Chapter 8

The Role of FDI and the Emerging Export Industry

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Introduction

The expansion of the Philippines' electronics export since the early 1990s has been heavily dependent on the liberalization of trade and investment policies that has been going on since the Aquino administration was inaugurated in 1986. Another factor is the growing demand for electronic devices for the IT industry in the global market. Combined, these have changed the Philippines into one of the production sites that supply intermediate goods through vertical and horizontal industrial linkages. Why does the Philippines have a prosperous electronics industry that has become a leading export sector in recent years?

On the other hand, the Philippines is still beset with difficulties that prevent its economy from getting back on the track of sustainable economic development. It has been said time and again that the Philippines has a volatility-ridden (boom and bust) economic development path. How do we explain the ambiguous nature of this phenomenon seemingly inherent in the Philippine economy? What prescriptions can we put forward to exploit a way out of the trap that is preventing the Philippine economy from breaking through?

In this paper, we first look at the investment reform programs since the Aquino administration and its economic impacts – particularly its success in attracting foreign direct investments. Second, we try to answer the question 'Why has the electronics industry clustered in the Philippines, especially in the southern part of Metro Manila?'. We analyze the process of development of the electronics and related products industry as the emerging export winner. Third, based on the findings above, we discuss the changing structure of Philippine economy and point out the weakness of industrial and technological network (linkage) from the viewpoint of industrial relations and structure. Finally, we discuss the experience of Asian economic development and seek the desirable path in a new dimension.

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The Role of Investment Policy Reform

Policy Reforms Towards Liberalization

The Marcos regime lasted for almost 20 years and left a negative legacy. In terms of politics, the Marcoses and their cronies dominated the political arena, which was characterized by the suppression of the plural party system and the democratic process in decision-making. In terms of the economy, they allowed rent-seeking to escalate in business and economic activities, and these have devastated the Philippine economy.

The Aquino administration took office in 1986. The main issues of economic policy during this administration were (i) deregulation policy (ii) privatization of state-run enterprises which caused huge budget deficits, and (iii) economic liberalization policy on trade and investment aimed at attracting foreign direct investment (FDI) and rejuvenating the Philippine economy from the worst situation it has faced after World War II. However, the Aquino years were hobbled by many problems. In the first three years, there was political instability caused by several attempted *coups d'etat* by the right wing of the military forces. This was aggravated in the next three years by natural disasters such as the 1990 earthquake and the eruption of Mt. Pinatubo, and the Gulf war.

In 1987, in order to promote (foreign) investments, the Omnibus Investment Code was enacted into law as Executive Order No. 226. Under EO 226, incentives are given enterprises that export at least 70 percent of their production, or invest in preferred areas identified in the Investment Priority Plan (IPP)[2]. The Board of Investments (BOI) revises the IPP yearly consistent with the decision-making of investment policy. The 2000 IPP[3] consists of three (3) priority areas (National List, Regional List, and Autonomous Region of Muslim Mindanao List) and 10 activities.

Another milestone in liberalizing investment policy was the enactment of the Foreign Investment Act (FIA) of 1991, otherwise known as Republic Act No. 7042. The FIA allows 100 percent foreign equity in all areas except those specified in the Negative List (Negative List A, B and C). In 1994, Negative List C was deleted from the Act. Also in 1990, the Philippine government enacted the Build-Operate-Transfer (BOT) Act (RA 6957), which later paved the way for the successful arrangement of infrastructure projects initiated by the private sector during the time of President Ramos.

Fidel Ramos took over the presidency in 1992 and called for national unity as political slogan and promised to solve the then massive power crisis, which had heavily damaged economic activities due to prolonged scheduled blackouts. President Ramos

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[2] See Austria (1999) p. 93.

[3] It has considered incorporating two features which are (1) to further enhance regional development, i.e., a regional list of manufacturing or production activities and identification of industry clusters and (2) information technology (IT).

dealt with the crisis successfully, admitting foreign equity participation in power generation, which until then had been monopolized by the National Power Corporation.

After overcoming the power crisis, the Ramos administration further accelerated liberalization policy in trade and investment and the financial sector. It also implemented the privatization policy and the private-initiative infrastructure projects contract under the BOT Law[4]. These policy changes attracted foreign investments in infrastructure projects, i.e., in the field of power generation, railway [Light Railway Transit (LRT) 3], toll road, water utility, and so on. During that time, the Philippines seemed to be acknowledged as the frontrunner in the implementation of BOT projects compared with the other developing countries in Asia.

Flow of investments in the Philippines

During the latter half of the 1980s, the Philippines was left far behind by other ASEAN countries in terms of economic development as it failed to attract the FDI from Japan and the Asian NIEs. However, as explained later, things are different under the new global economy and the evolution of information technology (IT) industry, which have come to play the role of a new leading industry in the world economy for the past 10 years. Now, the Philippines is acknowledged as one of the better investment areas to build world-wide production system and network in the IT industry because of the abundance of skilled labor who are proficient in English and knowledgeable with computers. While we analyze the trend and details of foreign investments in the Philippines, the comparative advantage of the Philippines is probed.

Figure 1 shows the trend of foreign equity investment and economic development since 1986. During the early years of the Aquino administration, the level of foreign investments was low at US$ 100 million or less. In 1991, FDI increased to US$ 400 million, recovering from its dismal performance. However, economic growth went down in the aftermath of the Gulf War in 1990 to 1991, and after the eruption of Mt. Pinatubo in 1992.

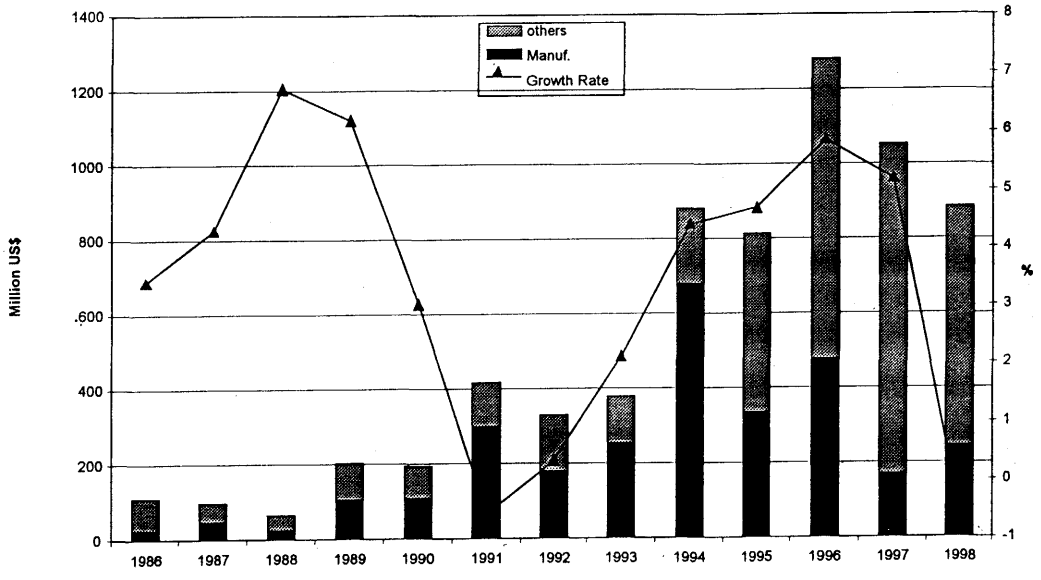
The early stage of the Ramos administration was characterized by investors having a "wait-and-see attitude". They wanted to make sure their business decisions jived with economic policy, and they wanted to see how the government would deal with the power crisis that stemmed from mismanagement of the energy policy under the previous administration. President Ramos was given authority by the Electric Power Crisis Act (RA 7648) to undertake the building of new power plants through the private-initiative scheme.

After the Ramos government licked the power crisis, FDI jumped in 1995 to US$ 882 million, and peaked at US$ 1.3 billion in 1996. The share of manufacturing in

[4]BOT Law of 1990 (RA 6957) was revised in 1994 (RA 7718) for the diversification of the preferred areas in order to stimulate more private-initiative participation.

the total FDI was 72 percent in 1991, and peaked at 77 percent in 1994 (GDP Growth Rate: 4.4 percent). After that, it declined to 42 percent in 1995 (GDP Growth Rate: 4.4 percent) and 1996 (do: 5.9 percent), and hit bottom at 16 percent in 1997 (do: 5.2 percent). We cannot assert that the FDI was solely responsible for the economic growth, but we must acknowledge the positive correlation between the flow of FDI and economic growth from 1994 to 1997 (Figure 1).

Figure 1
CB-Registered Direct Foreign Equity Investments and Economic Development



Source: Selected Philippine Economic Indicators 1998 Yearbook, Bangko Sentral ng Pilipinas

This trend indicates that investment activities from foreign countries diversified into other sectors, i.e., the finance and commerce sectors, which can be traced to the implementation of the economic liberalization policies. As to the effects of investment, we take into consideration other aspects. Ito (2000) insists that:

> Foreign direct investment (FDI), in contrast to portfolio flows, is considered a long-term commitment of investors in a host country. In times of economic and political difficulty, FDI is more likely to stay in the host country than a portfolio investment. Firms established by FDI also tend to train workers more efficiently than local firms, with well-trained managers from the parent firms passing on their management and other skills... As a result, FDI is often identified as another factor in export acceleration. In the 1980s, direct investment within the Asian region became more pronounced. (p. 82)

The Role of the Industrial Estate

The FDI flow into the Philippines is highly concentrated in the manufacturing sector, which received 47 percent of total foreign direct investments during the period 1990-97. Within the manufacturing sector, the share of foreign investment in machinery, appliances, and supplies increased considerably over the last decade (Austria [1998], pp. 81 & 84). In this section, we discuss where FDI investments went and how it affected the Philippine economic structure.

In the Philippines, there are several authorized organizations that deal with investments based on function and incentives to be given, as follows: BOI (Board of Investments), PEZA (Philippine Economic Zone Authority), BCDA (Bases Conversion Development Authority), PHIVIDEC (Philippine Veterans Investment Development Corporation) and SEC (Securities Exchange Commission). The BSP (Bangko Sentral ng Pilipinas), PEZA, BOI, and SEC periodically release data on investments. This segmentation of the function at times causes difficulty in understanding the actual investment situation in the Philippines. Recently, NSCB (National Statistical Coordination Board) has released the integrated investment data from PEZA, BOI, Subic and Clark, etc.

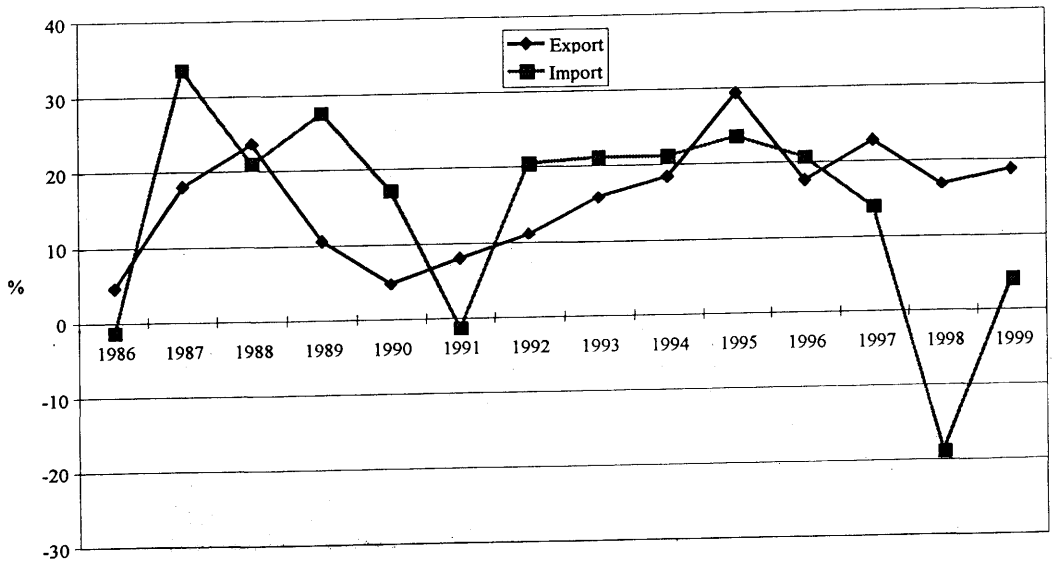
Here, we discuss the impact of the industrial estate, including export processing zones, which has been playing an important role in attracting FDI and fostering industrial clustering (agglomeration), particularly in CALABARZON area, located at the southern part of Metro Manila. Recently, PEZA approved three (3) information technology parks as special economic zones. These are Eastwood City Cyberpark, Northgate Cyberzone, and RCBC Plaza. This is to support the national policy agenda of creating and fostering Information Technology (IT) industry as a new leading industry in the Philippines. As a result of the expansion of the preferred area to be endorsed by PEZA, it seems that the focus is going to be placed on not for the big-scale industrial estates, but even a small lot of land or a building to be covered by the scheme.

PEZA and Private-initiated Development of Industrial Estates

Since the mid-1980s, Philippine economic development has traced cyclical ups and downs ("boom and bust cycle") that prevented the economy from getting back on track to a sustainable development path. However as far as the export from EPZs and SEPs are concerned, there has been steady growth (Figure 2).

Here, we look at the flow of investments, especially foreign direct investment into the economic zones. There are two types of economic zones given the same incentives under the management of PEZA. One type are regular export processing zones, which are constructed and managed by a government agency, the Philippine Economic Zone Authority (PEZA). The other type are constructed and owned by private firms, which are called Special Economic Zones (SPZs), a relatively new concept.

Figure 2
Growth Rate of Export and Import



Source: 2000 Philippine Statistical Yearbook, National Statistical Coordination Board

We examine the magnitude of the economic zones' contribution to national economic development. Table 1 shows the economic performance of PEZA since1980. Total investment in economic zones has increased to 9.5 billion pesos in 1994 from 2.7 billion pesos in 1993. In 1995, it jumped 5.5 times to 52.5 billion pesos compared to the previous year. Beginning 1995, the total amount of investment to the economic zones has been sharply increasing. However, we have to take into consideration that these include investment for the construction of industrial estates and for utilities and services (This is shown as "Others" in Table 1). Without the "Others", the amount of "net" equity investment (approved base) since 1995 has varied from 20 billion pesos to 52.8 billion pesos.

Amazingly, the exports of EPZs and SEZs reached US$ 15.8 billion, which exceeded 40 percent of the total export of US$ 35 billion in 1999. Within nine years (1992 to 1999), the amount of exports from economic zone system increased more than nine times.

Meanwhile, we have observed the salient features of the positive effects of FDI in the industrial estates, mainly in the provinces of Laguna and Cavite. These industrial estates have been developed through (or with) private initiative since the early 1990s. The first one was the Cavite Industrial Estate (Marubeni Philippines Corp., and Japan

Table 1 Economic Performance of Philippine Economic Zone Authority (1980-2000)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
New Firms	0	4	9	4	11	8	7	9	50	40	47	47	70	68	103	140	164	92	0	0	0
Government		3	7	4	10	6	7	9	50	40	43	43	54	50	69	140	164	92			
Private		1	2	0	1	2	0	0	0	0	4	4	16	18	34						
Total Firms	56	58	59	64	64	56	57	65	77	116	151	188	243	289	388	528	692	784			
Investments *	0	632.29	8545.09	26.45	52.57	2155.08	69.57	41.17	320.75	2946.27	2900.06	2303.23	2365.35	2686.02	9558.97	52524.98	65342.29	159752.46	95781.54	155736.74	0
Government		34.29	69.15	26.45	52.57	68.85	69.57	41.17	320.75	2,946.27	2,900.06	1,901.28	1,453.41	1,368.73	2,819.27	7,027.15	5,075.75	2,452.38	2,285.21	3,945.07	
SEZ		598	8,475.94	0	0	2,086.23	0	0	0	0	0	401.95	911.94	1,317.29	6,739.70	37,962.78	15,381.50	50,392.41	37,018.07	29,030.18	
Others		0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,535.05	44,885.04	106,907.67	56,478.26	122,761.49	
Exports **	0	236.76	250.95	238.76	245.82	205.57	278.07	396.25	430.74	444.15	579.58	819.08	1681.23	2060.41	2738.72	4284.61	6500.37	10626.31	13269.76	15807	10713.90
Government		236.76	250.95	238.76	245.82	205.57	278.07	396.25	430.74	444.15	579.58	819.08	1,030.96	1,507.05	1,994.08	2,883.04	3,784.73	4,373.38	4,733.35	5,490.04	4,044.58
Private		0	0	0	0	0	0	0	0	0	0	0	650.27	553.36	744.64	1,401.57	2,715.64	6,252.93	8,536.41	10,316.96	6,669.32
Imports **	0	169.35	226.73	160.57	166.9	118.59	148.06	389.88	330.9	267.39	357.67	574.28	1062.23	1261.98	1722.64	2532.33	3861.59	6878	9699.07	9644.23	6618.48
Government		169.35	226.73	160.57	166.9	118.59	148.06	389.88	330.9	267.39	357.67	574.28	753.26	888.93	1,147.96	1,558.87	1,695.86	2,313.68	2,493.64	2,618.36	1,909.41
Private		0	0	0	0	0	0	0	0	0	0	0	308.97	373.05	574.68	973.46	2,165.73	4,564.32	7,205.43	7,025.87	4,709.07
Trade Balance **	0	67.41	24.22	78.19	78.92	86.98	130.01	6.37	99.84	176.76	221.91	244.8	619	798.43	1016.08	1752.28	2638.78	3748.31	3570.69	6162.77	4095.42
Government		67.41	24.22	78.19	78.92	86.98	130.01	6.37	99.84	176.76	221.91	244.8	277.7	618.12	846.12	1324.17	2088.87	2059.7	2239.71	2871.68	2135.17
Private		0	0	0	0	0	0	0	0	0	0	0	341.3	180.31	169.96	428.11	549.91	1688.61	1330.98	3291.09	1960.25
Direct Employment		21,046	22,840	23,126	28,002	24,540	23,750	22,837	24,342	31,621	35,258	43,233	54,787	69,383	91,860	121,823	152,250	183,709	219,791	247,076	268,052

*: Million Pesos; **: Million US$

Source: Philippine Economic Zone Authority

International Development Organization, Ltd. [JAIDO] as Japanese counterpart, and Philippine National Development Corp., as Philippine counterpart) was the first case in Dasmariñas, Cavite in 1991. Until the early 1980s, there were only four state-owned Export Processing Zones which were in Bataan (in 1972), Baguio (in 1979), Mactan (in 1979) and Cavite (in 1986), and two special zones in Zambales and Batangas. After the Cavite Export Processing Zone, there was no new EPZA built. EPZA was later reorganized into PEZA by virtue of RA No. 7916 or The Special Economic Zone Act of 1995.

In order to facilitate the growing demand for industrial estates for new investments, big Japanese trading companies (so-called Sogo-shosha), together with their local partners, have been developing industrial estates along the South Super Highway. Development in this area was initiated by a Japanese official development assistance (ODA) project, which is known as the CALABARZON Project. The project was acknowledged as one of five regional development projects under the name of the Brady plan in the late 1980s. In the CALABARZON[5] area, agglomeration of company and technology has been building up among mainly electronics and automotive industries. In these industrial estates or special economic zones, PEZA gives incentives to the companies individually. As of December 2000, there were 69 regular zones and special economic zones in operation all over the country[6]. The number of firms registered and operating in the zones increased from 57 in 1986 to 243 in 1992, to 704 in 1999.

On the other hand, after the withdrawal of the US military bases in 1992, the former US naval base and air base were converted into Subic Bay Freeport (SBF) and Clark Special Economic Zone, respectively, both under the BCDA (Bases Conversion Development Authority). Subic Bay Freeport is located in Olongapo City, Zambales in Central Luzon. It is managed by the SBMA (Subic Bay Metropolitan Authority). In SBF, there are two industrial estates, i.e., Subic Bay Industrial Park constructed by a Taiwanese firm and Subic Technopark by Japanese firms. SBF is famous for the big presence of Taiwanese enterprises, such as Acer, Taiwan Hitachi, etc. American air cargo giant Federal Express is exclusively making use of the airport in SBF as regional center of its own hub function. Clark Special Economic Zone (CSEZ) is managed by Clark Development Corporation.

The CSEZ was expected to be a gateway of the Philippines in the early 21st century because of the conversion of the former military airbase into an international airport. This was the main concept of the Clark Development Scheme. Now, the Clark International airport operates several domestic flights and some chartered flights from ASEAN countries. The CSEZ has, so far, not fully realized its potentials in terms of regional and economic development. Subic and Clark are located symmetrically against

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[5] Acronym for Cavite, Laguna, Batangas, Rizal, and Quezon provinces. It is located in the southern part of Metro Manila and is becoming the major growth pole of economic development in the Philippines.

[6] Interview at PEZA on December 21, 2000

the CALABARZON area from Metro Manila. For the purpose of a well-balanced regional development, it is expected to become the new investment hub for FDI and domestic capital in Central Luzon.

SEZs and the Segmentation of Local Market

For the past five years, a positive co-relation between foreign investments, mainly to the SEZs, and the growth rate of export expansion has been noted. In general, the expansion of exports contributes to economic development in terms of dollar earnings, job creation, and human resource development. However, when the impact of FDI to domestic economy is carefully analyzed, the effects generated by FDI seem to be less than expected. This is attributable to the absence of the spillover effects that were clearly observed in the development of the local industries in Taiwan and Korea in their process of industrialization in the 1960s and 1970s, respectively. The linkages between foreign firms and local firms in EZs and SEZs, in terms of technology transfer and procurement of locally made materials are very weak, and this results in low ratios of value added to total value of exports: about 30 percent for garments and 10 percent for semiconductors, electronic parts and components (Tecson [2000], p. 159).

Accordingly, the market for export-oriented products is actually segmented by markets for local products. Agglomeration economics benefits the companies located in SEZs and EZs due to weak linkages with the local companies. This can be explained by the difference of adopted technology levels between foreign and local companies. Tecson (2000) points out:

> Unfortunately, however, the experience with the export-oriented FDI (especially in the electronics industry) has not been very encouraging with regard to creating linkages with the rest of the economy. This is unlike the experience of the NIEs like Singapore and Taiwan, which have succeeded in increasing value-added through the development of indigenous supply firms linked with the foreign firms. The failure to create such backward linkages can partly explain why the country's manufactured export performance seems to be on the trajectory opposite that of the country's manufacturing sector value added. While manufactured export growth is accelerating, the growth of manufacturing sector value added appears to be decelerating (pp. 158-159).

Changing Trade Structure: Emerging Export Industry as the Winner

Trend in Philippine exports

Table 2 shows the export of Philippine products since 1986. For the past 14

Table 2
Export of Philippine Products
(in Million US $)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Agri-products	1,956	2,001	2,467	2,453	2,210	2,163	2,246	2,307	2,481	3,027	2,677	2,707	2,459	2,133
share	*40.4*	*35.0*	*34.9*	*31.4*	*27.0*	*24.5*	*22.9*	*20.3*	*18.4*	*17.3*	*13.0*	*10.7*	*8.3*	*6.1*
Petroleum	94	133	162	95	155	175	150	136	132	171	272	258	129	216
share	*1.9*	*2.3*	*2.3*	*1.2*	*1.9*	*2.0*	*1.5*	*1.2*	*1.0*	*1.0*	*1.3*	*1.0*	*0.4*	*0.6*
Manufactures	2,672	3,430	4,338	5,192	5,707	6,403	7,298	8,729	10,627	13,868	17,095	21,462	25,843	31,305
share	*55.2*	*60.0*	*61.3*	*66.4*	*69.7*	*72.4*	*74.3*	*76.7*	*78.8*	*79.5*	*83.2*	*85.1*	*87.6*	*89.4*
Electronics*	919	1,119	1,476	1,751	1,964	2,293	2,753	3,551	4,996	7,413	9,988	13,028	17,137	21,165
share	*19.0*	*19.6*	*20.9*	*22.4*	*24.0*	*25.9*	*28.0*	*31.2*	*37.1*	*42.5*	*48.6*	*51.6*	*58.1*	*60.4*
Garments	751	1,098	1,317	1,575	1,776	1,861	2,140	2,272	2,375	2,570	2,423	2,349	2,356	2,267
Machinery & Transport	45	78	54	115	150	181	288	363	469	741	1,294	2,685	3,316	4,951
Others	957	1,135	1,491	1,751	1,817	2,068	2,117	2,543	2,787	3,144	3,390	3,400	3,034	2,922
Special Transactions	8	7	27	10	19	17	32	38	139	108	117	287	331	436
share	*0.2*	*0.1*	*0.4*	*0.1*	*0.2*	*0.2*	*0.3*	*0.3*	*1.0*	*0.6*	*0.6*	*1.1*	*1.1*	*1.2*
Re-Exports	112	149	80	71	95	82	98	165	104	273	382	514	734	943
share	*2.3*	*2.6*	*1.1*	*0.9*	*1.2*	*0.9*	*1.0*	*1.5*	*0.8*	*1.6*	*1.9*	*2.0*	*2.5*	*2.7*
Total	4,842	5,720	7,074	7,821	8,186	8,840	9,824	11,375	13,483	17,447	20,543	25,228	29,496	35,033
share	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

*Elec & Elec Eqpt/Parts & Telecom

In Italic shows the share (%) of each sector to total export

Source: *Selected Philippine Ecoomic Indicators, 1998 Yearbook* and *April 2000* , Bangko Sentral ng Pilipinas.

years, the Philippine trade structure, especially the export sector has changed drastically. Its features are summarized as follows: (1) increasing share of the manufacturing goods to the total export, from 55.2 percent in 1986 to 89.4 percent in 1999, and (2) rapid expansion of the exports of electronics and related products, the share of which exceeded 60 percent of total exports in 1999.

On the other hand, Philippine exports are highly dependent on the importation of raw materials and intermediate goods for final production; thus, increasing importation is prerequisite for the expansion of exports. As a result, the trade balance has been causing chronic trade deficits in the Philippines that in 1996 finally ballooned to US$ 11.8 billion, representing 25 percent of the GNP in that year. This is one of the factors contributing to the deterioration of the current account deficit, and one cause of macroeconomic instability.

However, after the Asian economic crisis in 1997, trade imbalance has been getting smaller due to the sharp decline of imports. From 1997 to 1998, imports declined by US$6.3 billion, that is from US$ 35.9 billion to US$ 29.6 billion by the contracted demand and the depreciation of the peso. We can point out the following reasons: 1) less importation of materials for production and the low level of stock due to forecasts of decreasing demand in the world market, and 2) slow down of private-initiative infrastructure projects. Figure 2 shows the growth rate of imports and exports. We cannot definitely assess whether there was a symptom of structural change in Philippine trade systems around 1994. Before 1994, the growth rate of import exceeded that of exports except in 1988 and 1991. This has contributed to constant and huge trade deficits.

However, since 1995, the growth rate of exports has remained higher than 20 percent. In 1998, a 17 percent growth rate was achieved amidst the crucial aftermath of the Asian crisis that left other Asian countries suffering from a sharp decline in exports. In 1999, the trade balance registered a surplus of US$ 4.3 billion, the first time in 26 years. The last time a trade surplus was registered was in 1973. What led to the structural change in trade and how did it impact on Philippine economy? Does it mean that the structure of the economy has shifted to a more industrialized stage? In order to test this hypothesis, we have to look into the "quality" of the change in Philippine industrial structure from a long-term perspective.

Electronics Industry as Export Winner

a. Export Expansion of Industrial products

Table 3 shows the growth rate of industrial manufactures in total exports from 1995 to 1999. In 1995, industrial products accounted for 56.6 percent of total exports, this gradually increased to 69.9 percent in 1997, 74.7 percent in 1998, and finally 79.9 percent in 1999. From 1994 to 1996, as discussed later, new investments in electronics

Table 3
Export of Electronics Produsts

(Unit: Million US$, %)

	1995	1996		1997		1998		1999	
Export	17,447	20,543	*17.7*	25,228	*22.8*	29,496	*16.9*	35,033	*18.8*
Indstrial	9,870	13,136	*33.1*	17,640	*34.3*	22,045	*25.0*	27,985	*26.9*
Electronics	7,557	10,610	*40.4*	14,962	*41.0*	19873	*32.8*	25,343	*27.5*
Semiconductor	6,060	8,468	*39.7*	11,495	*35.7*	15,665	*36.3*	19,880	*26.9*
Elec. Machinary	215	206	*-4.2*	281	*36.4*	510	*81.5*	580	*13.7*
Telecom./Sound Video	550	747	*35.8*	832	*11.4*	692	*-16.8*	483	*-30.2*
Elec. Office	441	878	*99.1*	2,101	*139.3*	2,713	*29.1*	4,147	*52.9*
Consumer	291	310	*6.5*	253	*-18.4*	293	*15.8*	253	*-13.7*

Note: Right colums under the year in Italic shows growth rate to previous year.
Source: Department of Trade and Industry

industries (i.e., semiconductor and related products) peaked and later expanded with production facilities. A couple of years after operation of the firm, the expanded production has contributed exports. This shows that the export growth rate of electronics has exceeded 40 percent in 1996 and 1997. Behind this phenomenon, it was observed that the increasing demand for computers and cellular phones[7] in the world market has been supporting the expansion of production facility in Asia, where the global production network is being created.

b. Trend in Electronics Exports

In the Philippine export structure, export concentration in electronics and related products has increased. Table 3 shows the trend in exports of electronics and its sub-sectors. In 1995, export earnings from the electronics manufactured goods was US$ 7.6 billion and its share was 43.3 percent of the total export. In 1999, these figures increased sharply to US$ 25.3 billion and 72 percent, respectively. In that span, export of electronics grew 3.4 times. What factors lay behind such fast growth?

Table 3 shows the electronics exports' five (5) sub-sectors: (1) semi-conductor devices, (2) electrical machinery/apparatus and appliances, (3) telecommunications/ sound and video apparatus, (4) electronic office and automatic data processing machines, and (5) consumer electronics[8]. Semiconductor exports expanded more than

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[7] Technological evolution of the mobile phone with the Internet seems to be the new breakthrough in the information technology (IT) industry. This new technology will pave the way for the development of the IT industry. It does not only drastically change people's lifestyle but also contributes to the creation of a new leading industry replacing the once major industry in the "traditional economy" during the early stage of the 21st century.

[8] The classifications are based on DTI definitions and are not necessarily in accordance with the 1993 Revised Philippine Standard Commodity Classification (PSCC).

three times in five years, from US$ 6.1 billion in 1995 to US$ 19.9 billion in 1999. In 1999, the share of semiconductor to total exports was approximately 57 percent. Average annual growth rate for the period was more than 30 percent. This rapid growth has propelled the electronics industry into being the emerging export sector. Electronic office equipment followed semiconductor in terms of share, and was at US$ 4.1 billion in 1999, almost ten times its 1995 level of US$441 million. Total exports of the other three sub-sectors was US$ 1.3 billion and made up only 5 percent of total electronic exports.

Table 4 shows the destination of the shipments of the country's manufactured electronics products. The US is the biggest recipient country with US$ 6.7 billion (26.3%) from the Philippines in 1999. Next is Japan with US$ 2.9 billion (11.2%) and Taiwan is third with US$ 2.8 billion (10.9%). Looking only at semiconductor devices, in 1999 Philippine exports to the US was US$ 5.1 billion, or a share of about 26 percent (Table 5). The share of semiconductor exports going to the US is averaging at 30 percent . Taiwan follows the US with US$2.4 billion in 1999. Netherlands is next with US$ 2.1 billion in the same year, followed by Singapore (US$ 1.9 billion) and Japan (US$ 1.6 billion). Taiwan's surge in the ranking was due to the earthquake that hit Taiwan in mid-1999. The electronics industry in Taiwan was forced to import parts for assembling from other countries. Another reason is the presence of Taiwanese computer and electronics companies in the country, especially in the Subic Free Port Zone.

Table 4
Major Export Countries: Electronics Products
(in Million US$, %)

	1995		1996		1997		1998		1999	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share	Amount	Share
TOTAL	7,557	*100*	10,610	*100*	14,962	*100*	19,873	*100*	25,343	*100.0*
USA	2,605	*34*	3,529	*33*	5,295	*35*	6,343	*32*	6,676	*26.3*
Japan	915	*12*	1,708	*16*	2,240	*15*	2,572	*13*	2,850	*11.2*
Singapore	724	*10*	928	*9*	1,283	*9*	1,488	*8*	2,165	*8.5*
Netherlands	362	*5*	801	*8*	1,263	*8*	1,844	*9*	2,627	*10.4*
Britain	541	*7*	499	*5*	662	*4*	1,411	*7*	1,391	*5.5*
Thailand	620	*8*	605	*6*	651	*4*	496	*3*	653	*2.6*
Malaysia	223	*3*	579	*5*	475	*3*	1,001	*5*	1,319	*5.2*
Taiwan	396	*5*	477	*4*	948	*6*	1,546	*8*	2,750	*10.9*
Hongkong	378	*5*	404	*4*	711	*5*	946	*5*	1,536	*6.1*
Korea	71	*1*	117	*1*	158	*1*	291	*2*	747	*2.9*

Source: Bureau of Export Trade Promotion, Department of Trade and Industry

The diversification of export shipments of electronic products to the rest of the world easily suggests the involvement of the Philippines in the creation of a production network in a global level through the supply of parts to other countries that assemble final products.

Table 5
Export of Electronic Products (Sub-Sectors)
(in Million US$)

Sub-sector	1995	1996	1997	1998	1999
Semiconductor Devices	6,060	8,468	11,495	15,665	19,880
USA	2,124	2,824	3,823	4,877	5,147
Japan	565	1,024	1,418	1,590	1,595
Singapore	641	852	1,189	1,360	1,880
Taiwan	299	398	833	1,369	2,435
Netherlands	327	707	1,022	1,478	2,065
Malaysia	210	562	446	962	1,237
Hong Kong	289	330	622	809	1,342
Electrical/Machinery/ Apparatus/Appliances	215	203	276	510	580
USA	37	49	104	210	210
Japan	39	39	39	56	95
Germany	49	36	41	45	62
Hong Kong	17	17	15	21	24
Singapore	22	17	14	31	35
Telco/Sound & Video Apparatus	550	747	832	692	483
USA	295	448	580	405	209
Japan	77	121	91	81	70
Hong Kong	16	25	32	35	33
Singapore	31	28	30	25	24
Taiwan	5	10	10	10	25
Electronic Off. & Auto Data Procsg Machines	441	878	2,101	2,713	4,147
USA	96	164	750	816	1,077
Japan	97	380	574	716	964
Netherlands	6	64	211	289	486
Taiwan	84	61	94	150	274
Singapore	24	23	42	68	221
Hong Kong	46	23	33	74	129
Consumer Electronics	291	310	253	293	253
Japan	136	144	118	129	126
USA	53	44	33	35	33
Netherlands	9	18	17	27	17
Hong Kong	8	9	8	7	8
Singapore	10	9	7	5	6
UAE	10	11	15	29	10

Source: Bureau of Export Trade Promotion, Department of Trade and Industry

c. Industrial Clustering of Electronics

In the Philippines, since the mid-1990s, the big electronic companies have started their operations reflecting the growing demand for computers in the global market. This has stimulated the optimum allocation of production sites under the global strategy in order to survive the fierce competition and quickly make adjustments in the production system. The system facilitates the entry of new products.[9] Tecson (1999) examined the industrial clustering of electronics in the Philippines:

> Why the Japanese HDD (Hard Disk Drive) assemblers have strategically chosen to locate mainly in the Philippines," in contrast with American HDD firm's geographic spread, which took mainly the Asian main route, from Singapore to China, passing through Malaysia and Thailand (p. 205).
>
> The clear clustering of Japanese majors and components manufacturers in the export processing zone of Laguna and Cavite might suggest possibilities for agglomeration economics (p. 233).

Table 6 shows the establishment or operation of member firms of SEIPI (Semiconductor and Electronics Industries in the Philippines). The SEIPI has 79 regular members, 22 associate members, and four (4) affiliates as of September 1999. Out of 79 regular members, there are 23 Philippine companies (29 percent), 21 American companies (27 percent), and 20 Japanese companies (25 percent). Half of the American companies have started their operations before 1990, especially Intel, Philippines MFG, Inc. (1974), Texas Instruments Phil., Inc. (1979), Fairchild Semiconductor (1979) which started in the 1970s and 1980s.

On the contrary, many Japanese firms set up their factories during 1994 to 1996. These include Fujitsu Computer Products Corp., (1995), Toshiba Info Equipment Phil., (1995), Sanyo Semiconductor Mfg. Phil., Hitachi Computer Products (1994), Epson Precision Philippines (1994). These firms produce hard disk drives (HDD), motherboard for PCs, CD-Rom drives, and printers. After 1997, the number of new investments has been declining. However, re-investment for expanding the production capacity of existing firms has contributed to the export earnings. From 1993 to 1997, 37 firms became members of SEIPI. In 1995 alone, there were 12 firms, and in 1996 9 firms. Surprisingly enough, 16 out of the 37 were Japanese companies. Investment rush from Japan during this period helped build the clustering of electronics industry in the Philippines.

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[9] In the electronics industry, new products, which are sometimes the same series or almost of the same functions compared with the "old" models, are put into the market to create new demand from the consumer. For the production side, in order to address the "short production cycle", the factory has to change the production process frequently and is always exposed to the pressure of bringing down the price of products in the market.

Table 6
Establishment of SEIPI Member Firms

	Pre-1980	1981-85	1986-90	1991	1992	1993	1994	1995	1996	1997	1998	1999	unknown	Total
Americans	7	1	3		1			4	1	1	3			21
Japanese		2	4			3	4	4	4	1	1			23
Filipinos	4	1	4		5		1	2	2	1				20
Koreans			1					1						2
German	1									4			1	6
Taiwanese								1	2					3
British							1							1
Dutch		2												2
British Virgin Is.			1											1
	12	6	13	0	6	3	6	12	9	7	4	0	1	79

Source: SEIPI Foundation, as of September 1999

Structural Change in the Philippine Economy

When we look back at the history of economic development in Asia after World War II, we could observe the transfer process in economic development pattern from Japan as a frontrunner, to the East Asians, like Korea and Taiwan, and finally to Asian NIEs, such as Hong Kong and Singapore. Since the middle of the 1980s, foreign direct investment (FDI) has been flowing into ASEAN nations from Japan due to the sharply appreciating yen's value after the Plaza Accord in 1985. Later, FDI also flowed from the NIEs due mainly to increasing labor cost in these economies.

Huge inflow of FDI in these areas had spurred high economic growth and strengthened the market access of the local economy to the global market, not only in the manufacturing sector, but also in the financial sector. As a result, the Asian economy had experienced what was called, in the 1993 World Bank Report, the "East Asian Miracle". However, the excessive money flow into the non-manufacturing sector had resulted in a bubble economy and macroeconomic instability, especially in the financial sector. The crisis originated from the foreign currency turmoil that hit Thailand and spread widely and quickly among other countries through contagion effect. The investment boom and the integration of the regional economy through AFTA (ASEAN Free Trade Area) should have led to a new dimension of economic development in the ASEAN and neighboring countries. However, the Asian economic crisis has revealed the fragile economic structure per se in this region, especially in the financial sector, and also pre-mature institutional problems, such as poor public and corporate governance. In the Philippine context, it is well said that the Philippine economy was slightly damaged by the crisis compared with other countries. However, in the long-term perspective, De Dios (2000) analyzes that:

> Boom and bust cycle (BBC) is in fact a result of a combination of factors. A full treatment must include the macroeconomic instability caused by inappropriate government policies, as well as political uncertainty, which combine with an external payments constraint to produce the spectacular adjustments that have characterized aggregate economic trends in recent years. In particular, however, the election cycle cannot be left out as incidental to the occurrence. It is rather an integral part of the story.

In the last 15 years, the Philippines has experienced two episodes of economic recession (Figure 1). Regarding the propensity of the Philippine economy to be affected by the boom and bust cycle, Fabella (1994) argued that "the most important links in Boom-and-Bust chain are the trade deficit and the fiscal deficit." This is an excellent way of explaining the historical trend of the Philippine economy. However, when we have to take into consideration the "real situation" of recent episodes of recessions from the micro-economic viewpoint, it is necessary to argue the role of eco-

nomic or industrial structure in the Philippines.

Regarding the changes of economic structure in the Philippines, we can summarize the following features, (i) since the mid-1980s, the share of the industrial sector in GDP has not exceeded 35 percent. Instead, the share of the services sector has been gradually increasing and had reached 45 percent of GDP in 1998. This fact inevitably leads to the discussion of the role of industrialization in economic development. From experience, we say that the structural change in an economy occurs when the share of industrial sector exceeds the critical point, i.e., a certain level of around 40 to 50 percent; (ii) mismanagement of the policy to create and foster the small- and medium-scale enterprises as a supporting industry, which will help build up the bottom (base) of pyramidal industrial structures and deepen the intra-industry and company linkages; and (iii) lack of entrepreneurship among business leaders who would take up the challenge of incubating and building new companies and businesses.

These factors have led to the industrial development of the Philippines being in a pre-mature level, and to a distorted resource allocation among industries. In the Philippines, it is well said that the role of government in industrial policy encourages competitiveness within the industry concerned and removes the distortions or impediments to the fair development of companies and/or industries, i.e., giving subsidiary to a specific company and/or industry, and the excessive protectiveness in industrial policy decision-making. However, the trade and investment reforms and the liberalization policies are not enough to attract investors who are expected to stimulate the domestic economy through the linkages with technology transfer, management system, and human resource development. Complementary support of government is also required, not just the institution building, the construction of infrastructure facilities and services, but also the policy advocacy and "will" of the government to step up the economic standards through industrialization.

Concluding Remarks and the New Direction

Economic development in the Philippines, which has not been bullish as a whole since 1990, depends on the implementation of the liberalization policies to the extent that FDI, mainly in the manufacturing sector, which has a global production network, contribute to export growth. For the last ten years, information technology (IT) industry has been growing so fast in the world market and is about to replace the "traditional industry" (so-called "heavy, wide, long and big" industry) in its leading role of pulling up the world economy. The Philippines has been partly involved in this new industrial evolution through the big business of electronics industry, including the software company as earlier discussed.

However, for the domestic economy, are the gains from the emerging exports more than what the dollar earning figures indicate? The new industrial system, which will pave the way for new and future business, is based on IT. The emergence of the IT industry is hailed as the third industrial revolution in industrial history, after the invention of the steam engine in 18th century, and the establishment of the mass production

system for car assembling in the early 20th century. This is because the New System has a great potential for drastically changing the production system by reducing transaction costs, especially through E-commerce transactions, and by changing the modes of daily life.

The wave of new industrial evolution (NIE) will fiercely challenge the existing business customs and economic order. For instance, the NIE has been creating successively new businesses, which originate from knowledge value or knowledge economy to replace the "old" value in mass-production and –consumption society. Another example is the changing behavior of companies through mergers and acquisitions. The consciousness of competition penetrates within the industrial society. The main concern of the big business is on increasing market share and becoming the winner. The biggest change in the behavior of companies is in the procurement system. Transactions among intra-company and Keiretsu system (sub-contracting system) assure strong partnerships and linkages with each other, and guarantee the quality of the products dealt in the system. However, one deficiency is a higher transaction cost than in free market procurement.

As we already discussed in this paper, many foreign companies are operating in the industrial estate just outside Metro Manila. In this area, we observe that an industrial clustering has formed gradually. Recently, small- and medium-scale enterprises (SMEs) have come to the Philippines as a supporting industry to supply product parts and to provide technical assistance to the assembling company or parent company. These SMEs have greatly contributed to expanding the production network, and have begun to change their business behavior in contracting and distributing their products to the companies out of the "Keiretsu" (sub-contracting) system. The phenomenon of destruction on the Keiretsu system has been seen in ASEAN countries before becoming gradually a common trend in Japan as of now.

Under the global economy, how should the government encourage the competitiveness of Philippine products in domestic and international markets? First, the Philippine government should create the favorable investment climate so that "investment begets investment." Second, it should clarify its role in economic development and what it should and should not do. Third, it must enhance political stability so as to boost investors' confidence in doing business in the Philippines. Fourth, it must undertake institution building based on the principles of good governance and transparency.

In January 2001, "People Power" again succeeded and forced then President Estrada, who has been criticized for the reappearance of crony-style capitalism in the Philippines, to step down,. This success tells us that Philippine democracy effectively uses the functioning of "check and balance" against the abuse of power by the president. On the other hand, it can also be perceived as a sign of the fragile nature of Philippine politics.

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