |
| 0.57            | —    | —     | 0.14 | —    | 0.18 | 0.42 | 0.47 | 0.43 | 0.74 | 1.20 | 0.07 | —     | —    | 0.17 | —    | 29.83 |
| —               | —    | —     | —    | —    | —    | —    | —    | —    | 5.63 | —    | —    | —     | —    | —    | —    | 15.55 |
| 0.48            | 0.47 | —     | —    | —    | 0.50 | —    | —    | —    | —    | —    | —    | 0.84  | —    | —    | —    | 33.91 |
| 0.08            | —    | —     | —    | —    | —    | —    | —    | —    | 0.16 | 0.55 | —    | —     | —    | —    | —    | 5.99  |

of studying industrial organization. The latter is the problem concerning the effectiveness of an organization. If the organization is more effective, the cost incurred must be reduced. Also if the group is an effective organization, it is realistic and useful for a firm to belong to the group. Another problem about how the group has an influence on the pricing in each market will be examined in future. Thus, this paper deals only with problem of cost reduction.

Then the following classifies the costs reduced by group affiliation:

## Sumitomo Group

| Corporations Whose Shares Are<br>Held by Group Members | Corporations |      |                                |      |      |
|--------------------------------------------------------|--------------|------|--------------------------------|------|------|
|                                                        | 1            | 2    | The Sumitomo<br>Life Insurance | 3    | 4    |
| 1 The Sumitomo Bank, Ltd.                              |              | —    | 3.49                           | —    | 0.02 |
| 2 The Sumitomo Trust & Banking Co., Ltd.               | 2.20         |      | 3.76                           | —    | —    |
| 3 The Sumitomo Marine & Fire Insurance Co., Ltd.       | 5.87         | 2.32 | 3.15                           |      | 0.31 |
| 4 Sumitomo Coal Mining Co., Ltd.                       | 5.78         | 2.30 | 2.68                           | 2.50 |      |
| 5 Sumitomo Chemical Co., Ltd.                          | 4.75         | 2.88 | 8.47                           | —    | 0.06 |
| 6 Nippon Sheet Glass Co., Ltd.                         | 8.56         | 5.20 | 4.77                           | 2.08 | —    |
| 7 Sumitomo Cement Co., Ltd.                            | 6.73         | 1.24 | 6.21                           | —    | 4.54 |
| 8 Sumitomo Metal Industries, Ltd.                      | 5.04         | 4.91 | 1.62                           | —    | 0.05 |
| 9 Sumitomo Metal Mining Co., Ltd.                      | 3.70         | 3.00 | 3.44                           | 1.87 | 0.18 |
| 10 Sumitomo Electric Industries, Ltd.                  | 3.74         | 3.23 | 8.66                           | —    | 0.01 |
| 11 Sumitomo Shipbuilding & Machinery Co., Ltd.         | 8.42         | 3.62 | 8.57                           | 2.33 | 0.21 |
| 12 Nippon Electric Co., Ltd.                           | 9.36         | 2.98 | 9.63                           | 3.94 | 0.06 |
| 13 Sumitomo Shoji Kaisha, Ltd.                         | 8.37         | 4.10 | 4.85                           | 3.23 | 0.19 |
| 14 Sumitomo Reality & Development Co., Ltd.            | 4.74         | 5.42 | 5.40                           | 2.50 | 0.13 |
| 15 The Sumitomo Warehouse Co., Ltd.                    | 8.18         | 6.79 | 9.71                           | 6.10 | —    |

Source: Keizai Chosa Kyokai, Keiretsu no Kenkyu, 1977.

1. Information costs: They are divided into two; cost of market information and costs of technological information.
  2. Management costs: A reduction thereof plays a role which supplements the limitation of managerial ability.
  3. Transaction costs: This concept includes various costs arising from competition, i. e., costs of risk bearing, cost of uncertainty, etc. These costs will be reduced by an interfirm transaction within a group, especially under seller-buyer relations.
  4. Capital costs: Group A includes a city bank as a core firm, which will finance group members under a favorable condition. Capital costs are reduced not only in Group A, but also in Group B.
- S. Teranishi, A. Gotō and K. Serisawa have argued that a capital cost reduction was the most important reason why firms would be affiliated with one another to form a group in this country.<sup>5)</sup> According to them, the

<sup>5)</sup> S. Teranishi, A. Gotō and K. Serisawa: Shikin Shijō to Kigyo Group (Capital Market and Group of Firms), Keizai Hyoron (Economic Review), November 1975.

(U: per cent  
(Nos. correspond to those on the first column.)

| as Shareholders |      |      |      |      |      |      |      |      |      |      | Group |
|-----------------|------|------|------|------|------|------|------|------|------|------|-------|
| 5               | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | Total |
| 3.00            | 1.61 | 0.44 | 3.08 | 0.70 | 1.40 | 0.56 | 1.97 | 1.81 | 0.07 | 0.22 | 18.67 |
| 3.12            | 2.05 | 1.00 | 4.20 | 2.06 | 2.98 | 1.19 | 3.04 | 2.72 | 0.35 | 1.99 | 30.66 |
| 1.93            | 1.38 | 0.29 | 1.99 | 1.57 | 1.26 | 0.95 | 1.85 | 1.68 | 0.12 | 0.78 | 25.45 |
| 2.57            | —    | —    | 4.23 | 2.06 | —    | —    | 5.17 | 3.18 | —    | —    | 30.47 |
|                 | 0.20 | 0.29 | 0.58 | 0.23 | 0.29 | 0.46 | 0.70 | 1.65 | 0.02 | 0.11 | 20.69 |
| 0.44            |      | 0.63 | 0.71 | 0.17 | 0.23 | 0.50 | 0.82 | 1.91 | 0.06 | 0.09 | 26.17 |
| 1.08            | 0.70 |      | 1.30 | 1.24 | 0.28 | 2.86 | 0.63 | 2.99 | 0.04 | 0.04 | 29.88 |
| 0.45            | 0.20 | 0.39 |      | 0.39 | 0.65 | 0.60 | 1.83 | 3.04 | 0.04 | 0.20 | 19.41 |
| 1.12            | 0.18 | 0.67 | —    |      | 2.07 | 0.89 | 3.67 | 3.37 | —    | 0.07 | 24.23 |
| 0.62            | 0.33 | —    | 0.90 | 1.25 |      | 0.30 | 4.75 | 1.29 | 0.06 | 0.19 | 25.33 |
| 2.01            | 1.25 | 1.79 | 2.33 | 1.01 | 0.95 |      | 1.65 | 3.80 | —    | 0.39 | 38.33 |
| 0.95            | 0.36 | 0.08 | 1.56 | 1.73 | 4.18 | 0.19 |      | 1.92 | 0.09 | 0.29 | 37.32 |
| 5.79            | 1.59 | 0.54 | 4.42 | 2.78 | 2.27 | 1.93 | 3.27 |      | 0.11 | 0.60 | 44.03 |
| 1.83            | 1.67 | 0.83 | 1.83 | 1.89 | 1.83 | 0.67 | 1.92 | 3.33 |      | 2.00 | 38.72 |
| 1.85            | 0.99 | —    | —    | 0.77 | 1.60 | 2.02 | 4.85 | 3.88 | 1.48 |      | 48.22 |

capital costs are mainly dependent on the bargaining power of a business firm with banks in Japan, where indirect finances prevail. And this bargaining power depends on the volume of its deposits. The large volume of deposits as a whole of a group strengthens the bargaining power of the group with the banks, even if a volume of deposits of a member of the group is small. Therefore, a firm which does not have the bargaining power with a bank is motivated to belong to a group.

These arguments are applicable to Independent Groups. From their arguments, it can be said that the reduction of capital costs is the most important reason to explain evidently why the groups of firms exist in a large scale in Japan.

5. Other costs, referable to as business costs: An advertising cost is one of them. The reduction of the advertising cost is familiarly known as an effect due to a conglomerate. Groups as well as conglomerates enjoy the effects on cost reduction. R. Caves and M. Uekusa pointed out that they are active in securing economies

TABLE 5 INTERCORPORATE SHAREHOLDINGS OF INDEPENDENT GROUPS (1974)

Shin Nittetsu Group

(U: per cent)

| Corporations Whose Shares Are Held by Group Members | Corporations as Shareholders |                                                                                                                                                                                                                                                                                                                      | Group Total |
|-----------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
|                                                     | Shin Nittetsu                | Other Group Members                                                                                                                                                                                                                                                                                                  |             |
| 1 Shin Nittetsu                                     |                              | Nisshin Steel 0.25, Topy Industries 0.02, Tokai Steel 0.08, Daido Steel 0.24, Mitsubishi Steel 0.01, Tokushu Seiko 0.01, Daido Kohan 0.01, Daiwa House 0.01, Japan Metals & Chemicals 0.07, Nittetsu Mining 0.81, Kurosaki Refractories 0.02, Nippon Shokubai Kagaku 0.02, Nittetsu Chemical 0.02, Taihei Kogyo 0.01 | 1.60        |
| 2 Nisshin Steel Co., Ltd.                           | 13.17                        | Japan Metals & Chemicals 0.08, Nippon Denko 0.04, Pacific Metals 0.07, Kurosaki 0.19                                                                                                                                                                                                                                 | 13.51       |
| 3 Osaka Iron & Steel Co., Ltd.                      | 3.47                         |                                                                                                                                                                                                                                                                                                                      | 3.47        |
| 4 Topy Industries, Ltd.                             | 11.24                        | Kurosaki Refractories 0.18                                                                                                                                                                                                                                                                                           | 11.42       |
| 5 Tokai Steel Works, Ltd.                           | 10.00                        | Kurosaki Refractories 0.50                                                                                                                                                                                                                                                                                           | 10.50       |
| 6 Japan Iron-Stand Steel Co., Ltd.                  | 9.99                         | Japan Metals & Chemicals 0.29                                                                                                                                                                                                                                                                                        | 10.28       |
| 7 Daitetsu Kogyo Co., Ltd.                          | 42.20                        |                                                                                                                                                                                                                                                                                                                      | 42.20       |
| 8 Daido Steel Co., Ltd.                             | 11.54                        | Pacific Metals 0.22, Kurosaki Refractories 0.02                                                                                                                                                                                                                                                                      | 11.78       |
| 9 Mitsubishi Steel Mfg. Co., Ltd.                   | 1.57                         | Japan Metals & Chemicals 0.09                                                                                                                                                                                                                                                                                        | 1.66        |
| 10 Aichi Steel Works, Ltd.                          | 13.64                        |                                                                                                                                                                                                                                                                                                                      | 13.64       |
| 11 Tokushu Seiko Co., Ltd.                          | 46.26                        |                                                                                                                                                                                                                                                                                                                      | 46.26       |
| 12 Tōhoku Tokushuko Co., Ltd.                       | 9.82                         | Daido Steel 11.58, Nippon Metal Industry 0.31                                                                                                                                                                                                                                                                        | 21.71       |
| 13 Nippon Yakin Kogyo Co., Ltd.                     | 2.38                         |                                                                                                                                                                                                                                                                                                                      | 2.38        |
| 14 Nippon Metal Industry Co., Ltd.                  | 13.76                        | Tōhoku Tokushuko 0.08                                                                                                                                                                                                                                                                                                | 13.84       |
| 15 Takasago Iron & Steel Co., Ltd.                  | 19.29                        | Daido Steel 4.32                                                                                                                                                                                                                                                                                                     | 23.61       |
| 16 Daido Kohan Co., Ltd.                            | 69.92                        |                                                                                                                                                                                                                                                                                                                      | 69.92       |
| 17 Suzuki Kinzoku Kogyo Co., Ltd.                   | 20.00                        |                                                                                                                                                                                                                                                                                                                      | 20.00       |
| 18 Daiwa House Industry Co., Ltd.                   | 7.08                         | Daido Kohan 0.16                                                                                                                                                                                                                                                                                                     | 7.24        |
| 19 Japan Metals & Chemicals Co., Ltd.               | 8.33                         | Japan Iron-Stand Steel 0.11                                                                                                                                                                                                                                                                                          | 8.44        |
| 20 Nippon Denko Co., Ltd.                           | 8.26                         | Nittetsu Mining 0.34                                                                                                                                                                                                                                                                                                 | 8.60        |
| 21 Pacific Metals Co., Ltd.                         | 14.25                        | Nisshin Steel 10.79, Osaka Iron & Steel 0.99, Tokushu Seiko 0.09                                                                                                                                                                                                                                                     | 26.12       |
| 22 Nittetsu Mining Co., Ltd.                        | 30.00                        |                                                                                                                                                                                                                                                                                                                      | 30.00       |
| 23 Kurosaki Refractories Co., Ltd.                  | 51.06                        |                                                                                                                                                                                                                                                                                                                      | 51.06       |
| 24 Nippon Shokubai Kagaku Kogyo Co., Ltd.           | 15.79                        |                                                                                                                                                                                                                                                                                                                      | 15.79       |
| 25 Seitetsu Kagaku Co., Ltd.                        | 34.30                        |                                                                                                                                                                                                                                                                                                                      | 34.30       |
| 26 Nittetsu Chemical Industrial Co., Ltd.           | 27.07                        | Nittetsu Mining 2.49                                                                                                                                                                                                                                                                                                 | 29.56       |
| 27 Taihei Kogyo Co., Ltd.                           | 43.48                        | Nittetsu Mining 1.55, Nittetsu Chemical Industrial 0.53                                                                                                                                                                                                                                                              | 45.56       |
| 28 Fudo Construction Co., Ltd.                      | 16.31                        |                                                                                                                                                                                                                                                                                                                      | 16.31       |

## Toyota Group

(U: per cent  
Nos. correspond to those on the first column.)

| Corporations Whose Shares Are<br>Held by Group Members | Corporations as Shareholders |       |      |      |      |      |       |      |      |       |      |      |      |       | Group<br>Total |
|--------------------------------------------------------|------------------------------|-------|------|------|------|------|-------|------|------|-------|------|------|------|-------|----------------|
|                                                        | 1                            | 2     | 3    | 4    | 5    | 6    | 7     | 8    | 9    | 10    | 11   | 12   | 13   | 14    |                |
| 1 Toyoda Automatic Loom Works, Ltd.                    |                              | 19.74 | 0.21 | 0.42 | 0.70 | 0.28 | —     | 0.28 | —    | 0.70  | 0.02 | —    | —    | —     | 22.35          |
| 2 Toyota Motor Co., Ltd.                               | 4.41                         |       | 0.05 | 0.26 | 0.77 | 0.27 | 2.56  | 0.34 | 0.11 | 0.11  | —    | 0.14 | 0.17 | —     | 9.19           |
| 3 Aichi Steel Works, Ltd.                              | 9.02                         | 21.63 |      | 0.87 | 1.18 | 0.76 | —     | 0.23 | —    | 0.85  | —    | —    | —    | 5.79  | 40.33          |
| 4 Toyoda Machine Works, Ltd.                           | 2.48                         | 32.26 | —    |      | —    | 0.16 | —     | 0.10 | —    | 0.34  | —    | —    | —    | —     | 35.34          |
| 5 Nippon Denso Co., Ltd.                               | 10.75                        | 23.10 | —    | 0.08 |      | 0.10 | 0.31  | 0.07 | 0.03 | 0.13  | —    | —    | —    | —     | 34.57          |
| 6 Toyota Auto Body Co., Ltd.                           | 9.02                         | 40.00 | —    | 0.20 | —    |      | —     | 0.20 | —    | 0.40  | —    | —    | —    | —     | 49.82          |
| 7 Toyota Motor Sales Co., Ltd.                         | 2.61                         | 39.14 | —    | —    | 6.76 | 3.28 |       | 0.08 | 0.04 | 0.07  | —    | —    | —    | —     | 51.98          |
| 8 Aisin Seiki Co., Ltd.                                | 8.32                         | 20.71 | —    | 0.22 | 0.25 | 0.17 | —     |      | —    | 0.25  | —    | —    | —    | 3.99  | 33.91          |
| 9 Kanto Auto Works, Ltd.                               | —                            | 25.24 | —    | —    | —    | —    | 25.54 | —    |      | 0.40  | —    | —    | —    | —     | 50.88          |
| 10 Toyoda Tsusho Kaisha, Ltd.                          | 11.50                        | 18.61 | —    | 1.10 | —    | 0.17 | —     | —    | —    |       | —    | —    | —    | 1.67  | 33.05          |
| 11 Toyoda Spinning & Weaving Co., Ltd.                 | 6.00                         | 1.20  | —    | —    | —    | —    | —     | 0.30 | —    | —     |      | —    | —    | 36.72 | 44.22          |
| 12 Hino Motors, Ltd.                                   | —                            | 6.99  | —    | —    | 0.48 | —    | 0.79  | 0.12 | —    | 0.40  | —    |      | —    | —     | 8.78           |
| 13 Daihatsu Motor Co., Ltd.                            | —                            | 7.54  | —    | —    | 0.26 | —    | —     | —    | —    | —     | —    | —    |      | —     | 7.80           |
| 14 Towa Estate Co., Ltd.                               | 14.00                        | 49.00 | 1.00 | 4.00 | 8.00 | 4.00 | 14.00 | 4.00 | —    | 1.00  | 1.00 | —    | —    |       | 100.00         |
| 15 Toyoda Central Institute                            | 10.00                        | 44.00 | 6.00 | 6.00 | 6.00 | 6.00 | 10.00 | 6.00 | —    | 2.00  | 4.00 | —    | —    | —     | 100.00         |
| 16 Toyoda Steel Center                                 | 2.00                         | 26.00 | 2.00 | 2.00 | 2.00 | 2.00 | x     | 2.00 | —    | 60.00 | —    | —    | —    | —     | 98.00          |



## Nissan-Hitachi Group

(U: per cent  
(Nos. correspond to those on the first column.))

| Corporations Whose Shares Are<br>Held by Group Members | Corporations as Shareholders |       |      |      |      |      |       |      |      |      |       |      |      |       |      | The Nissan<br>Life<br>Insurance | Group<br>Total |
|--------------------------------------------------------|------------------------------|-------|------|------|------|------|-------|------|------|------|-------|------|------|-------|------|---------------------------------|----------------|
|                                                        | 1                            | 2     | 3    | 4    | 5    | 6    | 7     | 8    | 9    | 10   | 11    | 12   | 13   | 14    |      |                                 |                |
| 1 Nippon Mining Co., Ltd.                              |                              | 1.13  | 0.08 | 0.27 | 0.04 | 0.70 | 0.71  | —    | —    | 0.37 | —     | —    | —    | 2.03  | —    | 5.33                            |                |
| 2 Hitachi, Ltd.                                        | 0.24                         |       | 0.04 | 0.06 | 0.04 | 0.38 | 0.34  | —    | 0.01 | 0.01 | —     | —    | —    | —     | —    | 1.12                            |                |
| 3 Hitachi Metals, Ltd.                                 | —                            | 57.64 |      | —    | —    | —    | —     | —    | —    | —    | —     | —    | —    | —     | —    | 57.64                           |                |
| 4 Hitachi Cable. Ltd.                                  | 1.79                         | 61.30 | —    |      | —    | —    | —     | —    | —    | —    | —     | —    | —    | —     | —    | 63.09                           |                |
| 5 Hitachi Chemical Co., Ltd.                           | —                            | 72.35 | 0.12 | —    |      | —    | —     | —    | —    | —    | —     | —    | —    | 0.86  | 0.74 | 74.07                           |                |
| 6 Hitachi Shipbuilding & Engineering Co., Ltd.         | 0.59                         | 2.30  | —    | —    | —    |      | —     | —    | —    | 0.07 | 0.28  | —    | —    | 3.41  | 1.73 | 8.38                            |                |
| 7 Nissan Motor Co., Ltd.                               | 0.17                         | 0.91  | 0.10 | —    | 0.07 | 0.09 |       | 0.29 | —    | 0.11 | —     | —    | —    | 2.10  | —    | 3.84                            |                |
| 8 Nissan Diesel Motor Co., Ltd.                        | —                            | —     | —    | —    | —    | —    | 47.53 |      | —    | —    | —     | —    | —    | x     | —    | 47.53                           |                |
| 9 Nissan Chemical Industries, Ltd.                     | 1.54                         | 2.31  | —    | —    | 0.58 | —    | —     | —    |      | 0.41 | —     | —    | —    | 2.31  | 2.31 | 9.46                            |                |
| 10 Nippon Oils & Fats Co., Ltd.                        | 3.73                         | 3.40  | —    | —    | —    | —    | —     | —    | 0.42 |      | —     | 0.68 | —    | 3.83  | 3.40 | 15.46                           |                |
| 11 Nippon Suisan Kaisha, Ltd.                          | —                            | —     | —    | —    | —    | 1.06 | —     | —    | —    | —    |       | —    | —    | 6.00  | 1.80 | 8.86                            |                |
| 12 Nippon Reizo Kabushiki Kaisha                       | —                            | —     | —    | —    | —    | —    | —     | —    | —    | —    |       | —    | —    | 2.47  | 3.27 | 5.74                            |                |
| 13 Nissan Norin Industry, Ltd.                         | —                            | —     | —    | —    | —    | —    | —     | —    | —    | —    |       | —    | —    | 10.00 | 7.00 | 17.00                           |                |
| 14 The Nissan Fire & Marine Insurance Co., Ltd.        | 2.08                         | 10.63 | —    | —    | —    | —    | 3.96  | —    | —    | 0.94 | 10.42 | —    | 0.21 |       | 4.69 | 32.93                           |                |

Source: Keizai Chosa Kyokai, Keiretsu no Kenkyu, 1976.

TABLE 6 NUMBER OF MEMBERS IN MAIN INDEPENDENT GROUPS

|                                                                 | Shin Nittetsu | Toyota Motor Co., Ltd. | Matsushita Electric Industrial Co., Ltd. | Hitachi, Ltd. |
|-----------------------------------------------------------------|---------------|------------------------|------------------------------------------|---------------|
| Number of Members                                               | 27            | 35                     | 29                                       | 86            |
| Number of Members Whose All Shares Are Held by The Leading Firm | 10            | ×                      | 9                                        | 38            |

Source: Tōyō Keizai, Kigyo Keiretsu Sōran, 1977.

TABLE 7 RATIO OF SHARES OF LARGE MEMBER FIRMS HELD BY LEADING FIRMS IN INDEPENDENT GROUPS

| Shin Nittetsu                             |     | Toyota Motor Co., Ltd.            |    | Matsushita Electric Industrial Co., Ltd.         |     | Hitachi, Ltd.                        |     |
|-------------------------------------------|-----|-----------------------------------|----|--------------------------------------------------|-----|--------------------------------------|-----|
| Nittetsu Kenzai Co., Ltd.                 | 100 | Toyota Motor Sales Co., Ltd.      | 39 | Matsushita Electric Works, Ltd.                  | 27  | Hitachi Cable, Ltd.                  | 60  |
| Nittetsu Yosetsu Kogyo Co., Ltd.          | 68  | Nippon Denso Co., Ltd.            | 23 | Victor Company of Japan, Ltd.                    | 51  | Hitachi Metals, Ltd.                 | 55  |
| Nittetsu Metal Industry Co., Ltd.         | 83  | Toyoda Automatic Loom Works, Ltd. | 19 | Matsushita Reiki Co., Ltd.                       | 53  | Hitachi Chemical Co., Ltd.           | 70  |
| Shin Nittetsu Chemical Industry Co., Ltd. | 100 | Aisin Seiki Co., Ltd.             | 19 | Matsushita Seiko Co., Ltd.                       | 53  | Shin Meiwa Industry Co., Ltd.        | 29  |
| Kurosaki Refractories Co., Ltd.           | 50  | Toyoda Tsusho Kaisha, Ltd.        | 28 | Matsushita Communication Industrial Co., Ltd.    | 74  | Hitachi Kenki Co., Ltd.              | 100 |
| Daido Steel Sheet Corporation             | 70  | Toyoda Machine Works, Ltd.        | 33 | Matsushita Kotobuki Electronics Industries, Ltd. | 72  | Tokiko, Ltd.                         | 17  |
| Nittetsu Cement Co., Ltd.                 | 55  | Toyoda Auto Body Co., Ltd.        | 40 | Matsushita Electric Trading Co., Ltd.            | 52  | Pubcock Hitachi, Ltd.                | 80  |
|                                           |     | Aichi Steel Works, Ltd.           | 22 | Kyushu Matsushita Electric Co., Ltd.             | 62  | Kokusai Electric Co., Ltd.           | 20  |
|                                           |     | Kanto Auto Works, Ltd.            | 26 | National House Industrial Co., Ltd.              | 33  | Hitachi Koki Co., Ltd.               | 28  |
|                                           |     |                                   |    | Miyata Kogyo                                     | 45  | Nippon Columbia Co., Ltd.            | 14  |
|                                           |     |                                   |    | Matsushita Electronics Industries, Ltd.          | 65  | Hitachi Electronics Industries, Ltd. | 70  |
|                                           |     |                                   |    | Matsushita Electric Parts Co., Ltd.              | 100 | Hitachi Makusel Co., Ltd.            | 93  |
|                                           |     |                                   |    | Matsushita Kosan, Ltd.                           | 30  | Hitachi Sales Corporation            | 78  |
|                                           |     |                                   |    |                                                  |     | Hitachi Credit Co., Ltd.             | 100 |
|                                           |     |                                   |    |                                                  |     | Hitachi-Tokyo Monorail Co., Ltd.     | 82  |
|                                           |     |                                   |    |                                                  |     | Hitachi Plant Construction Co., Ltd. | 62  |

Source: Tōyō Keizai, Kigyo Keiretsu Sōran, 1977.

through joint advertising using group trademarks.<sup>6)</sup>

Let us examine what costs are especially reduced in each type of the groups. The reduction of information costs is an important factor both for Type A and Type B. Managerial costs are certainly large in Type A because of the existence of a decision-making agency, namely, a president's club at the expense of the discretionary decision by each member. It constitutes a cost for this member in some sense. Generally speaking, the existence of a common decision-making agency is useful for members in a depression period, although, it is not always useful for them in a prosperity period, during which, trying to find an opportunity of growth, a member firm may desire to free itself from the regulation of the group binding on it.

As for Type B, managerial costs may be reduced for members under the control of the core manufacturing firm. But it means that a cost of control is needed for the core firm. The reduction of transaction costs is, thirdly, most important for Type B. In this type of group, seller-buyer relations among firms of the group generally prevail. Therefore, transaction costs must be fairly reduced in these groups. The reduction of capital costs will be brought about not only for Type A but also for Type B. The arguments by Teranishi, Gotō and Serisawa explain the reason why the capital costs are reduced in Type B which does not include any banks in its group.

The advertising costs are especially reduced in Type A. But as for Type B, there may be a little effects on cost reduction. It can be said that the reduction of information costs is larger for Type A than Type B. On the other hand, the reduction of transaction costs is especially important for Type B. But we cannot conclude which type enjoys a larger reduction of capital costs.

Finally, mention is made of an implication of cost reduction by group affiliation. Cost reduced by group affiliation should be divided into two aspects. The one is a private cost reduction for a member or a group itself and another is a social cost reduction. Cost reductions by scale economy or technological progress represent social cost reduction as well as private cost reduction. But the reduction of capital costs for a group means a decrease in availability of capital for firms belonging to other groups than this group, if we assume the total capital fund is limited. It is a rise in capital costs for them. Therefore, the reduction of capital costs by group affiliation cannot be regarded as a social cost reduction, although it can be regarded as a private cost reduction.

As to welfare aspects of group affiliation, we must notice not only the

<sup>6)</sup> R. Caves and M. Uekusa: Industrial Organization in Japan, The Brookings Institution, 1976, p. 66.

problem of pricing but also the problem of whether the cost reduction can be regarded as social cost reduction or not.

#### CONCLUSION

This paper has dealt with features of group affiliation or combination in Japan. The most remarkable feature has turned out to be the corporate ownership of assets, as exemplified by the Big Six groups which show a remarkable ownership of intercorporate shareholdings. Since effects the group affiliation has on the economic performance of its members have not been sufficiently studied, the author has tried to explain one of the effects, namely the effect of cost reduction due to group affiliation on the members. A subsequent study will be made of the effect which the group affiliation brings about on the market power of each member.

In the light of fundamental importance of group affiliation, concerning its welfare implication, however, an attempt will also be made to elucidate the question in the future from the standpoint on national economy.