

# Business Alliances between Japanese and Taiwanese Companies

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## Abstract

In the beginning of the 21<sup>st</sup> century, the Information and Communication Technology (ICT) revolution is steadily progressing to build a new social infrastructure. In this process, Taiwanese companies are becoming increasingly significant.

This paper illuminates the entire image of Taiwanese companies centering on the electronics industry. Although there is little research on Taiwanese companies, there is still less on their financial condition and their corporate governance. This paper aims to increase the knowledge base with regard to Taiwanese companies.

Taiwanese companies contribute to Chinese economic development, especially China's export of electronics products. The advance of Japanese companies into China also continues. Japanese companies tend to avoid this risk through cooperation with Taiwanese companies. Taiwanese companies also aim at further technological advancement through cooperation with Japanese companies. Both companies share a mutual interest. This is the business alliance between Japan and Taiwan.

In addition to the above-mentioned conditions, both companies will build a mutually complementary relationship. Because Japanese companies have established a global brand with their long history, Taiwanese companies established a different business model from Japanese companies and developed the foundry, fabless, EMS and others, and they do not have their own brand.

The expansion of exchange in various fields in Japan and Taiwan, economic unification, and especially the business alliance between Japan and Taiwan illuminates a strong possibility for Asian development. To promote Asian economic integration, the requirement is not only the quantitative interdependence of trade or indirect investment but is also the expansion of multi-faceted, mutual company cooperation.

**Keywords:** Business Alliance between Japan and Taiwan, Foundry, Fabless, Electronics

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Manufacturing Service (EMS), Original Equipment Manufacturing (OEM), Original Design Manufacturing (ODM)

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## **Introduction**

Although the general instability of the world economy is increasing, the Information and Communication Technology (ICT) revolution is steadily progressing to build a new social infrastructure. In this process, Taiwanese companies are becoming increasingly significant.

This paper illuminates the image of Taiwanese companies centering on the electronics industry. Although there is little research on Taiwanese companies, there is still less on their financial condition and their corporate governance. This paper aims to increase the knowledge base with regard to Taiwanese companies, which contribute to Chinese economic development, especially China's export of electronics products. The role of China as a production base for Taiwanese companies has also become important. This paper presents the Taiwanese side of the actual conditions.

The advance of Japanese companies into China also continues. However, this advance is accompanied by significant risk and difficulty, such as an increase in political instability and insufficient protection of intellectual property rights. Consequently, Japanese companies tend to avoid this risk through cooperation with Taiwanese

companies. Taiwanese companies also aim at further technological advancement through cooperation with Japanese companies. Both companies share a mutual interest. This is the business alliance between Japan and Taiwan.

The expansion of exchange in various fields in Japan and Taiwan, economic unification, and especially the business alliance between Japan and Taiwan illuminates a strong possibility for Asian development. The current unstable Asian situation resembles in some respects the beginning of the 20th century when the Japanese-Sino War and the Japanese-Russo War broke out. To promote Asian economic integration, the requirement is not only the quantitative interdependence of trade or indirect investment but is also the expansion of multi-faceted, mutual company cooperation.

## **I Historical Economic Relationships between Japan and Taiwan**

### **I.1 Postwar Taiwan**

Before discussing current Taiwanese companies, I would like to examine earlier events. Taiwan, the earliest country to shift to export oriented industrialization, is one of the Asian Newly Industrializing Economies (NIES). After the 1960s, Taiwan achieved economic development in Asia. In 1996, Taiwanese citizens voted in their first presidential election, and since then political democratization has greatly advanced. I have already examined Taiwanese companies in 1995, which established an export oriented industrialization and began to accomplish rapid economic development (Shimpo, 1998, 225-6). For the investigation, the paper used data from the “*Asian Quarterly Corporate Report 1997*” \*<sup>1</sup>, and combined Nikkei Telecom data \*<sup>2</sup> and “*World Enterprise Directory: Asian Edition 96/97*” \*<sup>3</sup>.

These data are again reported as **Figure 1**. Representative Taiwanese companies are the business groups that began to develop the chemistry and textile industries centering on the largest company, Nan Ya Plastics. In this group, companies in the same industries, such as Formosa Chemical & Fiber and Formosa Plastics, have also participated. Other than this group, as a government related company, China Steel and United Microelectronics, and Acer and Tatung have emerged as new electronics companies. At this period, the role of automobile companies, such as China Motor and

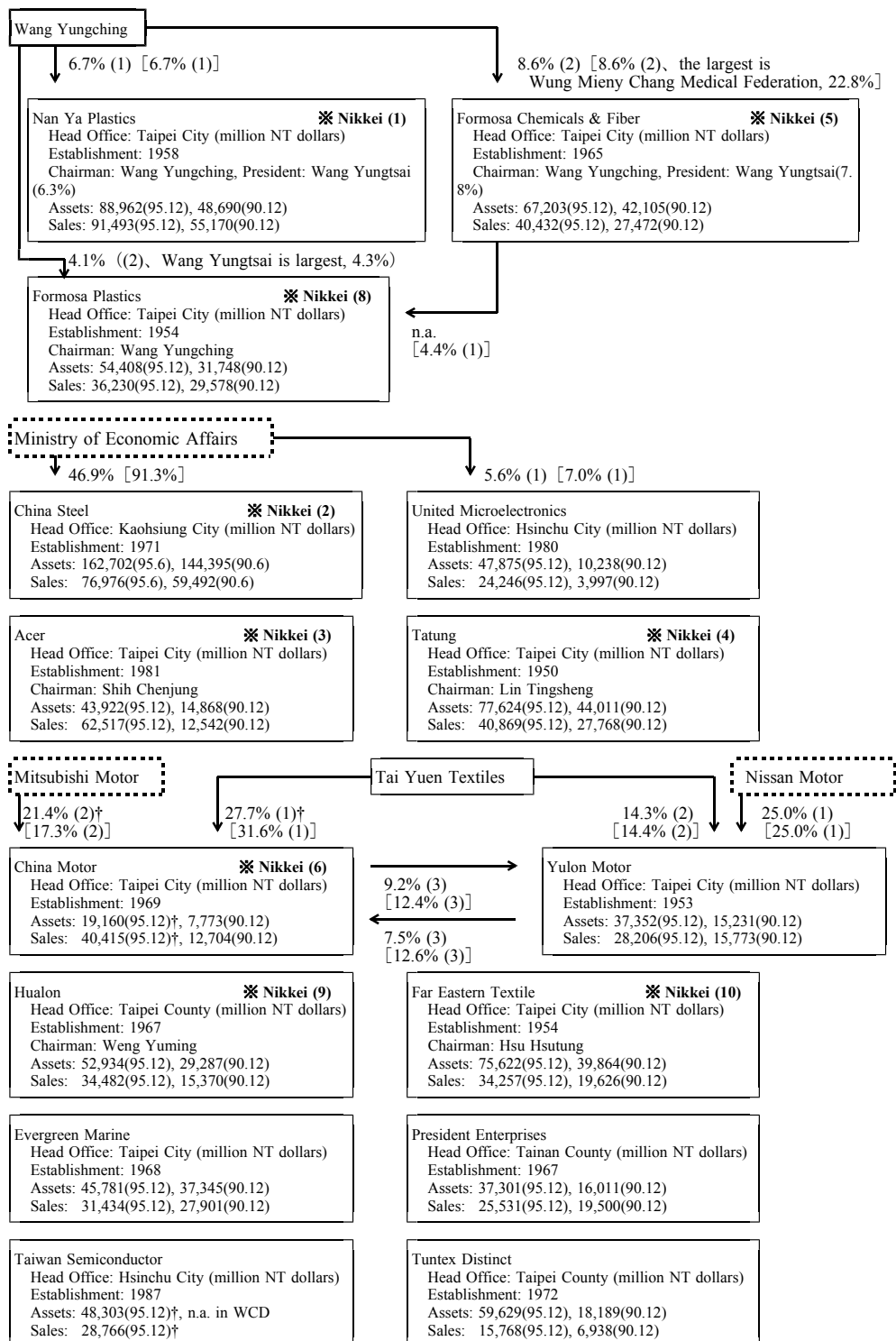
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\* 1 Toyo Keizai Shinpo-Sha (1996).

\* 2 *The Asia Corporate Profile*.

\* 3 Nihon Keizai Shimbun-sha (1996).

Figure 1 Taiwanese Companies in 1995



Source: Nihon Keizai Shimbun-sha (1996), Toyo Keizai Shinpo-Sha (1996), *The Asia Corporate Profile*.

Yulon Motor, was also large.

Although the current paper investigates Korean companies, unlike Korea, Taiwan has no family-run conglomerates in many industries at this period. Some researchers note that Taiwan is the country of small and medium-sized enterprises. From 1996 through 2011, Taiwanese companies made significant changes.

## 1.2 Prewar Taiwan

The close relationship between Japan and Taiwan goes back to 1895. The Japanese-Sino War resulted in the Shimonoseki Treaty. The Taiwanese Qing dynasty ceded Taiwan to Japan, and Taiwan was put under the rule of the Governor-General of Formosa.

After becoming modernized, Japan invested heavily in East Asia including Taiwan. This investment centered on infrastructure, such as railroads, electric power, and finance. I termed this feature of Japanese foreign investment in this period **Japanese style foreign investment** in the inter-war period (Shimpo, 2009, 138). Two representative investments in Taiwan were Taiwan Electric Power and The Bank of Taiwan.

Taking advantage of a special regional feature, Japanese investment in Taiwan included the sugar manufacturing industry: Taiwan Sugar Manufacturing, Meiji Sugar Manufacturing, Ensuikeo Sugar Manufacturing and The Old Teikoku Sugar Manufacturing (Shimpo, 2009, 112-3). The role these investments played in the modernization and development of the Taiwanese economy was significant. This investment bloomed as the general industrialization in the postwar period.

## 2 Taiwanese Companies

Other than from 2008 to 2009 during the Riemann shock and 2001 after the collapse of the information technology bubble, Taiwan attained a high growth rate of around 5% after 1995. \*4 The Taiwanese trade relationship between China and Japan is very close. Exports to China including indirect trade via Hong Kong in 2010 estimated by the Taiwan Economic Department is 85 billion dollars, which is 30.9% of all exports, and the trade surplus amounts to 49 billion dollars. In contrast, imports from Japan are 52 billion dollars, and the trade deficit is 34 billion dollars, close to the trade surplus with China. \*5 Taiwanese companies are leading this growth. First I want to explore the image of

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\* 4 Japan External Trade Organization (2011a).

\* 5 Japan External Trade Organization (2011b).

Table 1 Top 30 Companies for Stock by Market Capitalization in 2010

Rank	Code	Name of Company	Market Capitalization	Unit: NTD million					
				Total Assets	Equity-method investments	Total stockholders' equity	Net sales	Net income	
1	2330	Taiwan Semiconductor Manufacturing	1,839,421	718,929	25,815	578,704	419,538	162,282	38.7%
2	2317	Hon Hai Precision Industry	1,135,197	1,380,532	35,932	513,446	2,997,205	75,473	2.5%
3	6505	Formosa Petrochemical	942,117	451,946	15,088	244,260	748,898	40,929	5.5%
4	2498	High Tech Computer	735,888	190,382	n.a.	74,714	278,761	39,515	14.2%
5	2412	Chunghua Telecom	718,533	454,311	1,725	368,603	202,430	48,558	24.0%
6	1301	Formosa Plastics Corp.	596,788	355,307	117,121	260,844	225,320	45,546	20.2%
7	1303	Nan Ya Plastics	570,862	460,499	100,648	295,062	337,785	41,718	12.4%
8	1326	Formosa Chemicals & Fibre	558,804	489,550	78,917	321,866	383,668	52,132	13.6%
9	2882	Cathay Financial Holding	524,984	4,688,937	2,501	222,475	343,992	4,308	1.3%
10	2454	MediaTek	459,221	138,035	1,659	111,713	113,522	30,937	27.3%
11	2002	China Steel	454,689	543,808	2,963	288,603	350,205	41,660	11.9%
12	2881	Fubon Financial Holdings	342,335	3,450,747	2,323	222,273	497,129	20,719	4.2%
13	2308	Delta Electronics	340,583	161,738	6,327	87,392	171,302	17,883	10.4%
14	3481	Chimei Innolux Corporation	271,657	711,396	4,506	262,918	493,085	14,214	2.9%
15	2409	AU Optronics	267,459	629,316	15,541	282,325	467,158	7,408	1.6%
16	3045	Taiwan Mobile	264,924	85,484	388	50,899	70,146	13,818	19.7%
17	2886	Mega Financial Holding	248,284	2,509,708	2,575	201,241	41,977	15,150	36.1%
18	2353	Acer	242,882	280,499	2,236	94,108	629,059	15,118	2.4%
19	1402	Far Eastern New Century Corp.	234,876	293,708	41,527	150,048	200,204	19,929	10.0%
20	2382	Quanta Computer	234,569	511,984	1,016	119,124	1,124,728	19,331	1.7%
			<b>10,984,073</b>	<b>18,506,815</b>	<b>458,809</b>	<b>4,750,618</b>	<b>10,096,115</b>	<b>726,627</b>	<b>7.2%</b>
		Electronic	5,526,877	4,722,810	93,032	2,124,445	6,694,358	382,160	5.7%
		Finance	1,115,603	10,649,392	7,399	645,989	883,099	40,177	4.5%
		Formosa Plastics	2,668,571	1,757,302	311,775	1,122,032	1,695,672	180,326	10.6%
		<b>Total (A)</b>	<b>12,807,303</b>						
		<b>All Listed Companies (B)</b>	<b>23,811,416</b>						
		<b>A / B (%)</b>	<b>53.79</b>						

Source 1: Each company's data in Taiwan Stock Exchange.

2: <http://www.twse.com.tw/ch/about/company/download/factbook/2011/1.04.htm>

Taiwanese Companies and examine electronics and other key industries in Section 2.

## **2.1 Image of Taiwanese Companies**

This paper utilized data from the Taiwan Stock Exchange in examining Taiwanese companies. This data show yearly improvement for the Taiwan Stock Exchange. First, based on the stock market capitalization at the end of 2010, **Table 1** lists the top 20 Taiwanese companies. Based on the data of the Taiwan Stock Exchange, Table 1 indicated total assets, equity-method investments, total stockholders' equity, net sales, and net income of each company. In many cases, both the consolidated data and the parent company data of each company are reported by the Taiwan Stock Exchange. Table 1 used consolidated data, and Table 8 used parent company data when only the electronics industry company was examined.

The following becomes clear from Table 1. First, we find three major company groups from the top 20 companies. The company group with the largest market capitalization is nine companies in the electronics industry, including Taiwan Semiconductor Manufacturing. Next company group is the four companies of Formosa Plastics Business Group including Formosa Petrochemical. Finally, we find three financial holding companies including Cathay Financial Holding. This paper examines these three company groups.

The top 30 companies occupy 53.8% of all the companies, and the top 20 companies occupy 46.1% of the market capitalization of Taiwanese companies. Through examining these 20 companies, we are able to gain an understanding of the fundamental features of a Taiwanese company.

Nine companies in the electronics industry occupy approximately half of the top 20 companies. Being different in Figure 1, the company group in the electronics industry is now leading both the Taiwanese economy and Taiwanese companies. In contrast, in Table 1, the Formosa Plastics Business Group, which was the largest company group, added Formosa Petrochemical, which lowered the group's position. However, Formosa Plastics Business Group has expanded as a business group.

Next, the across-the-board size of the equity capital ratio is important. The ratio of the 20 company total is 25.7%, the Formosa Plastics Business Group's ratio is 63.8% and the ratio of the electronics company group is 45%. The company with the high ratio is 80.5% of Taiwan Semiconductor Manufacturing, and 80.9% of MediaTek representing the electronics company. Other than these, 81.1% of Chunghwa Telecom is in the communication industry. This remarkable ratio shows the weak dependence to the

Table 2 Tawanesse Companies' Stockholder by Type

	Domestic Investors										Foreigners		Domestic Investors		Foreigners		Share Buy-backs		Shareholdings of Directors, Supervisors, Managers and Major Shareholders Holding 10 Percent or More of a Listed Company							
	Government Institutions					Trust Fund					Other Juridical Persons					Financial Institutions		Juridical Persons		Trust Fund		Individuals		Total		
	Government	Financial Institutions	Trust Fund	Other	Juridical Persons	Government	Financial Institutions	Trust Fund	Other	Juridical Persons	Government	Financial Institutions	Trust Fund	Other	Juridical Persons	Government	Financial Institutions	Trust Fund		Other	Juridical Persons	Individuals	Total	Share Buy-backs	Total	
1 2330	Taiwan Semiconductor Manufacturing	6.77	5.00	1.13	0.84	1.67	7.91	43.84	19.29	12.94	0.60	28.36	71.64	0.00	100.00	7.51										
2 2317	Hon Hai Precision Industry	0.86	6.06	0.74	3.70	0.12	0.15	0.05	50.79	37.32	0.21	48.80	51.20	0.00	100.00	13.64										
3 6505	Formosa Petrochemical	0.04	0.23	0.52	83.86	5.47	0.00	0.40	6.37	3.11	0.00	93.23	6.77	0.00	100.00	83.02										
4 2498	High Tech Computer	0.13	1.70	2.12	14.78	1.29	7.25	33.51	23.74	14.22	0.05	34.24	64.56	1.20	100.00	11.55										
5 2412	Chunghwa Telecom	36.87	15.69	3.40	2.08	0.38	0.00	7.89	18.52	15.16	0.01	73.58	26.42	0.00	100.00	36.53										
6 1301	Formosa Plastics Corp.	0.22	1.12	1.67	18.95	11.77	0.00	9.63	29.75	25.90	0.99	59.63	40.37	0.00	100.00	22.59										
7 1303	Nan Ya Plastics	0.20	0.73	2.36	22.10	17.56	0.00	5.89	21.83	28.60	0.73	71.55	28.45	0.00	100.00	17.55										
8 1326	Formosa Chemicals & Fibre	0.38	1.01	3.27	10.63	22.56	0.00	7.32	32.18	21.66	0.98	59.52	40.48	0.00	100.00	26.29										
9 2882	Fathway Financial Holding	3.02	2.96	1.21	40.06	1.00	0.00	0.00	19.51	29.31	2.93	77.56	22.44	0.00	100.00	37.27										
10 2454	MediaTek	0.65	3.16	0.59	3.24	0.89	3.38	28.57	14.41	45.08	0.04	53.60	46.40	0.00	100.00	7.76										
11 2002	China Steel	21.29	1.87	6.29	7.88	4.62	0.00	19.01	0.60	38.39	0.06	80.33	19.67	0.00	100.00	22.93										
12 2881	Fubon Financial Holdings	14.92	1.71	0.49	27.36	1.51	0.00	27.01	0.00	26.81	0.14	72.79	27.15	0.06	100.00	23.29										
13 2308	Delta Electronics	1.23	1.98	0.98	1.38	0.94	3.83	42.26	29.58	17.78	0.05	24.28	75.72	0.00	100.00	18.92										
14 3481	Chimei Innolux Corporation	0.66	2.11	0.61	40.01	1.12	0.24	2.71	19.30	33.16	0.08	77.67	22.33	0.00	100.00	16.48										
15 2409	AU Optronics	0.55	4.51	1.94	15.11	0.81	0.00	0.00	38.35	38.65	0.08	61.57	38.43	0.00	100.00	8.08										
16 3045	Taiwan Mobile	2.77	14.81	0.04	39.21	0.00	0.00	30.39	1.22	11.45	0.10	68.28	31.72	0.00	100.00	18.08										
17 2886	Mega Financial Holding	18.75	20.18	1.57	5.83	0.80	1.56	13.11	9.61	16.35	0.01	63.48	24.28	12.24	100.00	21.35										
18 2353	Acer	1.74	1.45	0.01	6.60	0.86	0.00	0.00	44.45	44.58	0.11	55.22	44.56	0.22	100.00	7.39										
19 1402	Far Eastern New Century Corp.	2.48	6.83	1.32	28.22	16.17	0.23	0.00	31.78	12.80	0.18	67.81	32.19	0.00	100.00	25.49										
20 2382	Quanta Computer	1.39	8.24	0.59	21.08	1.58	3.14	21.60	10.41	31.90	0.07	64.78	35.22	0.00	100.00	33.48										
	<b>Total</b>	<b>5.75</b>	<b>5.07</b>	<b>1.54</b>	<b>19.65</b>	<b>4.56</b>	<b>1.38</b>	<b>14.66</b>	<b>21.08</b>	<b>25.26</b>	<b>0.37</b>	<b>61.81</b>	<b>37.50</b>	<b>0.69</b>	<b>100.00</b>	<b>22.96</b>										
	Electronics	1.55	3.80	0.97	11.86	1.03	2.88	19.17	27.81	30.62	0.14	49.84	50.01	0.16	100.00	13.87										
	Formosa Plastics	0.21	0.77	1.95	33.88	14.34	0.00	5.81	22.53	19.82	0.68	70.98	29.02	0.00	100.00	37.36										
	Finance	12.23	8.28	1.09	24.41	1.10	0.52	13.37	9.71	24.16	1.03	71.28	24.62	4.10	100.00	27.31										
	Government	29.08	8.78	4.84	4.98	2.50	0.00	13.45	9.56	26.77	0.04	76.95	23.05	0.00	100.00	29.73										
	<b>TWSE Total</b>	<b>4.11</b>	<b>4.54</b>	<b>1.74</b>	<b>21.03</b>	<b>2.82</b>	<b>0.89</b>	<b>10.22</b>	<b>12.76</b>	<b>41.08</b>	<b>0.34</b>			<b>0.47</b>	<b>100.00</b>											

Source 1: Each company's data in Taiwan Stock Exchange.

2: <http://www.twse.com.tw/zh/about/company/download/factbook/2011/4.02.htm>



financial institution by these companies and the strength of their financial base.

The profit ratio is unexpectedly low. The profit ratio of the top 20 companies is 7.2%. Among the three company groups, Formosa Plastics is the highest at 10.8%. The ratio of the electronics industry is 5.7%, where there is a large difference in each company, and the profit ratio of Taiwan Semiconductor Manufacturing is outstanding with 38.7%. The net sales of Hon Hai Precision Industry is the largest, and occupies half of the electronic industry, however, Hon Hai's profit ratio is only 2.5%. In addition, the profit ratio of Mega Financial Holding of the third largest finance holding company is as high as 36.1%.

Next, I will examine the stockholders of the top 20 Taiwanese companies. By describing the stockholders, the features of each company become clearer. First, **Table 2** lists stockholders by type, and Table 3 indicates each individual stockholder. In addition to the three company groups in Table 1, Table 2 shows the group of Chunghwa Telecom and China Steel, which I wish to investigate anew. This group has many holdings by the Taiwanese government organization. In the electronics industry, the shareholding ratio of foreigners total exceeds 50%, and domestic investors total is over 70% in the other three groups. These two groups are significantly different. That the overseas shareholding ratio of the electronics company is high shows that there is a high international evaluation of the electronics company.

Examining each electronics company by individual stockholders, the shareholding ratio of domestic individuals, with 30.6%, and foreign trust fund, with 27.8%, is high. Among electronics companies, for Taiwan Semiconductor Manufacturing and Delta Electronics, the shareholding ratio of foreigners total exceeds 70%, and foreign juridical persons is over 40%. For Hon Hai Precision Industry and Acer, the shareholding ratio of foreigners total is not remarkably high. Foreign trust fund is over 40%.

In the Formosa Plastics Group, the shareholding ratio of domestic corporations is as high as 33.9%. As will be observed in detail later, this high ratio is a result of cross shareholding. Foreign trust fund ranks next. In the financial industry, both the shareholding ratio of domestic corporations and domestic individuals are at 20%. Finally, in a government related company, the shareholding ratio of the government is the highest at 29.1%, and domestic individuals ranks next. Table 2 also shows shareholdings of directors, supervisors, managers and major shareholders holding 10% or more of a listed company. This ratio of the three groups, excluding electronics companies, is high. This ratio of Formosa Petrochemical is usually as high as 83.0%, and the ratio depends on the shareholding ratio of domestic corporations, which is as high as 83.9%.

Based on the examination of Table 2, **Table 3** considers the individual stockholder of each top 20 company. The significant role of founder in an electronics company attracts attention. Since it has not been long since establishment, interest in the founders may be a natural result.

Examples of founders are Terry Gou (12.1%, his shareholding ratio) of Hon Hai Precision Industry, Chui-Hsing Lee, wife of the Chairman and CEO of MediaTek (4.4%), and Bruce Cheng of Delta Electronics (5.8%). In addition, regarding Chimei Innolux Corporation, the companies with Chairmen and CEO Frank Liao, and Chairmen and CEO Barry Lam of Quanta Computer, play the same important roles. For Quanta Computer, the shareholding ratio of Barry Lam, when the investment company controlled by Barry Lam is included, the ratio amounts to 28.2%. Chairman and CEO Cher Wang and her husband Wenchi Chen in High Tech Computer own approximately 6%. Cher Wang is a daughter of Chairman Wang Yung-Ching, the founder of the Formosa Plastics Group.

The example regarded as the cross holding between companies in an electronics company is that the third stockholder of Chimei Innolux Corporation is Hon Hai Precision Industry's Terry Gou. The third stockholder of AU Optronics is Quanta Computer. However, excluding the example of Cher Wang, the substantial cross shareholding with companies other than electronics companies is not found. The Formosa Plastics Business Group's greatest feature is the typical cross shareholding in a business group, and the founder's family is extensively involved in this group. I will return to this topic in detail.

Regarding the financial industry, as company data show, there is minimal cross shareholding among companies. The cross shareholding as in the Japanese main bank system after World War II is not observed. As observed in Table 1, there are also a few loans in a company from a bank and the relationship between a company and a financial institution is somewhat weak.

We find family rule in financial institutions. In the largest financial holding company, Cathay Financial Holding, Chairman and CEO Tsai Hong-tu is the younger brother of Tsai Cheng-ta. The representative of two companies that own 33.6% of Cathay Financial Holding stock is Tsai Cheng-ta. In the second largest financial holding company, Fubon Financial Holdings, the Taipei City Government is the largest stockholder. The pattern of family rule is noticeable in two companies, Ming Dong Co., Ltd. and Daoying Industry. The representative of both Ming Dong Co., Ltd. and Daoying Industry is Tsai Wan-tsai. He is the father of Chairman and CEO Daniel M. Tsai. Ming Dong and Daoying own 16.9% of Fubon Financial Holdings stock. Thus, family rule is still strong in two major financial holding companies. In addition, Ming Dong Co., Ltd., for which Tsai Wan-tsai is

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**Table 3 Representative Taiwanese Companies' Top 3 Stockholder**

1 Taiwan Semiconductor Manufacturing	ADR-Taiwan Semiconductor Manufacturing Company, Ltd.	21.18%
	National Development Fund, Executive Yuan	6.38%
	JPMorgan Chase Bank N.A. Taipei Branch in custody for Saudi Arabian Monetary Agency	2.95%
2 Hon Hai Precision Industry	Terry Gou	12.09%
	Citigroup in Custody for Hon Hai Precision Industry Company and its Depository Receipts	3.08%
	Chase Bank N.A. in Custody for Saudi Arabian Central Bank Investment Account	2.67%
4 High Tech Computer	Way-Chih Investment Co., Ltd. (Representative: Su-Lan Chiang)	5.10%
	Way-Lien Technology Inc. (Representative: Su-Lan Chiang)	4.39%
	JPMorgan Chase Bank N.A. Taipei Branch in custody for EuroPacific Growth Fund	4.15%
10 MediaTek	Chui-Hsing Lee	4.43%
	Ivy Funds, Inc. Asset Strategy Fund	3.98%
	Capital World Growth and Income Fund Inc.	3.83%
13 Delta Electronics	Hong Kong Shiang Da International Co., Ltd.	10.58%
	British Jersey Ying Da Holding Co., Ltd.	8.63%
	Bruce Cheng	5.81%
14 Chimei Innolux Corporation	Chi Mei Corporation	13.57%
	Lian Ci Development	3.57%
	Terry Gou	2.91%
15 AU Optronics	Hong Kong Financial Services Co., Ltd. Depository Organization, Citibank, AU Optronics and its Depository Receipts holders	12.43%
	Qisda Corporation	7.52%
	Quanta Computer Inc.	5.03%
18 Acer	JPMorgan Chase Bank N.A. Taipei Branch in custody for Capital World Growth and Income Fund Inc.	5.31%
	Magellan	2.77%
	Stan Shih	2.77%
20 Quanta Computer	Thousand Earth Investments Limited	14.91%
	Barry Lam	13.30%
	Chase Bank N.A. in Custody for Capital Profit Founders Company Investment Account	4.72%
3 Formosa Petrochemical	Formosa Plastics Corp.	29.31%
	Formosa Chemicals & Fibre	24.90%
	Nan Ya Plastics	23.84%
6 Formosa Plastics Corp.	Chang Gung Medical Foundation	7.66%
	Formosa Chemicals & Fibre	7.65%
	HSBC in Custody for Merrill Lynch Securities Investment Account	6.26%
7 Nan Ya Plastics	Chang Gung Medical Foundation	9.88%
	<i>Formosa Plastics Corp.</i>	9.88%
	<i>Wang Yung-tsai</i>	5.41%
8 Formosa Chemicals & Fibre	Chang Gung Medical Foundation	18.58%
	Wang Yung-tsai	7.37%
	Qin's International Investment Holdings Limited	6.35%
9 Cathay Financial Holding	Wanbao Development	18.06%
	Lin Yuan Investment	15.58%
	Citibank Taiwan in Custody for Singapore Government Investment Account	1.11%
12 Fubon Financial Holdings	Taipei City Government	14.19%
	Ming Dong Co., Ltd.	9.09%
	Daoying Industry	7.87%
17 Mega Financial Holding	Ministry of Finance, R.O.C.	9.98%
	Trust Account of Bank of Taiwan	7.56%
	National Development Fund, Executive Yuan, R.O.C.	6.11%
5 Chunghwa Telecom	The Ministry of Transportation and Communications	35.29%
	JPMorgan Chase Bank in Custody for Chunghwa Telecom's Depository Receipts	9.08%
	Fubon Life Assurance Co., Ltd.	4.73%
11 China Steel	Ministry of Economic Affairs	21.18%
	Mega Commercial Bank in Custody for China Steel's Employees Holding Trust Account	3.05%
	Yunhon Investment	1.66%
16 Taiwan Mobile	TFN Union Investment Co., Ltd.	12.01%
	TCC Investment Co., Ltd.	5.86%
	Ming Dong Co., Ltd.	5.04%
19 Far Eastern New Century Corp.	Asia Cement Corporation	22.31%
	Oriental Institute of Technology	4.81%
	Far Eastern Medical Foundation	3.59%

Source: Each company's data in Taiwan Stock Exchange.

the representative, is the third stockholder of Taiwan Mobile. This section will examine the financial industry in more detail later.\*<sup>6</sup>

Thus, the features of a Taiwanese company stockholder are both that the founder has a large role in the electronics company and the survival of the family ruled company in the other industries' companies. Electronics companies are growing rapidly toward active involvement in the global markets while other companies are centered in the domestic market. Although family rule exists, family-run conglomerates like Korean companies are not well developed.

## 2.2 Taiwanese Electronics Companies

**Subsection 2.2** focuses on an electronics company and examines its general trends for five years, the features of each company and the performance gap in electronics companies in detail. **Subsection 2.3** examines overseas expansion. Approximately nine companies are included in the top 20 companies based on market capitalization in 2010, which **Table 4** traces for the previous four years, and indicates market capitalization and ranking. The Riemann shock in 2008 also directly hit Taiwanese companies. The market capitalization of all Taiwanese companies was 11.7 trillion NT dollars, and decreased to approximately half of the previous year's 21.5 trillion NT dollars. Hon Hai Precision Industry was most affected by this trend, and its market capitalization decreased from

**Table 4 Major Taiwanese Electronics Companies' Market Capitalization for Past Four Years**

Unit: NTD million

		2010	2009	2008	2007	2006
1	Taiwan Semiconductor Manufacturing	1,839,421	1 1,670,593	1 1,137,763	1 1,638,258	1 1,743,244
2	Hon Hai Precision Industry	1,135,197	2 1,299,708	4 476,019	2 1,270,735	2 1,201,592
4	High Tech Computer	735,888	13 289,145	9 247,014	13 343,307	14 281,490
10	MediaTek	459,221	5 608,286	10 236,630	11 438,199	10 326,321
13	Delta Electronics	340,583	18 225,352	16 138,750	17 233,812	19 206,792
14	Chimei Innolux Corporation (Innolux Display)	271,657	25 162,284		14 308,819	21 190,779
	Total		27 153,956		15 301,661	
			316,240		610,480	
15	AU Optronics	267,459	11 342,489	12 210,091	9 496,424	9 343,065
18	Acer	242,882	16 258,608	22 112,586	30 152,749	25 158,920
20	Quanta Computer	234,569	15 259,304	19 126,274	27 160,036	20 198,754
	<b>30 Companies Total (A)</b>	<b>12,807,303</b>	<b>11,524,298</b>	<b>7,129,170</b>	<b>12,339,778</b>	<b>10,876,667</b>
	<b>All Listed Companies (B)</b>	<b>23,811,416</b>	<b>21,033,640</b>	<b>11,706,527</b>	<b>21,543,113</b>	<b>19,376,975</b>
	<b>A/B (%)</b>	<b>53.79</b>	<b>54.79</b>	<b>60.90</b>	<b>57.28</b>	<b>56.13</b>

Source: <http://www.twse.com.tw/en/about/company/factbooks.php>

\* 6 Kawakami (2008, 263) notes this trend as one change in a family controlled company group.

1.3 trillion NT dollars to 0.5 trillion NT dollars, which is reflected in the ranking retreat to number four. The market capitalization has now recovered to almost the former level.

Taiwan Semiconductor Manufacturing maintains the first position for these five years. High Tech Computer recently increased its position. High Tech Computer attains good performance with the Android related smart phone, which quickly matured with an original brand named HTC. Delta Electronics and Acer are increasing their position. Chimei Innolux Corporation raised its position through a merger with Innolux Display Corp. and Chi Mei Optoelectronics.

**Table 5** illustrates company performance for five years, especially sales and profit ratio. The sales of nine electronics companies did not decrease in 2008 at the time of the Riemann shock, and sales in 2010 doubled as compared with sales in 2006. The 2010 increase was remarkable. Hon Hai Precision Industry with an overwhelming scale in the electronics company rapidly increased to 3.0 trillion NT dollars from 1.32 trillion NT dollars in five years.

The profit ratio of all electronics companies tended to fall comparing 2006 to 2007. The big gap in the electronics company also continues, which attracts attention. The profit ratio of Taiwan Semiconductor Manufacturing always exceeds 30%. The profit ratio of MediaTek follows this, but tends to recently slightly decrease. The ratio in 2010 was 27.3%. Two companies show their originality as a foundry and a fabless. The profit ratio of High Tech Computer is somewhat lower than these companies but recently is more than 10%.

In contrast, the sales of Hon Hai Precision Industry is 7 or more times that of Taiwan Semiconductor Manufacturing. Its profit ratio is at the level of a single-digit and is consistently low. The profit ratio of Chimei Innolux Corporation, AU Optronics, Acer, and Quanta Computer with low market capitalization, is like Hon Hai Precision Industry, low. Thus, there is also a notable performance gap in electronics companies. Excluding Hon Hai Precision Industry, PCs and the display companies have fallen into difficulty.

I will examine representative electronics companies. Taiwan Semiconductor Manufacturing (TSMC) was founded in 1987, and developed the dedicated integrated circuit (IC) foundry business model. In 2010, TSMC manufactured more than 7,000 products for various applications covering a variety of computer, communications and consumer electronics market segments. A **foundry** is a manufacturer producing specially by the commission from third parties. The semiconductor industry requires

Table 5 Major Taiwanese Electronic Companies' Net Sales and Net Profit for Past Four Years

		Unit: NTD million				
		2010	2009	2008	2007	2006
1	Taiwan Semiconductor Manufacturing	419,538	295,742	333,158	322,631	317,407
	Net sales					
	Net income	162,282	89,466	100,523	109,932	127,195
		38.7%	30.3%	30.2%	34.1%	40.1%
2	Hon Hai Precision Industry	2,997,205	1,959,182	1,950,481	1,702,663	1,320,375
	Net sales					
	Net income	75,473	76,380	56,690	84,688	66,276
		2.5%	3.9%	2.9%	5.0%	5.0%
4	High Tech Computer	278,761	144,493	152,353	118,218	105,358
	Net sales					
	Net income	39,515	22,614	28,553	28,918	25,234
		14.2%	15.7%	18.7%	24.5%	24.0%
10	MediaTek	113,522	115,512	90,402	80,672	56,397
	Net sales					
	Net income	30,937	36,695	19,174	33,390	23,155
		27.3%	31.8%	21.2%	41.4%	41.1%
13	Delta Electronics	171,302	124,120	142,645	130,614	105,216
	Net sales					
	Net income	17,883	13,068	12,263	17,147	12,310
		10.4%	10.5%	8.6%	13.1%	11.7%
14	Chimei Innolux Corporation	493,085	164,726	160,653	157,171	105,679
	Net sales					
	Net income	14,214	2,397	4,851	16,152	2,832
		2.9%	1.5%	3.0%	10.3%	2.7%
15	AU Optonics	467,158	359,331	423,928	480,184	293,107
	Net sales					
	Net income	7,408	-27,245	21,642	56,476	9,093
		1.6%	-7.6%	5.1%	11.8%	3.1%
18	Acer	629,059	573,983	546,274	462,066	369,093
	Net sales					
	Net income	15,118	11,353	11,737	12,961	10,341
		2.4%	2.0%	2.1%	2.8%	2.8%
20	Quanta Computer	1,124,728	839,791	818,738	777,436	537,681
	Net sales					
	Net income	19,331	23,341	21,125	19,614	9,213
		1.7%	2.8%	2.6%	2.5%	1.7%
	<b>Total</b>	<b>6,694,358</b>	<b>4,576,880</b>	<b>4,618,633</b>	<b>4,231,655</b>	<b>3,210,314</b>
	Net sales	<b>382,160</b>	<b>248,071</b>	<b>276,558</b>	<b>379,279</b>	<b>285,650</b>
	Net income	<b>5.7%</b>	<b>5.4%</b>	<b>6.0%</b>	<b>9.0%</b>	<b>8.9%</b>

Source: Each company's data in Taiwan Stock Exchange.

significant capital to manufacture, the product cycle is extremely short, and the volume of investment is a large. Specialization has developed between the foundry for manufacturing specialized products, and the fabless to design specialized products. TSMC is a world representative foundry.

**Table 6** shows the current situation for the semiconductor industry. <sup>\*7</sup> Table 6 shows sales for each semiconductor company in 2010 and the first half of 2011, which IC Insights aggregated. Based on this data, Intel and Samsung are the two large companies in the semiconductor industry. As a foundry, two Taiwanese companies, TSMC and UMC, are representative companies, and as a fabless examined below, American Qualcomm, Broadcom, and AMD are representative companies. Five Japanese companies <sup>\*8</sup> are found in Table 6, and Toshiba and Renesas are in top 10.

**Table 6 Top 20 Semiconductor Sales Leaders**

				(\$M)	
IH11 Rank	2010 Rank	Company	Headquarters	IH11 Tot Semi	2010 Tot Semi
1	1	Intel	U.S.	23,809	40,154
2	2	Samsung	South Korea	16,681	32,455
3	3	TSMC*	Taiwan	7,432	13,307
4	4	TI	U.S.	6,399	13,037
5	5	Toshiba	Japan	6,344	13,028
6	6	Renesas	Japan	5,575	11,650
7	8	ST	Europe	5,053	10,287
8	7	Hynix	South Korea	5,048	10,432
9	9	Micron	U.S.	4,343	9,092
10	10	Qualcomm**	U.S.	4,156	7,204
11	11	Broadcom**	U.S.	3,494	6,589
12	12	AMD**	U.S.	3,187	6,494
13	15	Sony	Japan	2,991	5,645
14	14	Infineon***	Europe	2,863	6,049
15	16	Freescale	U.S.	2,363	4,357
16	13	Elpida	Japan	2,220	6,446
17	18	Fujitsu	Japan	2,182	4,147
18	17	NXP	Europe	2,064	4,321
19	19	UMC*	Taiwan	2,010	3,965
20	23	Nvidia**	U.S.	1,896	3,575
<b>Top 20 Total</b>				<b>110,110</b>	<b>212,234</b>

Note: \*Foundry \*\*Fabless \*\*\*Continuing operations growth was 30%.  
Source: IC Insights, Inc (2011b).

\* 7 Regarding the Taiwanese semiconductor industry, refer to Brown and Linden (2011, 8. 3. 1 Taiwan).

\* 8 Regarding the Japanese semiconductor company, I will discuss Japanese semiconductor companies in a forthcoming paper.

Regarding TSMC, the active investment towards the future draws attention. The amount of TSMC capital investment in the 2011 full fiscal year is 7,800 million U.S. dollars, plus 32% from the previous year. TSMC indicates that the gross product capability of the 2011 full fiscal year will be a 20% increase as compared with the previous year. Thus, TSMC developed a new business model, the foundry, in the growing rapidly semiconductor industry, and developed the world's largest foundry with a large investment and research and development expense. These are the factors that enabled TSMC to become a company with excellent performance in Taiwanese electronics companies.

Next, I will discuss Hon Hai Precision Industry. The sales of Hon Hai occupies approximately 30% of the top 20 companies, and this company was the big business that exceeded by seven times the TSMC sales. Hon Hai Precision Industry has one million employees. Although the rapid five year growth was remarkable, the profit ratio was not necessarily high. Hon Hai reached a turning point. Hon Hai is the world's largest Electronics Manufacturing Service (EMS), which contracted manufacturing services for electronics devices company.<sup>\*9</sup> It produces all electronics products, not only Apple, Sony, and Nintendo products, but also cellular phones and personal computers. iSuppli predicted that Hon Hai would gain more than half of the EMS market, being led by Apple, which would rapidly grow in 2011.<sup>\*10</sup>

According to "*Nikkei Electronics*," Terry Gou commanding Hon Hai summarizes the reasons for the success:

1. Hon Hai expanded the business scale under the command of Terry Gou, the company CEO who advocates an "annual growth rate of 30%."
2. By increasing business sectors, Hon Hai procures the parts and materials consumed in a group company.
3. Hon Hai builds the structure that enhances the design and manufacturing capacity of metallic molds to top world level,
4. Builds the supply chain based on quick delivery and low cost,

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\* 9 The terms OEM and ODM are similar. OEM (Original Equipment Manufacturing or Original Equipment Manufacturer) produces products for a thrusters' brand or a manufacturer that produces. ODM (Original Design Manufacturing) is to design and produce a product for a thrusters' brand.

\* 10 iSuppli Press Release (2010).



- obtaining the cooperation of a parts supplier and the Chinese government, on the background of the production scale, and
5. Encourages the employee's power using a personnel system that implements principles of punishment and reward. \*<sup>11</sup>

For these five factors, the fact that the design and manufacturing capacity of metallic molds is the third factor in the fields in which Japanese companies excel, attracts attention. The advance into China is not described in the above. This factor, in which Hon Hai is particularly active, will be discussed below.

Terry Gou recently emphasized the particular importance of business alliances between Japan and Taiwan. Although Japan has many electronics-related companies with a notable global brand, Hon Hai does not have an original brand and does not compete directly with Japanese companies. Although production outsourcing is common in Europe and America, in Japan it is not. Gou says that if a Japanese company contracts for hardware production with us, we can build a win-win relationship. \*<sup>12</sup>

The business alliance between the Elpida memory of Japan and Powerchip Technology Corporation is already advanced. If the closer relation between Hon Hai and a Japanese company develops, the alliance will have a large influence in all of Asia. Section 3 will examine this subject.

Unlike Hon Hai, High Tech Computer (HTC) has entered the global market with an original brand. HTC is one of the fastest-growing companies in development of the mobile device based on Windows Phone and Android. Peter Chou, CEO of HTC, and one of the founders explains:

Taiwanese companies have taken on design and manufacture from U.S. companies in the personal computer or IC industry for the past 20 years. Although these efforts have achieved great success, Taiwanese companies still have a weak point. This is innovation. \*<sup>13</sup>

HTC produced the world's first 3G terminal adopted Windows Mobile, the world's

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\* 11 "*Nikkei Electronics*," July 31, 2006, regarding the view of Agtmael (2008, Chapter 5), refer to Shimpo (2011).

\* 12 "*Nikkei Electronics*," August 8, 2011.

\* 13 Nikkei Business Publications, Tech-On (2010).

first Android terminal. This is a new challenge for a Taiwanese electronics company. \*14

Now, the shift to the multifunctional mobile terminal, which is the smart phone (highly-functional cellular phone) and a tablet from a personal computer is quickly advancing. Along with the rapid growth of HTC, Taiwanese personal computer related manufacturers examined later are stagnating. Hewlett Packard Co. (HP), the representative personal computer company is considering business separation.

MediaTek is proud of its high profit ratio with TSMC. MediaTek, which was founded in 1997, is a leading fabless semiconductor company for wireless communications and digital multimedia solutions. A **fabless** does not have a manufacture or assembly process. A semiconductor fabless is a business model that leaves the manufacture of a large-scale integrated (LSI) chip to a foundry, and specializes in circuitry design or sales. Since the advantage is concentrated management resources, which can concentrate on their own ground without investment burden to a production facility, this model serves as an important management option for ventures lacking funding.

MediaTek was not reported in Table 6. **Table 7** lists fablesses from 2008 to 2010. The top three are the American Qualcomm, Broadcom, and AMD, and MediaTek is ranked fifth. In Table 7, the United States has 12 companies and Taiwan has five. Japanese companies are not included. A Japanese semiconductor company has adopted a vertical integration system, for which, like **integrated device manufacturers (IDMs)**, design, manufacture and perform are integrated. However, vertical integration systems are becoming more difficult to maintain.

Like TSMC which started a new business model, the foundry, MediaTek is developing a new business model termed a fabless, and has generated high profit ratio and growth. The spread of smart phones is starting in an emerging market. The imitation cellular phone (山寨手機)\*15 manufacturer who was controlling the market in terms of the shipment, and MediaTek, which is manufacturing its semiconductor and is the world's largest class Application Specific Standard Product (ASSP)\*16 manufacturer for cellular phones may be affected by the spread of smart phones.\*17

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\* 14 Breznitz (2007, Chapter 3) emphasizes new innovation and the R & D for it.

\* 15 山寨 means "escape from management of administration," and is an indispensable keyword for the Chinese electronics industry.

\* 16 An LSI with limited fields and applications, and with specialized functions and purposes.

\* 17 "Nikkei Electronics," August 22, 2011.

**Table 7 Top 20 Fabless IC Suppliers**

2010 Rank	2009 Rank	2008 Rank	Company	Headquarters	2010 (\$M)	2009 (\$M)	2008 (\$M)
1	1	1	Qualcomm	U.S.	7,204	6,409	6,477
2	3	2	Broadcom	U.S.	6,589	4,271	4,449
3	2	-	AMD	U.S.	6,494	5,403	0
4	6	4	Marvell	U.S.	3,592	2,690	3,055
5	4	5	MediaTek	Taiwan	3,590	3,500	2,864
6	5	3	Nvidia	U.S.	3,575	3,151	3,660
7	7	6	Xilinx	U.S.	2,311	1,699	1,906
8	10	8	Altera	U.S.	1,954	1,196	1,367
9	8	7	LSI Corp.	U.S.	1,616	1,422	1,795
10	11	9	Avago	U.S.	1,187	858	905
11	12	11	Novatek	Taiwan	1,149	819	829
12	9	-	ST-Ericsson*	Europe	1,146	1,263	0
13	15	18	MStar	Taiwan	1,067	605	454
14	17	17	Atheros**	U.S.	927	543	472
15	16	12	CSR	Europe	801	601	695
16	14	15	Realtek	Taiwan	706	615	534
17	13	10	Himax	Taiwan	643	693	833
18	18	16	PMC-Sierra	U.S.	635	496	525
19	69	52	Trident	U.S.	558	85	149
20	-	-	Lantiq	Europe	550	0	0
<b>Top 20</b>			-	-	<b>46,294</b>	<b>36,319</b>	<b>30,969</b>
<b>Others</b>			-	-	<b>13,571</b>	<b>10,931</b>	<b>12,861</b>
<b>TOTAL</b>			-	-	<b>59,865</b>	<b>47,250</b>	<b>43,830</b>

Note 1: \*Represents the 50% share not accounted for by ST.

2: \*\*To be purchased by Qualcomm in 2011.

Source: IC Insights, Inc (2011a).

Next, I will examine five companies ranked less than the 10th. They are Delta Electronics, Chime Influx Corporation, AU Optronics, Acer, and Quanta Computer. Delta Electronics with a history already exceeding 40 years produces various products, such as a power supply, display, components, industrial automation, and a network. This company's advantage is to have a products group that other companies do not have. Both Chimei Innolux Corporation and AU Optronics are display manufacturers. Innolux Display Corp., which is affiliated with Hon Hai Precision Industry and was established in 2003, became Chimei Innolux Corporation through merger with Chi Mei Optoelectronics and TPO Displays Corp. in March 2010. Chi Mei Optoelectronics focused on large-sized panels, such as for liquid crystal televisions, and Innolux Display focused on a liquid crystal display monitor and the small and medium-sized panel for portable devices. Both companies have a mutually complementary relationship. Through this merger, Chimei Innolux Corporation exceeded AU Optronics and became the largest panel manufacturer in Taiwan. In addition, as previously discussed from such process, Terry Gou is the third stockholder of Chimei Innolux Corporation. AU Optronics was established as Acer Display Technology Inc. in 1996. After merging with Unipac Optoelectronics Corp.

in 2001, it renamed itself AU Optronics. In 2006, AU Optronics merged with Quanta Display Inc.

Through this merger, AUO exceeded 17% share in world large-sized panels, and the output of the sixth generation panel became the world's No. 1. AUO is also the manufacturer of thin film transistor liquid crystal display (TFT-LCD), which first listed the stock on the New York Stock Exchange (NYSE).

Such reorganization and unification responds to price decline for the world display manufacturer including Taiwan. Even the world's largest manufacturer, Samsung, the display section has fallen into a deficit. Japanese companies are also in the same position and groping for integration in an attempt to retrieve the small and medium-sized panel market, which is expected to grow. Toshiba, Hitachi, and Sony established the integrated company, Japan Display, for a small and medium-sized display.

Acer and Quanta Computer are enterprises that primarily manufacture PCs. Acer was established in 1976 and now has the second global market share of the entire PC and notebook PC. Acer is promoting the multibrand strategy of Acer, Gateway, Packard Bell, and eMachines. Acer focuses on establishing of an original brand in company with HTC. However, because of the slowdown in business growth of the notebook PC, Acer entered the tablet PC through the Taiwanese Compal' supply. Established in 1988, Quanta Computer is the largest notebook computer ODM company. The major EMS/ODM companies are strengthening the effort in fields other than the notebook PC. Quanta mentions the tablet PC, the server for Cloud, and the ultra-thin notebook PC as the leading strategic triad in 2011. Although Acer and Quanta Computer have supported the global PC market, like a display manufacturer, they are going to change business strategy because of the transfer to the smart phone.

As noted above, Taiwanese electronics companies establish one new company after another. Their global position becomes larger. However, it has become clear that Taiwanese electronics companies are differentiating between companies that are growing rapidly through rapid technological innovation and companies whose growth has slowed.

### **2.3 Overseas Expansion of Taiwanese Electronics Companies**

Subsection 2.2 did not consider the overseas expansion of Taiwanese electronics companies in detail. The overseas expansion of Taiwanese electronics companies, especially the advance into China, is another major factor of growth. It was also an

**Table 8 Major Taiwanese Electronics Companies in 2010, the parent company base**

Unit: NTD million

Rank	Name of Company	Total Assets	Equity-method investments	Total stockholders' equity		Net sales	Net income	
1	Taiwan Semiconductor Manufacturing	701,240	114,977	574,145	81.9%	406,963	161,605	39.7%
2	Hon Hai Precision Industry	1,181,868	423,085	480,593	40.7%	2,313,129	77,155	3.3%
4	High Tech Computer	184,050	9,900	74,714	40.6%	275,047	39,534	14.4%
10	MediaTek	134,640	56,167	111,713	83.0%	71,988	30,961	43.0%
13	Delta Electronics	103,746	85,539	75,831	73.1%	34,052	15,754	46.3%
14	Chimei Innolux Corporation	671,937	63,880	258,755	38.5%	473,696	14,835	3.1%
15	AU Optronics	546,064	72,340	268,161	49.1%	442,996	6,693	1.5%
18	Acer	217,981	81,374	93,750	43.0%	521,545	15,118	2.9%
20	Quanta Computer	333,221	27,756	111,603	33.5%	1,063,454	18,592	1.7%
	<b>Total</b>	<b>4,074,747</b>	<b>935,019</b>	<b>2,049,265</b>	<b>50.3%</b>	<b>5,602,870</b>	<b>380,247</b>	<b>6.8%</b>

Source: Each company's data in Taiwan Stock Exchange.

important factor for the rapid growth of Chinese high-tech industry. **Subsection 2.3** will examine this growth in detail.

Table 1 reported the consolidated base data of the top 20 Taiwanese companies. However, this data does not fully present overseas expansion. The parent company base data of only electronics companies was summarized in **Table 8**. First, equity-method investments is important in Table 8. This means the investment to a subsidiary including foreign investment. The gross assets of Hon Hai Precision Industry are 1.18 trillion NT dollars. Equity-method investments are 0.42 trillion NT dollars among those. A huge company network has been built. Compared with other electronics companies, Hon Hai's investment is larger. The next largest investment is 0.11 trillion NT dollars of Taiwan Semiconductor Manufacturing. The investment in High Tech Computer is extremely small.

We will compare a parent company base with a consolidated base. The companies with a low percentage of a parent company base, therefore, a high percentage of subsidiaries, are Delta Electronics and Quanta Computer, in gross assets. Similarly, the companies with the same feature in income are Delta Electronics and MediaTek. Delta Electronics has only 20% sales in a parent company base. The largest electronics company, Hon Hai Precision Industry, also has relatively few sales of the parent company next to these companies.

The equity capital ratio in a parent company base exceeds 50.3%, and its profit ratio is 6.8%. Both rates in a parent company base exceed the ratio in a consolidated base. In the equity capital ratio, Delta Electronics in a parent company base is 73.1%, which is quite high as compared with a consolidated base. The profit ratio of MediaTek is

46.3% and Delta Electronics is 43.0%, which in a parent company base, is very high. This confirms the gap of the equity capital ratio and the profit ratio in electronics companies.

Next, I will inquire what kind of overseas expansion is actually performed based on the financial data of each company. **Table 9** shows the regional composition of sales and exports in the electronics company. The data of both the regional composition of domestic and international sales and the regional composition of export are examined. Table 9 uses the annual report of each company currently published by the Taiwan Stock Exchange, and when there is no data, it uses the consolidated financial report. As Table 9 showed, there are some businesses, such as MediaTek, in which data are not reported. Although there are several situations where the adjustments and elimination item numbers are quite large, its contents is unclear.

First, the overseas sales ratio in Delta Electronics is overwhelmingly high. Sales in Asia are five times greater as compared with domestic sales. I showed that the parent company base ratio is small. Therefore the percentage of subsidiary is high for Delta Electronics; both results correspond with each other. In the major two big businesses, Hon Hai Precision Industry and Quanta Computer, outside sales slightly exceeded domestic sales.

We will examine the regional export composition. The major exports of Taiwan Semiconductor Manufacturing are to the Americas, and High Tech Computer has many exports to North America and Europe. The major export destinations for the largest exporter, Hon Hai Precision Industry, are Asia and the Pacific, with Europe and America following. The next larger exporter, Quanta Computer, exports most to America, with Asia and Europe following. The export destination of companies other than Acer centered on Asia.

Next, I will consider an activity in China as an important market for Taiwanese electronics companies. Shimpo (2011) has already shed light on the "*Largest Export Companies in 2009*"<sup>\*18</sup> in China, based on the data for China. Based on this material, among the 30 companies, the total number of Taiwanese companies is 14. Six companies are in the top 10, and 12 companies, are in the top 20. Their positions are extremely high.

This paper lists the major subsidiaries in China for the nine Taiwanese electronics companies that were investigated. The subsidiaries in China of Asustek Computer Inc.

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\* 18 Ministry of Commerce of the People's Republic of China, Comprehensive Department (2010).

Business Alliances between Japanese and Taiwanese Companies

**Table 9 Regional Composition of Sales and Export in Electronic Company**

Unit: NTD million

1 Taiwan Semiconductor Manufacturing	Sales	Taiwan	North America and Others		Adjustments and Elimination	<b>Total</b>
		421,197	241,206		-242,865	<b>419,538</b>
	Export sales	Americas	Asia	Europe and others		<b>Total</b>
		228,283	86,189	48,907		<b>363,379</b>
2 Hon Hai Precision Industry	Sales	Foreign	Taiwan		Adjustments and Elimination	<b>Total</b>
		2,473,181	2,390,649		-1,855,483	<b>3,008,347</b>
	Export sales	Asia and Pacific	Europe	Americas		<b>Total</b>
		1,208,148	887,523	863,793		<b>2,959,464</b>
4 High Tech Computer	Sales	n.a.				
	Export sales	North America	Europe	Asia	Others	<b>Total</b>
		137,285	90,095	28,506	11,868	<b>267,753</b>
10 MediaTek	Sales	n.a.				
	Export sales	n.a.				
		<b>Total</b>				
		<b>65,893</b>				
13 Delta Electronics	Sales	Asia	Taiwan	Others	Adjustments and Elimination	<b>Total</b>
		271,534	55,797	17,641	-173,575	<b>171,397</b>
	Export sales	South East Asia	Europe	USA	North East Asia	<b>Total</b>
		86,761	34,459	26,963	5,450	<b>160,460</b>
14 Chimei Innolux Corporation	Sales	Taiwan	Asia and others		Adjustments and Elimination	<b>Total</b>
		485,562	222,886		-209,852	<b>498,596</b>
	Export sales	Asia	Americas	Europe	Others	<b>Total</b>
		246,441	62,173	44,083	2,933	<b>355,630</b>
15 AU Optronics	Sales	Taiwan	Asia	Others	Adjustment and eliminations	<b>Total</b>
		491,468	420,965	697	-445,971	<b>467,158</b>
	Export sales	Asia	Others			<b>Total</b>
		233,362	35,025			<b>268,387</b>
18 Acer	Sales	Taiwan	Europe	North America	Eliminations	<b>Total</b>
		475,096	305,420	151,323	-442,840	<b>631,702</b>
	Export sales	n.a.				
		Export sales of the domestic operating segments do not exceed 10% of the consolidated revenues, hence no disclosure is required.				
20 Quanta Computer	Sales	Foreign	Taiwan		Adjustments and Elimination	<b>Total</b>
		1,102,923	1,093,287		-1,063,281	<b>1,132,929</b>
	Export sales	Americas	Asia	Europe	Others	<b>Total</b>
		464,204	286,398	278,815	34,036	<b>1,063,454</b>

Source: Each company's data in Taiwan Stock Exchange. This table is basically based on each company's Annual Report.

and Compal Electronics, Inc., Wistron Corporation and Inventec, which Shimpo (2011) reported, were added. This is **Table 10**, which also reports the exporter ranking in China.

Table 10 Exporter Ranking in China

		Ranking in China	Subsidiaries in China	Carrying Value as of December 31, 2010	Unit: NTD million (thousand)
1	Taiwan Semiconductor Manufacturing		TSMC China	4,252	
2	Hon Hai Precision Industry		Foxconn Precision Component (Beijing) Co., Ltd. Shenzhen Futaihong Precision Industry Co., Ltd.	15,169 11,956	
2			Hongfujin Precision Industry (Shenzhen) Co., Ltd.	54,866	
17			Hongfutai Precision Electron (Yantai) Co., Ltd. Premier Image Technology (Fuoshan) Co., Ltd.	13,606 11,094	
11			Hong Fu Jin Precision Electronics (Yantai) Co., Ltd.	20,730	
4			<i>Futaihua Industrial (Shenzhen) Co., Ltd.</i>	29,308	
			<b>Total</b>	<b>156,729</b>	
4	High Tech Computer		HTC electronics (shanghai) Co., Ltd.	3,634	
10	MediaTek		MediaTek (Beijing) Inc.	3,192	NTD million
13	Delta Electronics		Delta Electronics (Dongguan) Co., Ltd.	4,491	848,936 HKD
14	Chimei Innolux Corporation	15	Qunkang Technology (Shenzhen) Co., Ltd. Ningbo Chi Mei Optoelectronics Ltd.	11,100 19,183	
15	AU Optronics		AU Optronics (Suzhou) Corp. AU Optronics (Xiamen) Corp.	11,525 7,250	
18	Acer		Acer (Chongqing) Ltd. Acer Computer (Shanghai) Ltd.	4,394 997	NTD million U.S. dollars
20	Quanta Computer	1	Tech+Front (Shanghai) Computer Co., Ltd. Quanta (Shanghai) Computer Co., Ltd.	8,012 7,806	NTD million U.S. dollars
27	Asustek Computer Inc.	8	Maintek Computer (Suzhou ) Co., Ltd.	12,862	NTD million
		18	Protek (Shanghai) Co., Ltd.	11,074	U.S. dollars
28	Compal Electronics, Inc.	3	Compal Information Technology (Kunshan) Co., Ltd.	6,500	U.S. dollars
	2324	22	Compal Information (Kunshan) Co., Ltd.	2,498	U.S. dollars
	Wistron Corporation	6	Wistron InfoComm Manufacturing (Kunshan)	6,348	
	3231	21	Wistron InfoComm Technology (Kunshan)	3,106	
	Inventec	13	Inventechi-Tech Corporation	1,856	
	2356	12	Inventec Corporation	1,685	

Source 1: Each company's data in Taiwan Stock Exchange.

Source 2: Ministry of Commerce of the People's Republic of China, Comprehensive Department (2010).



First, the company that has advanced the most in China is Hon Hai Precision Industry. Seven Hon Hai Precision subsidiaries invested over 10 million NT dollars, led by Hongqfujin Precision Industry (Shenzhen) Co., Ltd., which invested 55 million NT dollars. This company is the second largest company in "*Largest Export Companies in 2009*". Chimei Innolux Corporation has two subsidiaries in China and invested over 10 million NT dollars. AU Optronics has one company. Tech-Front (Shanghai) Computer Co., Ltd., the subsidiary in China of Quanta Computer, invested 8 million NT dollars. However, Quanta Computer was ranked first in the "*Largest Export Companies in 2009*".

Asustek Computer Inc. and Compal Electronics Inc. are ranked 27 and 28 of the Taiwanese companies by market capitalization. Asustek Computer is the largest global mother board manufacturer, with approximately 40% of the world share, and the belief is that a third of all computers are equipped with the ASUS mother board. Compal Electronics is a leading manufacturer of notebook PCs and LCD products. Asustek Computer has two subsidiaries in China including Maintek Computer (Suzhou) Co. Ltd., which invested over 10 million NT dollars. Compal Electronics has a subsidiary in China, Compal Information Technology (Kunshan) Co., Ltd., which ranked third in the "*Largest Export Companies in 2009*". Although the total market capitalization of Wistron Corporation and Inventec are not in the top 30, they have important subsidiaries in China as reported in Table 10.

Taiwanese companies, in particular, electronics companies have rapidly developed for five reasons. \*<sup>19</sup> **First**, Taiwanese companies understood that the present was a time of globalization for the ICT revolution, and companies established alliances with companies in a developed country. Taiwanese companies then introduced the technology and management resources for those industries in which the ICT revolution advances, especially the electronics industry. **Second**, the companies in the electronics industry adopted new business models. Taiwan Semiconductor Manufacturing started the semiconductor dedicated IC foundry business model. MediaTek started the fabless semiconductor company business model for wireless communication and digital multimedia. The profit ratio of these two companies is remarkably high, and their market capitalization is also large as compared with the scale. A Korean company

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\* 19 The most comprehensive analysis of the Taiwan high-tech industry is Sato (2007). This book broadly examined major companies and presented an intriguing viewpoint of the partnership of state and engineers.

would generally not generate a new business model. I will return to this topic later in this paper. **Third**, the active overseas advance, especially into China, is important. Hon Hai Precision Industry could respond to soaring wages in Taiwan by moving into China. Moreover, Taiwanese electronics companies greatly contribute to Chinese economic development by leading Chinese export.

**Fourth**, as found especially in electronics companies, the founder's role is significant and the decision-making process is rapid. This decision making process is very different as compared to a Japanese company process, in which time passed after a business organization was established, and decision-making is relatively slow. **Fifth**, the equity capital ratio of a Taiwanese electronics company is very high, and it has few loans from banks. Stocks are widely dispersed and foreign institutional investor stockholding is also increasing. Market-centered corporate governance is established. This corporate governance makes it easy to raise funds in the electronics industry, which needs a considerable investment fund. Although much research examined Taiwanese companies from a viewpoint of family or government control, thus far, the control of a family or the government is now changing.\*<sup>20</sup>

## 2.4 Financial and Chemical Industries

**Subsection 2.4** examines Taiwanese companies in the financial and chemical industries. We discover another feature of Taiwanese companies in these industry companies. Regarding the financial industry, three companies are in the top 20 market capitalization of Taiwanese companies: Cathay Financial Holding, Fubon Financial Holdings, and Mega Financial Holding. All companies are financial holding companies. In net revenue of financial holding companies by business in **Table 11**, the ratio of insurance business is overwhelmingly high in Cathay Financial Holding and Fubon Financial Holdings. Profit of the insurance business in Cathay Financial Holding is in the red in the 2010 fiscal year. In Mega Financial Holding, the banking business is the largest. By region, in Mega Financial Holding which discloses the data, Taiwan's interior markets are larger than the overseas sector ratio would suggest.

Based on the already examined data, banks as stockholders of a company are rare. The example in which a general company appears as a stockholder of a bank is also rare. The cross shareholding between a company and a bank does not play a big role. The equity capital ratio of a company is high and there is little borrowing from financial

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\* 20 The representative research on family control is Lee (2010). The representative research on the government control is Liu (2008).

Table II Financial Holding Companies by Segment

Cathay Financial Holding	Unit: NTD million							Consolidation
	Banking	Life insurance business	Life insurance	Property insurance	Securities	Others	Elimination	
Interest income	15,464	77,903	329	125	-271	-815	92,735	
Non-interest income	12,344	237,402	3,604	725	6,186	-9,003	251,257	
Net revenue	27,808	315,305	3,933	850	5,915	-9,818	343,992	
Bad debt expense	-	-	-	-	-	-	-	
Provision for insurance reserve	-	-283,959	-504	-	-	-	-284,464	
Operating expense	-14,896	-41,996	-3,310	-629	-927	4,820	-56,938	
Net income before cumulative effect of changes in accounting principle, and income tax	12,912	-10,651	119	221	4,988	-4,998	2,591	
Income tax expense	-1,171	3,114	-40	1	-186	-	1,717	
Net income	11,741	-7,537	78	222	4,802	-4,998	4,308	
<b>Fubon Financial Holdings</b>	<b>Insurance</b>							<b>Consolidation</b>
Interest income	15,594	36,859	1,393	-614	53,232			
Non-interest income	10,435	425,128	5,989	2,345	443,898			
Net revenue	26,029	461,987	7,383	1,731	497,129			
Bad debt expense	1,059	-	-	-	1,059			
Provision for insurance reserve	-	433,607	-	-	433,607			
Operating expense	16,592	14,877	5,222	2,625	39,316			
Net income before cumulative effect of changes in accounting principle, and income tax	8,377	13,503	2,161	-894	23,147			
Income tax expense	866	385	242	934	2,428			
Cumulative effect of changes in accounting principle	-	-	-	-	-			
Net income	7,511	13,118	1,919	-1,829	20,719			
<b>Mega Financial Holding</b>	<b>Banking</b>							<b>Consolidation</b>
Interest income, net	21,634	84	1,048	2,841	-542	25,064		
Revenues other than interest, net	9,947	692	3,287	1,595	1,391	16,913		
Net revenue	31,581	776	4,335	4,436	849	41,977		
Bad debt expense	-1,888	-	-	346	-2,234	-		
Provisions for the reserve for insurance	110	110	-	-	-110	-		
Operational expenses	16,019	837	2,729	713	695	20,993		
Income before Income Tax from Continuing Operations	13,674	172	1,606	3,378	154	18,640		
Income tax expense	2,398	14	229	501	348	3,490		
Consolidated Net Income from Continuing Operations	11,276	-185	1,376	2,877	-194	15,150		

Source: Each company's data in Taiwan Stock Exchange.

institutions, such as banks. Company dependence on banks is seldom found, and there is no system like the Japanese main bank system.

Family control in a bank is the focus of much attention. The largest financial holding company, Cathay Financial Holding, was established in 2001 to provide a full-functioning financial platform. Family control is found in this financial holding company. Two companies whose representative is Tsai Cheng-ta, the older brother of Chairman and CEO Tsai Hong-tu, own 33.6%. Fubon Group with the second largest financial holding company, Fubon Financial Holdings, has the most comprehensive product line in the domestic financial sector. The Taipei City Government is the largest stockholder who owns 14.2% in Fubon Financial Holdings, and two companies whose representative is Tsai Wan-tsai, father of Chairman and CEO Daniel M. Tsai, own 16.9%. Unlike these two companies, at Mega Financial Holding the influence of governmental is strong. \*<sup>21</sup>

The last part of this section will examine the Formosa Plastics Group with the longest history, which still has a large influence. Based on the wood business and U.S. economic aid, Wang Yung-Ching introduced Japanese plastic technology, and established Formosa Plastics Corp in 1954. He expanded one business after another, established Nan Ya Plastics as a downstream business in 1958, and Formosa Chemicals & Fibre to produce rayon fibers from timber waste in 1967. In 1992, the current largest company, Formosa Petrochemical, which has an oil refinery, naphtha cracking plant, and cogeneration plant, was established. As shown in Table 1, these four companies are located in the top 10 Taiwanese companies by market capitalization. This business group's largest special feature is the cross shareholding in a business group, and the founder family is strongly involved in the group.

**Table 12** reported not only three major stockholders in Table 2 but also ten other major stockholders. Three major stockholders of the group's largest company, Formosa Petrochemical, which was the last established within the group, are the three group companies. The total ownership ratio is 78.1%. In the other three companies in the Formosa Plastics Group, the cross shareholding is similar.

The fourth stockholder of Formosa Petrochemical is Chang Gung Memorial Hospital whose representative is Wang Yung-tsai, a younger brother of Wang Yung-Ching. The Chang Gung Memorial Hospital is the largest stockholder of Formosa Chemicals & Fibre

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\* 21 Kawakami examines the family controlled company group in Taiwan and discusses that the transfer to a financial holding company induced the appearance of the family's logic in Taiwan (Kawakami, 2008, 273).

Business Alliances between Japanese and Taiwanese Companies

**Table 12 Top 10 Stockholders of Formosa Plastics Group**

<b>Formosa Petrochemical</b>		<b>%</b>	<b>Nan Ya Plastics</b>		<b>%</b>
1	Formosa Plastics Corp.	29.31	Formosa Plastics Corp.		9.88
2	Formosa Chemicals & Fibre	24.90	Chang Gung Medical Foundation		8.43
3	Nan Ya Plastics	23.84	Wang Yung-Ching		5.46
4	Chang Gung Memorial Hospital	4.68	Wang Yung-tsai		5.41
5	Formosa Taffeta Co., Ltd.	3.83	Formosa Chemicals & Fibre		5.21
6	Standard Chartered Bank in Custody for Millennium Venture Capital Co., Ltd. Account	0.70	Chang Gung University		3.99
7	Standard Chartered Bank in Custody for Genesis Capital Group Co., Ltd. Account	0.57	Liberian Vanson International Investment Company		2.39
8	HSBC in Custody for Bauer Energy Yin Yue Co., Ltd. Account	0.51	Formosa Petrochemical		2.26
9	HSBC in Custody for Asia-Pacific Optical Co., Ltd. Account	0.48	Liberian Qin International Investment Company		1.86
10	Standard Chartered Bank in Custody for Central Capital Management Co., Ltd. Account	0.47	HSBC in Custody for Merrill Lynch Securities Co., Ltd. Investment Account		1.20
<b>Total</b>		<b>89.29</b>	<b>Total</b>		<b>46.09</b>
<b>Formosa Plastics Corp.</b>		<b>%</b>	<b>Formosa Chemicals &amp; Fibre</b>		<b>%</b>
1	Chang Gung Medical Foundation	7.66	Chang Gung Medical Foundation		18.58
2	Formosa Chemicals & Fibre	7.65	Wang Yung-tsai		7.37
3	HSBC in Custody for Merrill Lynch Securities Co., Ltd. Investment Account	6.26	Liberian Qin International Investment Company		6.35
4	Nan Ya Plastics	4.63	Liberian Vanson International Investment Company		3.80
5	Wang Yung-tsai	4.43	Formosa Plastics Corp.		3.39
6	Qin's International Investment Holdings Limited	4.16	Nan Ya Plastics		2.40
7	Mansafe International Investment Limited	3.05	United Electric Power Development Company		1.63
8	Wang Yung-Ching	2.91	Standard Chartered Bank in Custody for Genesis Capital Group Company Account		1.18
9	Formosa Petrochemical	2.07	HSBC in Custody for Merrill Lynch Securities Company Investment Account		1.14
10	Ming Chi University of Technology	1.41	HSBC (Taiwan) in Custody for Singapore Pte Co., Ltd. -Singapore		1.10
<b>Total</b>		<b>44.23</b>	<b>Total</b>		<b>46.94</b>

Source: Each company's data in Taiwan Stock Exchange. Some companies name are translated by myself.

and Formosa Plastics Corp., and the second stockholder of Nan Ya Plastics. In Nan Ya Plastics, Wang Yung-Ching and Wang Yung-tsai are the third and fourth stockholders. They appear also as a stockholder in Formosa Plastics Corp. and Wang Yung-tsai serves as the second stockholder in Formosa Chemicals & Fibre.

Except these, Qin's International Investment Holdings Limited and Mansafe International Investment Limited, which are considered to be the Wang family investment company, serves as a stockholder for the three companies except Formosa Petrochemical. The Chang Gung University and Ming Chi University of Technology, which are considered to have a close relationship with the Wang family, also appeared as stockholders. In addition, the activity of the Formosa Plastics Group centered on domestic market like the financial industry. The largest company, Formosa Petrochemical, does not have overseas operating units.

As noted above, the financial and chemical industries in Taiwan with the electronics industry have many important companies. However, two industry companies still focus on the domestic market and differ considerably from electronics companies. This feature appears especially in their corporate governance. The financial and chemical industries are also expected to be forced into further globalization.

### **3 The Possibility of Business Alliances between Japan and Taiwan**

#### **3.1 Developing Business Alliances between Japan and Taiwan**

The movement toward business alliances between Japan and Taiwan in both electronics companies has recently become active. Business alliances between Japan and Taiwan began with Elpida Memory, Inc. and Powerchip Technology Corporation. Elpida Memory, Inc. is the leading manufacturer of the dynamic random-access memory (DRAM), which unified the DRAM business of Nippon Electric Company, Ltd. and Hitachi, and was established in December 1999. The DRAM market condition has become extremely competitive, and Elpida Memory has strived for cooperation with Taiwanese companies.

In December 2006, Elpida and Powerchip Technology Corporation signed an agreement to establish the DRAM joint venture in Taiwan. Elpida implemented the basic agreement on production outsourcing with ProMOS Technologies Inc. and Winbond Electronics Corporation of Taiwan in November 2009. In contrast, Powerchip Technology Corporation established a joint venture with Japan's Renesas and Sharp to focus on the liquid crystal display (LCD) driver market.

Recently, Hitachi Displays agreed to give the in-plane-switching (IPS) liquid crystal technology, and to outsource the medium sized IPS liquid crystal panel used for tablet PCs and others to Chimei Innolux Corporation. The IPS technology is the thin film transistor (TFT) liquid crystal technology with the in-plane-switching system, which is different from TFT liquid crystal with twisted nematic (TN) mode.

The action of Hon Hai Precision Industry is the focus of much attention. Hitachi ties in with Hon Hai in the liquid crystal panel business. Hitachi supplies highly-functional panels for a smart phone (highly-functional cellular phone) that Hon Hai produces. The world's largest company with the liquid crystal panel of a small and medium-sized will be created by the business alliance of both companies, and go beyond Sharp. Afterward, however, the move is becoming somewhat uncertain because Hitachi, Toshiba and Sony merged their liquid crystal display.

In such a situation, Terry Gou of Hon Hai Precision Industry noted the possibility of a business alliance between Japan and Taiwan as follows:

1. Both Japanese and Taiwanese companies take advantage of their own advantages. The advantage of a Japanese company is the technology cultivated for a long time and the seriousness, and the advantage of a Taiwanese company is the high flexibility.
2. Both companies respect intellectual property rights. We never copy and we pay the appropriate royalty. Hon Hai also possesses much intellectual property.
3. Both cultures are similar in that each respects trust and honesty.
4. A Japanese company has its own brand but we do not have our own brand. \*<sup>22</sup>

Based on these remarks, I will summarize the possibility of **business alliances between Japan and Taiwan**.

1. With their long history, Japanese companies have established a global brand. In contrast, Taiwanese companies established a different business model from Japanese companies and developed the foundry, fables, EMS and others, and there are not a few situations in which they do not have their own brand. In this context, both can build a mutually complementary relationship.
2. For both companies, China has played an important role, and Taiwanese companies have already built a firm base in China. The advance into socialist China is accompanied by a big risk, which has been termed the China Risk for Japanese companies. Therefore, Taiwan could become a bridgehead from which Japanese companies advance to China.
3. Japan and Taiwan have built a close relationship historically, and on this base, both countries have established the deep rooted market economy and corporate activity.

This possibility is not applicable to all Japanese and Taiwanese companies. However, the possibility becomes larger in Japanese and Taiwanese electronics companies. As examined above, Taiwanese companies including Hon Hai Precision Industry are plagued by the current profit reduction. If present trends continue, the recovery of Japanese companies in the electronics and semiconductor industries will be difficult.

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\* 22 Nikkei Business Publications, Tech-On (2011).

I would like to discuss the **China Risk**. Established in 1949, China is now entering a very difficult period. One symbolic example of this difficulty is the harsh criticism of the Chinese citizenry to the government about the Chinese high speed rail accident in Wenzhou. The criticism from the domestic relatively high-income class using a high speed rail shocked the Chinese government and the Communist Party. The collapse of the long-term dictatorial regime in the Middle East shows a future possible change in China. China is politically unstable, and this kind of instability is a new experience. This is **the first risk** for foreign companies, which include Japanese companies, in advancing to China.

**The second risk** is that intellectual property rights have not been sufficiently established in China. About the China high speed rail with which Japan and Germany exported technology, China claims that the Chinese improved the high speed rail with its own technology. Now, China plans to export the high speed rail. This technological thievery is not unusual in China.

**The third risk** is the fall of the mid- and long-term growth rate in China. The Chinese population is gradually aging.\*<sup>23</sup> However the social security system prepared for rapid aging has not been established. Neither pension funds nor a life insurance system as in Japan is fully established in China. Therefore, there is also little investment in the financial market by pension funds or life insurance companies, and the inefficient state-owned enterprise is preserved.

### **3.2 Taiwanese Companies and Korean Companies**

Although there is the possibility of business alliances between Japan and Taiwan, this possibility between Japan and Korea is comparatively small. In **Subsection 3.2**, I would like to discuss this difference.

First, **Table 13** lists and compares the top 20 Korean companies. The market capitalization of all Taiwanese companies is 23.8 trillion NT dollars, and the market capitalization of all Korean companies is 29.3 NT trillion dollars, which exceeds the Taiwanese. The concentration ratio in the top 30 Korean companies is 59.0% and, exceeds 53.8% of the top 30 Taiwanese. The market capitalization of Samsung Electronics, which is 13.5% of all Korean companies, is 4.0 trillion NT dollars. This overconcentration is remarkable.

The most significant characteristic of Korean companies is that many family-run conglomerates are representative companies. The number of Samsung related companies

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\* 23 As one example, Fujimura (2008).



**Table 13 Top 30 Companies for Stock by Market Capitalization in 2010 in Taiwan and Korea**

Rank	Taiwan	Market Capitalization	Rank	Korea	Market Capitalization		
		NTD million			KRW bil.	NTD million	
1	Taiwan Semiconductor Manufacturing	1,839,421	1	Samsung Electronics	Samsung	154,606	3,965,273
2	Hon Hai Precision Industry	1,135,197	2	POSCO		42,460	1,088,997
3	Formosa Petrochemical	942,117	3	Hyundai Motor	Hyundai	42,223	1,082,919
4	High Tech Computer	735,888	4	Hyundai Heavy Industries	Hyundai	33,668	863,503
5	Chunghwa Telecom	718,533	5	Hyundai Mobis	Hyundai	27,699	710,413
6	Formosa Plastics Corp.	596,788	6	LG Chemical	LG	27,125	695,691
7	Nan Ya Plastics	570,862	7	Shinhan Group		25,085	643,370
8	Formosa Chemicals & Fibre	558,804	8	KB Financial Group		23,181	594,537
9	Cathay Financial Holding	524,984	9	Samsung Life	Samsung	20,500	525,776
10	MediaTek	459,221	10	Kia Motors	Hyundai	20,117	515,953
11	China Steel	454,689	11	KEPCO		19,375	496,922
12	Fubon Financial Holdings	342,335	12	SK Energy		18,017	462,093
13	Delta Electronics	340,583	13	LG Electronics	LG	17,822	457,092
14	Chimei Innolux Corporation	271,657	14	LG Corp.	LG	15,174	389,177
15	AU Optronics	267,459	15	LG Display	LG	14,241	365,247
16	Taiwan Mobile	264,924	16	Hynix Semiconductor	Hyundai	14,167	363,350
17	Mega Financial Holding	248,284	17	SK Telecom		14,009	359,297
18	Acer	242,882	18	Lotte Shopping		13,738	352,347
19	Far Eastern New Century Corp.	234,876	19	Woori Finance		12,493	320,415
20	Quanta Computer	234,569	20	Samsung C & T	Samsung	12,485	320,210
<b>Total</b>		<b>10,984,073</b>	<b>Total</b>			<b>568,185</b>	<b>14,572,583</b>
<b>Electric Company</b>		<b>5,526,877</b>	<b>Electric Company</b>			<b>200,836</b>	<b>5,150,962</b>
		50.3%				35.3%	
30 Companies Total (A)		12,807,303	30 Companies Total (A)			673,307	17,268,710
All Listed Companies (B)		23,811,416	All Listed Corporations (B)			1,141,886	29,286,625
A/B (%)		53.79	A/B (%)			58.96%	

Source 1: <http://www.twse.com.tw/ch/about/company/download/factbook/2011/1.04.htm>

Source 2: KRX Fact Book 2010

including Samsung Electronics is three, the number of Hyundai related companies including Hyundai Motor is five, and the number for LG related companies is four. The Korean family-run conglomerate has the feature of organizing across industries. There are no family-run conglomerates organized across industries in Taiwan. Although the special features of Korean family-run conglomerates are now gradually weakening, their mutual interconnections are important.

Regarding the market capitalization for electronics companies, Taiwanese companies with 5.5 trillion NT dollars exceed Korean companies. Taiwan has nine electronics companies, and Korea has four including Samsung Electronics. Taiwanese companies are concentrated in electronics and Korean companies are diversified in many industries. The difference in this dispersion is related to the existence of a family-run conglomerate related company. Taiwanese companies include the foundry, fabless, EMS and others.

Korean companies are often vertically integrated and introduce Japanese integrated device manufacturers (IDMs).

The question is if Korean companies with such features and Japanese companies will begin to develop business alliances. The most recent example in the steel industry is that the largest stockholder of Posco is Nippon Steel Corporation of Japan. In a joint venture, Sony and Samsung Electronics are manufacturing a liquid crystal panel. However, business alliances between Japan and Korea are slow to increase.

**The first reason** is that there are no mutually complementary relationships between Japanese companies and Korean companies, such as exist between Japanese and Taiwanese companies. Both Japanese and Korean companies are competing directly with each other in global markets. If another major competitor suddenly appears, these mutually complementary relationships may change.

**The second reason** is that since governmental support of these Korean company family-run conglomerates, which remains the exclusive structure in Korea, the possibility of alliances between Korean companies and Japanese companies is not strong.

**Finally**, as a more general problem, the Korean nationalistic ideology and policy that criticizes Japan continues. This criticism, in some fields, has become even stronger. This Korean criticism about Japan hinders both sides from building a long-term, stable and cooperative relationship.

As noted above, compared with Korean companies, the possibility of business alliances between Japan and Taiwan can be clearly understood. These business alliances are expected to have a large influence in China and throughout Asia. The same alliances may also be organized with Association of Southeast Asian Nations (ASEAN) countries, although this alliance would not yet be as close as Taiwan and Japan. When such a movement becomes mainstream, Asian economic integration would substantially advance, not through interdependence trade and indirect investment, but based on various types of business alliances and cooperation.

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