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Industrial Agglomeration and Industrial Policies: The Philippine Experience

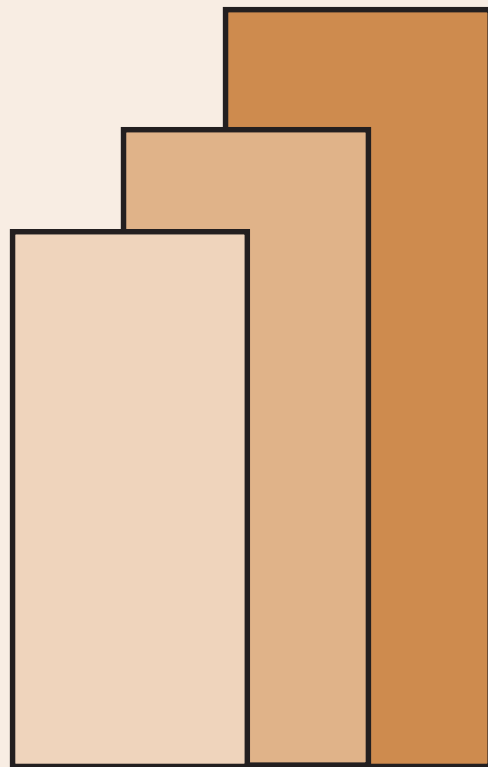
Philippine Institute for Development Studies

DISCUSSION PAPER SERIES NO. 2008-13

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March 2008

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Industrial Agglomeration and Industrial Policies: The Philippine Experience*

Philippine Institute for Development Studies (PIDS)

*This paper is a component of the joint project between PIDS and the Institute of Developing Economies/Japan External Trade Organization titled, *Analyses of Industrial Agglomeration, Production Networks and FDI Promotion: Developing Practical Strategies for Industrial Clustering* that was completed in March 2008. It is part of the series of studies conducted for the Economic Research Institute for ASEAN and East Asia (ERIA). This paper has come out as ERIA Related Joint Research Project Series No.21.

EXECUTIVE SUMMARY

This paper presents the present stage of industrial development in the Philippines and in the case study of Greater Manila Area. It has shown the policy reforms that were instituted to address the three-decade long protectionist policy that had caused distortions in the economy. These reforms of openness, liberalization, privatization, investment incentives, regional dispersal of industries, and export promotion have had positive impacts to the economy in general and industrial development in particular. The industry clustering strategy most recently adopted is helping to infuse new energy and dynamism to established, fledgling and emerging industries across the country. Based on the experience of some of these clusters however were issues and gaps that should be addressed for the sake of continued cluster development. They also serve as lessons to other clusters that are still being developed. This is important as literature shows that industrial clustering is a probable driver of regional economic growth. In both the country and industry level analysis were identified factors for agglomeration and also disagglomeration, referring to those forces that deter firms from establishing their presence in a certain location.

Supplementing the case study and to some extent validating some of its findings, a survey of business and industry in the Philippines had been undertaken. In particular, the survey would help determine the current structure and conditions of industrial agglomerations in the case study area; identify the nature and characteristics of the existing production networks of industrial agglomerations; reveal the factors that influence the location decision of firms; and, determine types and sources of technological innovation undertaken by firms, among others. In sum, survey results show that the most important factors influencing firms to locate in GMA are market size; investment incentives; infrastructures whether physical, utilities support or ICT; and availability of low cost as well as skilled labor and professionals. The status of the banking system and financial structure has also been well regarded.

Policy issues and gaps were elucidated in the paper particularly those that pertain to the need to strengthen the economic fundamentals of the country as well as the

continuation of certain aspects of policy reforms as they were found to have led to improvements in the business environment.

The role of institutions namely, R&D producers in the public and private sector; industry associations and local chambers; and the local governments was also highlighted in this paper, particularly as to how they impact on the agglomeration of firms and clustering of industries. More than ever, in the age of increasing global orientation of business and industries, there is a need to look inward to strengthen the synergy between local institutions to influence the drive towards improved competitiveness and the advanced stage of industrial development.

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Industrial Agglomeration and Industrial Policies: The Philippine Experience

Philippine Institute for Development Studies

Abstract

In the relatively new body of ideas dubbed “new economic geography” and “spatial economics,” we find insights on the potentials of industrial agglomeration for regional and national economic development. This paper looked into the evolution of industrial development in the country as a means of elucidating the centripetal and centrifugal forces leading to agglomeration of firms and investments. A micro perspective was provided with the case study extended into the prime region in the country, Greater Manila Area. It was found that industrial agglomeration in the country takes the form of special economic zones and industry clusters, indicating that the government is taking the route towards regional dispersal of industries and the clustering strategy to spur industrial dynamism and competitiveness and consequently, regional and national economic development.

INTRODUCTION

Both as a response to the continuing challenges of globalization, increasing number and strength of its competitors in the region and in compliance to its commitments to cooperate in bringing about regional economic integration, the pursuit of industrial development remains a constant goal for the Philippines. There may be cause for industrial restructuring and review of policies considering reconfigurations in regional/global production systems; the crucial role of industrial agglomerations; trends in intra and inter-regional trade; increasing competition from emerging economies in Asia, especially China; and, the strategy of the national government itself to strengthen its competitive base. One of the initial steps towards this direction is the need to

examine the remaining policy gaps and gnawing issues resulting from the policy reforms put in place and assess the conditions of existing industrial bases in the country as they continue to be crucial elements for economic growth.

These industrial bases may have started as simple agglomerations of firms concentrating in areas where low cost raw materials and labor could be found. With proximity comes benefits of scale economies and at the same time, facilitates the flow and exchange of knowledge and information. For some, the firm clusters were a result of deliberate government policy in order to disperse industrialization to the rest of the country or in line with the export orientation of industrial policy. Whatever the intent, there are centripetal forces that influence decisions of firms to locate in the cluster, while there are also centrifugal forces that act as deterrent. These industrial clusters are recently being pinpointed in the literature as possible drivers of regional development and providing evidence wherein industrial agglomeration are linked with economic performance particularly in the developing world. Indeed, the pragmatic examples of the booming IT industry concentration in Bangalore affecting the positive growth of the Indian economy or the well-touted automobile industry in Thailand show that industrial clusters can be considered drivers of regional and consequently national economic growth. However, this aspect can be facilitated more aggressively if these industrial clusters, whether concentrated by geography or by specific industry, could attract not only huge domestic investments but foreign capital as well. The key therefore, particularly in the policy making viewpoint, is promoting the encouraging factors that would not only attract firms to locate in a specific area and cluster but would also enable them to thrive, while minimizing those discouraging factors that hinder the growth of industrial clusters.

In some countries, these industrial clusters have gone on to higher stages of activities like research and development (R&D) and innovative activities arising from appropriate utilization of knowledge and technologies. This could have also resulted from the strong linkages with local R&D institutions and like-minded foreign institutions providing support in such activities. In the same manner, industry or area focused organizations have been active in networking activities for the benefits of their members while regional political organizations, whether in line with urban governance

or with regional development, have been acting out a crucial roles in enabling these industry associations or clusters to thrive. These are the types of institutional linkages that should be examined, whether they exist in industrial bases in the Philippines, and to what extent as they impact on the competitiveness of its industries, which in turn help to drive the growth of its economy.

In particular, this paper will look at the prevailing industrial policies in the Philippines in order to determine the context in which industrial agglomerations are taking place. It will detail the industrial reforms that have evolved over the years and in so doing, outline the economic environment where existing firms are engaged in and potential investors, both local and foreign, consider in their choice of location. Likewise, it will feature the industry clustering strategy being implemented as a means of strengthening the competitiveness of local industries in the face of globalization and regional economic integration. A relatively fresh industry approach in the country, said strategy has the full backing of the President of the Philippines as it encompasses policies and programs on exports and the development of the small and medium enterprises (SMEs) in the country. As far as practicable, it will explore the existence of support services in terms of R&D and availability of supporting institutions including efforts of local government units in promoting local industrial development. In addition to looking at country-level industrial development, a specific area has been chosen as case study for the survey, Greater Manila Area, to determine the evolution, conditions and dynamics of industrial agglomeration prevailing within. Prior to the second section that describes the results of said survey the case study area will be described in terms of present industrial condition and concentration. This serves as backdrop to the context by which firms surveyed find themselves enmeshed in. The third part of this paper concludes by providing policy recommendations based on the case study and the derivatives from the survey results.

1. INDUSTRIAL DEVELOPMENT IN THE PHILIPPINES

1.1. Industrial Structure

As of 2005, the Philippines finds itself with 738,155 establishments based on the

estimates of the National Statistics Office (NSO). This represents an increase of 2.8 percent from the number of establishments recorded in 2003 (717,947). These establishments employed a total of over 5.6 million, the majority of which were engaged in the services sector (68.2 percent). The percentage share of those employed in the industry sector was 29.1 percent, while those who worked in agriculture-related activities accounted for less than 3 percent. Total revenues of all establishments in the reference period amounted to 7.3 trillion pesos, with the industry sector getting the lion's share at 50.5 percent, followed by the service sector with 48.7 percent and agriculture, less than 1 percent.

In terms of main activity, almost 50 percent of total establishments were engaged in wholesale and retail trade, followed by those engaged in manufacturing at 15 percent, then hotel and restaurant services at 13 percent. The employment pattern by type of activity almost followed the same trend with wholesale and retail trade employing 32 percent, manufacturing 26 percent and others, about 20 percent.

The 2005 Annual Survey of Philippine Business and Industry conducted by the NSO, provides information on the distribution of establishments by region. This is a crucial indicator of agglomeration as it, indeed, signals the regions where firms have concentrated. Among establishments with average total employment of 20 and over, almost 46 percent are located in the National Capital Region (NCR) or Metro Manila; 14 percent in the aggregated area of Cavite, Laguna, Batangas, Rizal, and Quezon (CALABARZON); around 12 percent in the Mindanao regions; 8 percent in Central Luzon; 7.6 percent in Central Visayas (where Cebu is located); 6.8 percent in the rest of Luzon; and 6 percent in the rest of the Visayas. The distribution of employment and revenues were similarly cornered by NCR and CALABARZON, with 43 percent and 20 percent of total employment, respectively and 45 percent and 26 percent of revenues, respectively.

1.2. Historical Antecedents

Literature denotes that there had been rapid Filipinization of much of the Philippine economy since independence.¹ Pante and Medalla (1990) pointed to the fact that the country's highly protected trade and industrial regime dated back to the 1950s,

which strongly favored the import-dependent manufacture of consumer goods for the domestic market. Medalla (1998) further referred to the post-war period up to the 1970s as the pre-reform era of highly trade restrictive and protectionist policy regime that supported the inward-looking, import-substitution strategy of that time.

In the early 80s, political turmoil rocked the nation causing GNP growth to fall at 2.9 percent in 1981-1983 before contracting in 1984 and 1985. The take over of the new political leadership through President Aquino in 1986 caused the institution of critical reforms that led to the much-needed economic recovery. These economic reforms were primarily aimed at “increasing efficiency in the economy through the elimination of distortions in the incentive structure, the revitalization of private sector initiative and greater reliance on market forces” (Pante and Medalla, 1990). Hand in hand with these were political reforms aimed at democratization of political and governance processes.

During this period and immediately following it, the reforms, policies and strategies aimed at achieving industrial development can be summed up into the following major areas: trade liberalization, privatization, foreign investment (FDI) liberalization, investment incentives, and exports promotion.

1.3. Industrial Policies and Programs: Evolution and Dynamics

1.3.1. Trade Liberalization

Even before globalization fully took effect, there was already recognition on the part of Philippine policy makers that three decades of protectionist regime via high tariffs was in fact counter productive and not aligned with the country’s development aspirations. Official policy then shifted from import substitution to an outward-oriented, export promotion policy. The structural adjustment program that was instituted in the 80s aimed at pursuing a more efficient and internationally competitive economy and towards this end, the main instruments that were utilized were the Tariff Reform Program and import liberalization. Since 1981, four Tariff Reform Programs had been implemented, with each one staged on a five-year period (except TRP-IV) to cushion the impact of the changes in the tariff structure. These Tariff Reform Programs were rationalized by the objectives of liberalizing the trade environment, improving access to

essential inputs, making available more choices of goods for the consumers, enhancing competitiveness of local industries in the domestic and export markets, and simplifying the tariff structure for ease of customs administration, among others.

The first Tariff Reform Program, dubbed TRP-1, was implemented in 1981 to 1985 and brought down all the tariff rates to within the 0 to 50 percent range. Medalla (1998) claimed that this effected a substantial reduction in both the average tariff and the variation in tariff protection across industries. The second TRP or TRP-II took effect in 1991 to 1995 by virtue of Executive Order (EO) Number 470 issued by President Aquino in 1991. Simultaneous with reductions in import restrictions, i.e. import licensing requirements or import ban, TRP-II narrowed down further the tariff range to within 3 to 30 percent. The changing of the guards in political leadership from President Aquino to President Ramos did not effectively cause a reversal of policy as the latter sustained the trade liberalization program in its policy agenda. EO 264 was passed to provide the legal basis for the third phase of the TRP aimed at further narrowing down the tariff range to within 3 and 10 percent by year 2000 for industrial products. It also virtually removed all zero duties, with the floor tariff rate raised to 3 percent. Other EOs were promulgated separately for agricultural products and imported crude oil and refined petroleum products. The last TRP was implemented starting 2001 under President Arroyo. It sets the objective of achieving a tariff band of within 0 to 5 percent in industrial and non-sensitive agricultural products by 2004. Implementation of TRP-IV in domestic industrial and agricultural products was suspended in 2003 due to the fiscal crisis. Still, the overall average nominal tariff in 2003 was already at 6.19 percent, with manufacturing coming in at 5.43 percent, agricultural products at 11.04 percent and mining, 2.84 percent (Balboa and Medalla, 2006).

Table 1:. Philippine Foreign Trade 1983-2006 (F.O.B. in million U.S. Dollars)

Year	Total Trade	Exports			Imports			Balance of Trade
		Value	Percent to Total Trade	Average Exchange Rate	Value	Percent to Total Trade	Average Exchange Rate	Favorable (Unfavorable)
1983	12,491.92	5,005.29	40.07	11.072	7,486.63	59.93	11.072	(2,481.34)
1984	11,460.26	5,390.65	47.04	16.582	6,069.61	52.96	16.582	(678.96)
1985	9,739.62	4,628.95	47.53	18.586	5,110.67	52.47	18.586	(481.72)
1986	9,885.38	4,841.78	48.98	20.356	5,043.60	51.02	20.356	(201.82)
1987	12,457.21	5,720.24	45.92	20.556	6,736.97	54.08	20.556	(1,016.73)
1988	15,223.57	7,074.19	46.47	21.065	8,159.38	53.60	21.065	(1,085.19)
1989	18,239.53	7,820.71	42.88	21.703	10,418.82	57.12	21.703	(2,598.11)
1990	20,392.19	8,186.03	40.14	24.180	12,206.16	59.86	24.180	(4,020.13)
1991	20,890.88	8,839.51	42.31	27.330	12,051.36	57.69	27.330	(3,211.85)
1992	24,343.24	9,824.31	40.36	25.280	14,518.93	59.64	25.280	(4,694.62)
1993	28,972.21	11,374.81	39.26	26.732	17,597.40	60.74	26.732	(6,222.59)
1994	34,815.46	13,482.90	38.73	26.220	21,332.57	61.27	26.220	(7,849.67)
1995	43,984.81	17,447.19	39.67	25.520	26,537.63	60.33	25.520	(9,090.44)
1996	52,969.48	20,542.55	38.78	26.050	32,426.93	61.22	26.050	(11,884.38)
1997	61,161.52	25,227.70	41.25	29.270	35,933.82	58.75	29.270	(10,706.12)
1998	59,156.64	29,496.75	49.86	40.580	29,659.89	50.14	40.580	(163.14)
1999	65,779.35	35,036.89	53.26	38.780	30,741.46	46.73	38.780	4,295.43
2000	72,569.12	38,078.25	52.47	43.710	34,490.87	47.53	43.710	3,587.38
2001	65,207.36	32,150.20	49.30	50.720	33,057.16	50.70	50.720	(906.96)
2002	74,444.67	35,208.16	47.29	51.220	39,236.51	52.71	51.220	(4,028.35)
2003	76,701.72	36,231.21	47.24	53.780	40,470.51	52.76	53.780	(4,239.30)
2004	83,719.73	39,680.52	47.40	55.830	44,039.21	52.60	55.830	(4,358.69)
2005	88,672.86	41,254.68	46.52	54.670	47,418.18	53.48	54.670	(6,163.50)
2006	99,183.79	47,410.11	47.80	50.930	51,773.68	52.20	50.930	(4,363.57)

Source: National Statistics Office; National Statistical Coordination Board.

In terms of value, Philippine exports have been increasing since 2002, with value for 2006 pegged at 47.4 million dollars from 41.2 million in 2005. However, as percentage of total trade, the highest that was attained by exports viz imports was in 1999, followed by the performance in 2000. These were the last two years when balance of trade was favorable.

Table 2 presents the top trading partners of the Philippines namely, the US, Japan, Hong Kong, Taiwan, Malaysia, China, Netherlands, and Singapore. In 2004, the top 3

trading partners were the US, Japan and Singapore but in 2005 and 2006, the latter was dislodged by China. It may also be noted that the country had deficits with the US and Japan in 2004 and 2005 but by 2006; the Philippines had more exports than imports in these countries. Meanwhile, the country continued to enjoy a fairly large surplus with China.

Table 2. Direction of Trade 2004-2006 (FOB values in thousand US dollars)

	2004			2005			2006		
	Exports	Imports	Total	Exports	Imports	Total	Exports	Imports	Total
United States	7,087,855	8,270,235	15,358,090	7,417,629	9,096,257	16,513,886	8,689,532	8,436,963	17,126,495
Japan	7,382,486	7,673,875	15,056,361	7,206,071	8,071,080	15,277,151	7,916,435	7,270,236	15,186,671
Hong Kong	3,145,609	1,738,760	4,884,369	3,340,699	1,928,979	5,269,678	3,706,005	2,095,596	5,801,601
Taiwan	2,227,856	3,214,003	5,441,859	1,888,143	3,548,972	5,437,115	2,010,280	4,145,022	6,155,302
Malaysia	2,069,843	1,981,187	4,051,030	2,452,777	1,772,087	4,224,864	2,621,442	2,102,129	4,723,571
China	2,653,036	2,659,375	5,312,411	4,076,996	2,972,595	7,049,591	4,627,660	3,647,354	8,275,014
Netherlands	3,582,950	390,210	3,973,160	4,032,644	407,380	4,440,024	4,769,195	409,468	5,178,663
Singapore	2,630,506	3,420,971	6,051,477	2,706,923	3,727,434	6,434,357	3,505,006	4,378,718	7,883,724

Source: National Statistical Coordination Board.

From Table 3, it will be observed that in the last three decades, both the export and import levels of the Philippines vis-à-vis other ASEAN countries had been increasing. The same trend can be seen for 2005 and 2006, though the increase in terms of exports can only be considered slight. In the decades 1980 and 1990, and indeed in all the reference periods, the Philippines had a lackluster performance compared to its neighbors, having higher levels only with Vietnam. However, the latter is surely gaining ground with a huge leap in trade performance from 2000 onwards from the levels in 1980.

Table 3. Total ASEAN Trade (as of 15 August 2007)

Country	1980		1990		2000		2005		2006	
	Export	Import	Export	Import	Export	Import	Exports	Imports	Exports	Imports
Indonesia	21909	10834	25675	21837	62124	33515	85,660.00	57,700.90	100,798.60	61,065.50
Malaysia	12495	10779	29453	29259	98230	81963	140,470.50	114,213.10	157,226.90	128,316.10
The Philippines	5788	7727	8168	12206	38078	34491	41,254.70	47,418.20	47,410.10	51,773.70
Singapore	19959	22753	54680	56312	14346	136615	229,804.10	200,162.80	271,607.90	238,482.00
Thailand	6505	9213	23071	33065	69057	61924	109,622.60	117,990.90	121,579.50	127,108.80
Viet Nam	339	1314	2404	2752	14449	15638	28,576.50	32,593.90	37,033.70	40,236.80

Source: ASEAN Trade Database (compiled from data submission and/or websites of ASEAN).

1.3.2. Privatization

The three-pronged policy of privatization, liberalization and deregulation was implemented aggressively starting in 1994. This is in line with the objectives of continued economic openness; divestment of state owned and operated enterprises that are most likely being run inefficiently, removal of the hold of monopolies in vital utilities in the country, and promotion of competition to maximize consumer welfare. Republic Act 7721 or the Foreign Bank Liberalization Act authorized the entry of 10 foreign banks in the country subject to three different modes of entry. The findings of Hapitan (2001) indicate that resulting dynamics, interactions and adjustments made by domestic banks as a result of heightened competition augured well for a vibrant Philippine banking system. On the other hand, it fell short of expectations in some areas, particularly in the transfer of technology since the foreign banks were noted to have resorted to traditional operations and offerings, except perhaps for the use of information technology (online banking).

In 1995, three major policies were instituted to liberalize three sectors of the economy: telecommunications, water and air transport. Dubbed the Public Telecommunications Policy Act of the Philippines, Republic Act 7925 was enacted in March 1995 highlighting the policy agenda that telecommunications services will be provided by private enterprises to foster a healthy competitive environment. This landmark legislation effectively reduced the monopoly hold of the Philippine Long Distance Telephone Company and paved the way for the entry of other players in the

market. In June 1995, Republic Act 8041 otherwise known as the National Water Crisis Act of 1995 was enacted that led to the privatization of state-run water facilities. This opened the playing field into the entry of players from the private sector in the provision of water services particularly in Metro Manila, which was explicitly declared as policy via Executive Order No. 311 of 2006. This policy enjoined the involvement or participation of the private sector in “(i) franchising, concession, management, or other arrangements; (ii) privatization; or (iii) contracts for projects to be implemented under Build-Operate Transfer (BOT) and/or related schemes for the financing, construction, repair, rehabilitation, improvement, and operation of water facilities and projects related to consumers.” On the other hand, Executive Order 219 establishing the domestic and international civil aviation liberalization policy came out in January 1995. It declared that this is in line with the government drive to prohibit monopolies and expand investment and trade. Though there have been improvements in domestic air transport with the entry of more airlines servicing the local routes, there has not been much movement in international air transport lending the vision of “open skies” still unrealized.

In 2001, another vital legislation was passed, this time impacting on the electric power sector. Republic Act 9136, also known as the Electric Power Industry Reform Act of 2001 called for key reforms in the sector particularly calling for, (1) enhancing the inflow of private capital and broadening the ownership base of the power generation, transmission and distribution sectors; (2) providing for a transparent privatization of the assets and liabilities of the National Power Corporation (NPC); and, (3) establishing a strong and purely independent regulatory body and system to ensure consumer protection and enhance the competitive operation of the electricity market.

1.3.3. Foreign Direct Investment Policies

In line with the market-oriented reforms that were implemented in late 1980s through the 90s, foreign investment liberalization was pursued through a landmark legislation dubbed, the Foreign Investments Act of 1991 or Republic Act 7042. The law allowed foreign equity participation of up to 100 percent in all areas, whether catering to the domestic or export markets, except those that are included in the Foreign

Investment Negative List (FINL).ⁱⁱ Prior to this law, participation of 100 percent foreign equity was subject to the discretion of the Board of Investments (BOI).

In 1996 however, the FINL was significantly reduced to allow for greater foreign participation in previously prohibited sectors. The amending law, RA 8179, removed List C. In addition, it explicitly states that non-Filipino participation may be allowed in small and medium-sized domestic enterprises, provided that the paid in capital is at least two hundred thousand US dollars. The required capital may be lowered to one hundred thousand US dollars if the enterprise would involve advanced technology or would employ at least 50 direct employees. In 1998, Aldaba (2006) pointed out that restriction on private domestic construction was deleted from List A.

As noted by Austria (1998), it is a matter of policy that all foreign investors are guaranteed to enjoy basic rights as provided for in the Constitution such as remittance of earnings, freedom from expropriation and requisition of investment, and full and immediate repatriation of capital provided that they have registered with the Philippines' central bank. These guarantees had been reiterated in EO 226 or the Omnibus Investments Code of 1987.

As the years marched on, several developments leading to further liberalization occurred. In the financial sector, the General Banking Act or RA 8791 was enacted in 2000. This has provided, among others, a seven-year window wherein foreign banks may have 100 percent participation in one locally-incorporated commercial or thrift bank and with no obligation to divest later on. Meanwhile, Offshore Banking Units (OBUs) have been allowed to operate in the country by their foreign bank affiliates. This is to enable the development of international financial operations in the Philippines.

Also in 2000, retail trade liberalization took effect by virtue of RA 8762. This law repealed the Retail Trade Nationalization Law, which limited retail trade activities to Filipinos and corporations wholly owned by Filipinos. It featured the opening up of the Philippine retail industry to foreign players, including full ownership subject to certain qualifications such as the putting up of a capital requirement of 7.5 million US dollars at the minimum.

Table 4 presents the trends in foreign direct investments (FDI) in the Philippines from 1980s to 2006. From 1980 to 1989, average percentage growth rate of FDI

inflows was only 0.2 percent, while the average for 1990 to 1999 was a high 29 percent. This can be expected considering that this was the period when liberalization policies were implemented. Figures for the last three years had shown marked improvement after significant contractions were experienced in 2001 and 2003. In terms of FDI as percentage of GDP, it will be observed that the highest level was achieved in 2000 at almost 3 percent. Meanwhile, average FDI inflows increased by 1.1 percent of GDP in the 90s as compared to 0.59 percent in the 80s. Performance has indeed been looking up in the current decade with the increase in FDI inflows as percentage of GDP averaging 1.47 percent.

Table 4. Trends in FDI, 1980-2006

Year	FDI Flow (million US \$)	Nominal GDP (million US \$)	FDI as % of GDP
1980	229.5	32452.3	0.71
1981	306.8	35645.1	0.86
1982	343.9	37140.2	0.93
1983	275.6	33211.3	0.83
1984	146.6	31407.9	0.47
1985	246.9	30734.8	0.8
1986	108.3	29867.9	0.36
1987	96.4	33195.4	0.29
1988	64	37884.9	0.17
1989	202.8	42574.6	0.48
1990	195.9	44310.7	0.44
1991	415.3	45416.9	0.91
1992	328	52977.4	0.62
1993	377.7	54367.9	0.69
1994	881.9	64084.9	1.38
1995	815	74121.1	1.1
1996	1281	82847.2	1.55
1997	1053.4	82343.4	1.28
1998	884.7	65171.5	1.36
1999	1247	76157.1	1.64
2000	2240	75912	2.95
2001	195	71216	0.27
2002	1542	76814	2.01
2003	491	79634	0.62
2004	688	86930	0.79
2005	1854	98718	1.88
2006	2086	117562	1.77

Sources: Aldaba, R.M. (2006). "FDI Investment Incentive System and FDI Inflows: The Philippine Experience." PIDS Discussion Paper; Bangko Sentral ng Pilipinas; International Monetary Fund.

When it comes to the distribution of FDI according to sectors in the economy, Table 5 will prove to be useful. It can be observed that the manufacturing sector consistently received the lion's share of FDIs from the years presented herein. There was a decrease in inflows in the sector from 2000 to 2003 before picking up again in recent years. Inflows in manufacturing breached the 100 billion pesos mark in 2006. Inflows in agriculture were generally low but started to reach the billion pesos level in 2006. Trade likewise picked up higher inflows in 2006 compared to previous years, a pattern similar to the communications sector, though there was a significant surge of inflows in the latter in 2001. Services sector picked up in 2004, declining significantly in 2005 and then recovering markedly in 2006.

Table 5. Total Approved Foreign Direct Investment by Industry (in million pesos)

Industry	2006	2005	2004	2003	2002	2001	2000	1999	1998
Agriculture	2,381.2	290.5	5.1	25.3	97.8	109.5	5.0	174.4	31.8
Mining	724.1	7,312.9	229.5	855.6	11,589.4	2,714.6	35.8	416.0	2,608.9
Manufacturing	112,665.3	67,730.4	43,811.7	20,634.0	23,690.8	32,227.9	72,218.0	92,617.0	91,962.2
Electricity	439.0	10,863.5	2,039.8	103.4	996.5		5,517.0	6,920.0	33,225.9
Gas		90.2	96,524.0	1,827.2					
Water					15.0				
Construction	765.9	39.9	1,137.9	2,566.8	125.4	418.0	97.0	15.0	149.2
Trade	19,590.6	107.3	52.5	760.5	675.5	36.0	59.3	528.0	35.2
Transportation	1,325.2	391.4	26.6	192.3	2,054.2	3.4	80.0	2,418.2	7,681.2
Storage	13.3	0.5	171.6	347.3	71.7	205.0	215.8	1,549.4	489.1
Communication	2,962.9			1,187.8	1,054.4	14,460.1	194.2	6.0	7.7
Financial and Real Estate	7,626.5	203.1	290.7	900.9	564.3	4,164.7	7.8	265.8	32,606.7
Services	17,385.9	8,783.1	29,606.0	4,609.3	5,113.8	8,097.0	1,943.9	1,829.6	2,772.8
Total	165,879.9	95,812.8	173,895.4	34,010.4	46,048.8	62,436.2	80,373.8	106,739.4	171,570.7

Source: Board of Investments, National Statistical Coordination Board.

In terms of data on net FDI by country of origin, it can be observed from Table 6 that Japan and the US are interchangeably taking the position as the two top investors in the Philippines. The US had provided the largest inflows in 1999 to 2001, relinquishing the leadership to Japan from 2002 to 2003, before picking up its traditional role in the Philippine-US economic relations from 2004 to 2006. Since 2002, Japan's net inflows to the country have begun to decline. Looking at the net FDI inflows in the most recent

period, it is noticeable that the Netherlands, United Kingdom, the British Virgin Islands, South Korea, Canada, and China had decided to put in more investments in the country.

**Table 6. Net Foreign Direct Investment (BOP Concept) By Country of Origin
(in million U.S. Dollars)**

	1999 ^{tr}	2000 ^{tr}	2001 ^{tr}	2002 ^{tr}	2003 ^{tr}	2004 ^{tr}	2005 ^{tr}	2006 ^{tr}
JAPAN	118.97	107.35	133.84	738.39	40.28	43.59	60.64	54.60
USA	355.88	155.43	154.93	391.67	12.24	118.70	276.19	232.43
Canada	0.19	-0.04	-0.05	0.04	0.03	0.31	0.71	3.43
France	7.18	59.64	95.10	0.33	0.12	0.67	10.16	3.36
Germany, Fed. Rep. Of	0.00	0.36	0.00	0.48	1.37	0.81	37.15	1.22
Netherlands	164.90	0.01	0.21	10.85	-10.25	-17.48	-4.94	219.45
United Kingdom	4.89	510.77	8.80	1.26	3.10	1.98	9.91	139.03
Switzerland	58.10	2.57	0.06	-0.19	-6.82	1.63	1.03	1.56
China	64.93	0.00	0.08	0.00	0.02	-0.18	-0.17	2.27
South Korea (ROK)	13.14	0.00	0.43	0.94	1.17	-0.13	0.02	3.01
Hong Kong	64.55	45.34	1.31	3.61	7.64	1.63	258.05	-3.40
Taiwan (ROC)	9.00	3.36	1.57	0.38	1.69	0.85	0.03	1.02
Malaysia	2.33	15.16	2.20	-0.29	7.99	0.22	2.07	0.34
Singapore	107.20	48.55	60.35	20.48	183.78	115.46	12.73	-68.90
Thailand	0.03	0.00	0.00	2.37	2.68	0.20	-2.11	-18.13
Australia	1.98	0.02	4.50	0.32	9.65	1.54	-0.31	-1.07
British Virgin Island	3.81	0.00	38.94	0.00	0.00	0.00	1.51	8.68

Source: Bangko Sentral ng Pilipinas.

1.3.4. Investment Incentives

The current Philippine investment incentives program is primarily drawn from EO 226 or the Omnibus Investments Code of 1987. A host of incentives have been made available through this law to registered investments and outlines the systematic procedures on how to avail of these incentives. Such incentives are applicable to both Filipino owned and foreign owned investments. This law also affirmed the role of the BOI, which has been mandated to be responsible for the regulation and promotion of investments in the country while being organizationally affiliated with the DTI. Investments registered with the BOI can avail of incentives offered under this Code. A general description of such incentives is provided for in Appendix I.

In particular, the Code provides access to fiscal and non-fiscal incentives to

preferred areas of investments, categorized as either pioneer or non-pioneer, and to export production as well as to rehabilitation or expansion of existing operations. Pioneer enterprises are registered enterprises engaged in the manufacture and processing of products or raw materials that are not yet produced in the Philippines in large volume. It also involves the design, formula or system applied as well as agricultural, forestry and mining activities, the services and energy sectors. Non-pioneer enterprises refer to all registered producer enterprises not included in the pioneer enterprise list.

Qualified investments, depending on their category, are granted with incentives that include income tax holidays, tax credits, tax and duty exemption for imported raw materials and equipment, hiring of foreign labor, exemption from contractors' tax, simplified customs procedure, and other tax incentives. Also provided for under the law are incentives to MNCs establishing regional or area headquarters, regional operating headquarters and regional warehouses in the country.

As stipulated by law, the BOI draws up an annual Investment Priorities Plan (IPP) submitted to the President for approval. The IPP lists economic activities and industries, which are being encouraged and considered desirable for the overall economic development of the country and thus entitled to incentives that will be defined and clarified in the general policies and guidelines accompanying the IPP.ⁱⁱⁱ

This current IPP's general policies also include incentive provisions to investments that promote the regional dispersion of industries, particularly in less developed areas. Also part of the 2007 IPP is the promotion of micro, small and medium-sized enterprises and investments supportive of industry clusters in specified activities.

1.3.5. Export Promotion Strategy

The Export Promotion program in the late 80s was characterized by incentives offered to exporters over and beyond those provided by the BOI. In the period prior to the 1990s, Pante and Medalla (1990) stated that with the export promotion measures that grant exporters access to intermediate inputs at world market prices, exports were accorded with a "free trade" status. As such, exporters may avail of outright tax and duty exemptions or tax and duty drawback. However, the documentary and other requirements for availment of these incentives were claimed to be numerous, while

procedures are long and tedious (Manasan, 1989 as cited in Pante & Medalla, 1990).

Exports as a national strategy for sustainable agri-industrial development received a boost with the enactment of Republic Act (RA) 7844 otherwise known as Export Development Act of 1994. In its policy declaration, this law situates the private sector as lead in the effort to promote exports and as partner of the government in the concerted effort to increase the country's share in the export market by promoting industries considered as export "winners." The law likewise calls upon the Department of Trade and Industry (DTI) to prepare a three-year Philippine Export Development Plan (PEDP), the implementation of which shall be overseen by the Export Development Council. Said Council is comprised of representatives of relevant government agencies and 9 representatives of the private sector. Additional incentives were likewise provided for in the law in various forms namely tax and duty exemptions, tax credits and availability of credit facilities from government financial institutions for purposes of plant and equipment expansion, among others.

Functioning for more than 10 years, the Export Development Council seems to be actively undertaking activities promoting the welfare of exporters. There exists an Exports Promotion Fund (EPF) being managed by the Council that can be availed of by exporters by submitting project proposals, through accredited industry associations, that are aligned with the priority agenda of the prevailing PEDP.^{iv} Meanwhile, the President promulgated EO 554 in 2006 eliminating fees and charges imposed on export clearances, inspections, permits, certifications, and other documentary requirements aimed at reducing the cost of doing business. Moreover, exporters were also granted exemption from paying travel tax in relation to their sorties abroad for purposes of joining international trade fairs and expositions; conduct of exhibitions and selling missions; and attendance in international conferences on trade and seminars for enhancing productivity or for technology upgrading. This was granted via EO 589 issued by President Arroyo also in 2006. According to the Philippine Exporters Confederation, Inc. 15 government agencies have so far adhered to this order.

In addition to these export promotion strategies, the government has also resorted to the establishment of export processing zones, not only to further encourage the export orientation of industries but also as an approach towards regional dispersion of

industrialization. Indeed, these industrial export zones were the antecedents of the deliberate pursuit to industrial clustering in the country. Over the years, these industrial zones have evolved and became the economic zones that are prevailing today. Meanwhile, also tied up to the exports promotion policy is the most recent attempt of the government to adopt an industry clustering strategy as a means of improving the competitiveness of Philippine industries. Such approach can be traced to the Philippine Export Development Plans starting from 2001 and remains a vital strategy being pursued by the National Cluster Management Team of the EDC. These two approaches are discussed in detail in the following sections.

1.3.6. Industrial Zones in the Philippines: From Export Processing Zones to Economic Zones

One of the mechanisms for dispersing industrialization that was pursued more aggressively was the establishment of export processing zones (EPZ). Aldaba (2006) provided a historical summary of its evolution from EPZ to special economic zones (ecozones). By virtue of RA 5490, the first EPZ in the country located in Bataan was passed. Presidential Decree 66 was promulgated in 1972 to establish an institutional backbone to this EPZ approach through the creation of the Export Processing Zone Authority (EPZA) mandated to operate and manage all export zones in the country. The law laid down the requisite that total production of firms in these zones will be geared for the export market alone. Indeed, foreign ownership with participation of up to 100 percent was allowed but only along the priority industries being promoted.

Firms located in these government-run EPZs that eventually grew to four (Bataan, Baguio, Cavite, and Mactan, Cebu) were entitled to various fiscal incentives. There were also several industrial estates (IEs) operated by the government along with these EPZs, with the PHIVIDEC as the very first created in the country. The performance of these pioneering establishments in the country was not encouraging however. Citing the findings of the earlier studies that looked into this, Pante and Medalla (1990) concluded that in general, these EPZs and IEs have not been effective in attaining the goal of regional dispersion of industries. There was substantial unused capacity in these zones that indicated failure of the fiscal incentives offered to lure investors away from Metro

Manila and its periphery. It was also pointed out that in fact, only four of the 15 government-operated EPZs and IEs were located outside of the core region of Metro Manila and the areas contiguous to it. Coordination problems due to multiple implementing agencies likewise beset these establishments. More critical was the finding that firms in these EPZs tended to be import-dependent, which resulted in minimal backward linkages with the rest of the economy. One factor may be the dearth in supporting industries that could have supplied the needs of these firms. The lessons derived from this experience were however, internalized in view of the campaign to attract more foreign investments.

In 1995, the Special Economic Zone Act was passed under RA 7916, which reiterated the objective of accelerating a sound and balanced industrial, economic and social development of the country through the establishment of special economic zones in strategic locations and through mechanisms that would attract foreign investments. Aldaba (2006) pointed out that this law effectively shifted the focus away from government-run EPZs and IEs to privately initiated and –led industrial zones. Moreover, under this legislation, firms are no longer required to be either wholly export-oriented or engaged only in industries being promoted. All firms can then choose to locate in these industrial parks regardless of market orientation, while separate EPZs will continue to be predominantly oriented to export production and shall be considered virtually located outside customs territory.

Governance of the special ecozones now rest with the Philippine Economic Zone Authority (PEZA), replacing the EPZA. It is notable that the Special Economic Zone Act called for greater private sector participation in zone development and management through incentive offerings to private zone developers and operators. Meanwhile, the local government units are being encouraged to participate more actively in the development and sustenance of specially designated economic zones. Appendix II details the incentives offered in these ecozones.

In terms of performance, the PEZA declared that as of July 2007, there are: four public economic zones with 423 operating firms combined; forty-five private economic zones located all over the country but mainly in Laguna and Cavite, with 528 operating firms; seventy IT parks/centers/buildings mostly situated in Metro Manila, catering to

265 operating firms; and, five tourism economic zones with equal number of operating firms.

Other indicators of performance are manifested by value of economic investments. PEZA claims that the former EPZA was able to collect 24.5 billion pesos of investments from 1984 to 1994, while for the period 1995 to 2005, PEZA garnered 955.7 billion pesos worth of investments. From employment levels of 304,557 in ecozones in 1995, more than 1.1 million have been employed after ten years in 2005. When it comes to export performance, PEZA claims that it has reached 32 billion US dollars in 2005, which was a huge leap from only 4.2 billion US dollars from ten years ago. In terms of investments by nationality, it was found that for the period 1995 to 2004, the Japanese were the biggest investors at 42 percent of total aggregate investments, followed by Filipinos at a distant 16 percent and then the Americans, at 14 percent. Other investors included the Dutch, British, Singaporean, Korean, German, and Taiwanese. Meanwhile, approved investments by industry during the same period were cornered by the electronics and semiconductors sector receiving 55 percent, with electrical machinery and apparatus and transport and car parts following suit at 11 percent and 7 percent, respectively. Other participating industries were chemical and chemical products; information technology; medical, precision and optical products; rubber plastic; garments and textiles; and, others.

Other Industrial Zones

It was quite explicit that beyond representing measures to facilitate regional dispersal of industries, the establishments of ecozones were intended to attract investments, particularly the foreign type, justifying the host of incentives being offered. There are two other major special economic zones culled from former US military bases in the country, namely the Subic Bay Freeport Zone and the Clark Freeport Zone. To manage and implement these special ecozones, primarily transforming them from military bases to investment havens, the Subic Bay Metropolitan Authority (SBMA) was created in 1992 and the Clark Development Corporation (CDC) in 1993. Firms registered in either of these investment regimes are entitled to the following incentives:

- A final tax of 5% on gross income earned shall be paid in lieu of all local and national taxes. (Gross income refers to gross sales derived from any business activity less cost of sales, cost of production or direct cost of services.)

- Tax and duty free importation of capital equipment, raw materials, supplies, spare parts and all other articles including finished goods.

- Permanent residency status for investors, their spouses, dependent children under 21 years of age, provided they have continuing investments of not less than US\$250,000.

- Employment of foreign nationals.

As to the performance of the different investment agencies, Table 7 provides data on total approved FDIs by agency from the late 90s to 2006 and disaggregating investments by nationality. From 1998 to 2003, total approved investments by these promotion agencies had decreased from 375.1 billion pesos to about 63.8 billion pesos. This may be attributed mainly to the declining inflow of foreign investments and to some extent investments by Filipinos. However, investment inflows started to pick up in 2004 and have steadily increased until 2006. In terms of the performance of promotion agencies, it can be noted from the table that BOI had approved the most amount of investments in the aggregate particularly in the years 1998, 2001, 2004 to 2006. The agency mainly approved investments from Filipinos. On the other hand, PEZA had overtaken BOI in terms of value of approved investments in the periods 1999 to 2000, and 2002 to 2003. In contrast to the BOI but not surprising, PEZA had approved the most foreign investments. Meanwhile, the distinction for having approved the most foreign investments in 2006 went to the SBMA at a value of 68.9 billion pesos, more than what was approved by PEZA in the same year.

Table 7. Total Approved Investments by Promotion Agency (in million pesos)

	TOTAL				
		BOI	PEZA	SBMA	CDC
2006	357,003	187,616	83,761	72,933	12,693
Filipino	191,123	151,059	31,423	4,032	4,661
Foreign	165,880	36,557	52,338	68,902	8,031
2005	231,235	163,879	62,761	1,484	3,110
Filipino	135,428	120,082	12,919	646	1,781
Foreign	95,807	43,797	49,842	839	1,329
2004	192,947	135,723	50,561	3,728	2,935
Filipino	19,112	7,834	9,024	1,413	780
Foreign	173,835	127,889	41,537	2,315	2,155
2003	63,795	28,341	31,346	2,359	1,749
Filipino	29,785	19,992	6,423	1,996	1,375
Foreign	34,010	8,349	24,923	363	374
2002	99,184	28,352	38,741	4,542	27,548
Filipino	53,135	19,537	15,945	3,796	13,858
Foreign	46,049	8,815	22,796	747	13,691
2001	193,762	102,037	88,320	1,837	1,569
Filipino	131,326	72,994	55,920	1,549	863
Foreign	62,436	29,043	32,400	288	706
2000	207,886	43,612	156,698	4,664	2,913
Filipino	127,511	28,082	95,609	2,666	1,155
Foreign	80,374	15,529	61,089	1,998	1,758
1999	283,300	116,500	155,700	9,200	1,900
Filipino	176,500	45,800	123,600	6,300	800
Foreign	106,800	70,700	32,100	2,900	1,100
1998	375,100	267,300	95,800	5,600	6,300
Filipino	203,400	147,700	47,600	2,200	5,900
Foreign	171,600	119,600	48,200	3,400	400

Sources: Board of Investments and National Statistical Coordination Board.

1.3.7. Industry Clustering Strategy in the Philippines

The alarming decline of the country's competitiveness as measured by the World Competitiveness Scoreboard since the late 1990s had prompted industry stakeholders to search for an alternative model for industrial development. This came at a time when the industry clustering strategy has been gaining ground in other countries, particularly in the developed parts of the world. Whereas agglomeration (as linked to urban economics) is founded on lower costs of production and proximity to markets, clustering draws its strength from the collaboration among firms despite competition and the synergistic relationship between these firms and other enterprises, the government and supporting institutions. These are the dynamics of a cluster that distinguishes it from a mere concentration of firms in the same sector.

Clustering is one of the key elements of the Philippine Export Development Plan

since 2002. In fact, a National Cluster Management Team (NCMT) under the EDC has been created to sustain this program. Meanwhile, the National Science and Technology Plan for 2001-2020 has already elucidated this approach together with the concept of product niching as a way of linking S&T policy to industrial policy (Export Development Council, 2007).

The 2002-2004 PEDP defined the roles of relevant government agencies in operationalizing the clustering strategy and called for coordination among them, highlighting the fact that this initiative is not the sole responsibility of the DTI. It espoused for the involvement of the private sector, particularly as champions for forming and sustaining the clusters. Moreover, it advocated for better information management, enhancement of education, and science and technology programs, and promotion of investments by developing a “brand name” for Philippine products, among others. The Plan also provided for the conduct of consultative meetings with the Department of Interior and Local Government (DILG) for policy development at the local government level, including possible enhancements of the Local Government Code and in relation to the preparation of an incentive program for industry clusters. The latest PEDP meanwhile, spanning the years 2005-2007 called for sustaining the clustering approach to industry development with special emphasis on regions and provinces with export-oriented cities/municipalities covered by the One-Town, One-Product (OTOP) initiative.

As stated in this latest incarnation of the Plan, national clusters shall be created and promoted to serve as models of this strategy. Since the criteria for their selection included impact on the economy in terms of revenue and employment generation, the industries considered as national clusters come from the so-called export revenue streams of the PEDP. The NCMT under the Export Development Council currently monitors the performance of the national priority clusters. The Team’s role is to harmonize and complement all interventions needed by the clusters and to influence relevant agencies to align their programs with the clusters. Currently, the national clusters are electronics; information and technology services; automotive; minerals; food and marine products; organics; design driven products and services (home furnishings, giftware, holiday décor, and wearables); construction services and

materials; logistics services; health and wellness; and tourism. The composition of these priority clusters indicate that the objective of this clustering initiative is to further promote the competitiveness of the country's export champions to enable them to access more markets. Although regarded as national clusters, these industries have specific regional or provincial (or city) concentrations. For instance, electronics clusters can be found in Laguna, Cavite, Tarlac, Cebu, and Baguio while information technology clusters are located in Metro Manila and Cebu.

Supplementing these national clusters are regional and provincial clusters, which were identified as a result of a participatory approach led by the NCMT in collaboration with DTI-EDC.^v Composite teams went around the country to conduct seminars of industry clustering and consultations with various stakeholders, such as those that represent business and industry, academic and research institutions, relevant government agencies, local government units, and non-government organizations.

As a result of these activities undertaken between 2001 to 2002, the following priority sectors where clustering will be promoted were identified: at the regional level – palm oil, rubber, coffee, fiber-based industries, fruit production and processing, high-value vegetables, seaweeds and carrageenan, meat processing, marine, furniture, and bamboo-based industries. At the provincial level, the following came out as priority industries: lime, muscovado sugar, cassava, horticulture, corn-feed livestock, cattle, fine jewelry, fashion accessories, handmade paper, and metalworking and engineering.

The clustering strategy is also being linked to the government's One-Town, One-Product program but only in terms of industries or products that can be considered as export ready as far as the EDC is concerned. The OTOP-Philippines is a flagship program of President Arroyo as the development strategy that would promote entrepreneurship and jobs creation in the countryside. OTOP-Philippines supports SMEs to produce, offer, and market distinctive products or services through the use of indigenous raw materials and local skills and talents. It espouses a critical role for local chief executives of every city and municipality, expecting them to take the lead in identifying, developing, and promoting a specific product or service, which has competitive advantage. Explicitly indicating in the PEDP that these products and services will be part of the value chain of the provincial or regional clusters, particularly

those that are export ready, it should not preclude the possibility for local governments to adopt the clustering approach in developing their own, albeit smaller version, OTOP clusters. The National OTOP Strategic Plan for 2006-2010 mentions that “the concept of establishing a product within a specific area can be advantageous in a clustering scenario.”

In 2007, the NCMT awarded five model industry clusters and an OTOP cluster during the First National Conference on Industry Clustering held in the presence of the President of the Philippines and other stakeholders.

The industry clustering strategy in the Philippines is government driven, particularly through the efforts of the DTI and its instrumentalities at both the national and local levels. However, there is recognition that the role of government is only to inform the industry and provide preliminary assistance to push the cluster off the ground when a critical mass of firms or industry members have expressed willingness to cluster. Sustaining the cluster, its membership and activities, is intended to be left to the firms themselves via the cluster organization that holds them together. The cluster organizations may evolve from the industry associations or local chambers already on-hand or from the previously unorganized firms in the same industry around the same geographical area. Through constant interaction within the cluster, members are able to identify needs and gaps and the corresponding courses of action that can be undertaken to resolve them. Cluster initiatives may take the form of joint production involving purchasing, logistics, bundled production, and supply chain development or collaborative sales through the conduct of joint branding of either products/services or of the region/area. Another possibility is joint promotion in foreign markets and human resource upgrading relating to technical and management training; promotion of production process improvement; establishment of technical standards; and advancements in education systems. Other areas that can be jointly pursued are collection of market intelligence and analysis of technical trends and information; joint R&D; and advocacy for improvements in business environment such as changes in government regulatory policies or to lobby for infrastructure investments. In terms of further firm formation, cluster initiatives could take the form of incubator services and spin-off formation and business services. In terms of funding for such cluster initiatives,

the Export Development Fund is said to be available to the clusters as well, subject to the approval of their project proposals.

In terms of getting support institutions involved, the Philippine strategy identifies the local government units, government agencies, and the academe, among others. They are being considered part of the cluster as their interventions enhance the productivity of the members as well as impact on the cluster's capacity to expand and be sustainable. For Philippine clusters, the DTI assigns a cluster case officer who monitors cluster development and provides technical assistance. The DTI has this capability to be involved in cluster activities at all levels as it has presence across the country via its regional offices.

Characteristics of Industry Clusters in the Philippines: a sampling of clusters

The Electronics Cluster

The electronics industry is part of the national cluster configuration. It has been one of the leading export industries of the Philippines and is highly concentrated in the semi-conductors sub-sector. In October 2007, the industry accounted for 61.8 percent of the aggregate export revenue posting an increase of 9.4 percent to \$2.873 billion from \$2.627 billion in October 2006. Firms involved in electronics are clustered in Laguna, Cavite, Tarlac, Cebu, and Baguio. Dominated by multinational corporations such as Amkor, Sony, Toshiba, Hitachi, Fujitsu, Intel, Texas Instruments, Siemens, Philips, Samsung, Goldstar, and Acer, among others, electronics firms can be found mostly in industrial ecozones. The allied and support industries involved in the cluster include components manufacturing, tool and die, packaging, chemicals, machinery and equipment, and others. This implies that the electronics cluster have vital links with other industries also considered as national clusters.

The Semiconductor and Electronics Industries in the Philippines, Inc. (SEIPI) is touted to be as the leading and largest organization of foreign and local semiconductor and electronics firms in the country. Its membership is comprised of a cluster of 214 members that either have regular, associate, affiliate, and honorary member status, all generally collaborating towards the growth of the industry. SEIPI actively implements activities for the mutual benefits of its members in the areas of country promotion and

image marketing; provision of business development services including automation of business transactions and procedures; environmental protection; information exchange of global best practices; enhancements of technical competency; trade and investment missions; and, policy advocacy. With regards institutional linkages, SEIPI facilitates the networking of the electronics cluster among local industries via local business organizations and chambers; and internationally, through linkages with foreign electronics organizations as well as foreign institutions like JETRO and CIDA (SEIPI, 2008).

The continued successful export performance of the electronics cluster may be attributable to the availability of quality workforce and the presence of synergy among the various players within the industry as facilitated by the dominant industry organization, the SEIPI. Other factors that increase the attraction of the industry for more and continued investments are the presence of scale economies mainly due to the presence of multinational corporations and the emerging technological deepening in the industry based on the decreasing share of semiconductors and increasing share of electronic data processing and automotive electronics in the structure of exports. Despite these developments however, it still remains that the industry continues to be dominated by labor-intensive assembly and testing segment of the production chain. In order to maintain its advantage in specific electronics sub sectors, especially against China, the electronics industry should aggressively consider upgrading to higher segments of the value chain. Moreover, problems affecting the industry such as weak infrastructure and logistics, high cost of electricity rates, inadequate technological capabilities, and cumbersome procedures of doing business will have to be addressed. Notably, these discouraging factors relate to the economic fundamentals that should be present in the business environment to make the overall industrial situation in the country conducive to investments and where industry clusters can thrive.

The Cebu Furniture Cluster

Furniture is the sixth top export product of the Philippines in October 2007, with export revenue of \$91.43 million or 4.7 percent increase from the same month in 2006. The Cebu furniture cluster had traditionally been a major contributor to total furniture

exports leading to about 60 percent in past periods. This significant role of the Cebu manufacturers in the furniture industry can be attributed to the fairly mature cluster being maintained and sustained by the Cebu Furniture Industry Foundation (CFIF). The furniture industry in Cebu emerged in the 1950s as a result of the vital tie up between a US-based firm and a local company, which started with the exports of colonial-style furniture made of rattan and wicker. When the supply of rattan got exhausted prompting the government to ban its exportation, the furniture makers of Cebu proved resilient as they shifted to the use of mixed materials that could be found in the province and in nearby areas. This method continued especially when the total log ban in the country was implemented in the 1990s. This has led to the manufacture of what has come to be known as “Cebu look” in furniture made of mixed media or materials (Export Development Council, 2007).

The key players in the furniture cluster are the manufacturers, subcontractors and traders including direct and indirect exporters. Support industries comprise of the iron steel, wood and lumber, stone cutting, chemical, accessories and hardware, and upholstery industries. An allied industry is the Cebu gift, toys and housewares industry producing some the clusters furniture accessories.

The industry enjoyed its heyday in the late 1990s when Cebu furniture exports accounted for around 75 percent of total furniture exports from the Philippines growing at an annual rate of 9 percent from 1998 to 2002. The top export destinations were the USA, Europe, Japan, and Australia. Dubbed “Milan of Asia,” Cebu furniture became known for its innovative and non-traditional designs with its designers being hailed for their artisanship. Indeed, it has developed a niche in the international furniture market albeit small and is rather design and labor intensive.

The EDC (2007) reports that there are 300 furniture makers in the province, with most of them concentrated in the Cebu City-Mandaue City area. These are mostly (80%) small enterprises with the rest considered large or medium sized. Together, they employ around 80,000 direct workers and provide indirect employment through allied firms – subcontractors and material processors—to around 140,000. Out of the 300, 174 furniture makers are members of the primary cluster organization CFIF. The CFIF is instrumental in sustaining cluster initiatives by means of the provision of a broad

range of services to its members ranging from market development assistance, business information services, training programs, and productivity improvement services. To address the need for continued learning and skills upgrading, CFIF successfully tied up with academic institutions in Cebu for the offering of courses in furniture making and industrial design. This is in addition to their bringing in foreign experts and sponsoring missions abroad for the members of the cluster.

In recent years, the value of exports of Cebu furniture as portion of total Philippine furniture exports has been declining. According to the EDC (2007), Cebu furniture outputs accounted for only 41 percent and 40 percent of total furniture exports in 2004 and 2005, respectively, while its growth rate contracted by almost 7 percent in the period 2000 to 2005. In 2006, 10 percent of the 300 furniture makers were reported to have either become bankrupt, inactive or had to shut down operations due to this. This downturn in the Cebu furniture cluster was being attributed to heightened competition from China, Vietnam, Thailand and Indonesia, which have been producing cheaper, mass produced furniture. The increasing market shares of these countries may have been caused by their upgraded and improved manufacturing processes, an area that the Cebu furniture makers did not yet get into content as they were to maintaining their market niche. Increasing scarcity of skilled labor, particularly its designers, have also added to this difficulty in the industry. In fact, migration is proving to be the culprit as skilled labor goes instead to competitor countries bringing with them their talents in design and artisanship. Policy inconsistencies and bureaucratic red tape also are having adverse effects on the industry. Meanwhile, sources of raw materials have also been getting scarce, but could be resolved by the redirection of preference by Cebu manufacturers from their sources in Malaysia and Indonesia to possibly the wood industry in Mindanao.

The Fine Jewelry Cluster

Another industry that is part of the national cluster iteration in the country under wearables is fine jewelry. Concentrated in Meycauayan in Bulacan province, the fine jewelry cluster has existed even before the concerted effort by industry experts and stakeholders to adopt the industry clustering strategy began. The cluster is being led by

the Meycauayan Jewelry Industry Association (MJIA) claiming to have 121 jewelers in its membership roster in 2003. However, the Bulacan provincial government pegged the number of Bulacan jewelers to around 1,200 registered shops in 2003, comprised mainly of micro or cottage, small and medium industry types of firms.

Tracing out the linkages coming in (or out) of the core production of jewelries, the following related and ancillary industries were found. The mining industry is the source of precious metals, gold and silver, complemented by the pearl farming industry for the supply of that other indigenous material. Local suppliers, which have linkages with these industries, supply the inputs into the manufacturing of the end-product. This involves several activities from design to modeling to polishing, and then off to packaging and onto distributors such as jewelry shops, pawnshops, wholesalers, among others. Supporting institutions include the national government, which has included jewelry as a priority export industry since 1992 and in so doing has enacted Republic Act 8502 also known as the Jewelry Industry Development Act of 1998. Another government entity that can be found in the picture, albeit through local suppliers, is the Bangko Sentral ng Pilipinas (BSP) that also serves as source of raw materials for the industry. Also an essential supporter is the Bulacan Provincial government, which has declared jewelry making as part of its investment priority areas under manufacturing industries and thus, eligible to avail of investment and fiscal incentives offered by the province. Also part of the cluster is the Philippine Jewelry Center, being run by the MJIA, where common service facilities for cluster members can be availed of. It was also found that the University of Regina Carmeli located in Meycauayan has recently offered an undergraduate course on Jewelry Design, which manifests the strength of linkages and kind of support prevailing in the cluster.

Hampering the development of the fine jewelry cluster is the low level of technology in production caused by the scarcity of appropriate capital equipment that could have facilitated mass production of jewelries. Thus, the industry mainly caters to the personalized market of customizing manufacturing based on the preference of individual customers. There is also a lack of access to cheaper, long term financing that could have enabled those in the micro/cottage-sized firms to upgrade their production and increase their outputs. The limited availability of skilled labor in jewelry

production was also identified as a discouraging factor in the growth of the industry. In terms of marketing activities, the non-members of the MJIA have limited options and are most likely reliant on individual sellers that go around their contacts to sell the products. This entails a huge amount of trust as the individual sellers could just appropriate the jewelries for themselves. Moreover, given the relatively high price of the jewelry, the jewelers have no choice but accept payments in installments in order to move their products. For larger jewelers, this is not much of a problem because they either have their own jewelry shops or they have tie-ins with various outlets in the formal sector. Fine jewelry is precious jewelry and hence, commands prices that may be beyond the reach of ordinary consumers. The jewelry cluster therefore is faced with a limited market size comprised mostly of those who could afford to set aside part of their disposable income to purchase the product or as an investment purchase particularly for rare, well-designed, very expensive pieces.

1.3.8. Institutional Linkages for Industrial Development and Industry Clusters

Industrial Development and R&D

The role of the diffusion of knowledge and technology in enhancing the competitiveness of economies for growth and development is now widely recognized. Application of knowledge and technology leads to innovation and onwards into activities with higher value added, reduction in costs of production and increases productivity. Indeed, the prevailing knowledge economy calls upon the conduct of continued research and development (R&D) as well as its dissemination to the various sectors of the economy for application.

The crucial importance of an appropriate national policy on science and technology (S&T) continues to be highlighted in the development goals of the Philippines. The present medium-term development Plan (2004-2010) recognizes that in order to cope with the changing economic environment, the relationship between institutional stakeholders of knowledge, i.e. the academe and the S&T community in the government and private sector as producers of knowledge and industry players as users of knowledge will have to be strengthened. The Plan was explicit in its statement that the outcomes of these linkages would influence the capacity of the country to produce

products and services aligned with domestic and world demands.

The data on R&D indicators in the Philippines are not widely available or consistently updated. The following data were lifted from Patalinghug (2003) provides a snapshot of R&D manpower from 1989 to 1996. The stock of manpower in 1989 numbered 14,209, which increased by 7.3 percent in 1996 totaling 15,242. The higher education and government sectors consistently employed the highest numbers of R&D personnel. The higher education sectors are comprised of universities and colleges.^{vi}

Expenditure data for R&D indicate that the government sector spends the highest amount among all the sectors with steady annual increases, except in 1993 when substantial reduction took place. The private sector posted the next highest R&D expenditures during the reference period. In terms of total R&D expenditures, the highest increase in levels occurred in 1992 by almost 49 percent but immediately contracted the following year. It has since recovered from 1994 and onwards to 1996. However, R&D expenditure as a percentage of GDP remained miniscule at 0.15 percent and 0.14 percent in 2002 and 2003, respectively. Singapore posted R&D expenditures of 2.15 percent of its GDP in 2002 and 2.12 in 2003, while Malaysia expended 0.69 percent of its GDP for R&D in 2002, Thailand with 0.26 percent in the same period and Vietnam with 0.19 percent of its GDP (UNESCO; World Population Prospects, 2004; the World Bank, 2007).

The linkage between industry clusters and R&D producing institutions is a vital link in the clusters' value chain. The latter is a source of new and better technologies and improved production processes. However, this link is only vital if the R&D interventions match the needs of the industry clusters themselves. This has implications on the strength of interactions between these two players. In the case of the electronics cluster, SEIPI has established a link with the Advanced Research and Competency Development Institute to establish center of excellence for engineers, scientists, technologists, investors, among others who will engage in high technology manufacturing and research and development engineering. The CFIF was able to tie up with academic institutions for the offering of course programs in furniture making and design, which is akin to the link actually established by the fine jewelry cluster with a local university. These are small steps but nonetheless, steps in the right direction

towards knowledge creation relevant to the needs of industries.

Role of Industry Associations

Supporting institutions that cater to the needs of both domestic and foreign firms in various industries are on hand in the Philippines. There are currently 27 local industry associations that respond to the needs of firms engaged in different industries. Meanwhile, there are 15 business associations that are distinguished by sectors namely the Philippine Exporters Confederation, Philippine Retailers Association, Philippine Computer Society, Association of Filipino Franchisers, among others. There are also numerous regional or local associations tending to the needs of firms by geographical location. The Makati Business Club is regarded to be quite influential and active in their policy advocacies on behalf of their members. Meanwhile, there are also several foreign chambers that take care of the interests of foreign firms operating in the country.

These institutions serve as the prime movers of industry clustering in the country, as they themselves become the cluster organizations that take on the role of industry champions and implementers of clustering initiatives.

Role of Local Governments

With the enactment of the 1991 Local Government Code of the Philippines, now on its 17th year of implementation, the local government units (LGUs) have been given increased responsibilities not only in the implementation of devolved functions but along the lines of fiscal decentralization as well. With increased autonomy in running the affairs of their constituents, LGUs are pressed to include local economic development in their governance agenda. Some LGUs are actively participating in the OTOP program of the government in their effort to develop small and medium scale enterprises in their localities in order to create jobs and widen their revenue base. Yet other LGUs are increasingly engaging in income generating enterprises to augment their internal revenue allotments on their way to genuine fiscal autonomy. In support of existing industries, there are LGUs that have streamlined business-licensing requirements, while others provide credit facilities for micro entrepreneurs. There are also LGUs that try to attract deeper investments by promoting the establishment of

industrial estates within their boundaries.

1.4. Industrial Development in Greater Manila Area

The primacy of Metro Manila can be traced back in history and despite the rising of other metropolises in the country; its importance to the economic and social development aspirations of the Philippines remains. Over the years, with the unchecked population explosion and the other host of problems attendant to urban areas, regions in the immediate periphery of Metro Manila became the choice location for expansion of residential, social and economic activities as well as for new initiatives. Industrial areas in Laguna, Cavite and Batangas in the south and Bulacan and Pampanga in the north and Rizal in the east sprouted and have become extensions of the prime metropolis.

Not a few urban experts have opined that practically, the legal basis defining the geographical jurisdiction of Metro Manila is no longer applicable as the demarcation line defining the metropolis has blurred and indeed, already covers the immediate industrial areas of Cavite, Laguna and Bulacan. In order to capture this reality, the study did not limit its geographical coverage in defining the industrial agglomeration under study to Metro Manila but encompassed the industrial areas of at least, Cavite and Laguna to form what is dubbed as Greater Manila Area (GMA).

In terms of data availability however, this paper could only elaborate on Metro Manila as the National Statistical and Coordination Board came out with a special publication focusing on the capital region. Although information materials could be found for Laguna and Cavite, for the most parts, they could not be disaggregated from the data generated from and presented about the CALABARZON region. Due to this, this section of the paper could only describe in detail the basic and economic profile of Metro Manila. However, information on industrial concentration in Laguna and Cavite will be provided.

1.4.1. Profile of Metro Manila

Also known as the National Capital Region (NCR), Metro Manila is the country's premier urban area that grew out of the original core of the City of Manila. It covers a total land area of 636 square kilometers and comprised of 16 cities and 1 municipality.

Metro Manila is the economic, political and social heart of the Philippines. Major infrastructures including air and sea ports are concentrated in the region and thus, serve as the center for distribution of trade and capital goods. Most of the headquarters of the top corporations in the country are based in Metro Manila, including financial establishments. The seat of political power, Malacañang Palace, the official residence of the President of the Philippines is located in the region, same with the offices of the Congress of the Philippines and the Supreme Court. All the national government agencies are scattered around the metropolis, while the headquarters of the Philippine National Police and the Armed Forces of the Philippines are literally facing each other in their respective locations in Metro Manila.

Based on the estimates of the NSO, the population of Metro Manila as of 2005 was 10.787 million, with an average population growth rate of 1.58%. It is projected that by 2015, the region's population would have gone up to 12.2 million. Based on the population figures in the last Census on Population and Housing, which pegged the population of Metro Manila at almost 10 million and with a land area of 636 square kilometers, it was found that it is the most densely populated region in the country.

1.4.2. Economic Environment

The gross regional domestic product (GRDP) of Metro Manila in 2004 amounted to 355.2 billion pesos valued at constant 1985 prices. This represents more than 30 percent of the country's total gross domestic product (GDP), making it the largest contributor to the economy among all the regions. It also posted the highest per capita GRDP at 32,781 pesos. Looking at the structure of Metro Manila's economy, it was noted that the services sector accounted for more than 64 percent of the GRDP, with the industry sector contributing almost 36 percent. The services sector increased by 7.9 percent from 2003 to 2004, while the industry sector grew by 7.1 percent in the same period.

In terms of major industry characteristics, manufacturing accounted for 31.2 percent of the GRDP of Metro Manila, followed by the transportation, communications and storage industry at 15.3 percent of the total.

With regard industrial establishments, the 2000 Census of Establishments pegged

the total number of establishments in Metro Manila at 13,021 among those with average total employees of 20 or more. Manufacturing accounted for the most number of establishments with more than 26 percent of the total, followed by those engaged in wholesale and retail trade plus repair of motor vehicles, motorcycles and personal and household goods accounting for almost 25 percent. A total of 1,370,579 persons are employed in these establishments of which 99.4 percent were classified as paid employees. More people are engaged in manufacturing than in wholesale and retail trade with 27.6 percent and 16.3 percent, respectively.

1.4.3. Physical Infrastructure

Physical infrastructure in terms of roads, bridges, rail transportation, air and water transportation, and telecommunications are essential to industrial development in general, and in attracting investments, in particular. As of 2002, the bridges in Metro Manila were all considered permanent and stretching to a total of 14.8 kilometers. As to roads, it has a total of 4,614.1 kilometers of which 19 percent are considered as national roads and the rest are local roads. The surface type of most these roads were concrete spanning almost 54 percent of the region's total road network. The rest were made of either asphalt, gravel, or earth. In terms of rail transportation, three major light rail systems can be found in Metro Manila providing mass transport services to commuters. These have substantially reduced travel time along the routes they cover but did not do much in decongesting the roads or in alleviating the traffic condition. Meanwhile, four major water ports were found to be operating in Metro Manila in 2004. The Manila International Container Terminal was claimed to be the premier container port of the country that had also attracted direct liner calls and transshipment business. Meanwhile, the North Harbor is mainly for passenger transport and the South Harbor was considered the country's gateway to international shipping and trade as it lies at the Manila Bay. Also located in Metro Manila are three terminals for international and domestic air transport and cargo. An upgraded facility was built, the NAIA 3, which was meant to take over passenger and cargo traffic from the NAIA 1, for its much needed rehabilitation, but plans were sidelined due to disputes between the government and contractors. When it comes to telecommunications, landlines and cell phone lines

are widely available with relatively good services coming from both ends.

1.4.4. Social Infrastructure

In terms of measures of education, 99 percent of the population of Metro Manila aged 10 years old in 2003 were able to read and write (basic literacy) while 94.6 percent had reading, writing and numeracy skills (functional literacy). These rates are the highest among all the regions in the country. The region likewise posted the highest literacy rate of 98.1 percent according to the 2000 Census on Population and Housing, which was even higher than the national average. One factor that has led to this is the prevalence of both public and private schools in Metro Manila. It also hosts many colleges and universities that are considered the best in the country.

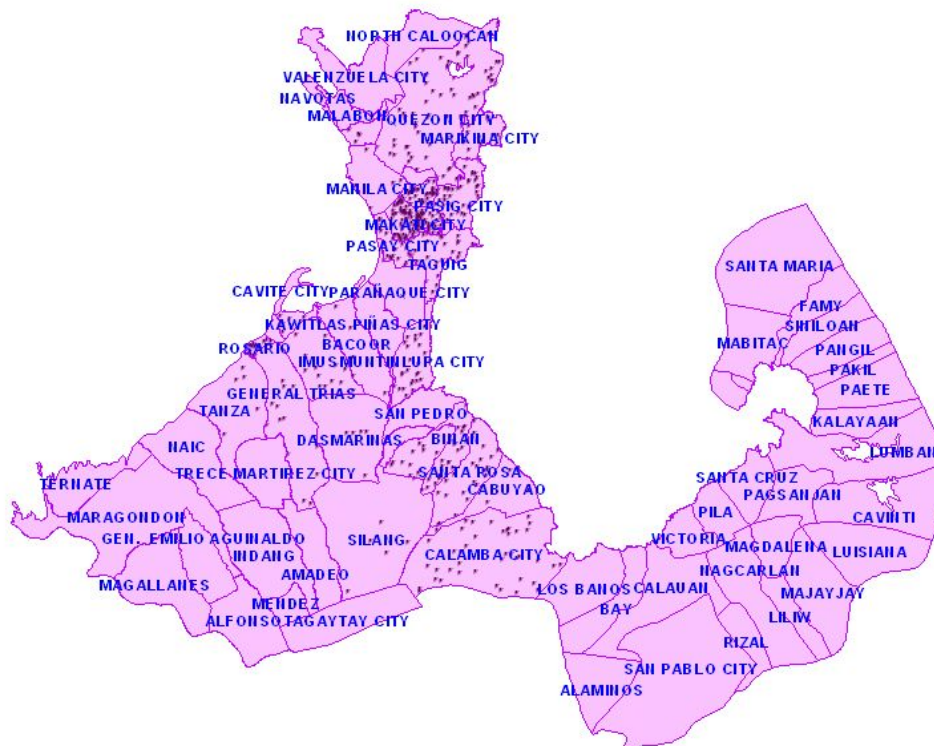
1.4.5. Industrial Concentration in Metro Manila

Industry-wise, the 2000 Census of Establishments provided details on the composition of industrial concentration in Metro Manila. In terms of manufacturing establishments we find that the top five activities dominating the Metro Manila economic landscape (in terms of number of establishments) are the production of ready-made garments; plastic products; printing and service activities related to printing; manufacture of other chemical products; and, production of basic iron and steel. Those engaged in metal products and metal working; manufacture of pulp, paper and paperboard; manufacture of structural metal products, tanks, reservoirs, and steam generators; food products; and bakery products round up the top ten industries concentrating in the metropolis (National Statistics Office, 2004).

There are 70 industrial zones scattered over Metro Manila. These industrial zones fall under the purview of the PEZA but are mainly private sector led industrial agglomerations. These are mostly technology parks as 57 out of 70 have explicitly indicated preference for IT-enabled industries. A few are intended for the electronics industry, aviation, solar panel fabrication, or mixed use. This implies that as manufacturing production are moved by companies in areas in the periphery of Metro Manila, higher forms of industrial activities – knowledge based, technology based industries – are getting concentrated in the metropolis. These IT-enabled industries

mainly take the form of business process outsourcing such as call centers, data centers, medical transcriptions, and software development. Among the LGUs in Metro Manila, Makati City hosts many of the technology parks/center/buildings. Meanwhile, a university-based technology park has recently been established with funding support coming from a private company. There are actually two locations of the University of the Philippines Science and Technology Park, one in the North and the other, in the South. Figure 1 presents the map of Metro Manila and the adjacent provinces of Laguna and Cavite indicating the location of these industrial zones. From here it can be confirmed that the ecozones have clustered in the contiguous cities of Makati, Pasig and Pasay.

Figure 1. Locator map of economic zones in Greater Manila Area



Source: Map generated from data sourced from the Philippine Economic Zone Authority, 2007

1.4.6. Industrial Concentration in Laguna and Cavite

As one of the provinces closest to Metro Manila, Laguna province has benefited from the spread of industrialization outside of the metropolis. It serves as hosts to 17 special economic zones under the purview of PEZA but all are being developed and managed by private zone operators. There are different types of ecozones in Laguna indicating the specific industrial concentration preferred or being promoted, if not already in existence. The Allegis IT Park, Carmelray International Business Park and Sta. Rosa Commercial IT Park for IT-enabled industries. The Carmelray Industrial Park (I and II) are for mixed manufacturing activities but mainly for electronics and semi-conductors. Also host to mixed industries but still all manufacturing activities is the Laguna International Industrial Park, the four Laguna Technopark, and the two Light Industry and Science Parks. The Filinvest Technology Park and the Calamba Premiere International Park is for light to medium scale, non-polluting industries. Meanwhile, there are industry specific zones like the Greenfield Automotive Park for firms engaged in automotive manufacturing; Toyota Sta. Rosa Special Economic Zone for automotive parts and YTMI Realty Special Economic Zone for automotive wiring harness. In the Laguna area, Figure 1 indicates that the ecozones are concentrating in Biñan, Sta. Rosa and Calamba cities.

In Cavite province are 13 economic zones, one of which is managed publicly – the Cavite Economic Zone, which is host to manufacturing industries engaged in the production of many different products. The same type of activities could be found in Fil-Estate Industrial Park, First Cavite Industrial Estate and People’s Technology Complex. Meanwhile, those that prefer light to medium scale, non-pollutant industries are the Cavite Eco-Industrial Estate, EMI Special Economic Zone and Golden Mile Business Park. Those that are engaged in the production of electronics, semiconductors and similar products are the Cavite Productivity and Economic Zone and Gateway Business Park. Daiichi Industrial Park is host to mixed production but mainly related to plastic products, design of equipment for automation and energy conservation. Cavite is also host of one tourism zone, the Island Cove Tourism Economic Zone that features the resort facilities in the area. SM City Bacoor, a mall, is also considered as an ecozone, while Filoil Special Economic Zone did not specify preferred or existing industries.

Referring back to Figure 1, it can be noted that the ecozones are more scattered unlike in Laguna but still concentrated in the areas nearest to Metro Manila cities such as Bacoor, Imus, Rosario, and General Trias.

1.4.7. Local Government Efforts in Industrial Development

In line with their pursuit of genuine local autonomy, many LGUs in Metro Manila have initiated efforts to spur further local economic development in their respective jurisdictions. Makati City has enacted its Investment and Incentives Code to offer fiscal and non –fiscal incentives to priority investors, such as those involved in information and communication technology (ICT) and business process outsourcing (BPO) industries. Specifically, they will be provided with tax breaks and exemptions from payment of local non-regulatory fees and charges, and applicable taxes, like amusement taxes. In addition, firms that are included in the priority list will be exempted from paying business taxes and real property taxes for a period of three to four years. The city government is even eyeing the implementation of 100 percent exemption for the first year of operation. Also on the city’s priority list are retirement centers, health facilities, tourism-related and leisure facilities, heritage and cultural projects, and schools offering post-graduate studies. Meanwhile, Marikina City has put up a business website dubbed Marikinabiz.com with the goal of bringing together all businesses in the city under a single site. It aims to be the site of the On-line Business Community for Marikina. In addition, the city offers Leadership Training for aspiring entrepreneurs particularly those interested to engage in the shoe industry, in which Marikina is known for.

As investment incentives, the city of Caloocan offers local tax holidays, exemption from certain fees and guarantees to investors engaging in activities aligned with the city’s priority projects. In addition, the city government entices foreign investors, wishing to establish Industrial Estates in Caloocan, with necessary assistance and arrangements with local land owners for possible joint ventures. Accordingly, more than 15 square kilometers of prime but vacant urban lands are being made available in Caloocan. For its part, Mandaluyong City is providing information on the investment potentials in the city through its website, though specific programs for investors were not cited.

In terms of the LGUs contiguous to Metro Manila, it was learned that the Province of Laguna is also aggressively marketing to investors. It has featured the Laguna Investment Promotion Bureau in its website. This entity was established in 1991 as a joint project of the Laguna Chamber Of Commerce and Industry, the Provincial Office of the Department of Trade and Industry, the German Confederation of Small Business and Skilled Crafts (ZDH) and Ayala Land, Inc., and located it at the Makati Central Business District. It serves as a one-stop shop for first-time investors wanting to do business in Laguna. It has a ready source of information on national and local government statutes as well as on trade producers and boasts of a computerized database containing information on large, medium and small business establishments in Laguna. In addition, the agency networks with foreign embassies/trade consulates and government agencies to assist local and foreign investors through business matching and trade promotions, as well as by providing business-related basic information on Laguna. The province's website serves as the gateway to crucial information about the province and the municipalities in its jurisdiction. It also displays procedures and requirements for establishing businesses in Laguna and provides information on possible business opportunities. Cavite Province meanwhile, provides limited information on business opportunities in its website identifying only key priority sectors for investments namely, electronics and semi-conductors; data processing and software management; IT such as computer design & manufacture; automotive parts manufacturing; food processing; agribusiness; engineering services; infrastructure: airports, seaports, highways, bridges, water and telecommunications; shipbuilding; and, tourism. In the province's 12-point agenda, livelihood and entrepreneurship development and investment promotion in the tourism sector were incorporated.

1.4.8. Agglomeration Factors

Compared to other regions in the Philippines, Metro Manila or indeed, Greater Manila Area can be considered a magnet for firms and investments. The so called economic fundamentals are present with the nature and level of physical infrastructure available, the size of the local market as measured by the GRDP, proximity to political and business decision making structures, and availability of a well-educated workforce.

Add to these the enabling environment arising from industrial policies such as openness to trade, liberalization of foreign investment, strong financial infrastructure, investment incentives offered, and availability of industrial and economic zones that facilitate ease of doing business and scale economies. The region also has the most modern LGUs and the more progressive local chief executives that have forward looking stance in terms of strategies for local economic development. The prevalence of business and industry association as another push factor as their presence signals the possibility of closer networking, availability of business development services, and synergy among similar-minded firms. It also ensures that the firm would have a voice or representation in decision making processes.

However, there are also disagglomeration factors present that may be acting as deterrent for some firms to fully engage in the region. For one, some of the region's infrastructure is dated like its sewerage system, contributing to flooding when strong rains come. The high cost of electricity is another centrifugal force that pulls the interest of firms away from investing in the area. Urban congestion is another that has led to traffic gridlocks and proliferation of informal settlement. Moreover, based on international surveys undertaken, it was found that cost of doing business in the country is high turning away investors towards neighboring countries with more facilitative environments. In addition, the Philippine corporate tax of 35 percent is relatively high compared to those imposed in other countries.

2. RESULTS OF THE 2007 INDUSTRIAL CLUSTERING SURVEY OF PHILIPPINE BUSINESS AND INDUSTRY

The foregoing case study has presented the present stage of industrial development in the country and in the case study area, Greater Manila Area. It has shown the policy reforms that were instituted to address the three-decade long protectionist policy that had caused distortions in the economy. These reforms of openness, liberalization, privatization, investment incentives, regional dispersal of industries, and export promotion have had positive impacts to the economy in general and industrial development in particular. The industry clustering strategy most recently adopted is helping to infuse new energy and dynamism to established, fledgling and emerging industries across the country. Based on the experience of some of these clusters however were issues and gaps that should be addressed for the sake of continued cluster development. They also serve as lessons to other clusters that are still being developed. This is important as literature shows that industrial clustering is a probable driver of regional economic growth. In both the country and industry level analysis were identified factors for agglomeration and disagglomeration in terms of those forces that influences firms not to establish its presence in a certain location.

To supplement the case study and to some extent validate some of its findings, a survey of business and industry in the Philippines had been undertaken. In particular, the survey, in addition to the case study, would help determine the current structure and conditions of industrial agglomerations in the case study area; identify the nature and characteristics of the existing production networks of industrial agglomerations; elucidate the factors that influences the location decision of firms; and, determine types and sources of technological innovation undertaken by firms, among others.

The formulation of the sampling frame and the distribution of the survey instrument were commissioned to the National Statistics Office (NSO) in the last quarter of 2007. This decision was made in consideration of the NSO's established and long standing relationship with the firms in various industries in the country by virtue of

their regular conduct of census of establishments and industry surveys. The cooperation of these firms in the survey is therefore, more or less, assured with the participation of the NSO in this survey, which was named “The 2007 Industrial Clustering Survey of Philippine Business and Industry” (ICSPBI) to formalize it and lend credence to it. A brief description of the survey design is attached as Appendix III.

The total number of firms surveyed including replacements was 516. However, only 505 were considered valid responses. Over three out of five (61%) are located in the National Capital Region. One-fifth is situated in Cavite while roughly another fifth (19.6%) is in Laguna.

Table 1. Surveyed Firms by Location

Location	Number	Percent
Cavite	97	19.2%
Laguna	99	19.6%
NCR	308	61.0%
No response	1	0.2%
Total	505	100.0%

When it comes to the profile of actual respondents, we find that 22 percent are Accounting Heads, 18 percent are Accounting Officers, roughly the same percentage are Managers of various divisions in a typical corporate organization, and 10 percent are Human Resource Officers. More than 10 respondent firms each were represented by the Assistant Vice President, Supervisor, Administrative Head, Vice-President, Department Head, or Comptroller. The results indicate that though the survey instrument was addressed to the Chief Executive Officer of the firm, it is more than likely that responses are actually filled up by the staffs.

The following section will provide a detailed description of the results of the survey based on the major items in the questionnaire. The first part will focus on the profile of the respondent firms, the second part on the factors that they consider important in their choice of location for their operations, while the locus of the third part of this section would be the profile of parent companies.

2.1. Characteristics of Respondent Firms

2.1.1. Year of Business Establishment

Table 2 shows the number and proportion of firms established at various periods. The largest proportion of firms (39%) was established in the 1990s, when the economic liberalization efforts were in full swing. The current decade hosts the second largest number of firms established (14%), and this is likely to rise further until the decade's end. The 70s and the 80s have roughly the same proportion of firms established; over a quarter of the firms were established during both periods. One out of eleven firms was established in the 1960s. Only one out twenty was established in the 50s while the same number was established during the first half of the last century, prior to 1950. Interestingly, a few were established as early as the 19th century.

Table 2 Year of Establishment

Period	Number	Percent
1850-1899	2	0.40%
1900-1949	25	5%
1950-1959	25	5%
1960-1969	44	9%
1970-1979	67	13%
1980-1989	72	14%
1990-1999	199	39%
2000-2006	70	14%

2.1.2. Initial Business Activity

The two respondent firms that were founded between the periods 1850 to 1899 initially engaged in banking and insurance. Meanwhile, the initial business activities in the following period, 1900s to 1949, were more diverse but concentrated mainly in manufacturing. The same pattern can be observed in the rest of the reference periods with the largest concentration in the 90s, which could have been due to the liberalization in investments policy at that time. There were more banking activities initiated in the 60s than in the other periods, while more transportation oriented firms were founded in the 70s. Other business activities initially undertaken by firms founded in the 90s were wholesale trade, retail trade, hotels and restaurants management, and construction.

Table 3. Year of Establishment, by Major Activity / Industry

Business Activity	Period Founded							
	1850-1899	1900-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2006
Manufacturing	-	8	16	23	30	37	107	34
Utilities	-	-	-	-	1	-	2	2
Construction	-	1	3	5	6	-	12	-
Wholesale trade	-	1	3	5	6	6	16	8
Retail trade	-	2	-	1	4	10	16	5
Hotels and Restaurants	-	1	-	1	4	1	15	4
Transportation	-	4	-	1	12	5	9	2
Telecommunications	-	1	1	1	-	1	8	5
Banking and Finance	1	3	2	8	3	3	2	1
Insurance	1	3	-	1	2	1	1	-
Others	-	-	1	1	-	7	2	1

2.1.3. Capital Structure

The majority of the firms surveyed (54%) are wholly Filipino-owned. Over a quarter (26%) are wholly Foreign-owned while one fifth (20%) are Joint Ventures.

Among the foreign investors, Japan is the largest, having shares in 40 percent of firms not owned completely by Filipinos. The second largest foreign investor is the United States, having shares in 15 percent of the firms, followed by Europe with shares in 13 percent of the firms. Together, the ASEAN countries have shares in 9 percent of firms. China has interest in 7 percent of the firms while South Korea has in 6 percent. Other Asian countries have stake in 3 percent of the companies and similarly, other countries have stake in 3 percent.

When it comes to capital structure by area, it is noted that almost 200 of surveyed firms that are wholly Filipino are located in NCR, while the differential in the distribution among wholly owned foreign firms are not too wide. However, more foreign owned firms are in Cavite, which could be explained by the presence of numerous industrial estates there. Joint venture firms are mostly found in NCR as well.

Table 4. Capital Structure, by Area

Location	Capital Structure		
	100% Filipino	100% Foreign	Joint Venture
Cavite	31	52	14
Laguna	40	37	22
NCR	199	44	64

The survey results also show that out of the 256 manufacturing firms surveyed, 42 percent are with 100% foreign equity participation, 36 percent are wholly Filipino owned, while the rest at 22 percent are joint venture manufacturing firms.

2.1.4. Company Size

Table 5 shows the share of firms by the number of full-time employees during the start-up period and as of December 2006. The table shows a general trend of expansion in terms of the number of employees. Whereas during the start-up, the largest number of firms had less than 50 employees, as of 2006, the largest proportion of firms had over a hundred employees. Overall, there was a reduction in the proportion of firms employing less than a hundred personnel and an increase in the shares of various categories above 100 employees. The largest increases were those above 200 and above 500 employees. The results imply that the survey captured enterprises in the medium and large scale categories.

Table 5. Share of Firms by Number of Full-time Employees, during Start-up and As of December 2006

Number of Employees	Initial	As of December 2006
1-49	45%	13%
50-99	20%	13%
100-199	12%	18%
200-299	4%	13%
300-399	3%	9%
400-499	1%	6%
500-999	4%	13%
1000-1499	2%	6%
1500-1999	0.40%	2%
2000 and above	1%	7%

2.2. Assets

Table 6 shows the proportion of firms by the amount of assets during the start-up period and as of December 2006. The largest proportion of firms had less than one million pesos in total assets during their start-up. This was followed by those with assets

of between 1 million pesos and then by firms with assets worth between 100 million and 500 million. As of 2006, the largest proportion of firms had total assets over a billion pesos, followed by those with assets between 100 million and 500 million. The number of firms that started with this range of assets certainly jumped significantly after some periods had passed, same with those in the billion range.

Table 6. Share of Firms by Total Assets, during Start-up and As of December 2006

Total Assets	Initial		As of December 2006	
	Number	Percent	Number	Percent
Less than 1M	108	21%	15	3%
1M - less than 5M	69	14%	35	7%
5M - less than 10M	45	9%	27	5%
10M - less than 15M	29	6%	12	2%
15M - less than 20M	20	4%	17	3%
20M - less than 50M	42	8%	39	8%
50M - less than 100M	35	7%	53	10%
100M- less than 500M	55	11%	111	22%
500M - less than 1B	19	4%	56	11%
1B and above	28	6%	132	26%
NR/Missing	55	11%	7	1%
Total	505	100%	505	100%

2.3. Paid-Up Capital

The largest proportion of firms (27%) had a paid-up capital of less than P1 Million during their start-up. In 2006, however, the largest proportion of firms (19%) had paid-up capital of over P100 Million. Most firms (53%) had less than P10 Million in paid-up capital during their start-up. In 2006, most firms (59%) have over P20 Million in paid-up capital. Table 7 shows the complete breakdown of firms by paid-up capital during start-up and as of December 2006.

Table 7. Number and Proportion of Firms by Paid-Up Capital, during Start-up and as of December 2006

Paid-Up Capital	Initial		As of December 2006	
	Number	Percent	Number	Percent
Less than 1M	134	27%	33	7%
1M - less than 5M	90	18%	68	13%
5M - less than 10M	46	9%	35	7%
10M - less than 15M	28	6%	32	6%
15M - less than 20M	16	3%	26	5%
20M - less than 50M	48	10%	49	10%
50M - less than 100M	22	4%	57	11%
100M- less than 500M	37	7%	97	19%
500M - less than 1B	10	2%	37	7%
1B and above	14	3%	55	11%
NR/Missing	60	12%	16	3%
Total	505	100%	505	100%

2.4. Main Business Activity

Majority (51%) of the surveyed firms are engaged in manufacturing. Each of the other industries has less than 10 percent representation. For instance, 9 percent of the firms undertake wholesale trade while 8 percent engage in retail trade. There are 7 percent of surveyed firms in transportation while 5 percent are into hotels and restaurants and another 5 percent are into banking and finance. Construction is being undertaken by 4 percent of firms, while 3 percent are involved in telecommunications. Meanwhile, 2 percent of the firms are engaged in insurance and 1 percent maintains utilities. Another 2% are classified elsewhere.

Table 8. Main Business Activity

Main Business Activity	Number	Percent
Manufacturing	256	51%
Utilities	5	1%
Construction	18	4%
Wholesale trade	45	9%
Retail trade	38	8%
Hotels and Restaurants	26	5%
Transportation	33	7%
Telecommunications	17	3%
Banking and Finance	23	5%
Insurance	9	2%
Others	12	2%
No Response	23	5%
Total	505	100%

2.5. Products

Five (5) products dominate the production of the 265 manufacturing firms, each one engaging over 10 percent of firms, and together 60 percent of the firms. These are electronics and electronics equipment (produced by 14% of total manufacturing firms), textiles, wearing apparel and leather (13%) and chemicals, chemical and plastic products, and rubber (12%), automobiles and automobile parts (11%) and food, beverages and tobacco (11%). Six (6) other products are produced by 30 percent of the firms, each one produced by less than 10 percent but at least 4 percent of the firms. These include fabricated metal products (8%), machinery, equipment and tools (5%), computer and computer parts (5%), paper, paper products, printing and publishing (4%), other non-metallic mineral products (4%), and iron and steel (4%). Five (5) remaining products are produced by only 10 percent of firms, each one with less than 4 percent representation including wood and wood products (3%), precision instruments (2%), other transportation equipment and parts (2%), coke and refined petroleum (2%) and non-ferrous metals (1%).

Table 9. Major Products of Surveyed Firms

	Number	Percent
Food, beverages and tobacco	29	11%
Textiles, wearing apparel and leather	34	13%
Wood and wood products	7	3%
Paper, paper products, printing and publishing	11	4%
Coke and refined petroleum	4	2%
Chemicals, chemical and plastic products, and rubber	31	12%
Other non-metallic mineral products	11	4%
Iron and steel	11	4%
Non-ferrous metals	3	1%
Fabricated metal products	22	8%
Machinery, equipment and tools	13	5%
Computer and computer parts	13	5%
Other electronics and electronics equipment	36	14%
Precision instruments	6	2%
Automobile and autoparts	29	11%
Other transportation equipment and parts	5	2%
Total	265	100%

2.6. Target Markets

The main market of most (44%) of the firms is the domestic market. The two other larger main markets are Japan (to which 11% of the products are mainly sold) and the United States (11%). Europe hosts the main market for 8 percent of the firms while the Chinese market is catered to by 6 percent. South Korea is the main market of 4 percent of firms while Singapore also represents the target market for another 4 percent of firms. The Malaysian market is targeted by only 3 percent of firms. Other ASEAN countries host 4 percent of products while other Asian countries provide the main market for 5 percent.

Table 10. Target Markets

	Philippines	Malaysia	Singapore	Other ASEAN countries	China	Japan	South Korea	Other Asian countries	Europe	United States	Total
Manufacturing	170	16	20	26	35	85	21	20	44	69	506
Utilities	5	0	0	1	0	0	0	0	0	0	6
Construction	18	0	0	0	0	0	0	0	0	0	18
Wholesale trade	41	0	2	0	1	3	0	1	2	2	52
Retail trade	38	1	1	1	1	1	1	2	1	1	48
Hotels and Restaurants	25	6	6	5	8	7	5	4	7	8	81
Transportation	32	2	3	3	4	4	2	2	2	3	57
Telecommunications	15	3	3	3	2	4	2	3	2	2	39
Banking and Finance	22	0	0	0	1	0	0	1	1	1	26
Insurance	9	0	1	1	1	0	0	0	0	0	12
Others	11	0	0	0	0	0	0	2	0	1	14
NR	21	1	2	1	2	2	1	2	1	2	35
Total	407	29	38	41	55	106	32	37	60	89	894
Percent	46%	3%	4%	5%	6%	12%	4%	4%	7%	10%	

The main market of manufactured products of over a third (34%) of the firms is the Philippines. Over a sixth (17%) goes to Japan while over one eighth (14%) are mainly sold to the United States. Less than one tenth are sold to Europe (9%) and China (7%). Less than 5 percent are brought to South Korea (4%), Singapore (4%), and Malaysia (3%). Another 5 percent are mainly sold to other ASEAN countries while some 4 percent are catered to other Asian countries.

As for utilities, 83 percent of firms mainly service the local market. The remaining 17% service other ASEAN countries. All construction firms cater to the domestic market. Almost four-fifths (79%) of the firms engaged in wholesale trade primarily sell domestically. Some cater to Japan (6%), the United States (4%), Singapore (4%), and Europe (2%). Most retail traders (79%) are domestically oriented.

Table 11. Target Markets by Main Business Activity

	Philippines	Malaysia	Singapore	Other ASEAN countries	China	Japan	South Korea	Other Asian countries	Europe	United States	Total
Manufacturing	34%	3%	4%	5%	7%	17%	4%	4%	9%	14%	100%
Utilities	83%	0%	0%	17%	0%	0%	0%	0%	0%	0%	100%
Construction	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Wholesale trade	79%	0%	4%	0%	2%	6%	0%	2%	4%	4%	100%
Retail trade	79%	2%	2%	2%	2%	2%	2%	4%	2%	2%	100%
Hotels and Restaurants	31%	7%	7%	6%	10%	9%	6%	5%	9%	10%	100%
Transportation	56%	4%	5%	5%	7%	7%	4%	4%	4%	5%	100%
Telecommunications	38%	8%	8%	8%	5%	10%	5%	8%	5%	5%	100%
Banking and Finance	85%	0%	0%	0%	4%	0%	0%	4%	4%	4%	100%
Insurance	75%	0%	8%	8%	8%	0%	0%	0%	0%	0%	100%
Others	79%	0%	0%	0%	0%	0%	0%	14%	0%	7%	100%

2.7. Sources of Raw Materials

Across industries, most firms (38%) source their raw materials locally. Japan is the largest external source of raw materials, providing for 14 percent of firms, followed by China (11%). The United States is the main source of raw materials for 8 percent of firms, Europe for 7 percent and Singapore for another 7 percent. Malaysia, South Korea, other ASEAN countries, and other Asian countries each mainly provide for 4% of firms.

Table 12. Source of Raw Materials

	Philippines	Malaysia	Singapore	Other ASEAN countries	China	Japan	South Korea	Other Asian countries	Europe	United States	Total
Manufacturing	156	31	41	30	66	101	30	26	37	48	566
Utilities	5	0	0	0	0	0	0	0	0	0	5
Construction	17	0	2	0	2	1	0	0	0	0	22
Wholesale trade	34	2	5	2	7	9	3	4	7	5	78
Retail trade	32	1	2	2	3	5	1	1	3	5	55
Hotels and Restaurants	25	1	1	0	4	2	2	2	2	4	43
Transportation	24	0	3	0	2	5	0	0	6	3	43
Telecommunications	6	1	0	0	4	2	0	1	3	4	21
Banking and Finance	15	0	0	0	0	0	0	0	0	0	15
Insurance	6	0	0	0	0	0	0	0	0	0	6
Others	10	1	1	0	1	0	0	1	1	0	15
Total	330	37	55	34	89	125	36	35	59	69	869
Percent	38%	4%	6%	4%	10%	14%	4%	4%	7%	8%	

The Philippines, Japan and China dominate the provision of raw materials for manufacturing, providing 28 percent, 18 percent and 12 percent, respectively. Outside of the Philippines, Japan, China and Europe are the other major suppliers of raw materials for wholesale trade, while Japan and the United States provide for the most number of firms in retail trade apart from the local supply. Hotels and restaurants resort to China and the United States for raw materials supply, second only to domestic sources. Europe and Japan are the second largest foreign suppliers of raw materials needs for transportation, next to the Philippines.

Table 13. Source of Raw Materials by Main Business Activity

	Philippines	Malaysia	Singapore	Other ASEAN countries	China	Japan	South Korea	Other Asian countries	Europe	United States	Total
Manufacturing	28%	5%	7%	5%	12%	18%	5%	5%	7%	8%	100%
Utilities	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Construction	77%	0%	9%	0%	9%	5%	0%	0%	0%	0%	100%
Wholesale trade	44%	3%	6%	3%	9%	12%	4%	5%	9%	6%	100%
Retail trade	58%	2%	4%	4%	5%	9%	2%	2%	5%	9%	100%
Hotels and Restaurants	58%	2%	2%	0%	9%	5%	5%	5%	5%	9%	100%
Transportation	56%	0%	7%	0%	5%	12%	0%	0%	14%	7%	100%
Telecommunications	29%	5%	0%	0%	19%	10%	0%	5%	14%	19%	100%
Banking and Finance	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Insurance	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Others	67%	7%	7%	0%	7%	0%	0%	7%	7%	0%	100%

2.8. Functions Carried Out

The functions carried out by companies are generally unchanged since their establishment. Only in a few functions did the proportion of firms change, and the changes were minimal. These functions are production of final products (at 19%, down from 20%), production of components and parts (10%, up from 9%), purchasing/procurement/logistics (6%, down from 7%), banking and financial services (3%, down from 5%), research and development (3%, up from 2%) and financial information system (3%, up from 2%).

Table 14. Functions carried out by companies, Current and Initial

	Current	Initial
Production (final products)	19%	20%
Production (components and parts)	10%	9%
Wholesale trade	10%	10%
Production (raw material processing)	8%	8%
Retail trade	8%	8%
Purchasing/procurement/logistics	6%	7%
Transport services	6%	6%
Human resources development	5%	5%
Inventory management	5%	5%
Hotels and Restaurant services	3%	3%
Banking and financial services	3%	5%
Research and development	3%	2%
Construction	3%	3%
Financial information system	3%	2%
Production/distribution of electricity, gas and water	2%	2%
Telecommunications services	2%	2%
Auditing services	2%	2%
Insurance activities	1%	2%

2.9. Important Factors for Locating in Greater Manila Area

The firms were first asked to identify the level of importance of at least 20 factors that had influenced the decision of the firms to locate their operations in the region. Afterwards, they were requested to indicate the three most important factors out of the 20. Survey results show that respondent firms found the following as the topmost important factors, size of local markets, investment incentives (including tax incentives), and physical infrastructure (roads, highways, ports, airports, etc.). The market size has traditionally been an important determinant of foreign investments as well as physical infrastructure. However, investment incentives were not found to be significantly affecting the location decision of firms based on some empirical studies.

These factors primarily regarded by investors are the main stimulants in the firms' decision to locate their operations in GMA are consistent with the earlier discussion that given the critical role of GMA as center for economic, social, political, and administrative activities, Metro Manila and the immediately surrounding areas, have a

market size relatively large when compared to other regions of the country. More advanced physical infrastructure could also be found in the core region comprising GMA.

Meanwhile, those factors that are regarded as second most important factors are physical infrastructure (roads, highways, ports, airports, etc.), availability of skilled labor and professionals, and other infrastructure (electricity, water supply, other utilities). Also considered as second most important are ICT infrastructure (telecommunications, IT) and size of local markets.

Among the factors identified as the third most important are availability of skilled labor and professionals, physical infrastructure (roads, highways, ports, airports, etc.), infrastructure (electricity, water supply, other utilities), availability of low cost labor (8%), and ICT infrastructure (telecommunications, IT).

In sum, it can be regarded that the most important factors influencing firms to locate in GMA are market size; investment incentives; infrastructures whether physical, utilities support or ICT; and availability of low cost as well as skilled labor and professionals. The status of the banking system and financial structure has also been well regarded. Interestingly, government institutional infrastructure did not enter the list of more important factors.

Table 15. Number and Share of Firms by Most Important Factors for Locating in GMA

Factors	First		Second		Third	
	Number	Percent	Number	Percent	Number	Percent
Investment incentives including tax incentives	105	21%	31	6%	31	6%
Liberal trade policy	17	3%	25	5%	23	5%
Customs procedure	5	1%	14	3%	11	2%
Local content requirements, rules of origin	7	1%	6	1%	6	1%
Physical infrastructure (roads, highways, ports, airports, etc.)	53	11%	57	11%	54	11%
Infrastructure (telecommunications, IT)	19	4%	46	9%	36	7%
Infrastructure (electricity, water supply, other utilities)	28	6%	51	10%	53	11%
Government institutional infrastructure	8	2%	7	1%	12	2%
Financial structure/Banking system	31	6%	28	6%	26	5%
Legal system	0	0%	6	1%	0	0%
Protection of intellectual property rights	4	1%		0%	9	2%
Size of local markets	111	22%	40	8%	32	6%
Access to export markets	11	2%	20	4%	16	3%
Proximity to suppliers/subcontractor	16	3%	32	6%	23	5%
Request by large/related company	7	1%	8	2%	14	3%
Availability of low cost labor	24	5%	35	7%	42	8%
Availability of skilled labor and professionals	20	4%	56	11%	64	13%
Presence of other companies from the same country as this company (synergy)	5	1%	9	2%	10	2%
Access to high value technology and information	5	1%	16	3%	20	4%
Living conditions	0	0%	0	0%	0	0%
Others	15	3%	2	0%	1	0%
No response	11	2%	13	3%	17	3%
Total	502	100%	502	100%	500	100%

2.10. Innovations

Among the top three innovations undertaken during the last 3 years were the introduction of new products and services (18%), upgrading of machineries and equipment (17%), and opening of a new market (15%). These innovations are also among those that were identified to be undertaken in the next three years, with upgrading of machineries and equipment identified as topmost (17%) followed by introduction of new products and services (16%) and opening of a new market (15%).

Table 16. Share of Firms by Innovation in the Last 3 Years and the Next 3 Years

Innovations	Last 3 Years		Next 3 Years	
	Number	Percent	Number	Percent
1 Introduction of new products and services	389	18%	387	16%
2 Adoption of new method of production	277	13%	294	12%
3 Opening of a new market	314	15%	355	15%
4 Acquisition of a new source of supply of raw materials and supplies	283	13%	302	13%
5 Outsourcing a major production activity that was previously conducted in-house	141	7%	175	7%
6 In-house major production activity that was previously or currently outsourced	121	6%	146	6%
7 Upgrading of machineries and equipment	363	17%	398	17%
8 Marketing of products and services/ purchase of materials and supplies thru internet	224	11%	297	13%
Total	2112	100%	2354	100%

A slightly different pattern however, can be observed among the types of innovation undertaken by major business activity. Those firms which have undergone the most innovations are those engaged in manufacturing, wholesale trade, retail trade, hotels and restaurant, and transportation. While firms engaged in manufacturing have mostly introduced new products and services, upgrading of machineries and equipment, adoption of new method of production, and acquisition of a new source of supply of raw materials and supplies, those into wholesale trade introduced new products and services, opened up new markets, upgraded machineries and equipment, and marketed products and services or purchased materials and supplies thru Internet. Firms engaged in retail trading followed the same pattern as the former.

2.11. Source of Technology

Survey results show that the main source of technology is the firms themselves (22%). This is followed by the technology transferred from MNCs (14%) presumably arising from their linkages with them. Apart from these, technical cooperation with or the assistance from local companies such as business organizations, other local companies and from foreign agencies as well are also important sources of information and technology. It will be noted though that there are relatively lesser degrees of technological linkages with other local institutions, namely, local government, academic institutions and R&D agencies.

Table 17 Share of Technology Source as Percentage of Total

Source of Technology	Number	Percent
1 Developed by own company	359	22%
2 Technology transfer from multinational companies	231	14%
3 Technical cooperation with (or assistance from) local business organization	209	13%
4 Technology transfer from or cooperation with local companies	201	13%
5 Technical assistance from foreign agencies	194	12%
6 Technical cooperation with (or assistance from) local government	131	8%
7 Joint Venture	108	7%
8 Technical cooperation with (or assistance from) local university or R&D institutes	86	5%
9 Technical cooperation with (or assistance from) foreign university or R&D institutes	78	5%
Total	1597	100%

2.12. Expansion Plan in GMA

About a quarter of the firms revealed their plans to expand their operations in GMA in the next 3 years (24%). Meanwhile, over a fifth expressed the likelihood of expansion. However, 9 percent of the firms are not likely to expand in the near future, while 37 percent are still uncertain when it comes to their expansion plans.

Table18. Share of Firms by Probability of Expansion

	Number	Percent
Yes	122	24%
Probably Yes	108	21%
Not Sure	186	37%
Probably Not	45	9%
Not at all	37	7%
No Response	7	1%
Total	505	100%

2.13. Important Factors for continued operation / expansion in GMA

The firms were asked to identify the three most important factors that would serve as determinants of their future decision to continue their operations in GMA or to expand. Among those identified as the primary factors, size of local markets is considered by the greatest number (31% of firms) to be most important. Investment incentives (including tax incentives) are considered by 19 percent to be most important

while 13 percent of firms identified physical infrastructure (roads, highways, ports, airports, etc.) in the same weight. It will be noted that these factors generally follows the pattern from the factors considered most important by the surveyed firms that have influenced their decision to locate their operations in GMA.

Among the second most important factors identified, infrastructure (electricity, water supply and other utilities) was considered by 13 percent of the firms. Among those that provided responses, 12 percent pointed to the availability of skilled labor and professionals as an important consideration, while 11 percent of the firms identified physical infrastructure (roads, highways, ports, airports, etc.) as part of the group regarded as second most important.

As for the third most important factor, availability of skilled labor and professionals was identified by 17 percent of the firms while physical infrastructure (roads, highways, ports, airports, etc.) was identified 13 percent. Also, ICT infrastructure was also given this weight of importance by 9 percent of the firms.

To summarize, the surveyed firms consider the size of the local markets as the top most factor that would influence their continuation and expansion plans, followed by infrastructure in terms of utilities, categorized as second most important, and finally, availability of skilled labor and professionals as third most crucial factor.

Table 19. Share of Firms by Most Important Factors for Continuation of Operation/ Expansion

Factors	First		Second		Third	
	Number	Percent	Number	Percent	Number	Percent
Investment incentives including tax incentives	55	19%	13	5%	16	6%
Liberal trade policy	4	1%	10	3%	4	1%
Customs procedures	4	1%	6	2%	9	3%
Local content requirements, rules of origin	5	2%	4	1%	2	1%
Physical infrastructure (roads, highways)	36	13%	31	11%	36	13%
Infrastructure (telecommunications, IT)	7	2%	24	8%	24	9%
Infrastructure (electricity, water supply)	15	5%	36	13%	21	8%
Government institutional infrastructure	6	2%	4	1%	5	2%
Financial structure/banking system	15	5%	24	8%	20	7%
Legal system	4	1%	6	2%	5	2%
Protection of intellectual property rights	2	1%	3	1%	2	1%
Size of local markets	90	31%	19	7%	18	6%
Access to export markets	6	2%	12	4%	3	1%
Proximity to suppliers/subcontractors	2	1%	11	4%	14	5%
Request by large/related company	4	1%	3	1%	9	3%
Availability of low cost labor	12	4%	22	8%	19	7%
Availability of skilled labor and professionals	8	3%	33	12%	46	17%
Presence of other companies from the same country as this company (synergy)	2	1%	9	3%	4	1%
Access to high value technology and information	2	1%	5	2%	6	2%
Standard of living	3	1%	9	3%	14	5%
Others	6	2%	2	1%	1	0%
Total	288	100%	286	100%	278	100%

For the manufacturing firms which provided responses to this question, 34 percent would put foremost consideration to investment incentives, including tax incentives, followed by size of local markets (22% of the firms) and by both physical infrastructure and utilities (10% each). On the top of the list of factors given secondary weight by manufacturing firms is the availability of skilled labor and professionals, while topmost in the third most important category is physical infrastructure.

Table 20. Most Important Factors for Continuation of Operation/ Expansion for Manufacturing Firms

Factors	First		Second		Third	
	Number	Percent	Number	Percent	Number	Percent
1. Investment incentives including tax incentives	46	34%	8	6%	4	3%
2. Liberal trade policy	2	1%	9	7%	2	2%
3. Customs procedures	0	0%	2	1%	8	6%
4. Local content requirements, rules of origin	2	1%	1	1%	1	1%
5. Physical infrastructure (roads, highways)	14	10%	13	10%	16	12%
6. Infrastructure (telecommunications, IT)	1	1%	10	7%	9	7%
7. Infrastructure (electricity, water supply)	13	10%	18	13%	11	8%
8. Government institutional infrastructure	1	1%	0	0%	0	0%
9. Financial structure/banking system	3	2%	7	5%	10	8%
10. Legal system	1	1%	2	1%	1	1%
11. Protection of intellectual property rights	0	0%	2	1%	2	2%
12. Size of local markets	30	22%	7	5%	5	4%
13. Access to export markets	5	4%	8	6%	2	2%
14. Proximity to suppliers/subcontractors	2	1%	4	3%	6	5%
15. Request by large/related company	3	2%	0	0%	3	2%
16. Availability of low cost labor	8	6%	15	11%	15	11%
17. Availability of skilled labor and professionals	4	3%	19	14%	26	20%
18. Presence of other companies from the same country as this company (synergy)	0	0%	4	3%	3	2%
19. Access to high value technology and information	1	1%	3	2%	0	0%
20. Standard of living	0	0%	2	1%	8	6%
21. Others	0	0%	1	1%	1	1%
22. Total	136	100%	135	100%	133	100%

2.14. Level of Satisfaction with Factors for Continuation/Expansion of Operations

The respondents were also asked to indicate their level of satisfaction with the same set of factors considered to affect locational decisions of firms. The results are fairly spread out among the twenty factors particularly found to be very satisfactory by the firms. Nevertheless, the top four factors where the firms are very satisfied with are the financial sector/banking system prevailing, the availability of skilled labor and professionals, size of local markets, and existence of infrastructure for utilities. The top factors where the firms are only somewhat satisfied include proximity to suppliers/subcontractors, the financial structure/banking system and those that pertain to infrastructures such as physical infrastructure, telecommunications, and utilities. Living conditions was also adjudged as somewhat satisfactory. Meanwhile, firms are unsure whether they are satisfied or not with factors such as local content requirements request by large/related company and presence of other companies from the same country. This

could be due to lack of familiarity of the concepts behind the factors or non-applicability of the particular factor to their context. Firms also could not make up their mind if they are satisfied or not with liberal trade policy and customs procedure. Interestingly, there are more firms that are only somewhat satisfied with investment incentives prompting the question of whether this is due to inadequacy of the incentives or difficulty in availing them.

Table 21. Satisfaction Level

	Very Satisfied		Somewhat Satisfied		Not Sure	
	Number	Percent	Number	Percent	Number	Percent
Investment incentives including tax incentives	48	4.5%	110	4.5%	57	5.2%
Liberal trade policy	30	2.8%	97	4.0%	80	7.3%
Customs procedure	29	2.7%	90	3.7%	73	6.6%
Local content requirements, rules of origin	32	3.0%	100	4.1%	89	8.1%
Physical infrastructure (roads, highways, ports, airports, etc.)	60	5.6%	141	5.8%	25	2.3%
Infrastructure (telecommunications, IT)	70	6.5%	143	5.8%	33	3.0%
Infrastructure (electricity, water supply, other utilities)	80	7.5%	141	5.8%	26	2.4%
Government institutional infrastructure	45	4.2%	124	5.1%	61	5.6%
Financial structure/Banking system	84	7.9%	143	5.8%	30	2.7%
Legal system	38	3.6%	125	5.1%	66	6.0%
Protection of intellectual property rights	51	4.8%	111	4.5%	68	6.2%
Size of local markets	80	7.5%	124	5.1%	42	3.8%
Access to export markets	50	4.7%	114	4.6%	60	5.5%
Proximity to suppliers/subcontractor	58	5.4%	155	6.3%	36	3.3%
Request by large/related company	38	3.6%	100	4.1%	88	8.0%
Availability of low cost labor	52	4.9%	133	5.4%	46	4.2%
Availability of skilled labor and professionals	81	7.6%	136	5.5%	33	3.0%
Presence of other companies from the same country as this company (synergy)	39	3.6%	97	4.0%	86	7.8%
Access to high value technology and information	53	5.0%	131	5.3%	54	4.9%
Living conditions	51	4.8%	137	5.6%	46	4.2%
Total	1069	100.0%	2452	100.0%	1099	100.0%

2.15. Expansion in Other Parts of the Philippines

Two-thirds of the firms are either definitely expanding or are very likely to expand to other areas other than their present location (66% of the firms). The other third are uncertain of whether to expand elsewhere (33%).

Table 22. Share of Firms by Probability of Expansion elsewhere in the Country

	Number	Percent
Yes	119	24%
Probably Yes	211	42%
Not Sure	168	33%
No Response	7	1%
Total	505	100%

It is also interesting to note the responses of the firms by main business activity to generate information on the types of firms that could be expected to expand operations in other parts of the country as it augurs well for the dispersion of economic activities. From the table below, it is observed that majority of the manufacturing firms surveyed are likely to expand locally (55%), while those engaged in telecommunications partly share the same perception (35%). Among the firms which are sure of their local expansion plans, include those engaged in utilities, retail trade, hotels and restaurants, banking and finance, and insurance. Meanwhile, those that are not sure at this point are firms in construction, wholesale trade and transportation.

Table 23. Share of Firms by Probability of Expansion elsewhere in the Country by Main Business Activity

Business Activity	Yes		Probably Yes		Not Sure		No Response	Total
	Number	Percent	Number	Percent	Number	Percent	Number	
Manufacturing	32	13%	141	55%	80	31%	3	256
Utilities	4	80%	0	0%	1	20%	0	5
Construction	3	17%	3	17%	11	61%	1	18
Wholesale trade	10	22%	17	38%	18	40%	0	45
Retail trade	15	39%	10	26%	13	34%	0	38
Hotels and Restaurants	11	42%	9	35%	6	23%	0	26
Transportation	9	27%	9	27%	13	39%	2	33
Telecommunications	5	29%	6	35%	6	35%	0	17
Banking and Finance	15	65%	5	22%	3	13%	0	23
Insurance	6	67%	1	11%	2	22%	0	9
Others	3	25%	4	33%	4	33%	1	12
NR/Missing	6	26%	6	26%	11	48%	0	23
Total	119		211		168		7	505

2.16. Expansion Outside the Philippines

About one in eight firms have plans of expanding outside the country (11% of firms). Roughly another five out of eight are also likely to expand outside the country (55%). The rest are not sure of external expansion (32%).

Table 24. Share of Firms by Probability of Expansion outside the Country

	Number	Percent
Yes	55	11%
Probably Yes	280	55%
Not Sure	161	32%
No response	9	2%
Total	505	100%

When it comes to type of business activity, survey results show that 55 percent of manufacturing firms are likely to expand their operations outside of the Philippines, with firms engaged in wholesale trade, retail trade, hotels and restaurants, transportation, telecommunications, banking and finance, and insurance sharing the same probability at 58 percent, 63 percent, 69 percent, 67 percent, 41 percent, 43 percent, and 56 percent, respectively.

Table 25. Share of Firms by Probability of expansion outside the country by Main Business Activity

Business Activity	Yes		Probably Yes		Not Sure		No Response	Total
	Number	Percent	Number	Percent	Number	Percent	Number	
Manufacturing	20	8%	142	55%	90	35%	4	256
Utilities	1	80%	3	60%	1	20%	0	5
Construction	3	17%	5	28%	8	44%	2	18
Wholesale trade	4	9%	26	58%	14	31%	1	45
Retail trade	1	3%	24	63%	13	34%	0	38
Hotels and Restaurants	5	19%	18	69%	3	12%	0	26
Transportation	4	12%	22	67%	7	21%	0	33
Telecommunications	4	24%	7	41%	5	29%	1	17
Banking and Finance	8	35%	10	43%	5	22%	0	23
Insurance	3	33%	5	56%	1	11%	0	9
Others	1	8%	5	42%	5	42%	1	12
No Response	1	4%	13	57%	9	39%	0	23
Total	55		280		161		9	505

Meanwhile, among those who plan to expand abroad, the greatest proportion (31%) is most likely to expand to Cambodia, Laos, Myanmar, or Vietnam. Almost one fifth are likely to expand to China. About another fifth may expand to Brunei, Indonesia, Malaysia, Singapore, and Thailand. Another fifth are likely to expand to other Asian countries.

Table 26. Share of Firms by Location of Expansion Abroad

	Number	Percent
ASEAN Except CMLV & RP	12	18%
CLMV	20	31%
China	12	18%
Japan	1	2%
Other Asian	13	20%
Others	7	11%
Total	65	100%

2.17. Parent Company

Out of the 505 firms, 43% (or 49% of those with response) are affiliated to a parent company. Meanwhile, 46% (or 51% of those with response) have no parent company.

Table 27. Share of Firms by Affiliation to Parent Company

	Number	Percent
Yes	218	43%
No	231	46%
No response	56	11%
Total	505	100%

Looking at the survey results by main business activity, it is observed that majority of the manufacturing and telecommunications firms have parent companies. Three out of 4 utility companies have similar affiliations, same with 4 out of 7 construction firms. Firms engaged in the financial sectors mostly have parent companies.

Table 28. Share of Firms with Parent Company by Business Activity

Business Activity	Yes		No		Total
	Number	Percent	Number	Percent	
Manufacturing	125	52%	115	48%	240
Utilities	3	75%	1	25%	4
Construction	4	57%	3	43%	7
Wholesale trade	16	36%	28	64%	44
Retail trade	14	37%	24	63%	38
Hotels and Restaurant	7	30%	16	70%	23
Transportation	10	31%	22	69%	32
Telecommunications	8	53%	7	47%	15
Banking and Finance	7	70%	3	30%	10
Insurance	7	88%	1	13%	8
Others	4	80%	1	20%	5

Based on a total of 219 responses, majority (62%) of the parent companies are 100% Foreign-owned. A quarter is purely Filipino-owned. About one in every eight parent companies is a joint venture.

Table 29. Share of Parent Companies by Capital Structure

	Number	Percent
100% Filipino-Owned	54	25%
100% Foreign-owned	136	62%
Joint Venture	29	13%
Total	219	100%

Looking at the results more closely, particularly when it comes to the parent company's capital structure by main business activity, it is noted that most of the manufacturing firms' parent companies are wholly foreign owned (82%), while the majority of hotels and restaurants share the same affiliation (57%). Meanwhile, majority of the parent companies of firms into retail trade (63%) and transportation (55%) are 100 percent Filipino owned.

Table 30. Capital Structure of Parent Company by Main Business Activity

Business Activity	100% Filipino		100% Foreign		Joint Venture		Total
	Number	Percent	Number	Percent	Number	Percent	
Manufacturing	11	9%	103	82%	11	9%	125
Utilities	1	33%	1	33%	1	33%	3
Construction	2	50%	2	50%	0	0%	4
Wholesale trade	7	44%	6	38%	3	19%	16
Retail trade	8	62%	4	31%	1	8%	13
Hotels and Restaurants	2	29%	4	57%	1	14%	7
Transportation	6	55%	2	18%	3	0%	11
Telecommunications	2	25%	2	25%	4	50%	8
Banking and Finance	3	50%	2	33%	1	17%	6
Insurance	3	43%	2	29%	2	29%	7
Others	3	60%	1	20%	1	20%	5

The largest proportion (almost half) of non-Filipino investors among parent companies is Japanese in terms of nationality. This is followed by Americans, comprising about a fifth of non-Filipino investors in parent companies. About one in seven non-Filipino investors is European. It is also noted that 8 percent of non-Filipino investors are from ASEAN, 7 percent are from East Asia while another 2 percent are from other Asian countries.

Table 31. Share of Parent Company's Non-Filipino Investor by Nationality

	Number	Percent
Malaysia	3	2%
Singapore	5	3%
Other ASEAN	3	2%
China	6	4%
Japan	76	48%
S. Korea	5	3%
Other Asian	3	2%
Europe	22	14%
US	31	19%
Others	6	4%
Total	160	100%

The largest proportion of parent companies (one-third) has at least 2000 employees. About one-fifth has 500 employees or more. Over one-fourth has at least 100 employees but less than 500. Over one-fifth has less than 100 employees, mostly less than 50.

Table 32. Share of Parent Company by Number of Employees

	Number	Percent
1-49	25	17%
50-99	6	4%
100-199	19	13%
200-299	10	7%
300-399	6	4%
400-499	3	2%
500-999	15	10%
1000-1499	8	6%
1500-1999	4	3%
2000 and above	47	33%
Total	143	100%

Majority (56%) of the parent companies have total assets of 1 billion pesos or more. Less than one-fourth (23%) has at least 100 million pesos worth of assets but less than 1 billion. The rest, roughly one-fifth, have less than 100 million pesos in assets.

Table 33. Share of Parent Companies by Total Assets as of December 2006

Philippine currency	Number	Percent
Less than 1M	1	1%
1M - less than 5M	4	3%
5M - less than 10M	7	5%
10M - less than 15M	1	1%
15M - less than 20M	6	4%
20M - less than 50M	3	2%
50M - less than 100M	6	4%
100M- less than 500M	20	15%
500M - less than 1B	11	8%
1B and above	76	56%
Total	135	100%

3. POLICY ISSUES

Given the assertions that thriving industrial agglomerations have the potential to drive regional and national economic growth, it becomes imperative that the policy and institutional environment where they are situated in are supportive and conducive for their growth. The major policy areas that were earlier discussed have effects, in one way or another, to how industrial agglomerations develop and evolve. Most crucial of these is their ability to influence the decisions of firms to set up their operations in the particular area and stimulate them to maintain their investments to continue and even expand operations. The set of factors that were included in the survey questionnaire represents such types of policy actions (investment incentives, liberal trade policy, local content requirements, access to export markets) as well as the economic and social characteristics that define a particular area (infrastructure, size of local markets, proximity to suppliers/subcontractors, availability of low cost labor, availability of skilled labor and professionals, access to high value technology and information, standard of living), the organizational structures that prevail (customs procedures, government institutional infrastructure, protection of intellectual property rights), and the institutions that are on hand (financial structure/banking system, legal system). Evidently, based on studies on the determinants of FDI inflows these factors are indeed able to influence location decisions in varying degrees of significance.

In the case of the Philippines, past studies point to the general policy of openness in relation to trade liberalization and foreign exchange deregulation; strong macroeconomic fundamentals; economic recovery; and political stability as the factors that increased confidence of foreign investors in the country in the 1990s (Austria, 1998). Aldaba (1995) found a strong positive correlation between FDI inflows and trade policy; significant positive relationships between FDIs and the stock of public investment (as proxy for infrastructure availability), real gross domestic product (measure of market size), and real effective exchange rate (proxy indicator for competitiveness with a real depreciation of the peso affecting FDI flows positively); and, significant negative relationship between FDI and political stability (as cited in Aldaba, 2006). Meanwhile, deriving insights from the results of the survey earlier presented, the most important factors influencing firms to locate in the country (as represented by Greater Manila Area) are market size; investment incentives; infrastructures whether physical, utility support or ICT; and availability of low cost as well as skilled labor and professionals. The prevailing banking system and financial structure has also been well regarded but interestingly, government institutional infrastructure was not included by the surveyed firms in the list of more important factors.

Overall Competitiveness: Affecting Industry Clustering and FDI

The World Economic Forum publishes a Global Competitiveness Report annually that guides investors and policymakers in their decision making as it allows them to compare the performance of their countries out of more than a hundred others. The 2007/2008 version of the Report places the overall ranking of the Philippines at 71 out of 131 countries. Notably, among its ASEAN neighbors, Singapore garnered the highest ranking with 7, while Malaysia was placed at 21st, Thailand was 28th, Indonesia was 54th, and Vietnam was even ahead of the Philippines at 68th. China and India even had better rankings at 34th and 48th places, respectively. The rankings are arrived at based on a competitiveness index comprised of three sub-indices: basic requirements that cover institutions, infrastructure, macroeconomic stability, and health and primary education; efficiency enhancers that include higher education and training, goods market efficiency, labor market efficiency, financial market sophistication, technological

readiness, and market size; and, innovation and sophistication factors encompassing business sophistication and innovation. Under the sub-index on basic requirements, the Philippines was ranked 93 out of 131 countries. Its place was better under the sub-index on efficiency enhancers garnering the rank of 60, while it ranked 65th on the sub-index on innovation and sophistication factors.

Cost and Ease of Doing Business

The latest report of the World Bank on the cost and ease of doing business across countries paints a bleak picture on the Philippines. The Philippines received one of the three lowest ranks when it comes to ease of doing business coming in at 133, before Cambodia at 145. This is out of 178 countries measured. Not surprisingly, Singapore was ranked number 1. When it comes to number of procedures to start a business, the Philippines has the most number with 15 steps, which will take 58 days to accomplish. In terms of dealing with licenses, the country was ranked a bit better at 77th but it still takes 21 steps and 177 days to accomplish this task. As for paying taxes, the Philippines slipped again in the rankings at 126 as it takes about 195 days for a firm to complete payment of taxes. Performance is better when it comes to exporting but still ranked as one of the lowest four among other countries coming in at 57th. Documents required for exports are at an average of 8, taking 17 days to accomplish the task. The Philippines was ranked low again when it comes to enforcing contracts, which is not surprising considering that the time it takes to enforce a contract takes 842 days, the longest among all the countries in the selection.

The positioning of firms in industry clusters are to some extent, able to reduce the transaction costs of doing business. Enforcement of contracts need not entail huge costs as firms in a cluster operate primarily on repeated transactions breeding trust and social capital. Moreover, concerted action enable these firms to achieve results that each would be hard pressed to attain if individually done. However, since the clustering strategy in the Philippines is only 6 years old, growing pains are inevitable. Indeed, several common problems have already arisen on top of industry-specific issues namely weak infrastructure support and logistics; high cost of utilities; limited availability of skilled labor mainly due to migration; inadequate or low level technological capability;

and, cumbersome and costly procedures of doing business. Rather than barriers to clustering, these difficulties should be considered as challenges that collaborative action could face head on.

4. SUMMARY AND CONCLUSION

In this relatively new body of ideas dubbed “new economic geography” and “spatial economics,” we find insights on the potentials of industrial agglomeration for regional and national economic development. Perhaps, such potentials can be realized much more so if the participating firms in the clusters are able to latch on to the MNCs, which have started to concentrate on their core competencies and /or higher levels of industrial activities and are scouting for areas around the world to relocate more of their production activities. The development of these industrial agglomerations depends in large part on the ability of the region or the economy to attract inflows of investments, especially those from foreign sources and in reiteration, large firms that have established international production networks. This capacity is contingent on centripetal factors coming from the economic fundamentals of a country and the government policies that are geared towards setting up a conducive environment for investments.

The results of the mail survey were able to identify the most important among these factors in the case of the Philippines. These include market size; investment incentives; infrastructures whether physical, utility support or ICT; and availability of low cost as well as skilled labor and professionals and top some extent, the prevailing banking system and financial structure. Meanwhile, the case study of industrial development in the Philippines and industrial characteristics and concentration in Greater Manila Area had shown their present condition, the policy reforms that were instituted to address gaps, the institutional linkages prevailing, and the remaining hurdles that still need to be overcome. It has also shown that the clustering initiative is spreading as a formal and deliberate public action on the part of the government in partnership with the private sector.

The paper has also established that much still needs to be done. Though it is

encouraging that almost half of the firms surveyed have expressed the probability of expanding their operations in their present locations, the country remains to be a laggard when it comes to attracting FDIs compared with its neighbors, while its export performance has still not reached the higher levels of the other countries. Indeed, there are requisite aspects in the economic fundamentals of the country that have to be addressed. For one, availability and modernization of infrastructures is a pressing need. Apart from increasing its investments in infrastructure, rates of utilities would have to come down particularly when they are not even commensurate to the quality of the services. Macroeconomic fundamentals will have to be kept stable particularly in light of developments in the world market and the current problems in the United States. The rapid appreciation of the pesos is hurting the exporters as well as the families of overseas Filipino workers. It is likewise imperative that there is stability at the political front so that there is consistency in policies while commitments, contracts and agreements are adhered to. Scandals, political bickerings and efforts to destabilize the legitimate institutions of governance dampen the positive outlook that investors regard in the country.

Meanwhile, the investment incentives that the Philippines have been offering had actually enticed firms to locate their business in the country particularly in Metro Manila and the industrial areas in its periphery. The increasing rate of approved investments and firms actually operating in both the public and private economic zones and industrial estates is an indication that these incentives are certainly attractive to them. However, issues that pertain to the hidden costs associated with incentives in terms of foregone revenues and the recent findings of the high redundancy rate of this incentives, i.e. investments would have been carried out even without the incentives, would have to be continuously examined so further rationalization can be effected. In particular, the existence of a number of investment regimes being administered by different agencies tend to sow confusion on the part of investors, not to mention its being prone to abuse and corruption due in part to the discretion being provided to these agencies to make exemptions and grant incentives, among others. Exporters are still beset with weak backward linkages as competitive support industries are still lacking and thus, forcing them to continue importing their intermediate inputs.

The linkages between institutions producing knowledge via R&D and the industrial sector will have to be strengthened. The numerous S&T agencies of the DOST have to be more active in the diffusion of knowledge to upgrade technologies within industries. The survey results manifest the weak linkages as firms tend to depend on their own efforts. Research and knowledge creation in local universities should reach the appropriate users for their application. The national innovation system must have a more pragmatic approach so that the numerous S&T plans get translated into action. It would likewise benefit from increasing expenditures in R&D among all the sectors involved.

Aside from the national government, the LGUs, which have been granted increased autonomy to manage the economic and social affairs of their areas of jurisdiction, should take on a more active role in attracting investments. Some LGUs have enacted their own investment codes in an effort to develop indigenous industries.

Clustering as a strategy for competitiveness and development of small and medium enterprises is expected to be continuously implemented. The institutional and implementation arrangements put in place lend the sustainability factor to the strategy. In fact, the NCMT under the EDC are maintaining scorecards of performance to monitor the continued development of new clusters and operations of existing ones. The EDF is an additional financial facility that clusters may avail of in the process. Even with the limited number of examples of industry clusters featured here, the benefits to members and the positive impact to the local economy were evident. On the other hand, the challenges that these clusters are facing are difficult but not insurmountable.

As indicated by the prime mover of clustering in the Philippines, who is assisting the NCMT as consultant, there should be continuous review of the priority sectors chosen in order to face squarely the competition presented in both the domestic and global arena. The continued updating of priorities is important given rapid changes in the global business environment and in order to not lose the competitive edge of the country. The increasing scarcity of skilled labor calls for human resource upgrading through continuing education and better matching of courses to industry demands at the macro level and through joint upgrading of technological capability at the cluster level.

The Jewelry Center in Meycauayan and the tie ups established by CFIF with academic institutions are good examples of clustering initiatives in this aspect. There is also a need to increase product development and intensify R&D activities via increased spending in this area by the public and private sectors after ensuring that these would jibe with the needs of the industries. At the cluster level, the thrust should be towards moving to higher stages of production or value added by upgrading technological capability in terms of equipment, packaging, operational procedures, and management methods. The possibility of putting up common design and testing centers should also be considered as well as business incubators to encourage innovation and the fermentation of new ideas.

Another possible area of improvement refers to improvements in marketing mechanisms in order to continuously showcase the products of industry clusters in the domestic and international markets. The recent move of removing the travel tax requirement for those joining trade fairs and expositions abroad helped reduce the cost of marketing and could encourage more member firms to participate, particularly if cluster organizations can shoulder part of the costs of joining these selling and promotional forays.

Meanwhile, for clusters mainly comprised of small and medium enterprises, cluster organizations should actively seek out financing to enable these industries to upgrade their production capabilities.

Industry cluster-specific issues can best be addressed by proper diagnosis of the problems by the firms in the cluster themselves. The Philippine configuration intends for this to be a venue for public-private partnership in terms of joint analysis of the problems and collaborative identification of solutions. When interventions can and should be acted upon by government, then relevant institutions and agencies will be tapped to provide the interventions. In the end, however, the clustering strategy should remain to be driven by the private sector itself.

NOTES

ⁱ Independence here refers to the period, July 4, 1946 to be exact, when the United States recognized the independence of the Republic of the Philippines, signaling its relinquishment of American sovereignty over the Philippine islands. However, from the 1960s onwards, the Philippines marked its declaration of independence from Spain in June 1898 as its Independence Day.

ⁱⁱ The FINL is a shortlist of investment areas reserved for Filipino nationals only and/or those where foreign investments are allowed up to certain limits. Originally, the FINL was comprised of three categories of restrictions namely:

List A – consists of areas reserved to Filipino nationals by mandate of the Constitution and other specific laws such as mass media, cooperatives or small scale mining.

List B - consists of areas which are defense-related and thus, requiring the clearance from the Department of National Defense, those which have implications on public health and morals including the manufacture and distribution of dangerous drugs; all forms of gambling; and others that pose risks to health and morals.

List C - consists of areas where there already exists sufficient number of establishments to serve the needs of the economy and thus, further foreign investments would be rendered redundant.

ⁱⁱⁱ It may be interesting to note the following preferred activities in the IPP for 2007: (i) agriculture/agribusiness and fishery; (ii) ICT covering business process outsourcing, software development, animation, data transcription, among others; (iii) electronics including Original Design Manufacturing; (iv) motor vehicle products; (v) energy (power generation, transmission, handling of biofuels, etc); (vi) infrastructure development, logistics, transport systems, telecommunications in unserved areas, low cost mass housing; (vii) tourism; (viii) shipbuilding/shipping; (ix) iron and steel; (x) research and development/training institutions; and, (xi) machinery and equipment production supportive of activities herein.

^{iv} The EPF is claimed to be a public-private sector financing facility that makes available supplemental financing to projects that are expected to promote growth of the export sector and provide opportunities for job creation. Totalling P280 million, the fund was pooled from the contributions of the DTI (P100M); Department of Budget and Management (P100M); *Bangko Sentral ng Pilipinas* (P50M); National Economic Development Authority (P20M); and Philippine Exporters Confederation, Inc. (P10M).

^v There are currently 17 regions and 81 provinces in the Philippines.

^{vi} These data were drawn from the work of Epictetus Patalinghug on “The Philippine Innovation System: Structure and Characteristics,” published as a PIDS Discussion Paper in 2003.

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APPENDIX I

Incentives Granted to BOI-registered Enterprises

Tax Exemptions

a) Income Tax Holiday (ITH)

- Six years for new projects granted pioneer status;
- Six years for projects locating in Less Developed Areas (LDA), regardless of status (pioneer or non-pioneer) and regardless of type (new or expansion);
- Four years for new projects granted non-pioneer status; and
- Three years for expansion and modernization projects. (In general, ITH is limited only to incremental sales in revenue/volume.)
- An additional year may be granted in each of the following cases:
 - i. The indigenous raw materials used in the manufacture of the registered product is at least fifty percent (50%) of the total cost of raw materials for the preceding years prior to the extension unless the BOI prescribes a higher percentage; or
 - ii. The ratio of total imported and domestic capital equipment to the number of workers for the project does not exceed US\$10,000 to one (1) worker; or
 - iii. The net foreign exchange savings or earnings amount to at least US\$500,000 annually during the first three (3) years of operation.

In no case, however, shall a registered firm avail of ITH for a period exceeding eight years.

- b) Exemption from taxes and duties on imported spare parts; the duty & tax free importation of capital equipment which expired in 1997 was restored in May 2004 with the issuance of Executive Order 313.
- c) Exemption from wharfage dues and export tax, duty, impost and fees for a period of ten years from the date of registration.
- d) Tax exemption on breeding stocks and genetic materials within ten years from the date of registration or commercial operation.

Tax Credits

- a) Tax credit on the purchase of domestic breeding stocks and genetic materials within ten (10) years from the date of registration or commercial operation.
- b) Tax credit on raw materials and supplies

Additional Deductions from Taxable Income

- a) For the first five (5) years from date of registration, additional deduction for labor expense equivalent to fifty percent (50%) of the wages of additional skilled and unskilled workers in the direct labor force. This incentive shall be granted only if the enterprise meets a prescribed capital to labor ratio and shall not be availed of simultaneously with ITH. This additional deduction shall be doubled if the activity is located in a LDA.
- b) Additional deduction for necessary and major infrastructure works. This privilege, however, is not granted to mining and forestry-related projects as they would naturally be located in certain areas to be near their source of raw materials.

Non-fiscal Incentives

- a) A registered enterprise may be allowed to employ foreign nationals in supervisory, technical or advisory positions for five years from date of registration. The position of president, general manager and treasurer of foreign-owned registered enterprises or their equivalent shall, however, not be subject to the foregoing limitations.

- b) Simplification of customs procedures for the importation of equipment, spare parts, raw materials and supplies and exports of processed products.
- c) Importation of consigned equipment for a period of 10 years from date of registration, subject to posting of a re-export bond.
- d) The privilege to operate a bonded manufacturing/trading warehouse subject to Customs rules and regulations.

Source: From the Omnibus Investments Code of 1987

APPENDIX II

Incentives available to PEZA-registered enterprises

Incentives to Ecozone export and free trade enterprises

- a) Corporate income tax exemption for four years to a maximum of eight years
- b) Exemption from duties and taxes on imported capital equipment, spare parts, materials and supplies
- c) After the lapse of income tax holiday, exemption from national and local taxes, in lieu thereof, special five percent tax rate on gross income.
- d) Tax credit (equivalent to 25 % of duties) for import substitution of raw materials used in producing nontraditional exports
- e) Exemption from wharfage dues, export tax, impost or fee
- f) Additional deduction for training expenses
- g) Tax credit on domestic capital equipment (equivalent to 100% of taxes and duties)
- h) Tax and duty free importation of breeding stocks and genetic materials
- i) Tax credit on domestic breeding stock and genetic materials (equivalent to 100% of taxes and duties)
- j) Additional deduction for labor expense
- k) Unrestricted use of consigned equipment
- l) Employment of foreign nationals
- m) Permanent residence status for foreign investors and immediate members of the family
- n) Simplified import-export procedures

Incentives to ecozone domestic market enterprises

- a) Exemption from national and local taxes and in lieu thereof, payment of a special rate of five percent on gross income.
- b) Additional deduction for training expenses
- c) Incentives under the Build Operate and Transfer Law (BOT under RA 6957 as amended by RA 7718)

Incentives to ecozone developers/operators

- a) Exemption from national and local taxes and in lieu thereof, payment of a special rate of five percent on gross income
- b) Additional deduction for training expenses
- c) Incentives under the Build Operate and Transfer Law (BOT under RA 6957 as amended by RA 7718).

Source: Aldaba, 2006

APPENDIX III

Survey Design

Scope and Coverage

The 2007 Industrial Clustering Survey of Philippine Business and Industry (ICSPBI) covers all establishments with the following characteristics:

1. Engaged in the following economic activities:

Manufacturing (D)

Manufacture of food products and beverages

Manufacture of tobacco products

Manufacture of textiles

Manufacture of wearing apparel

Tanning and dressing of leather; manufacture of luggage, handbags and footwear

Manufacture of wood, wood products and cork, except furniture

Manufacture of paper and paper products

Manufacture of coke, refined petroleum and other fuel products

Manufacture of chemicals and chemical products

Manufacture of rubber and plastic products

Manufacture of Other Non-Metallic Mineral Products

Manufacture of Basic Metals

Manufacture of fabricated metal products, except machinery and equipment

Manufacture of machinery and equipment

Manufacture of office, accounting and computing machinery

Manufacture of electrical machinery and apparatus

Manufacture of radio, television and communication equipment and apparatus

Manufacture of medical, precision and optical instruments, watches and clocks

Manufacture of motor vehicles, trailers and semi-trailers

Manufacture of Other Transport Equipment

Electricity, Gas and Water Supply (E)

Construction (F)

Wholesale and Retail Trade (G)

Hotels and Restaurants (H)

Transport, Storage and Communication (I)

Financial Intermediation (J)

2. With Average Total Employment (ATE) 20 and over

3. Located in the National Capital Region, Cavite and Laguna (referred in the survey as Greater Manila Area or GMA)

Unit of Enumeration

The statistical unit or unit of enumeration used in the 2007 ICSPBI is the *establishment*. An establishment is defined as:

“An economic unit under a single ownership or control, i.e., under a single legal entity, engaged in one or predominantly one kind of economic activity at a single fixed location.”

Examples of establishments are stores, construction companies, electric plants, factories, shops, transportation operators, hotels, restaurants, banks, insurance companies.

For construction; transport, storage and communications; insurance; real estate buying, developing, subdividing and selling; and investigation and security activities, the establishment is defined in operational terms as

“the unit that is engaged in the production of the most homogeneous group of goods and services, usually at one location, but sometimes over a wider area, for which separate records are available that can provide data concerning the production of these goods and services and the materials, labor and physical resources used in this production.”

Classification of Establishments

An establishment is categorized by its economic organization (EO), legal organization (LO), industrial classification, employment size, and geographic location.

a. Economic Organization

Economic Organization relates to the organizational structure or role of the establishment in the organization. The following are the types of economic organization (EO):

1. Single establishment (EO=1)
2. Branch only (EO=2)
3. Establishment and main office (EO=3)
4. Main office only (EO=4)
5. Ancillary unit other than Main Office (EO=5).

b. Legal Organization

The Legal Organization (LO) provides the legal basis for ownership of the establishment. The following are the types of LO:

1. Single Proprietorship (LO = 1)
2. Partnership (LO = 2)
3. Government Corporation (LO = 3)
4. Private Corporation (LO = 4)
5. Cooperative (LO = 5)
6. Others (LO = 6).

c. Industrial Classification

The industrial classification of an economic unit is determined by the activity from which it derives its major income or revenue. The amended *1994 Philippine Standard Industrial*

Classification (PSIC) is presently utilized to classify economic units according to their economic activities.

The Frame

The frame used for the 2007 ICSPBI is the preliminary 2007 List of Establishments (LE), as of 10 October 2007. The 2007 LE is the product of the following:

- survey feedback from the two quarters of the 2007 Quarterly Survey of Philippine Business and Industry (QSPBI), the Monthly Integrated Survey of Selected Industries (MISSI), and the 2006 Census of Philippine Business and Industry (CPBI); and
- mail inquiry from secondary source lists.

The 2007 LE shows that there are about 7,949 establishments with ATE of 20 and over in the NCR, Laguna and Cavite within the scope and coverage of the survey.

Sampling Design

The 2007 ICSPBI utilized a stratified purposive sampling design.

Sampling Units

For purposes of sampling, the sampling units included for the major sectors listed below are establishments with the following EO codes: Single establishment (EO=1); Branch only (EO=2); and Establishment and main office (EO=3).

Amended 1994 PSIC	Sector Description
D	Manufacturing
E	Electricity, Gas and Water; except E401 and E410 (Water Districts) with LO=5
G	Wholesale and Retail Trade; and Repair Services
H	Hotels and Restaurants
J	Financial Intermediation (except J659; J6701, J6702 & J6703; J6814, J682)

However, the sampling units for the other industry sectors and selected industries listed below are establishments with EO= 1, 3 and 4: (kind-of-activity units). The branches (EO=2) do not strictly meet the criteria for defining an establishment:

Amended 1994 PSIC	Sector Description

E401	Generation, collection and distribution of electricity (Electric Cooperatives with LO = 5)
E410	Collection, purification and distribution of water (Water Districts with LO=5)
F	Construction
I	Transport, Storage and Communications
J659	Other monetary intermediation
J6701	Life Insurance
J6702	Pension funding/fund management
J6703	Non-life insurance
J6814	Pre-need plan activities
J682	Activities auxiliary to insurance and pension funding

Industry Domain

The sampling units in the frame were stratified primarily by industry group (referred as *industry stratum*, and also called *industry domain*) based on the 2-digit or 3-digit codes of the amended 1994 PSIC. Fifty-six (56) industry divisions (2-digit or 3-digit PSIC) constituted the industry strata, as shown below:

Sector	Number of Industry Strata	Sector	Number of Industry Strata
Total	56		
D	20	H	1
E	2	I	5
F	1	J	4
G	23		

Geographic Domain

The geographic domains for the 2007 ICSPBI are NCR, Cavite and Laguna - collectively referred to as the Greater Manila Area (GMA) in the survey.

Sample Size and allocation

The total number of samples for the 2007 ICSPBI was fixed at 500. Half of the samples were in manufacturing, half of which should be foreign-owned and in the PEZA areas; and the remaining 250 samples spread over the sectors.

For the other sectors, the sample sizes by 1-digit PSIC were determined based on number of 2-digit PSIC (except for sector G, which was at the 3-digit level) and number of establishments in the sector:

- E – 4% (9)
- F – 6% (15)
- G – 42% (105)

H – 10% (26)
I – 20% (50)
J – 18% (45)

Allocation of samples to the industry x geographic cell in general, referred to as the strata, was determined by iteratively assigning maximum sample sizes per strata until adequate sample sizes per strata were obtained. This approach included cost considerations.

Selection of Samples

All responding establishments in the 2007 QSPBI and 2006 CPBI were ranked in descending order by Average Total Employment per the survey domain, i.e., NCR, Cavite and Laguna. Then the first (n) establishments from the highest ATE were selected as samples.

Source: National Statistics Office, Industry and Trade Statistics Department (2007)