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GROWTH AND ORGANIZATION IN BUSINESS

—Empirical Study on Six High-Rank Trading
Companies* (Sōgō-Shōsha)—

by

Saburō Kojima, Kōichirō Hirata

I. Introduction

The evolution of the theory of business management and organization after World War II started with self-reflection on the traditional business economics or business administration. The self-reflection was based on such facts as the progress of management techniques during and after the war—typically operations research—and that of computer as well as the postwar capital concentration. It implied at least (1) what had been called management theory was too biased to one-sided observation, (2) scientific manipulation was absent such as to construct a theory on the base of some hypothesis and then to proof it utilizing the so-called tested thesis or remark, and (3) accordingly theories were deficient in predictability and in the end useless for practical business.

As the result of such self-reflection was born the so-called behavioral scientific approach which is said to have been opened by C. I. Barnard and H. A. Simon. It was because this approach (a) was rooted in greater scientific nature, (b) employed inter-disciplinary approach, (c) had superior predicability and (d) had consciousness of aim to direct the reality to a desirable way.¹⁾

And such evolution of the management theory after the war had been considered to have a bright prospect at least up to the beginning of the 1950s owing to the development of computer, notably its hard ware, in which it was asserted that the way should be taken toward an inter-disciplinary and behavioral scientific approach. An optimistic view was prevalent there.

However, even if these arguments of the theorists of the modern management and organization theory were correct in themselves, and the advance of hard as

* Trading company or Sōgō-Shōsha is that which is engaged with buying and selling, export and import of all sorts of goods all over the world.

1) Refer S. Kojima, *Gendai Keieigaku Sōron (Modern Business Economics)*, 1973, p. 19f, p. 40f.

well as soft ware of computer was remarkable, it became apparent that on the other hand individual-scientific recognition of the facts to be put on computer was very diversified, with many theories confronting and competing each other, that is, lacking in settled interrelational theme. Gaps on this side gradually came to be realized. C. Argyris, for example, in his book, ie.—“Personality and Organization,” 1957,—investigated and arranged theoretical and positive studies of as many as nearly three hundred students, which tells, as he himself pointed out, that former theories and studies were markedly divergent and often conflicting.²⁾

Thus notwithstanding the noticeable development of engineering of computer, lags in the knowledge of human behavior and phenomena became obvious, and consequently in the 1960s the foregoing optimism faded away. And in accompany with it, the once-avowed flag-mark posted by the modern management and organization theory has lost its influence. Such is the present situation.

Accordingly today it is conceived as a primary task to find out scientifically the regularity in the phenomena of business management, economy and organization for the sake of further advance of management theories or business economics.

To put it in other words, what we should do, with the limitless development of computer in prospect, is confirmation and testing of the regularity and inter-factor correlations lying under ourselves.

If any progress of the modern management theory is to be expected on the ground of the self-reflection in the 1940s, students must endeavor the pile up steadily a system of tested remarks, we think.

This study of ours is supported by such viewpoint among others. Since the scope is confined to the “analysis of growth and organizational behavior” of six high-rank trading companies (Sōgō-Shōsha) of Japan, the study is undeniably narrow. Yet we expect primarily to step out the conventional static and institutional research or description of individual and specific cases in order to find the said regularity and to get a clue for still further advances.³⁾

2) *Personality and Organization*, 1957.

3) Recently many books or positive studies on the problem of “growth and organization” have been published. Representative ones are as follows. Mitsubishi Economic Institute, *Sengo ni okeru Keieisoshiki no Hatten (Postwar Development of Business Organization)*, 1965. S. Kuriyama, *Kigyō Seichō to Keiei Soshiki (Business Growth and Organization)*, 1968. Kansai Keieisha Kyōkai, *Senkō Seido, Jiko-Shinkokusei oyobi Soshiki Kaitei ni kansuru Jittai Chōsa (Survey of Selective Promotion, Self-Report and Organizational Reform)*, 1969. Japan Productivity Center, *Keieiryoku Kyōka no tameno Enquête (Enquête about Fortification Business Power)*, 1969. Japan Employers Union, *Wagakuni no Rōmukanri no Gensei (Present State of Personnel Administration in Japan)*, 1971. JPC, *Jinji Soshiki Kanri no Dōkō (Movements of Personnel and Organization Control)*, 1971. JEU, Work Analysis Center, *Hito o Ikasu Soshiki Senryaku (Organization Strategy to Enliven Persons)*, 1962. E. Furukawa, *Nihon no Kigyō Seichō (Business Growth in Japan)* 1973. Of course these works and reports are all worthful yet confined to descriptions of current state and weak in the correlational analysis of how the patterns of behavior are borne by changes in surroundings.

II. *Angle and Method of Analysis*

With a point of view as explained, we shall proceed to clarify the problem of growth and organization in Japan's enterprises but we must first define the terms of study.

Firstly the reason why we selected trading companies for this report is that such conditions as homogeneity can be most easily found in trading among various business activities.

That is to say, generally in selecting an industry for the object of study manufacturing is taken in view of the share in production among all industries, but we have thought homogeneity is hard to seek in it because its sectional grouping is very diversified and again the companies of each group are diversified in products and production levels and techniques, even among those producing the same kind of product.⁴⁾

We thought it more convenient for our experimental study, therefore, to take up trading companies because technological differences can be ignored although the industry may be rather partial and particular in the whole industrial structure.

In addition they have been proud of high-rate growth, never stagnant, in the past in every index of their activity including sales, capital, employees and profits as is shown in Table 2-1 to 2-6. Hence by observing the trading companies we could find how each business has transformed and adapted itself to changing conditions and severe competitive environments through high-tempo growth.

And as the object six high-rank trading companies generally called "Sōgō Shōsha," were chosen because the commodities (or commodity groups) they handle have almost equal compositions. Hence, amidst the overall growth some business sectors or commodities may have developed while others declined in course of time, and by observing the relation between the growth-decline and the organizational changes it will be possible to grasp the pattern of business trend adaptation.

And we have two reasons to select the high-rank six among many multi-line trading companies existing.

Firstly, as a characteristic feature of Japan's multi-line trading companies it is said that "they have come to carry the function of organizer by linking themselves with banks."⁵⁾ True all the six are advancing into such fresh industrial projects as information, leisure life, housing, regional development, distribution, food combinat, leasing, marine development and fashion industries. Again in this aspect there is strong homogeneity.⁶⁾

4) A view that production techniques greatly affect on organization has recently been made public to draw wide attention. See, for example, J. Woodward, *Industrial Organization—Theory and Practice*, 1965; S. Kojima, *op. cit.*, p. 57.

5) Seikei Tsūshinsha, *Sōgō Shōsha Nenkan* (Annals of Multi-line Traders), 1972, p. 17f, Tōyōkeizai Weekly, May 27, 1972, p. 36.

6) Tōyōkeizai Shimpōsha, Tōyōkeizai Tōkeigeppō, Sept. 1973. These materials show that the projects mentioned are lacking in other traders such as Tōmen, Kanematsu Gōshō, Ataka Sangyō and Nichimen Jitsugyō.

Table 2.1 C.Itoh Shoji, Ltd.

(in million yen)

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Capital	10,925	16,388	16,546	16,614	16,918	17,359	17,608	18,880	20,412	21,137	25,336
Executives	28	32	32	34	33	34	35	35	40	42	42
Employee Total	5,182	5,856	6,082	6,159	6,277	6,505	6,813	6,552	6,653	6,903	7,049
—Main office	4,137	4,610	4,786	4,880	4,996	5,169	5,455	5,165	5,280	5,545	5,749
Sales volume	646,310	834,209	984,060	1,013,774	1,110,644	1,291,687	1,426,145	1,803,097	2,226,287	2,436,115	2,824,741
Administrative & Sales Expenses	7,279	9,484	11,546	13,121	14,984	19,716	21,449	26,714	33,149	36,225	50,421
Operating profit	6,504	6,849	8,726	8,374	8,800	9,510	9,472	10,961	13,812	17,955	26,938
Net profit before tax	2,701	3,808	4,365	4,321	5,329	5,593	5,552	6,428	8,856	15,718	25,099
Sales Textile	362,377	453,463	473,186	475,596	518,527	602,343	654,032	768,315	877,845	897,373	1,020,170
Machinery	73,540	78,680	109,648	115,012	134,119	160,406	221,960	285,433	398,031	496,915	574,662
Metals	81,874	111,091	145,484	146,639	189,580	220,124	229,935	333,983	404,875	402,250	467,360
Chemicals	66,250	96,167	112,714	121,692	119,526	156,630	176,341	230,741	283,970	323,932	385,308
Foods	96,500	132,992	162,780	169,891	163,297	201,897	219,466	265,947	361,750	393,077	444,453
Miscellaneous	58,825	80,078	102,801	107,062	91,381	114,876	120,821	172,009	221,465	259,722	277,464
Total	739,366	952,474	1,106,610	1,135,191	1,246,478	1,456,278	1,622,552	2,060,415	2,547,940	2,773,265	3,169,417
(Adjusted)Textile	362,377	402,363	432,528	446,569	485,058	531,635	571,207	674,552	724,893	768,056	852,272
Machinery	73,540	79,636	112,115	117,720	136,717	162,849	224,883	289,486	397,633	499,412	579,296
Metals	81,874	112,668	143,052	141,817	176,682	202,320	218,777	297,668	338,808	364,687	426,813
Chemicals	66,250	97,631	114,199	122,921	123,733	164,010	186,014	247,046	300,180	330,543	394,379
Foods	96,500	125,701	154,294	156,293	143,874	173,005	178,864	209,078	278,269	293,122	325,130
Miscellaneous	58,825	79,521	100,983	104,963	86,864	110,564	107,876	149,573	183,484	213,587	220,560
Total	739,366	897,520	1,057,171	1,090,283	1,344,918	1,344,383	1,487,621	1,867,403	2,223,267	2,469,407	2,798,450

Table 2.2 Sumitomo Shoji, Ltd.

(in million yen)

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Capital	7,000	7,000	7,000	7,000	7,000	10,500	10,500	10,500	10,800	10,800	13,200
Executives	24	21	24	25	28	27	28	25	32	32	34
Employee-total	3,305	3,675	3,948	4,200	4,446	4,815	5,321	5,620	5,864	5,564	5,570
—Main office	2,587	2,919	3,145	3,372	3,606	3,886	4,293	4,485	4,662	4,127	4,019
Sales volume	224,886	370,840	453,110	498,823	631,230	789,633	1,001,327	1,308,223	1,696,368	1,976,646	2,414,929
Administrative & Sales Expenses	7,618	9,981	11,722	13,231	15,877	20,111	26,064	34,035	42,426	49,131	55,522
Operating profit	3,155	3,798	5,065	5,717	6,346	7,192	9,418	12,346	14,639	16,531	23,979
Net profit before tax	1,792	2,031	2,292	2,521	2,859	3,434	5,322	6,894	6,319	6,837	14,445
Sales Textile	9,266	11,792	11,946	12,771	11,771	16,534	26,210	41,282	62,662	106,957	186,019
Machinery	54,592	60,334	75,291	73,780	117,156	133,870	188,792	256,265	354,283	475,767	476,860
Metals	139,722	183,473	225,823	263,946	328,900	418,032	508,361	662,552	802,851	798,838	935,601
Chemicals	25,461	32,152	44,073	48,544	59,498	69,494	123,811	156,581	213,677	256,376	333,758
Foods	21,751	37,378	40,820	39,461	45,568	55,075	60,477	68,688	110,682	168,131	240,192
Miscellaneous	21,952	44,955	53,971	57,993	66,160	93,303	93,676	121,824	152,213	170,577	242,499
Total	272,744	371,395	451,922	496,495	629,054	786,309	1,001,328	1,308,223	1,696,368	1,976,646	2,414,929
(Adjusted)Textile	9,266	10,463	10,920	11,992	11,011	14,593	22,891	36,244	51,744	91,338	155,454
Machinery	54,592	61,067	76,985	75,517	119,425	135,909	191,279	259,904	353,929	478,158	480,706
Metals	139,722	186,078	222,048	255,267	306,524	384,221	483,693	590,510	671,842	724,241	854,430
Chemicals	25,461	32,642	44,653	49,034	61,592	72,769	130,602	167,539	225,874	261,608	341,615
Foods	21,751	35,329	38,692	36,303	40,148	47,194	49,289	54,000	85,140	125,377	175,707
Miscellaneous	21,952	44,643	53,017	56,856	62,890	89,801	83,639	105,934	126,109	140,277	192,766
Total	272,744	370,222	446,315	484,969	601,590	744,487	961,393	1,214,131	1,544,638	1,820,999	2,200,678
	47,413	77,285	97,670	105,890	124,482	162,570	214,241	273,473	351,983	401,885	534,881

Table 2.3 Nissho Iwai, Ltd.

(in million yen)

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Capital	3,500	7,000	7,000	7,000	7,000	7,000	11,187	11,187	11,187	11,187	15,400
Executives	27	28	28	28	28	28	35	36	34	35	35
Employee-total	2,952	3,128	3,424	3,614	3,777	3,974	6,790	7,031	6,789	6,961	6,916
-Main office	2,344	2,476	2,696	2,843	2,956	3,084	5,185	5,461	5,213	5,332	5,310
Sales volume	238,178	347,918	451,914	488,362	595,741	704,788	1,008,160	1,508,253	1,860,050	1,925,079	2,392,536
Administrative & Sales Expenses	4,697	6,122	7,512	8,566	9,972	12,057	16,825	26,281	29,988	31,817	43,053
Operating profit	2,353	2,695	3,349	3,436	3,863	4,540	6,825	10,676	12,550	10,105	17,268
Net profit before tax	991	1,473	2,029	1,988	2,290	2,575	2,633	4,768	4,695	2,958	11,062
Sales Textile	46,048	51,161	53,514	53,771	62,026	59,876	105,658	145,104	152,870	177,555	218,519
Machinery	51,564	65,675	94,554	100,585	114,997	131,938	157,504	239,735	333,995	401,325	438,761
Metals	103,439	152,621	176,769	187,124	240,900	295,557	418,615	649,277	797,391	806,235	980,107
Foods	18,784	28,391	43,790	54,743	65,677	68,325	90,691	141,763	196,636	191,823	281,699
Miscellaneous	44,570	67,515	83,285	92,138	112,139	149,093	235,694	332,372	380,158	348,137	473,450
Total	264,404	365,363	451,914	488,362	595,741	704,788	1,008,160	1,508,253	1,861,050	1,925,079	2,392,536
(Adjusted)Textile	46,048	45,396	48,916	50,489	58,022	51,082	92,278	127,396	126,235	151,627	182,556
Machinery	51,564	66,473	96,681	102,953	117,224	133,947	159,579	243,139	333,661	403,342	442,299
Metals	103,439	154,788	173,814	180,971	224,512	271,652	398,302	578,678	667,273	730,947	895,075
Foods	18,784	26,835	41,507	50,362	57,865	58,548	73,913	111,449	151,258	143,045	206,071
Miscellaneous	44,570	67,046	81,812	90,331	106,596	143,497	210,423	289,019	314,961	286,297	376,351
Total	264,405	360,538	442,730	475,106	564,219	658,726	934,495	1,349,681	1,593,388	1,715,258	2,102,325
(物资)	44,570	67,718	82,953	91,498	110,591	148,795	225,525	315,045	347,812	312,792	417,137

Table 2.4 Marubeni, Ltd.

(in million yen)

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Capital	10,000	15,000	15,000	15,000	15,500	15,500	15,500	15,500	25,000	25,000	30,250
Executives	28	29	28	31	30	33	35	35	39	42	42
Employee-total	5,140	5,597	5,943	6,390	7,391	7,511	7,644	7,556	7,578	7,799	7,703
-Main office	3,753	4,089	4,307	4,624	5,322	5,407	5,614	5,349	5,438	5,631	5,576
Sales volume	688,149	856,547	1,002,126	1,037,766	1,262,533	1,449,229	1,613,884	1,962,635	2,471,817	2,648,407	3,088,503
Administrative & Sales Expenses	8,523	11,381	13,378	14,214	19,148	22,209	25,957	33,735	40,715	41,797	49,582
Operating profit	5,682	6,440	7,607	7,409	9,936	12,514	12,861	14,942	19,462	21,355	30,607
Net profit before tax	2,873	3,806	3,516	3,124	1,732	4,694	3,136	5,341	6,234	9,060	18,275
Sales Textile	311,050	390,996	399,945	381,641	356,757	404,174	446,836	492,326	575,590	619,775	698,599
Machinery	133,843	149,381	188,393	175,112	212,769	266,277	329,277	406,631	582,960	743,508	810,699
Metals	110,657	111,453	164,200	188,947	355,703	436,891	481,351	638,376	762,008	718,842	841,654
Chemicals	24,170	30,275	100,612	114,875	123,519	129,417	139,806	159,946	189,511	213,158	254,399
Foods	107,537	157,369	159,621	179,211	185,609	191,113	193,488	238,057	319,713	343,090	455,813
Miscellaneous	101,002	136,115	122,323	125,913	145,258	165,923	189,162	228,815	268,954	271,632	338,587
Total	788,259	975,588	1,135,094	1,166,700	1,379,615	1,593,795	1,779,948	2,164,155	2,698,735	2,910,005	3,399,751
(Adjusted)Textile	311,050	346,935	365,580	358,348	333,730	356,729	390,250	432,244	475,301	529,270	583,625
Machinery	133,843	151,195	192,631	179,234	216,890	270,332	333,614	412,405	582,378	747,244	817,237
Metals	110,657	113,035	161,455	182,734	331,503	401,554	457,993	568,963	637,664	651,715	768,634
Chemicals	24,170	30,736	101,937	116,035	127,866	135,515	147,475	171,248	200,329	217,508	260,388
Foods	107,537	148,742	151,300	164,868	163,532	163,764	157,692	187,152	245,933	255,846	330,440
Miscellaneous	101,002	135,169	120,160	123,444	138,078	159,695	168,895	198,970	222,829	223,386	269,147
Total	788,259	925,812	1,093,063	1,124,663	1,311,599	1,487,589	1,655,919	1,970,982	2,364,434	2,624,969	3,029,471
(化学品·食料·肥料)	131,707	179,478	253,237	280,903	291,398	299,279	305,167	358,400	446,262	473,354	593,828

Table 2.5 Mitsui Bussan, Ltd.

(in million yen)

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Capital	8,332	13,309	13,309	13,309	13,602	13,602	13,670	21,767	22,424	22,881	25,820
Executives	34	33	30	32	32	32	32	32	41	41	43
Employee-total	6,790	7,239	7,591	9,770	9,649	9,353	9,243	9,412	9,654	10,057	10,326
-Main office	3,318	3,583	3,780	4,834	4,761	4,529	4,431	4,547	4,785	4,899	5,142
Sales volume	817,876	1,039,941	1,198,851	1,516,052	1,765,697	2,068,006	2,355,320	3,077,246	3,735,899	4,126,693	4,941,192
Administrative & Sales Expenses	14,129	17,244	20,020	25,522	24,281	27,208	32,254	38,650	46,898	53,178	64,795
Operating profit	6,866	7,849	8,579	9,739	17,354	21,205	21,964	30,845	40,267	40,535	42,281
Net profit before tax	3,811	4,411	2,433	5,504	7,354	11,118	9,766	12,667	17,957	25,810	24,337
Sales Textile	93,806	117,877	128,444	124,053	137,457	161,713	193,821	246,085	307,034	365,340	455,731
Machinery	155,599	155,857	173,837	229,678	266,961	335,317	477,190	552,994	684,581	861,944	949,595
Metals	187,824	267,727	352,838	523,873	644,512	752,785	814,010	1,165,328	1,405,971	1,333,891	1,569,482
Chemicals	114,690	146,565	175,386	197,812	236,875	278,067	322,482	378,503	449,411	469,763	539,874
Foods	173,564	232,794	229,405	266,627	278,441	296,757	310,682	351,835	468,621	532,025	674,929
Miscellaneous	92,392	122,055	147,726	184,391	211,350	255,611	310,687	396,945	432,681	576,070	765,870
Total	817,875	1,043,878	1,207,637	1,526,436	1,775,597	2,080,250	2,368,871	3,091,685	3,748,299	4,139,033	4,955,481
(Adjusted) Textile	93,806	104,594	117,408	116,482	128,585	142,730	169,276	216,054	253,538	311,990	380,728
Machinery	155,599	157,750	177,747	235,085	272,131	340,423	483,475	560,846	683,897	866,275	957,253
Metals	187,824	271,528	346,940	506,647	600,664	691,898	774,510	1,038,617	1,176,545	1,209,330	1,433,317
Chemicals	114,690	148,797	177,696	199,810	245,212	291,170	340,171	405,249	475,064	479,350	552,583
Foods	173,564	220,032	217,445	245,287	245,322	254,290	253,205	276,600	360,478	396,738	493,730
Miscellaneous	92,392	121,207	145,114	180,775	200,903	246,016	277,399	345,165	358,476	473,742	608,800
Total	817,875	1,023,908	1,182,350	1,484,086	1,692,817	1,966,527	2,298,036	2,842,531	3,307,998	3,737,425	4,426,411

Table 2.6 Mitsubishi Shoji, Ltd.

(in million yen)

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Capital	15,000	22,500	22,500	22,500	22,500	22,500	22,500	30,000	30,033	31,401	31,799
Executives	32	33	33	34	37	37	37	45	43	46	48
Employee-total	6,175	6,486	6,763	7,189	7,546	7,783	8,208	8,664	9,116	9,458	9,501
-Main office	3,172	3,332	3,408	3,650	3,873	4,036	4,298	4,594	4,781	4,950	5,012
Sales volume	887,547	1,129,829	1,318,284	1,464,560	1,729,197	2,148,382	2,518,386	3,242,009	4,069,905	4,529,833	5,177,089
Administrative & Sales Expenses	14,690	17,281	21,322	22,711	26,327	32,358	34,618	42,167	53,737	53,598	67,104
Operating profit	6,980	7,524	9,189	9,825	11,451	15,141	19,332	26,178	32,908	41,643	36,325
Net profit before tax	4,398	5,546	7,020	6,877	7,331	9,196	11,886	15,578	17,622	23,330	29,267
Sales Textile	105,554	127,639	127,670	135,168	146,846	170,024	204,000	262,925	357,987	419,354	504,738
Machinery	220,641	251,978	289,307	316,966	325,723	459,658	535,774	609,972	785,501	959,465	148,132
Metals	185,162	259,079	347,214	407,244	542,029	721,509	863,469	1,248,155	1,511,675	1,514,241	1,540,674
Chemicals	175,052	221,875	245,946	268,227	305,870	356,672	422,722	511,361	619,889	690,753	829,475
Foods	151,568	190,970	217,030	240,901	270,648	299,016	320,710	398,609	532,182	658,569	691,074
Miscellaneous	62,974	76,733	89,369	94,096	135,800	138,540	167,747	204,747	254,701	275,164	352,192
Total	900,952	1,128,274	1,316,536	1,462,602	1,726,916	2,145,419	2,514,422	3,235,769	4,061,935	4,517,550	5,166,285
(Adjusted) Textile	105,554	113,256	116,700	126,918	137,368	150,065	178,166	230,838	295,613	358,116	421,669
Machinery	220,641	255,038	295,815	324,428	332,032	466,658	542,831	618,633	784,716	964,286	158,198
Metals	185,162	262,758	341,410	393,853	505,153	663,152	821,569	1,112,438	1,265,000	1,372,839	1,407,008
Chemicals	175,052	225,254	249,185	270,936	316,636	373,479	445,909	547,496	655,274	704,850	849,002
Foods	151,568	179,745	205,716	221,620	238,456	256,226	261,377	313,372	409,371	491,103	505,541
Miscellaneous	62,974	76,200	87,789	92,251	129,087	133,340	149,774	178,041	211,020	226,286	279,962
Total	900,952	1,112,251	1,296,615	1,430,006	1,658,732	2,042,920	2,399,626	3,000,818	3,620,994	4,117,480	4,441,418

Table 2.7 Businessplace, Employee, Shipment

year	1962	1963	1964	1965	1966	1967	1968	1969	1970
Total Business place	492,202	563,327	554,375	558,106	594,832	598,958	602,388	646,926	652,931
Employee	8,998,393	9,727,874	9,900,764	9,921,002	10,291,578	10,554,058	10,862,735	11,412,033	11,679,680
Shipment	20,861	23,822	27,683	29,489	34,202	41,162	48,278	58,107	69,035
(Adjusted)		23,401	27,114	28,714	32,481	38,397	44,660	52,633	60,345
Textile	106,105	122,060	121,865	125,151	133,552	135,331	136,924	145,122	146,209
20, 21	1,506,155	1,635,767	1,637,379	1,637,855	1,667,669	1,656,146	1,646,832	1,663,121	1,678,014
	2,351	2,727	2,924	3,043	3,407	3,816	4,159	4,701	5,347
		2,420	2,673	2,857	3,187	3,368	3,632	4,127	4,415
Machinery	56,326	67,365	66,920	67,449	74,926	78,269	81,502	91,405	97,290
34, 35, 36	2,415,843	2,564,674	2,653,126	2,611,818	2,762,842	2,967,568	3,174,706	3,459,146	3,642,085
37, 38	5,864	6,310	7,492	7,835	9,119	11,714	14,833	18,362	21,413
		6,387	7,661	8,019	9,296	11,892	15,028	18,623	21,391
Metals	46,148	55,446	56,598	58,689	64,346	65,315	67,956	78,813	81,331
31, 32, 33	1,205,253	1,284,112	1,318,140	1,308,910	1,349,616	1,380,447	1,439,112	1,563,471	1,612,743
	3,632	4,053	4,998	5,229	6,164	7,617	8,646	10,915	13,348
		4,111	4,914	5,057	5,745	7,001	8,226	9,728	11,170
Foods	95,081	100,788	97,161	95,151	98,183	95,543	92,789	93,953	90,942
18, 19	978,250	1,066,209	1,073,231	1,099,331	1,152,611	1,139,229	1,134,683	1,145,555	1,139,766
	2,567	3,006	3,341	3,698	4,448	5,000	5,515	6,224	7,151
		2,841	3,167	3,402	3,919	4,284	4,495	4,893	5,501
Chemicals	7,709	8,225	7,938	7,825	7,222	6,820	6,710	7,002	6,870
26, 27	507,563	522,325	536,936	535,947	512,249	516,537	522,918	531,425	534,728
	2,357	2,768	3,238	3,619	3,890	4,589	5,315	6,297	7,331
		2,810	3,281	3,656	4,027	4,805	5,607	6,742	7,749
Miscellaneous	180,833	209,443	203,893	203,841	216,603	217,680	216,507	230,631	230,289
22, 23, 24	2,385,329	2,654,787	2,681,952	2,727,141	2,846,591	2,894,131	2,947,494	3,049,315	3,072,344
25, 28, 29	4,091	4,960	5,313	6,067	7,174	8,427	9,811	11,607	13,556
30, 39		4,926	5,219	5,948	6,819	8,111	8,760	10,093	11,231

Secondly, they are under the same condition that they are respectively acting as kernel merchants for Japan's major conglomerates, that is, Mitsubishi Shoji in the Mitsubishi group, Mitsui Bussan in the Mitsui group, Marubeni in the Fuyo group, C. Itoh in the Daiichi Kangin group, Nissho Iwai in the Sanwa group—letting alone their relations with the old *zaibatsu* (financial cliques).

For the above reasons we have taken up the six for our purpose, and moreover, our method of this study is as follows.

Firstly, we assume that "business continues to exist as a going concern adapting itself to changes in surroundings and conditions."⁷⁾ It records performances (sales, profits, etc.) seeking for security, stability and growth.⁸⁾ In other words, as W. J. Baumol holds, business of today is striving for keep-up

7) Y. Kodaka, *Keiei Gaku* (Management Theory), 1964, p. 53f.

8) J. Banock, *The Jaggerenaute*, 1969.

and increase of sales being faced with incessant environmental changes.⁹⁾

So we think, if business growth exhibits itself as increases in sales, or can be expressed as such, analysis should be conducted by connecting growth with sales..

As for the problem of organizational transformation, we should like to consider it in concrete by medium of changes in the composition and numbers of divisions and sections (in Japanese "bu" and "ka"). For it is said that in Japan's business management the kernel of activity is placed on divisions and sections, especially the latter.

For example, in the so-called sanction system (*ringi seido*, that is, sanction of upper personnel is required for every action), a unique system of Japan, drafting for sanction is formally made at the section level, or generally by section members, and hence in developing producing and marketing a new product what worries executives most is the timing and basis of setting up a pertinent section, it is said.¹⁰⁾

If such state is real, changes in products or product-mix as well as their life cycles must have corresponding set-up, abolition or unification of sections, or more concretely these must be reflected in the number of sections.

Thus in our analysis below we put the central point on the growth of sales volume and the fluctuations of sections, using data for ten years from 1961 to 1972. The materials used are *Yūkaishōken Hōkokusho* (*Securities Reports*) for financial data, *Kaisha Nenkan* (*Annals of Companies*), *Kaisha Shokuinroku* (*Register of Company Officials*) for the number of divisions and sections, and *Kōgyō Tōkeihyō* (*Industrial Statistics*) and other miscellaneous statistics.

Some points to be noticed are as follows:

The divisions and sections in this study refer to main offices alone, not including branches, work offices or business offices, because the status of these is very diversified making it almost impossible to arrange uniformly. Even under the same name of division or section, the substances are very different. What can be grasped by reliable sources are limited.

Some trading companies have their main offices both in Tokyo and Osaka. For them the numbers in both main offices were totalled. Again the number of personnel pertains to main offices alone, unless otherwise noted.

Financial data are on one-year base, generally adding figures for Sept. (first half-year) and March (second half-year). As for capital and employees, which are meaningless to add, figures for end of March were adopted.

9) S. Kojima, *op. cit.*, pp. 146f. If sales declines, (1) consumers will think that the products are losing popularity and incline to evade them, (2) banks and money markets will become ungenerous to such concerns, (3) distributors will hesitate to deal the products, (4) human relations within business may deteriorate, and (5) competitive power will be lost and adoption of effective strategy for competition will be neglected.

10) S. Kojima, *op. cit.*, p. 259f.

III. Recent Trends in Trading Concerns in General

With the above-explained viewpoint and method we made a positive study of the "growth and organization in business" by means of the trends of sales volume and organization with respect to six high-rank trading companies. As a preparatory step of explanation, however, we shall first outline the general trend of multi-line trading companies of Japan to help understanding.

Naturally a distinction lies between specialized trading companies and multi-line ones. The commodities handled by the latter extend over extremely varietiful items "from chinese noodle to rocket" as is often spoken. Even in the major article grouping they include metals, machinery, textiles, chemicals, foods and miscellaneous goods.

Of course these trading companies have each color, for example, Sumitomo Shoji, Nissho Iwai and Ataka Sangyo in metals, Marubeni in machinery, C. Itoh, Tomen and Nichimen in textile. Yet they are now on the way of erasing such speciality, to proceed to balanced multi-line business, and correspondingly to reform activities and organization.¹¹⁾ (See Figure 3-1).

The amounts of annual sales are tremendous. Mitsubishi Shoji with 5,180 billion yen (1972) being the top, even tenth-rank Nichimen Jitsugyo has 1,160 billion yen.

Since big enterprises with annual sales exceeding 1,000 billion yen in all industries count only fourteen in 1972, these trading companies constitute the top class together with Shin-nihon Steel, Toyota Auto Sale, Nissan Auto and Toyota Auto. Even allowing for the difference of meaning of sales-turnover between manufacturer and trading company, these figures must be said to exhibit their being as monsters.¹²⁾

And these trading companies, dealing articles of the widest sphere possible, not only are expanding their scales, but also are engaging in sharp competition everyday. This will be seen by Figure 2-2. Notably remarkable are the attack and defence for top between Mitsubishi Shoji and Mitsui Bussan and the bustling fluctuation of ranks among those below the fifth rank.¹³⁾ (See Figure 3-2).

Then why are they endeavoring day and night for expansion and rank?

This question is hard to answer but, as Table 3-1 tells, there is a fine correlation of rank between sales volume and operating profit, which suggests larger volumes of disposable funds held by higher-rank concerns. In other words, although a high rank in sales volume does not always mean that in the rate of profit to turnover or operation, the amount of profit is sure to increase. Thus it is supposable that the bigger the business scale, the larger funds are available to hold a favorable position in business fusion, overseas advance and domestic

11) Tōyō Keizai Tōkei Geppō, Sept. 1973, p. 4.

12) Tōyō Keizai Tōkei Geppō, *op. cit.*, p. 5.

13) Tōyō Keizai Tōkei Geppō, *op. cit.*, p. 3.

Figure 3.1 Changes of Ranks of Multi-line Traders

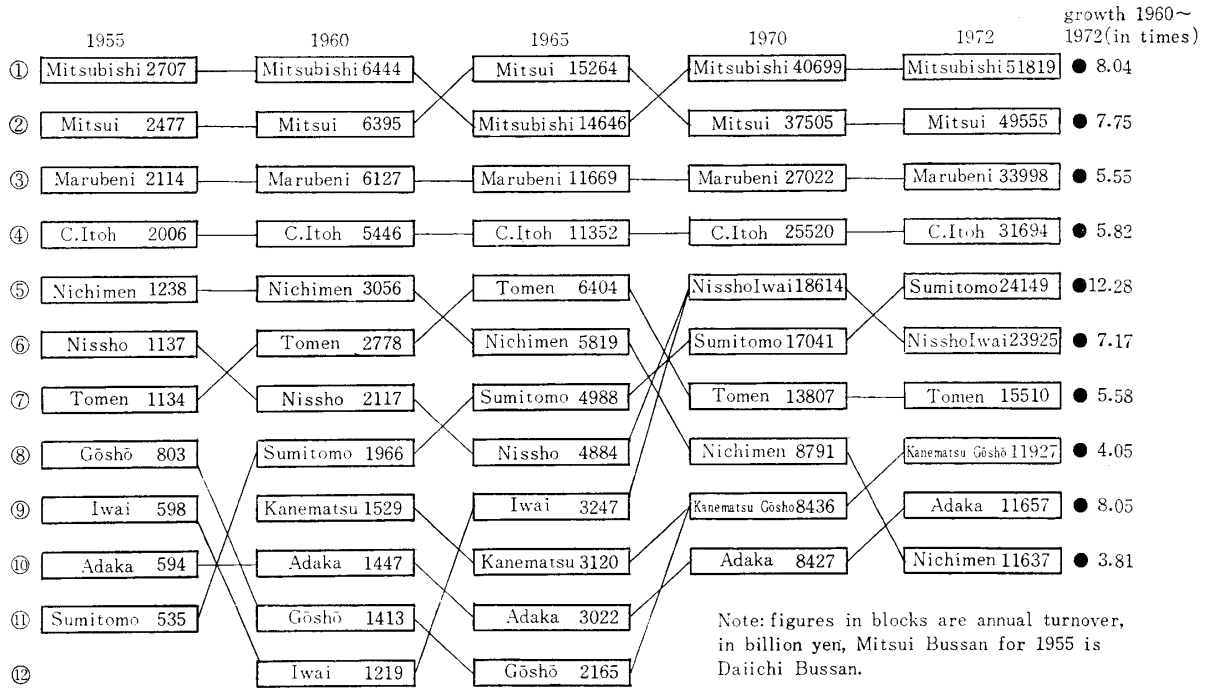
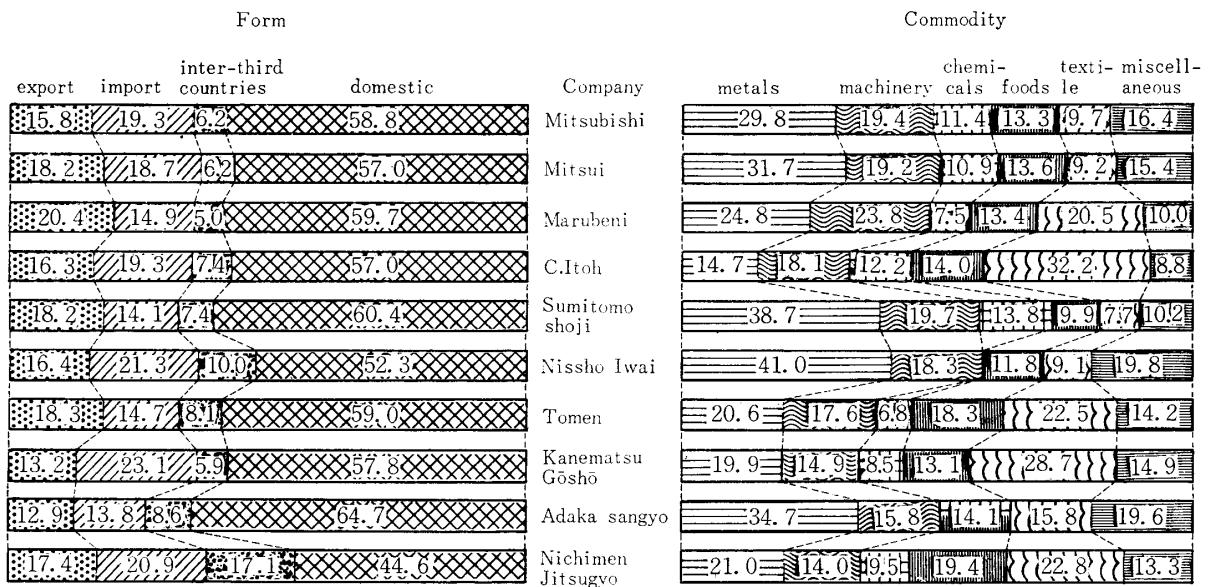


Figure 3.2 Composition of Turnover, by Form and commodity(1972, in %)



Growing is a little varied by companies.

transaction.¹⁴⁾

Accordingly today multi-line trading companies are fiercely fighting each other in pursuit of increase in the absolute value of disposable funds. To speak of the

14) Bōekino Nihon, 1973, special number on Nissho Iwai. There is written "In the place of homogeneous competition a larger volume of transaction forms the source of the power of finance, creditability, influence and organizing."

Table 3-1. Operating Profit for 1st-Half 1972

	Sales Profit	do, rate	do, Pre-vious Term	Cost	Ratio to Previous Term	Operat-ing Profit	do, Rate	Ratio to Previous Term
		%	%		%		%	%
Mitsubishi Shoji	51, 298	2. 15	2. 21	26, 788	109. 4	24, 510	1. 03	98. 5
Mitsui Bussan	48, 124	2. 11	2. 26	26, 985	114. 7	21, 139	0. 93	88. 9
Marubeni	35, 193	2. 24	2. 20	22, 731	118. 9	12, 462	0. 79	96. 1
C. Itoh	30, 693	2. 10	2. 16	19, 087	116. 3	11, 606	0. 79	86. 2
Sumitomo Shoji	34, 667	3. 12	3. 35	23, 541	102. 1	11, 126	1. 00	104. 9
Nissho Iwai	25, 813	2. 42	2. 22	15, 806	114. 5	10, 007	0. 94	132. 2
Tomen	17, 621	2. 43	2. 47	10, 565	108. 8	7, 056	0. 97	96. 2
Kanematsu	12, 929	2. 38	2. 41	8, 193	112. 1	4, 736	0. 87	100. 6
Adaka Sangyo	13, 271	2. 56	2. 78	8, 433	113. 7	4, 838	0. 94	81. 2
Nichimen	11, 711	2. 31	2. 31	8, 220	118. 4	3, 491	0. 69	94. 0
10 Average	28, 132	2. 31	2. 37	17, 035	112. 2	11, 097	0. 91	96. 5

most recent period, as shown by the above-said Table 2-1 to 2-6, the growth rate of sales is remarkable in the sectors of metals and machinery. Hence Mitsubishi Shoji, Mitsui Bussan, Sumitomo Shoji, Nissho Iwai and Ataka Sangyo have increased influence, while the Kansai-group trading companies, centering on textile, relatively declined in share, which is leading them to step out textile trade.¹⁵⁾

And this seems to relate closely with the structural reform of Japan's industry, i.e. the advance of heavy-chemical industries. In fact these industries increased their share from 52.6% in 1960 to 63.2% in 1970.¹⁶⁾

While thus strengthening their positions, multi-line trading companies are orienting themselves toward a balanced composition of commodities, without biasing to some particular sector, and hence advancing to the so-called future industries, too.

They are now engaging in various fields such as information, housing, regional development, resources development, public nuisance prevention and so on, as described already. Not only this, they are proceeding to the character of organizer or developer of enterprises or business groups, in place of banks.¹⁷⁾

And particularly noteworthy among these activities is their overseas strategy concerning resources development. This is shown, for example, in their present amount of foreign investments and loans (Table 3-2), with Mitsui Bussan with 75.5 billion yen making the top, followed by Mitsubishi Shoji with 75.5 billion, Marubeni with 45.1 billion, C. Itoh with 41.2 billion, Nichimen Jitsugyo with 36.1 billion, Nissho Iwai with 23.4 billion and Sumitomo Shoji with 19.2 billion.

15) For instance, in Sumitomo Shoji the rate of metals and machinery to total sales rose 58% in 1950 to 68% in 1970. Tōyo Keizai Tōkei Geppō, *op. cit.*, p. 6.

16) S. Kojima, *op. cit.*, p. 124; figures by the Prime Minister's Office.

17) *Op. cit.*, Marubeni, p. 21, 29.

18) Tōyōkeizai Tōkei Geppō, *op. cit.*, p.9.

Table 3-2. Overseas Investments and Loans

	Overseas Affiliated Companies	Investments and Loans (A) (billion yen)	Capital (B) (billion yen)	A/B (%)
Mitsui Bussan	165	75.5	25.8	292.6
Mitsubishi Shoji	121	71.6	31.8	225.2
Marubeni	114	45.1	30.2	149.3
C. Itoh	112	41.2	25.3	162.8
Nichimen Jitsugyo	40	36.1	7.5	481.3
Nissho Iwai	57	23.4	15.4	151.9
Sumitomo Shoji	63	19.2	13.2	145.5
Tomen	46	8.5	9.0	94.4
Adaka Sangyo	36	7.3	10.0	73.0
Kanematsu Goshō	34	7.0	5.6	125.0

It is observed that they are walking toward multi-national business.¹⁸⁾

As the major cases of business merger or fusion by big trading companies, we can mention subordination of Osaka Kozai by Mitsubishi Shoji, April 1965; merger of Kinoshita Sansho by Mitsui Bussan, June 1965; buy-up of partial good will of Japan Trading Company by ditto; Jan. 1966; merger of Totsu by Marubeni, April 1966; merger of Aoki Shoji by C. Itoh, April 1964; fusion of Nissho and Iwai, Oct. 1968; buy-up of good will of Sanyo Shoji by Sumitomo Shoji, July 1962; absorption of Sogō Boeki by Sumitomo Shoji, August 1970.

In connection with the change of divisions and sections through which we wish to conduct analysis, we must add some words about the organizational forms of the six trading companies. Presently all the six are adopting the so-called multi-divisional structure system. (*jigyōbu-sei*, that is, division by operational aims, e.g. by products, markets, etc., to be distinguished from conventional functional division, e.g. production, accounting, etc.)

The adoption of this multi-divisional structure was conducted by the trading companies as follows. Mitsubishi Shoji shifted from the former administrative (or functional) system to it in Oct. 1968. Marubeni employed it firstly for its operational sector in May 1963 and then for the administrative sector in the next year, to complete the new system. C. Itoh decided to adopt it in Dec. 1961 and established five such departments for textile in April 1964, two for metals in May 1965, and two for machinery, four for foods and one for chemicals, oil and miscellaneous goods each in April 1966. Nissho Iwai entered the system in 1964 and abolished the previous general department system. Sumitomo Shoji took it in Dec. 1962, now consisting of main office and Tokyo branch office as the administrative sector and nine operational departments relevant to business.

Lastly Mitsui Bussan does not employ this system but a division system based on sectors and regions in charge. In this sense the company themselves say "Ours is not operational department system," but it seems to be not so far from other trading companies in substance.

IV. Analysis on the Growth of Sales Volume and the Number of Operational Sections (1)

Now in this section we proceed to our analysis. Firstly we shall try an overall view of the six trading companies by the general data available. (See Tables 2-1 to 2-6).

Turnover, which is to represent business growth directly, increased for Mitsubishi Shoji from 887.5 billion yen to 5,177.1 billion between 1962 and 1972, for Mitsui Bussan from 817.9 billion to 4,941.2 billion, for Marubeni from 688.1 billion to 3,088.5 billion, for C. Itoh from 646.3 billion to 2,824.7 billion, for Nissho Iwai from 238.2 billion to 2,392.5 billion and for Sumitomo Shoji from 370.8 billion to 2,414.9 billion. In aggregate of the six the increase was 5.7 times for the ten years, including the rapid rise for Nissho Iwai due to fusion.

The expansion of capital amount for the ten years was from 15.0 billion yen to 31.8 billion for Mitsubishi Shoji, from 8.3 billion to 25.8 billion for Mitsui Bussan, from 10.0 billion to 30.2 billion for Marubeni, from 10.9 billion to 25.3 billion for C. Itoh, for 3.5 billion to 15.4 billion for Nissho Iwai and 7.0 billion to 13.2 billion, in total 2.4 times.

Mitsubishi Shoji increased net profit from 4.4 billion yen to 29.3 billion, Mitsui Bussan from 3.8 billion to 24.3 billion, Marubeni from 2.9 billion to 18.3 billion, C. Itoh from 2.7 billion to 25.1 billion, Nissho Iwai from 1.0 billion to 11.1 billion and Sumitomo Shoji from 2.0 billion to 14.4 billion, thus in total by 7.3 times.

Again the profit ratio of sales of the six swelled from 0.46% in 1962 to 0.59% in 1972.

Also employees increased (in total number of each company) from 6,175 persons to 9,501 in Mitsubishi Shoji, from 6,790 to 10,326 in Mitsui Bussan, from 5,140 to 7,703 in Marubeni, from 5,182 to 7,049 in C. Itoh, from 2,952 to 6,916 in Nissho Iwai and from 3,675 to 5,570 in Mitsubishi Shoji.

As to employees belonging to the main offices of Tokyo and Osaka, which relate most to our study, the increase was from 3,172 persons to 5,012 in Mitsubishi Shoji, from 3,318 to 5,142 in Mitsui Bussan, from 3,753 to 5,576 in Marubeni, from 4,137 to 5,749 in C. Itoh from 2,344 to 5,310 in Nissho Iwai and from 2,587 to 4,019 in Sumitomo Shoji.

As to the number of executive staff, Mitsubishi Shoji increased it from 32 persons to 48, Mitsui Bussan from 34 to 43, Marubeni from 28 to 42, C. Itoh from 28 to 42, Nissho Iwai from 27 to 35 and Sumitomo Shoji from 21 to 34.

On the other hand, the changes or shifts in the numbers of departments, divisions and sections are shown in Tables 4-1 to 4-6. The number of departments (as of 1972) counts 12 for Mitsubishi Shoji, 17 for Marubeni, 40 for C. Itoh, 11 for Nissho Iwai and 19 for Sumitomo Shoji, excluding Mitsui Bussan which is not adopting divisional organization. As to divisions, Mitsubishi Shoji has 65, Mitsui Bussan 76, Marubeni 111, C. Itoh 119, Nissho Iwai 102 and Sumitomo

Table 4.1 C.Itoh shoji, Ltd.

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Administration Main division	3	4	5	5	12	10	10	10	10	10	10
Division	16	10	19	17	21	18	23	21	29	28	31
Section	39	40	(19)	—	(24)	(30)	105	73	52	39	34
Textile Main division	5	4	5	5	6	5	8	7	6	6	6
Division	11	10	13	15	16	16	24	23	25	25	24
Section	66	65	(24)	—	(25)	(32)	83	87	87	86	82
Machinery Main division	—	1	2	3	5	8	8	6	8	10	11
Division	4	3	5	8	9	12	9	12	23	25	29
Section	9	9	(6)	—	(9)	(19)	40	63	68	69	73
Metals Main division	2	1	1	3	3	6	6	4	4	5	5
Division	3	5	5	7	6	10	8	10	9	9	10
Section	11	10	(15)	—	(4)	(10)	25	38	37	38	41
Chemicals Main division	1	2	2	1	2	2	2	2	2	2	2
Division	2	4	3	2	4	7	4	3	6	6	8
Section	6	10	(4)	—	(12)	(14)	12	27	27	33	32
Foods Main division	1	1	2	2	4	4	4	4	4	4	4
Division	3	3	5	6	4	9	6	8	11	11	11
Section	4	4	(4)	—	(5)	(6)	19	25	25	25	26
Miscellaneous Main division	—	2	1	1	2	2	2	2	2	2	2
Division	3	4	3	4	3	5	3	3	6	6	6
Section	7	8	(6)	—	(5)	(8)	11	18	18	19	17

Figures in blocks by different sources.
—denotes uncalculable.

Table 4.2 Sumitomo shoji, Ltd.

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Administration Main division	—	1	1	1	—	4	5	7	7	7	7
Division	11	12	14	14	16	18	22	25	22	18	17
Section	(22)	42	44	48	55	60	64	65	59	62	—
Textile Main division	—	1	1	1	1	1	1	1	1	1	1
Division	1	3	1	1	—	1	1	3	3	3	3
Section	(3)	4	4	2	2	2	4	8	8	6	—
Machinery Main division	—	2	2	2	2	2	1	1	1	2	2
Division	4	12	12	12	13	15	12	12	15	16	16
Section	(13)	33	35	35	34	40	41	53	56	63	—
Metals Main division	—	2	2	2	2	2	2	2	2	4	4
Division	6	14	15	14	14	13	18	21	21	24	24
Section	(16)	35	42	39	42	42	52	54	57	59	—
Chemicals Main division	—	1	1	1	1	1	1	1	1	1	2
Division	2	2	2	5	6	6	6	9	11	13	12
Section	(7)	10	11	11	9	12	17	29	32	41	—
Foods Main division	—	1	1	1	1	1	1	1	1	1	1
Division	1	5	5	5	5	6	7	7	6	6	5
Section	(1)	12	12	12	12	11	12	15	15	23	—
Miscellaneous Main division	—	2	2	2	2	2	2	2	2	2	2
Division	2	6	8	10	11	12	13	11	13	10	11
Section	(5)	19	15	16	18	25	29	26	30	37	—

Figures in blocks by different sources.
—denotes uncalculable.

Table 4.3 Nissho Iwai, Ltd.

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Administration General main division			3	3		4	4	4	4	4	—
Main division			8	7	4	9	9	12	10	10	3
Division	(14)	(7)	16	16	19	18	18	27	29	29	28
Section	—	(10)	59	58	64	65	66	126	108	102	89
Textile Main General division			1	1	1	1	1	1	1	1	—
Main division			2	2	2	2	3	4	3	3	1
Division	(5)	(4)	6	6	6	5	5	8	9	10	9
Section	—	(19)	22	19	22	21	21	45	40	40	35
Machinery General main division			1	1	2	2	2	2	1	1	—
Main division			3	3	3	3	6	10	5	5	1
Division	(6)	(4)	12	11	13	13	12	18	19	18	18
Section	—	(6)	26	26	26	33	33	49	54	64	62
Metals General main division			1	1	2	2	2	3	3	3	—
Main division			4	4	4	4	6	6	6	7	3
Division	(12)	(8)	13	13	12	12	14	30	33	33	28
Section	—	(19)	35	35	39	44	48	88	87	95	84
Foods General main division			1	1	1	1	1	1	1	1	—
Main division			1	1	1	1	2	2	2	2	1
Division	(2)	(1)	3	3	4	4	4	8	8	9	5
Section	—	(2)	9	9	12	12	14	24	23	24	15
Miscellaneous General main division			1	1	2	2	2	2	2	2	—
Main division			4	4	2	4	5	5	5	5	2
Division	(6)	(2)	9	8	7	8	10	18	18	19	14
Section	—	(8)	28	29	28	32	36	69	74	70	54

Figures in blocks by different source.
—denotes uncalculable

Table 4.4 Marubeni, Ltd.

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Administration Main division	—	—	4	5	5	5	5	5	5	5	4
Division	19	22	20	21	21	19	18	18	16	17	16
Section	80	98	104	103	104	93	96	96	93	94	94
Textile Main division	—	4	4	4	4	4	4	4	4	3	3
Division	8	15	18	19	18	21	22	22	21	20	20
Section	75	98	94	92	83	83	85	103	99	76	69
Machinery Main division	—	2	1	2	3	3	3	3	3	3	3
Division	7	9	10	11	18	17	17	19	21	24	27
Section	43	46	51	51	71	74	79	84	94	88	91
Metals Main division	—	1	1	1	2	2	2	2	2	3	3
Division	4	12	12	13	14	12	17	16	17	21	21
Section	30	46	44	46	67	68	69	72	72	75	72
Chemicals Main division	—	1	1	1	1	1	1	1	1	1	2
Division	2	5	8	8	8	8	8	8	8	8	11
Section	18	29	32	32	33	28	30	35	33	40	46
Foods Main division	—	1	1	1	1	1	1	1	1	1	1
Division	2	8	7	7	6	7	8	8	8	9	8
Section	18	25	19	22	24	24	24	24	23	24	24
Miscellaneous Main division	—	2	2	2	2	2	2	1	1	1	1
Division	4	7	12	11	9	9	8	7	8	8	8
Section	34	30	31	31	35	34	30	36	37	42	38

—denotes uncalculable.

Table 4.5 Mitsui Bussan, Ltd.

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Administration Division	17	14	14	12	15	18	18	19	24	23	19
Section	79	91	98	95	113	100	97	92	130	90	105
Textile Division	1	1	1	1	1	1	1	1	2	3	3
Section	11	12	12	12	12	14	15	15	17	19	20
Machinery Division	4	7	7	9	10	10	11	11	13	12	12
Section	40	49	50	71	79	83	87	91	99	103	98
Metals Division	4	7	7	12	12	12	13	13	14	18	18
Section	38	51	50	71	78	83	87	92	90	98	109
Chemicals Division	3	4	4	4	4	7	7	7	8	9	9
Section	33	43	42	46	49	61	55	56	61	58	56
Foods Division	3	4	4	4	5	5	5	6	6	6	6
Section	24	28	28	29	35	35	36	36	37	40	40
Miscellaneous Division	5	6	6	6	7	8	8	8	9	9	8
Section	31	38	38	46	51	58	56	59	64	66	68

Table 4.6 Mitsubishi shoji, Ltd.

year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Administration Main division	—	—	—	—	—	—	—	3	3	3	3
Division	10	10	10	12	12	12	12	9	9	9	8
Section	63	65	72	74	73	74	79	58	53	—	—
Textile	—	—	—	—	—	—	—	1	1	1	1
Division	1	1	1	1	1	1	1	1	1	3	3
Section	9	9	10	9	8	7	8	9	8	—	—
Machinery	—	—	—	—	—	—	—	1	2	2	2
Division	7	8	8	9	11	11	11	11	11	11	12
Section	40	43	47	52	60	63	63	64	66	—	—
Metals	—	—	—	—	—	—	—	1	1	2	2
Division	6	6	6	7	7	7	7	10	10	9	12
Section	34	36	40	45	48	52	57	77	81	—	—
Chemicals	—	—	—	—	—	—	—	2	2	2	2
Division	5	5	6	6	6	7	8	12	12	13	13
Section	36	37	38	40	40	55	55	67	73	—	—
Food	—	—	—	—	—	—	—	1	1	1	1
Division	5	6	6	6	6	5	6	6	7	8	8
Section	32	32	32	32	33	28	28	31	33	—	—
Miscellaneous	—	—	—	—	—	—	—	1	1	1	1
Division	3	3	3	3	3	3	3	4	4	5	5
Section	17	17	19	19	20	21	23	28	26	—	—

—denotes uncalculable.

Shoji 88. And the number of sections is 340 in Mitsubishi Shoji (in 1970), 493 in Mitsui Bussan, 435 in Marubeni, 305 in C. Itoh, 339 in Nissho Iwai (in 1972) and 293 in Sumitomo Shoji (in 1971).

By calculating the number of sections per division by these figures, we see the value is in the order of Mitsui Bussan, Mitsubishi Shoji, Marubeni, Nissho Iwai, Sumitomo Shoji and C. Itoh, which tells that, excluding C. Itoh, the larger the company's sales volume, the more is the number of sections. And the sections relevant to administrative sectors have decreased in 1965 to 1970 in all companies each. Notably the percentage of operational sections to all sections has steadily declined at least up to 1971, which draws our attention.

V. *Analysis on Sales Volume Growth and Operational Sections (2)*

In the above we have got a broad view of the financial data and organizational data (numbers of divisions, etc.) of the six trading companies covering recent ten years. Next we shall attempt a deeper consideration of the problem by putting further processing on these data.

Since the preceding section seems to show the existence of positive correlation between growth of sales volume and section-number, in order to identify such relation by commodities and companies, we fitted regression curves and calculated the correlation coefficients as shown in Table 5-1.

In this table β_0 and β_1 are parameters. We assume a straight line between the amount of sales (X) and the number of sections (Y) as below.

$$Y = \beta_0 + \beta_1 X \quad (1)$$

And r is of course the correlation coefficient.

Table 5-1 exhibits the relation between sales growth and section-number for each company and commodity. The regression curve for each company of, for example, textile is expressed as:

Mitsubishi Shoji	$y = 9.2777 - 0.0374 x$	$\gamma = -0.3865$
Mitsui Bussan	$y = 8.6210 - 0.2813 x$	$\gamma = 0.9810$
Sumitomo Shoji	$y = 2.7643 - 0.4935 x$	$\gamma = 0.6756$
Nissho Iwai	$y = 13.8921 - 1.3604 x$	$\gamma = 0.8100$
Marubeni	$y = 97.6767 - 0.2207 x$	$\gamma = -0.7489$
C. Itoh	$y = 13.2696 - 0.7607 x$	$\gamma = 0.6291$

(Note: Figures of sales are before adjusting for wholesale price index, by Securities Reports).

By comparing these regression curves we can say, tentatively putting aside the correlation coefficients, that a company with a lesser gradient has a lower rate of section increase to sales volume growth, or in another way a higher rate of sales volume growth to section-increase (this might be more clearly shown by graph), in short the efficiency of sales volume per section is better. (See Figure 5-1).

Table 5-1. Sales—Operational Sections

		Textile	Machin- ery	Metals	Chemicals	Foods	Misce. Goods
C. Itoh	β_0	13.2696	-1.6732	-1.9801	1.1698	-4.8783	1.9506
	β_1	0.7607	1.5068	0.9616	0.9669	0.7853	0.6502
	γ	0.6291	0.9337	0.8986	0.9453	0.8933	0.8969
Sumitomo Shoji	β_0	2.7643	24.3267	24.3384	3.2890	8.1384	1.9542
	β_1	0.4935	0.8923	0.4492	1.4190	0.8104	1.9787
	γ	0.6756	0.8930	0.8798	0.9806	0.9411	0.9776
Nissho Iwai	β_0	13.8921	15.7580	21.3766	—	9.6693	1.1861
	β_1	1.3604	1.1482	0.7966	—	0.4843	0.2771
	γ	0.8100	0.9823	0.9422	—	0.6368	0.8506
Marubeni	β_0	97.6967	45.9451	38.1700	20.5678	20.5589	27.4430
	β_1	-0.2207	0.6667	0.5013	0.8769	0.0982	0.3636
	γ	-0.7489	0.8480	0.8842	0.8727	0.4419	0.7371
Mitsui Bussan	β_0	8.6210	44.1729	41.7033	32.4450	20.1836	31.4351
	β_1	0.2813	0.7968	0.4309	0.6483	0.4017	0.7057
	γ	0.9810	0.8879	0.9119	0.8686	0.8649	0.9142
Mitsubishi Shoji	β_0	9.2777	36.5834	27.4744	16.5217	31.3183	13.4133
	β_1	-0.0374	0.4446	0.3660	0.9346	-0.0033	0.5657
	γ	-0.3865	0.8475	0.9925	0.9750	-0.0199	0.9369

$$Y = \beta_0 + \beta_1 X$$

X : sales, Y : number of operational sections.

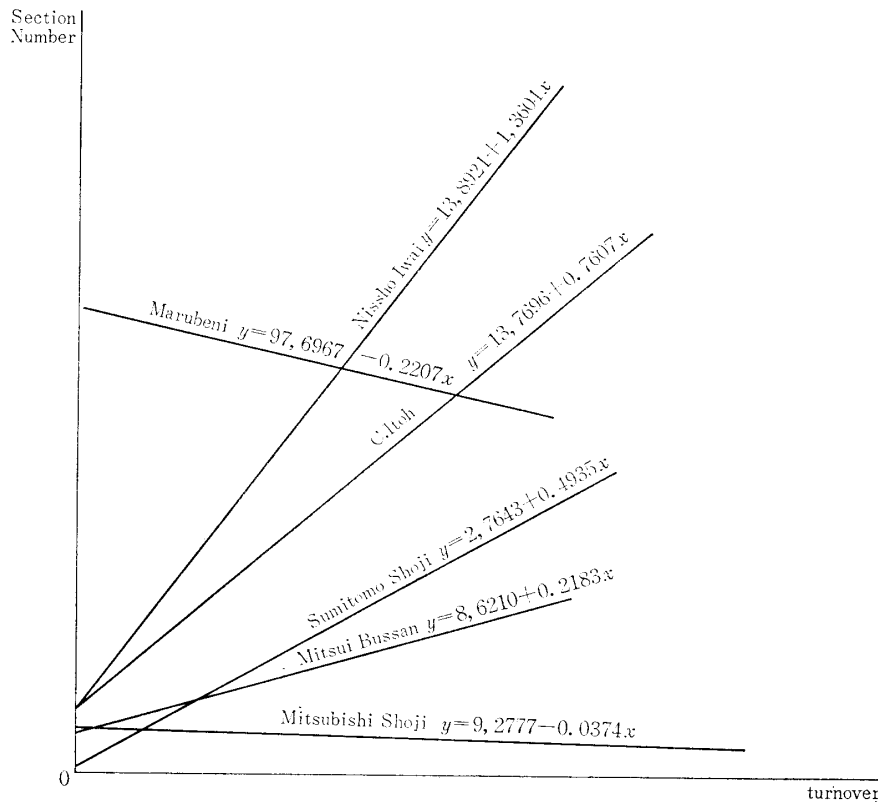
Judgement on the great values of the constants is not easy but, letting alone the problem of correlation coefficient, we could say, about textile, Marubeni, Mitsubishi Shoji and Mitsui Bussan have better efficiency of sales volume per section, while C. Itoh and Nissho Iwai have been striving for the growth of sales volume by remarkably increasing the number of sections.

To observe the correlation coefficients in relation with the increases in section and sales volume, they are appreciably high: Mitsubishi Shoji -0.3865, Mitsui Bussan 0.9810, Marubeni -0.7489, Nissho Iwai 0.8100, Sumitomo Shoji 0.6756 and C. Itoh 0.6291.

The high correlations of 0.9810 shown with Mitsui Bussan and 0.8100 with Nissho represent strong, random-less mutual connections and hence, there have been parallel moves of sales volume growth and section-number in the other of Mitsui Bussan, Nissho Iwai, Marubeni, Sumitomo Shoji and C. Itoh.

Since the value of the constant, i.e. parameters β_0 , means that the absolute value of section-number is large even if sales volume approaches to zero, the larger this parameter is, the more numerous is the number of sections primarily dealing with the product, and accordingly investment for organization (reserves and other money invested for higher efficiency of organization) is conceived to be larger.

Figure 5-1. Regression Curve between Turnover and Section-Number in Textile Sector



(Note: Marubeni and Mitsubishi Shoji, notably the latter, with a negative correlation coefficient have contracted the textile sector in recent years, resulting in the decrease in both section-number and sales volume).

Next, to observe machinery, its parameters and correlations are as shown in Table 5-1, 2nd column. The organizational efficiency (growth of sales per section) ranks in the order of Mitsubishi Shoji, Marubeni, Mitsui Bussan, Sumitomo Shoji, Nissho Iwai and C. Itoh: as to the correlation, Nissho Iwai holds top (0.9823), followed by C. Itoh, Sumitomo Shoji, Mitsui Bussan, Marubeni and Mitsubishi Shoji. Even in the last-rank Mitsubishi Shoji it shows 0.8475, and hence the relation between sales volume and section-number in this sector is higher than in textile.

Next, metals. Mitsubishi Shoji with 0.3660 in the parameter of gradient being the highest, the order is Mitsui Bussan, Sumitomo Shoji, Marubeni, Nissho Iwai and C. Itoh. The correlation coefficient shows the highest value of 0.9925 for Mitsubishi Shoji and the lowest of 0.8797 for Sumitomo Shoji, thus very close even compared with machinery.

Next, chemicals. The parameter of gradient (β_1) is lowest for Mitsui Bussan, 0.6483, followed by Marubeni, Mitsubishi Shoji, C. Itoh and Sumitomo Shoji. Thus insofar as chemicals is concerned the organizational efficiency is highest at Mitsui Bussan, and hence it may be said that Mitsubishi Shoji is

strong in Machinery and metals while Mitsui Bussan in chemicals. As for the correlation coefficient Sumitomo Shoji with 0.9807 is highest. And since even the lowest value Mitsui Bussan shows 0.8727 and only two companies have a value below 0.9, the correlation is high. Accordingly we can say in the sectors of metals, chemicals and machinery strong correlation exists between the change in sales volume and that in section number, and the latter corresponds flexibly with the former.

Contractively in the case of foods we cannot find such high correlation as in other sectors; for instance, -0.0199 for Mitsubishi Shoji and 0.4419 for Marubeni. Excluding these two companies of low correlation, the gradient parameter is low at Mitsui Bussan with 0.4017 , followed by Nissho Iwai with 0.4843 C. Itoh with 0.7853 and Sumitomo Shoji with 0.8104 . Thus among those with a correlation coefficient higher than 0.6 , Mitsui Bussan and Nissho Iwai have relatively high organizational efficiency.

Lastly, miscellaneous. The order of β_1 is from lower to higher, Nissho Iwai, Marubeni, Mitsubishi Shoji, C. Itoh, Mitsui Bussan and Sumitomo Shoji. The organizational efficiency is highest for Nissho Iwai and lowest for Sumitomo Shoji, irrelevant to sales scales.

Miscellaneous goods here include wood & wood product, furniture & appliance, pulp & paper, publishing & printing-related goods, rubber goods, leather goods, ceramics & stone goods and others. It seems that in these fields, with low unit prices and much trouble, big business is relatively weak.

(Note: for Nissho Iwai chemicals is included into miscellaneous goods, which is undistinguishable to outsiders).

And the correlation coefficient between sales volume and section-number for this miscellaneous goods is 0.9776 in Sumitomo Shoji, the top, 0.9369 in Mitsubishi Shoji, 0.9142 in Mitsui Bussan, 0.8969 in C. Itoh, 0.8506 in Nissho Iwai and 0.7371 in Marubeni. Thus it is seen that in this sector changes in sales volume are reflected readily in those in the number of sections.

All in all, in the six trading companies there is appreciable correlation between the growth of sales volume by each sector and the fluctuation in organization.

The correlation is notably strong for metals, chemicals machinery and miscellaneous goods but not so much for textile and foods in some companies.

And letting alone the problem of correlation, high growth of sales as compared with that of section-number, namely high organizational efficiency, lies in Mitsubishi Shoji for machinery and metals, Mitsui Bussan for chemicals, Nissho Iwai and Marubeni for miscellaneous goods, and Mitsubishi Shoji, Marubeni and Mitsui Bussan for textile and foods.

However, the values about section-number and sales volume used in the above analysis are those published by business as they are. Since there have been fluctuations of money value during the ten years covered, adjustment must be made for it. The whole-sale price index shown in Table 5-2 was prepared from this viewpoint, and by this index Table 5-1 was revised to Table 5-3.

Table 5-2. Wholesale Price Index

	Total	Textile	Machin- ery	Metals	Chemicals	Foods	Misce. Goods
Number of items	928	104	185	170	146	141	182
Weight	1000.0	77.7	265.7	192.6	133.9	157.7	172.4
1962	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1963	101.8	112.7	98.8	98.6	98.5	105.8	100.7
1964	102.1	109.4	97.8	101.7	98.7	105.5	101.8
1965	102.7	106.5	97.7	103.4	99.0	108.7	102.0
1966	105.3	106.9	98.1	107.3	96.6	113.5	105.2
1967	107.2	113.3	98.5	108.8	95.5	116.7	103.9
1968	108.1	114.5	98.7	105.1	94.8	122.7	112.0
1969	110.4	113.9	98.6	112.2	93.4	127.2	115.0
1970	114.4	121.1	100.1	119.5	94.6	130.0	120.7
1971	113.5	117.1	99.5	110.3	98.0	134.1	121.6
1972	114.4	119.7	99.2	109.5	97.7	136.7	125.8

Statistics Bureau, Bank of Japan, Keizai Tokei Nempo, 1973. Major grouping in the Nempo was revised. Foods includes agricultural and forestal products, both edible and unedible. Textile denotes textile articles. Metals includes metal stuff, steel, non-ferrous metals and metal articles. Chemicals refers to products of chemical industry as well as oil, coal and their products. Miscellaneous goods covers lumber, wooden products, pulp paper, ceramics and others.

By this revision taking money-value changes into account, some facts are found, for example, for metals the highest rank of organizational efficiency shifts from Mitsubishi Shoji to Sumitomo Shoji, and for miscellaneous goods from Nissho Iwai to Marubeni. However, as a whole the efficiency in each sector does not change its character.

Accordingly a point especially noteworthy is that the correction becomes higher by revision, although exceptionally Marubeni and Mitsubishi Shoji show a value below 0.5.

And this change is remarkable for machinery, metals, chemicals and miscellaneous goods. In these four sectors among the twenty-three coefficients as many as fifteen have a value above 0.9, and all the rest eight above 0.8 excepting 0.7223 of Marubeni for miscellaneous goods.

In other words, all the coefficients are higher than 0.8, excepting Mitsubishi Shoji, Marubeni and Sumitomo Shoji in textile, Mitsubishi Shoji, Marubeni and Nissho Iwai in foods, and Marubeni in miscellaneous goods.

And even in textile and foods, the correlation for the total of samples is above 0.8, as may be seen by the lower section of Table 5-3. Thus we can say in the six trading companies the high-pace growth of sales volume has been closely related with the numbers of sections, and for this reason all companies have conducted strengthening of armament on section base or by reorganization of sections.

To exhibit companies with high organizational efficiency by commodity

sectors, which are somewhat different after adjustment, for textile the order is Mitsubishi Shoji, Mitsui Bussan, Marubeni and C. Itoh; for machinery Mitsubishi Shoji, Mitsui Bussan, Marubeni, and Sumitomo Shoji; for metals Sumitomo Shoji, Mitsubishi Shoji, Mitsui Bussan and Marubeni; for chemicals Mitsui Bussan, Marubeni, Mitsubishi Shoji and C. Itoh; for foods Mitsubishi Shoji, Marubeni, Mitsui Bussan and Nissho Iwai; for miscellaneous goods Marubeni, Mitsui Bussan, Mitsubishi Shoji and C. Itoh.

The extreme-right column of Table 5-3 shows the values of correlation between sales volume and section-number with respect to all sectors, which is exhibited in graph in Figure 5-2.

By these data we see, putting aside the values of parameters which are constants, companies with a lesser increase in section-number relative to sales volume growth, hence with larger sales volume growth by a smaller increase in section-number, and hence a high rank of organizational efficiency are in the order of Mitsubishi Shoji, Marubeni, Mitsui Bussan, Sumitomo Shoji, C. Itoh and Nissho Iwai.

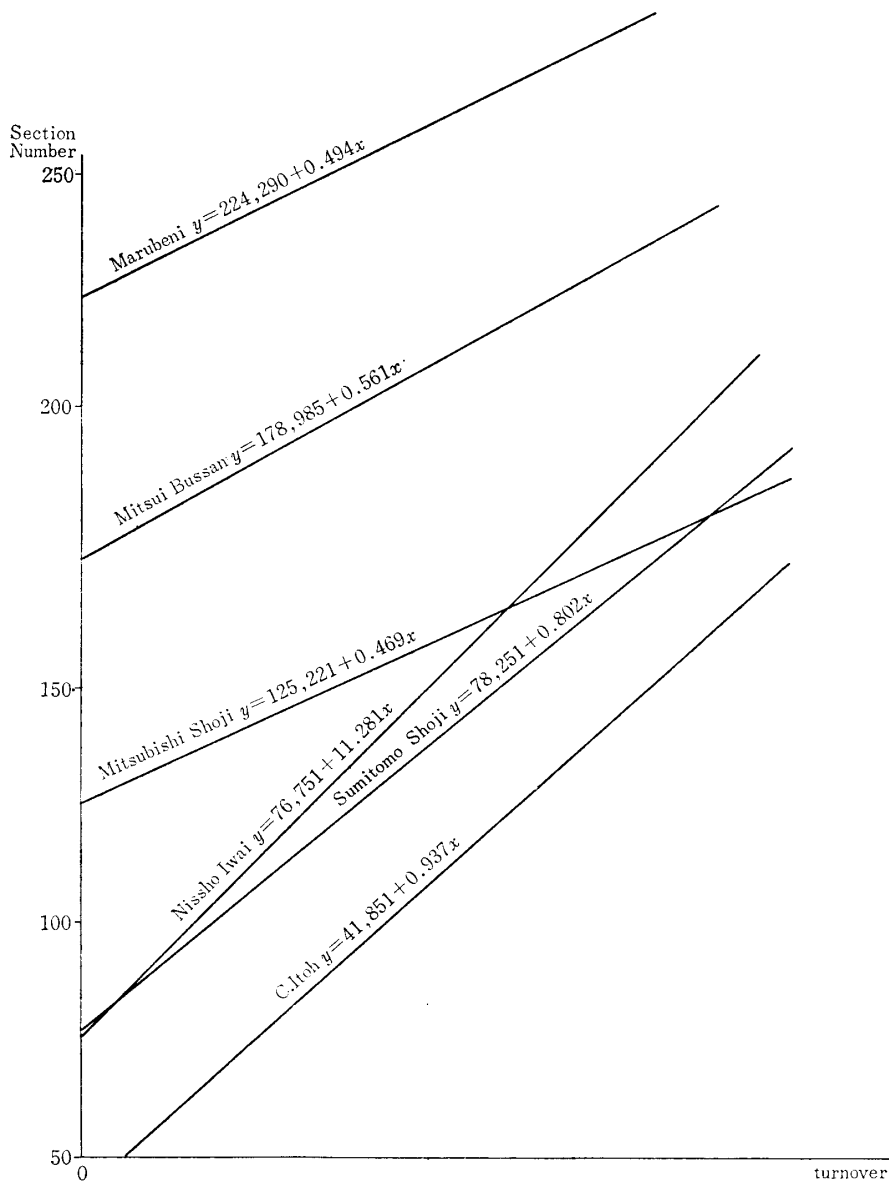
Table 5-3. Sales (adjusted)—Operational Sections

		Textile	Machin- ery	Metals	Chemicals	Foods	Misce. Goods	Total
C. Itoh	β_0	51.6203	6.4416	2.4119	0.4788	-3.9118	3.2939	41,851
	β_1	0.4469	1.3336	0.9945	0.8856	1.0313	0.7395	0.937
	r	0.8526	0.9290	0.9648	0.9537	0.8964	0.9245	0.9515
Sumitomo Shoji	β_0	2.7791	29.4563	29.1264	3.2967	7.0996	-3.4488	78,251
	β_1	0.5738	0.7371	0.4180	1.3603	1.1751	2.7917	0.802
	r	0.6528	0.9830	0.9708	0.9769	0.9407	0.9839	0.9910
Nissho Iwai	β_0	12.8355	15.5123	20.4315	—	8.7606	13.8110	71,739
	β_1	1.6822	1.1481	0.9005	—	0.7064	1.5569	1.128
	r	0.8157	0.9823	0.9309	—	0.6443	0.8579	0.9067
Marubeni	β_0	101.8131	45.7579	36.9174	20.7238	19.9234	25.6535	224,290
	β_1	-0.3657	0.6655	0.5812	0.8351	0.1531	0.5149	0.494
	r	0.2890	0.8486	0.8899	0.8622	0.4320	0.7223	0.8394
Mitsui Bussan	β_0	8.5543	47.8453	39.1060	34.9457	20.1635	32.5753	178,985
	β_1	0.3189	0.6619	0.5060	0.5411	0.4661	0.7104	0.561
	r	0.9794	0.8678	0.9468	0.8059	0.8200	0.9008	0.9163
Mitsubishi Shoji	β_0	9.2941	36.1891	25.1173	18.0012	31.1998	12.0228	125,221
	β_1	-0.0489	0.4486	0.4395	0.8560	0.0009	0.7300	0.469
	r	-0.3297	0.8541	0.9912	0.9772	0.0036	0.9372	0.9902
Total	β_0	4.6306	29.8975	26.7852	14.0703	10.1733	10.6204	—
	β_1	1.3308	0.8266	0.5919	0.9409	0.6991	1.2921	—
	r	0.8094	0.8227	0.8521	0.8349	0.8136	0.8120	—

$$Y = \beta_0 + \beta_1 X$$

X : turnover (adjusted for price index)

Y : sales of operational sections

Figure 5-2. Regression Curve between Total Sales and Section-Number

And the parameter β_1 for the upper-rank three companies is below 0.5 while for the lower three it is above 0.8, with a large gap lying between the two groups.

Again the parameter β_0 is larger for Mitsubishi Shoji, Mitsui Bussan and Marubeni than for other three companies, making a notable feature.

It is very difficult to interpret what the parameter β_0 means, but we could realize that Mitsubishi Shoji, Mitsui Bussan and Marubeni are unfavored if sales volume is below a certain level but can display organizational efficiency if above it.

In this sense simple judgement of priority is impossible between Mitsui Bussan and Marubeni because the parameter β_1 is surely better for the latter but the parameter β_0 is smaller for the former.

The correlation coefficient between sales volume and sections by companies is over 0.9 for all companies excepting Marubeni (0.839). Thus we can consider that in Japan's multi-line trading companies fluctuations of sales volume sensitively affect the changes in section-number, and inversely the latter strongly exert influence on the former.

VI. Analysis on Sales Volume Growth and Operational Sections (3)

As above we have found that close relations exist between the growth of sales volume and the change in operational sections. The next problem seems to be which inter-connection is between the relation of the sales of a product sector to the sales of all sectors and the relation of the sections relevant to this product to all sections, because the products dealt respectively by sectors of textile, machinery, metals, foods and miscellaneous goods must have different growth and decline, and in addition each product must have each life cycle.

From this viewpoint we calculated (sales of the sector)/(aggregate sales) and (number of sections of the sector)/(aggregate number of sections) for each company, and fitted regression curves to them, as is shown in Table 6-1.

Table 6-1. Sales—Operational Sections (in percentage)

		Textile	Machinery	Metals	Chemicals	Foods	Miscel.
C. Itoh	β_0	-85.6807	-8.1692	-0.9452	-11.1635	-2.5420	3.2011
	β_1	2.0006	2.0368	0.9961	1.8956	0.7674	0.4219
	r	0.9828	0.9385	0.9012	0.7948	0.1455	0.4863
Sumitomo Shoji	β_0	11.3798	34.2753	-1.3579	18.8418	4.6586	11.3798
	β_1	0.3965	-0.2967	0.6693	0.4104	0.5081	0.3965
	r	0.2429	-0.6905	0.7591	0.1800	0.2927	0.2429
Nissho Iwai	β_0	6.1183	14.6106	7.2478	—	14.8023	20.4018
	β_1	0.9483	0.3655	0.5917	—	-0.6474	0.1640
	r	0.6792	0.3555	0.5658	—	-0.5863	0.1816
Marubeni	β_0	11.1263	8.6687	10.9558	8.5552	3.5808	6.7502
	β_1	0.6300	0.7452	0.3753	0.2717	0.3016	0.4211
	r	0.8955	0.7734	0.8824	0.3884	0.6758	0.3568
Mitsui Bussan	β_0	0.7436	23.2139	15.5755	1.3522	6.6613	18.7997
	β_1	0.4486	0.1298	0.2711	1.2108	0.2901	-0.1376
	r	0.9511	0.1940	0.8607	0.8196	0.8878	-0.3550
Mitsubishi Shoji	β_0	-0.9617	29.6681	7.9177	44.8022	-5.4428	9.3600
	β_1	0.5336	-0.2234	0.4985	-1.3101	1.3305	0.0244
	r	0.8395	-0.2075	0.9098	-0.7881	0.9496	-0.0244

$$Y = \beta_0 + \beta_1 X$$

$$X : \frac{\text{sales of the sector}}{\text{aggregate sales}}$$

$$Y : \frac{\text{number of sections of the sector}}{\text{aggregate number of sections}}$$

What is recognized by this table is that no such intense correlation can be seen as is in the relation by absolute values between sales volume and section-number, in which we fitted straight regression curves as represented by equation (1.)

That is, in Table 6-1 values of correlation of above 0.9 count only nine cases among thirty five, those above 0.8 twelve, and those below 0.5 eleven.

In other words, under this relation by percentage expression, non-correlation is seen with many cases, though intense relation for some ones. Accordingly we felt the necessity to fit a different curve.

Then our next experiment was, keeping the separation of sectors of textile, machinery, etc., to calculate the above-said two ratios for each sector, and fitted regression curves of exponential equation. This was because the plots by percentage expression by sectors count only eleven, but, while, even by graph no overall tendency is recognizable, by a bird's-eye-view of plot groups by sectors we can find parabolic relations of increasing, proportional and decreasing.

In concrete we contemplated an equation as below and calculated regression curves.

$$X=ab^Y \quad (2)$$

where X is percentage ratio of sales, Y percentage ratio of sector-number.

By expressing this as logarithm, we got:

$$\log X = \log a + Y \log b \quad (3)$$

On this, calculation was conducted putting $\log X = X'$, $\log a = \beta_0$, $\log b = \beta_1$, and further parameters a , b and correlation were sought as shown in Table 6-2.

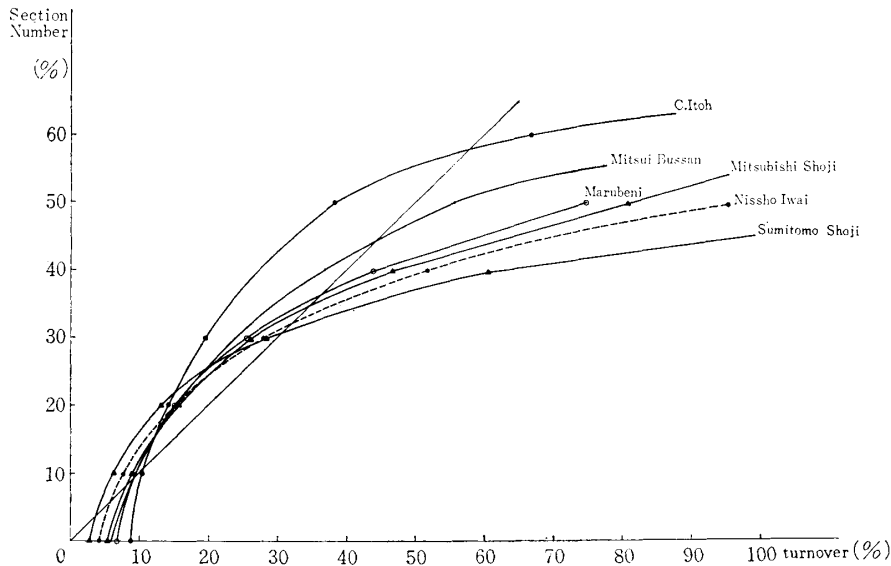
By this table we can get very intense correlation, in contrast to the above straight regression curve; the coefficients are above 0.8 in all cases excepting Mitsui Bussan with 0.7483 and Marubeni with 0.7949.

This is charted in Figure 6-1. By adapting this curve to, for example, Mitsui Bussan, Figure 6-2 is obtained, in which the groups of textile, foods, miscellaneous goods, chemicals, machinery and metals, ranging from lower to upper, consist

Table 6-2. Sales—Operational Sections (in percentage)

	$X = ab^Y$		$\log X = \log a + Y \cdot \log b$			
			\parallel X'	\parallel β_0	\parallel β_1	
	X : sales (%)					
	Y : number of sections (%)					
	C. Itoh (42)	Sumitomo Shoji (54)	Nissho Iwai (45)	Marubeni (66)	Mitsui Bussan (66)	Mitsubishi Shoji (54)
β_0	1.9928	1.0230	1.4921	1.6883	1.8821	1.6742
β_1	0.0330	0.0770	0.0613	0.0523	0.0428	0.0543
a	7.3362	2.7814	4.4464	5.4104	6.5673	5.3345
b	1.0335	1.0801	1.0632	1.0537	1.0437	1.0558
r	0.9021	0.9143	0.9169	0.7949	0.7483	0.8384

Figure 6-1. Relation between Sales and Section-Number, by Commodities, in Percentage (I)



a curve as a whole.

It does not allow easy conclusion what is meant by this graph or the values exhibited. We cannot judge by Figure 6-2 whether or not the move along the curve begins at the step of textile, passes foods and so on, and lastly goes to metals. In order to elucidate this relation, more long-range and excise observations may be required.

However, it is recognizable in this curve that, for example, in the metals sector, although the section-number is small, and its percentage increase is low, the growth of sales volume in percentage is large, and hence the efficiency of this sector is remarkably high which is favorable to business management.

It must be noticed on the other hand that this sector, with appreciably large percentage in section-number as well as in sales volume, holds a central position in business, hence involves many problems.

Accordingly, provided the market is stable and has capacity to allow increase in the volume of transaction, it seems that organizational efficiency rises rapidly when section-number expands over a certain level, and the relation between section-number percentage and sales volume percentage moves toward right-up direction, firstly increasing and then decreasing.

About this theme, however, various problems such as market condition, competitive power or business policy are conceivable, so studies over a very long term will be necessary as mentioned above, which shall make our future study.

Other results of analysis on the section level are as follows.

First, after our above study centering on the number of operational sections

Figure 6-2. Relation between Sales and Section-Number, by Commodities, in Percentage (II)

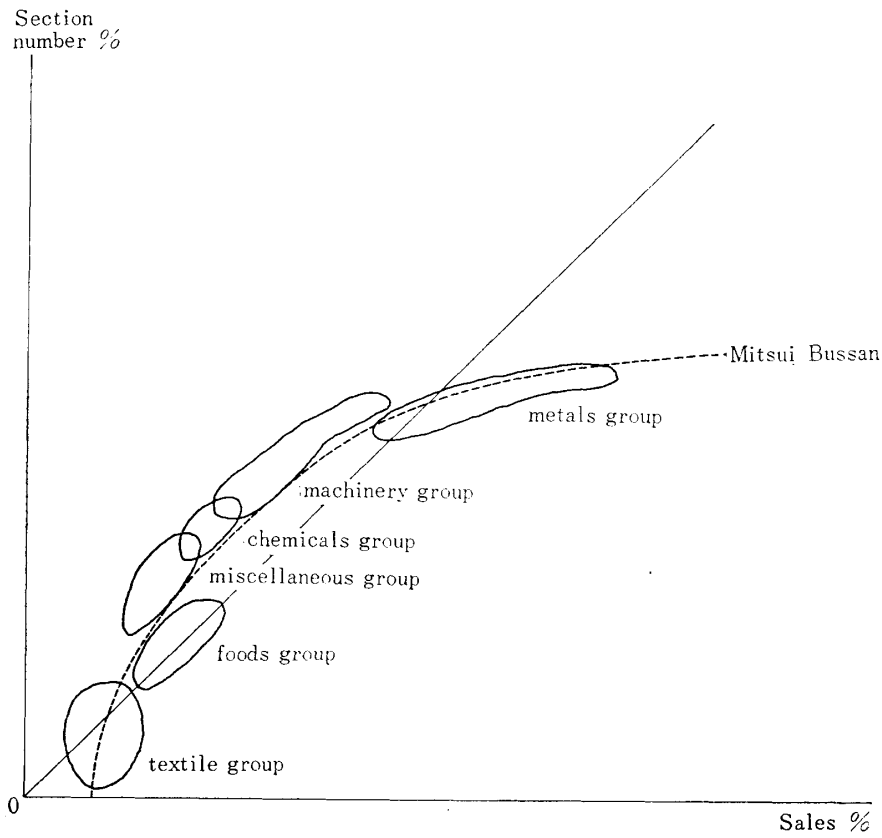
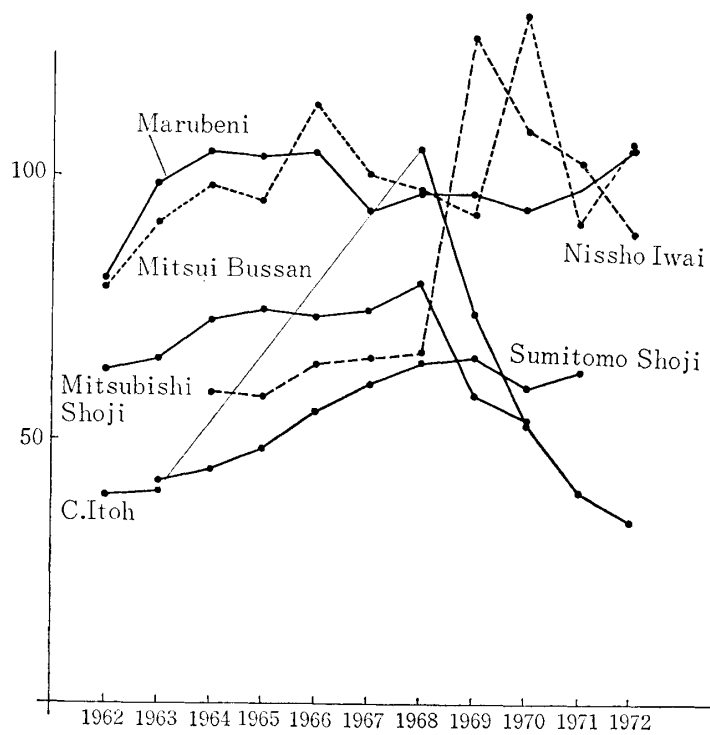


Figure 6-3. Moves of Number of Administrative Sections



—its relations with sales growth—we proceeded to take up the number of administrative sections. We calculated the ratio of administrative sections to total (operational plus administrative) sections on ten years, and plotted the result as shown in Figure 6-4.

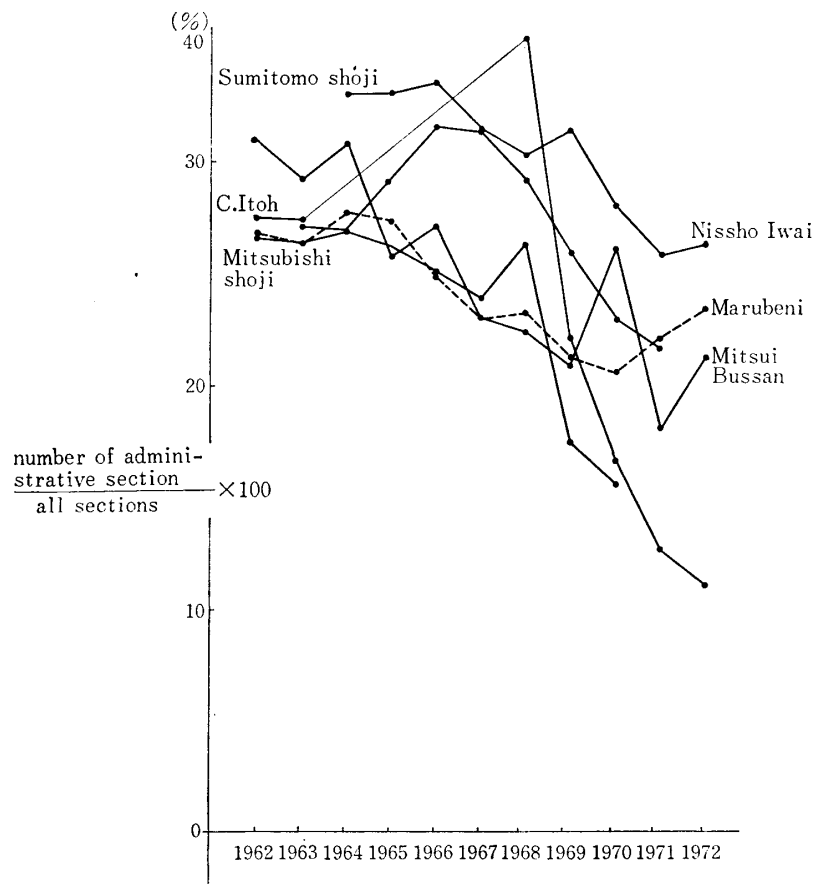
The figure shows that in all companies this ratio has declined. But by the foregoing Figure 6-3 the number of administrative sections in almost all companies, excluding C. Itoh and Mitsubishi Shoji, has remained unchanged or shown a little increase. Thus the rate of increase in operational sections is more significant than in administrative sections, which makes us infer that all in all the number of administrative sections has no appreciable connection with the growth of sales.

(Note: in Section 4 we analyzed the correlation between operational sections and sales volume. So that of all sections with sales is shown in Table 6-3.)

Next, we entered the study of the relations between the trend of administrative sections and administrative and sales expenses.

What increases administrative and sales expenses for each company has shown in ten years is observable in Table 2-1 and so forth. The rate of increase is substantial. So it is primarily problematic to fit straight line regression curves, yet we used regression curves of the first degree to observe the relation between administrative and sales expenses and administrative section-number

Figure 6-4. Moves in Percentage of All Sections and Administrative Sections



(Table 6-4) and then fitted exponential equations (Table 6-5).

By the result, in Table 6-4 only two companies have a correlation coefficient of 0.7-odd but all others that of below 0.5, and in Table 6-5 three have that of above 0.7 while other three that of below 0.5, thus giving no appreciable result.

Accordingly it was unable to find any obvious correlation, but next we fitted regression curves after dividing the period into some pertinent parts, not for the ten years as a whole. This is Table 6-6.

By this division the correlation is seen as follows: in C. Itoh it is 0.8796 for 1968 to 1972; in Marubeni 0.7042 for 1967 to 1972; in Sumitomo Shoji contrastively high correlation of over 0.96 prior to 1969; in Nissho Iwai high correlation of over 0.8 for 1964 to 1968 and 1969 to 1972 respectively; in Mitsui Bussan over 0.73 only for 1962 to 1964; in Mitsubishi Shoji over 0.9 for 1962 to 1968 and 1967 to 1970.

This result seems to be affected by the merger or changes in organization—

Table 6-3. Sales (adjusted)—Number of All Section

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
β_0	105.9992	122.2972	120.2695	321.7024	267.9620	218.5431
β_1	0.8812	0.9285	1.4341	0.4850	0.6059	0.3677
r	0.8385	0.9881	0.8789	0.7911	0.8964	0.9442

X : sales,

Y : number of sections

$$Y = \beta_0 + \beta_1 X$$

Table 6-4. Administration and Sale Expenses Number of Administration Sections

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
β_0	40.3125	44.0906	51.4890	94.4979	31.4713	-21.0727
β_1	0.2246	0.4573	1.4704	0.1052	0.3176	-0.3104
r	0.1190	0.7454	0.7375	0.2065	0.3793	-0.4550

X : sales,

Y : number of sections

$$Y = \beta_0 + \beta_1 X$$

Table 6-5. Administration and Sale Expenses—Administrative Section

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
β_0	4.4737	2.1909	3.3616	2.8770	4.0291	6.4955
β_1	-0.0155	0.0557	0.0205	0.0249	0.0158	-0.0149
a	87.6806	8.9432	28.8351	17.7609	56.2098	662.1568
b	0.9846	1.0573	1.0207	1.0252	1.0159	0.9852
r	-0.7582	0.8479	0.7999	0.2947	0.4599	-0.3111

$$X = ab^Y$$

$$\log X = \log a + Y \cdot \log b$$

$$\begin{array}{ccc} \parallel & \parallel & \parallel \\ X' & \beta_0 & \beta_1 \end{array}$$

X : administration and sale expenses

Y : number of administrative sections

Table 6-6. Administration and Sale Expenses—Administrative Sections

	year	β_0	β_1	r
C. Itoh	1968~72	138.5124	-2.3194	0.8796
Marubeni	1962~67	86.4546	0.7121	0.3830
	1967~72	86.7622	0.2777	0.7042
Sumitomo Shoji	1963~67	23.0667	1.8847	0.9861
	1963~68	28.9724	1.4347	0.9670
	1963~69	35.2322	1.0027	0.9211
	1967~72	62.8210	-0.0239	-0.1104
Nissho Iwai	1964~67	46.3915	1.5859	0.8873
	1964~68	53.3505	0.8237	0.8314
	1967~72	62.7000	1.1236	0.5160
	1969~72	170.4294	-1.9576	-0.9199
Mitsui Bussan	1962~67	61.7589	1.6000	0.7333
	1962~66	54.5779	2.0071	0.7768
	1967~72	94.2510	0.1844	0.1763
Mitsubishi Shoji	1962~67	55.6583	0.6463	0.8416
	1962~68	55.0517	0.6771	0.9004
	1967~70	113.7808	-1.1734	-0.9074

adoption of divisional organization and abolition of section system—in companies, but it was impossible to explain what of them had been the decisive factors.

VII. Consideration on Sales Volume Growth and Changes in Division, Section, Employee and Other Relevant Organizations

In the above we conducted various analyses concerning sales volume growth and changes in operational organization. Lastly in this section we should like to study other problems surrounding organization in order to carve into relief more clearly our descriptions.

Firstly, we calculated the relation between the number of all employees and sales volume for each concern. This represents the moves of sales volume per employee and hence relates to the productivity of labor.

The values calculated are shown in Table 7-1. Putting aside the problem of correlation coefficient for a while, as for parameter β_1 , that is, the value presenting an increase of sales volume per increase of one employee (or its inverse relation) the lowest one that is, a large ratio of sales volume increase to employee-increase (or a small ratio of employee-increase to sales increase), is found for C. Itoh, followed by Mitsui Bussan, then Mitsubishi Shoji.

This order of ranks is different from that observed about sections and sales volume Section V), which is considered to be derived from various conditions

such as the number of employees per section (Table 6-2) and the number of sales branches.

The correlation coefficient is generally high—0.7561 even in the lowest case of Mitsui Bussan—suggesting obvious correlation between the two items.

Table 7-2 shows the relations between the aggregate number of sections and the number of employees. It is observed that again here exists high correlation. Companies in which an increase of employees is directly reflected in that of sections are in the order of C. Itoh, Mitsui Bussan, Sumitomo Shoji, Nissho Iwai, Mitsubishi Shoji and Marubeni (rank shows the value of parameter β_1).

Next, we turn to the relation between section and division. The multi-line trading companies have changed their divisions and sections as shown in Table 4-1f, which is charted as Figures 7-1 and 7-2.

To put regression curves to this relation brings about Table 7-3. The correlation coefficients in this regression analysis are above 0.9, with the exceptional low of C. Itoh of 0.8561, thus very high correlation.

Table 7-1. Sales (adjusted)—All Employees

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
$\hat{\beta}_0$	52.9241	35.7712	25.9282	51.6405	71.7869	57.3047
$\hat{\beta}_1$	0.0777	0.1260	0.2572	0.1176	0.0835	0.0928
r	0.8510	0.8736	0.9088	0.7983	0.7561	0.9739

$$Y = \beta_0 + \beta_1 X \quad X: \text{sales} \quad Y: \text{all employees}$$

(Note: head titles denote respectively the numbers of item matters. Turnover and sales are adjusted for wholesale prices.)

Table 7-2. Main Office Employees—All Sections

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
$\hat{\beta}_0$	-38.8930	-5.5040	-0.9446	10.6686	-13.2278	5.3252
$\hat{\beta}_1$	1.2700	0.6831	0.6770	0.5909	1.2146	0.6060
r	0.8796	0.8592	0.8604	0.8940	0.8985	0.9688

$$Y = \beta_0 + \beta_1 X \quad X: \text{main office employees} \quad Y: \text{all section}$$

(Note: head titles denote respectively the numbers of item matters. Turnover and sales are adjusted for wholesale prices.)

Table 7-3. All Sections—All Divisions

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
$\hat{\beta}_0$	-7.7506	11.4370	7.7938	-52.9646	-12.6690	-12.4710
$\hat{\beta}_1$	0.3427	0.2988	0.2707	0.3577	0.1763	0.2109
r	0.8561	0.9671	0.9895	0.9263	0.9574	0.9554

$$Y = \beta_0 + \beta_1 X \quad X: \text{all section} \quad Y: \text{all divisions}$$

(Note: head titles denote respectively the numbers of item matters. Turnover and sales are adjusted for wholesale prices.)

Figure 7-1. Moves of Divisions

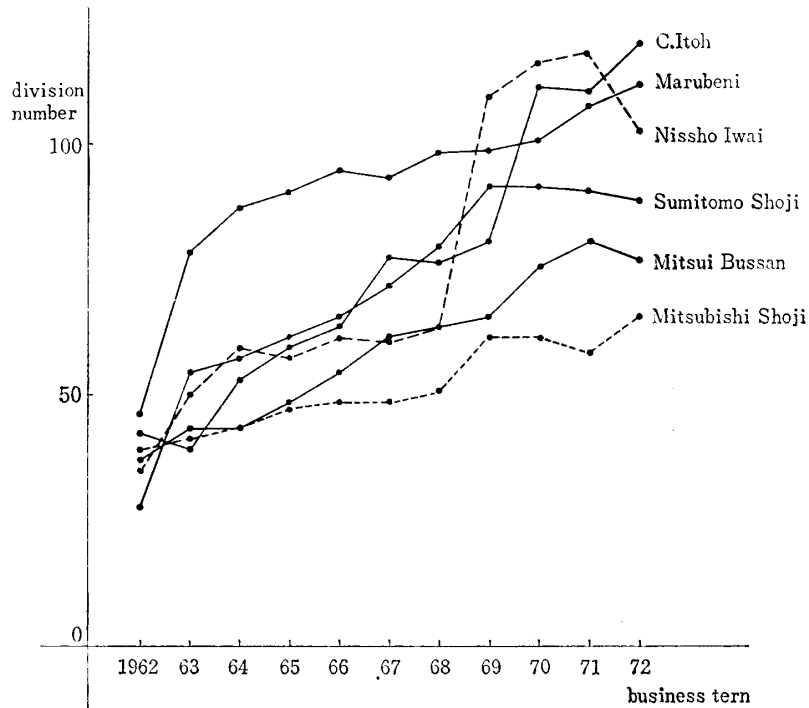
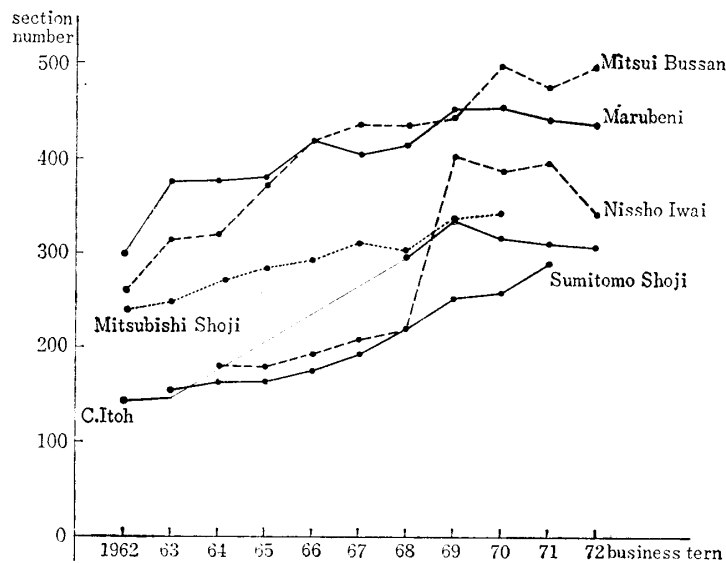


Figure 7-2. Moves of Sections



And parameter β_1 , showing the ratio of increase of divisions to that of sections, tells that in Marubeni, C. Itoh, Sumitomo Shoji and Nissho Iwai new divisions are set up relatively easily in accompany with the increase of sections, while in Mitsubishi Shoji and Mitsui Bussan it is relatively rare as against to other trading companies.

Next, what comes to the same thing, focus is shifted to the relation between division and section particularly with respect to operational ones. Table 7-4 is this.

Table 7-4. Operational Sections—Operational Divisions

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
β_0	14.8534	15.4560	5.6045	-46.8955	-8.1948	-2.3254
β_1	0.2304	0.2637	0.2818	0.3884	0.1614	0.1865
r	0.9156	0.9743	0.9923	0.9097	0.9870	0.9612

$Y = \beta_0 + \beta_1 X$ X : operational section Y : operational divisions
 (Note: head titles denote respectively the numbers of item matters. Turnover and sales are adjusted for wholesale prices.)

Table 7-5. Sales—All Divisions

	C. Itoh	Sumitomo Shoji	Nissho Iwai	Marubeni	Mitsui Bussan	Mitsubishi Shoji
β_0	13.8437	45.1137	37.6996	321.7024	267.9620	218.5431
β_1	0.3951	0.2605	0.4089	0.4850	0.6059	0.3677
r	0.9726	0.8344	0.9129	0.7911	0.8964	0.9443

$Y = \beta_0 + \beta_1 X$ X : sales Y : all divisions
 (Note: head titles denote respectively the numbers of item matters. Turnover and sales are adjusted for wholesale prices.)

To compare it with the case of aggregate division and section, the result is as follows. As for the parameter β_1 of the aggregate division vs. section, the order is, from higher to lower, Marubeni, C. Itoh, Sumitomo Shoji, Nissho Iwai, Mitsubishi Shoji and Mitsui Bussan, while as for operational organizations it is from higher to lower, Marubeni, Nissho Iwai, Sumitomo Shoji, C. Itoh, Mitsubishi Shoji and Mitsui Bussan, Thus there is high correlation of rank, excepting the changing between Nissho Iwai and C. Itoh.

Thus, no difference seems to exist as a whole picture between the relation of aggregate division and section and the relation of operational division and section, and in this rank correlation an interchange is seen between Nissho Iwai and C. Itoh. In the case of C. Itoh the growth and decline in the divisions irrelevant to business operation appears to be larger than in other companies.

Lastly, if high correlation is to be observed between sales volume and aggregate employee, between employee and aggregate section, as well as between aggregate section and aggregate division, it may be inferred that intense correlation exists between sales volume and aggregate division. This is exhibited in Table 7-5.

Here is high correlation, with the coefficient being over 0.79 for every case, although the value is smaller than for the relation of operational division and operational section and that of aggregate division and aggregate section. And parameter β_1 shows an order, from the higher one, Mitsui Bussan, Marubeni, Nissho Iwai, C. Itoh, Mitsubishi Shoji and Sumitomo Shoji.

And since a larger value of parameter β_1 means a larger degree of set-up or abolition of division in accompany with sales change, in other words, a smaller β_1 suggests a greater growth rate of sales per division, the rapidity of organi-

zational changing lies in an order from Mitsui Bussan to Sumitomo Shoji, but on another hand the growth rate of sales per division is highest in Sumitomo Shoji and lowest in Mitsui Bussan.

In Section V we have found that the rank order of growth rate of sales volume per section is Mitsubishi Shoji, Marubeni, Mitsui Bussan, Sumitomo Shoji, C. Itoh and Nissho Iwai.

Accordingly rapid response of sales volume to division-number is seen in the order of Mitsui Bussan, Marubeni, Nissho Iwai, C. Itoh, Mitsubishi Shoji and Sumitomo Shoji, while as for the response of sales to section-number it is Nissho Iwai, C. Itoh, Sumitomo Shoji, Mitsui Bussan, Marbeni and Mitsubishi Shoji, thus an appreciable interchange between the two orders.

It may be said from this that in such company as Nissho Iwai sections and division are readily increased or decreased corresponding to sales changes, while in Mitsubishi Shoji such change is made to a lesser degree. It is conceivable that among other in-between companies Mitsui Bussan and Marubeni set up divisions relatively readily but not sections, while C. Itoh and Sumitomo Shoji set up sections likewise.

And the cause of such difference may lie in the particular conditions of each company, but more basically in the principles and ideas about organization.

VIII. Summary and Conclusion

So far we have conducted analysis of Japan's multi-line trading companies especially regarding fluctuations of sales and so on, for the purpose of elucidating the pattern of organizational behavior of business. We have selected these traders, and that high-rank six, for the reason of homogeneity of typical conditions. So we think next we must direct analysis to all trading companies and further to manufacturing, financial enterprises and other concerns.

As regards the method of analysis, this study was confined to the units and numbers of employees, sections and divisions with respect to organization, not extending to their structural disposition or authority and responsibility.

Accordingly these matters must wait for further elucidation, which should be expected in the future, but in this last section we shall summarized what has been explained in the above.

Firstly, we have conducted our study centering on the relation between sales volume and section-number (especially operational), and found appreciable correlation of growth between the two, as was expected.

Again sales volume growth has high correlation with division-number, the coefficients being over 0.9 for all companies (Sections IV and VII).

Secondly, high correlation is observable for other relevant relations, for example, aggregate sale vs. aggregate employee, aggregate employee vs. aggregate section, or aggregate section vs. aggregate division, the coefficient being over 0.8 for each company (Section VII).

Thirdly, as for the turnover-growth and operational section-growth, by fitting a regression curve $Y = \beta_0 + \beta_1 X$, the order of companies in the value of β_1 , namely high sales volume growth per section-increase, is Mitsubishi Shoji, Marubeni, Mitsui Bussan, Sumitomo Shoji, C. Itoh and Nissho Iwai, and hence, not taking parameter β_0 into account, the former three have high organizational efficiency.

And between the three companies with high efficiency and the other three (Sumitomo, C. Itoh, Nissho), there is a large difference of the value of β_0 , not only of β_1 , hence a definite distance between the two groups.

On the other hand, fourth in the relation between sales and division, the order of smaller β_1 in the regression curve, namely larger growth of sales per division, is Mitsui Bussan, Marubeni, Nissho Iwai, C. Itoh, Mitsubishi Shoji, thus an appreciable interchange by contrast with the above-said relation of sales volume and section.

Thus by comparing these results, we can say, for example, Nissho Iwai readily increases divisions and sections in response with the change in sales volume while Mitsubishi Shoji does not, and hence the growth rate of sales per division and section is larger. Other four trading companies lie in in-between positions of the two poles. For instance, Mitsui Bussan and Marubeni increase divisions easily but not sections, while C. Itoh and Sumitomo Shoji set up sections readily.

Fifth, by observing the relation of sales volume vs. section, the companies with larger increase of sales per section, namely higher organizational efficiency per section, are Sumitomo Shoji in metals, Mitsui Bussan in chemicals, Mitsubishi Shoji in machinery, Marubeni and Nissho Iwai in miscellaneous goods, Mitsubishi Shoji in textile, and Mitsui Bussan and Marubeni in foods.

Sixth, of course each company has respectively favorite commodity sectors. So, in order to see what behavioral principles each company has in beginning production of a product, we took up the relation between (sales of the product/sales of all products) and (number of sections dealing the product/number of all operational sections), by which we found that the number of sections by product increases at first even under low sales-growth, and then decreases, by which the sales-growth per section expands.

Because in this study the term covered is short and the commodities refer to groups simply, the result is that correlations of substantially high degree are observable on the whole. Future studies of this sort should be expected.