Globalization, Labor Markets and Human Capital in the Philippines

Winfred M. Villamil and Joel Hernandez[1]

I. INTRODUCTION

Beginning in the 1990s, the Philippines implemented policies to liberalize trade. To a large extent, this was motivated by a growing awareness of the economic benefits from opening the domestic goods market to world trade.

It is widely acknowledged that globalization has stimulated economic growth and increased welfare in many parts of the world. But it is also true that during the process of adjustment, certain sectors gain while others lose.

Globalization can affect welfare through the workings of the labor market. In particular, trade reforms, by increasing market access, exports and competition, may promote efficiency and cause certain sectors to gain in terms of increased investments, employment creation, and increased wages. On the other hand, it may also lead to job destruction and deterioration in the real wages of other sectors in the economy particularly in the erstwhile heavily protected import-competing sector. While anecdotal evidence abounds, there is as yet no comprehensive picture of the impact of globalization on employment and wages.

There is also a dearth of studies documenting how firms are able to adjust to the more competitive environment particularly in terms of how they manage their human resources to enhance worker productivity and reduce their labor costs per unit of output. Of particular interest is the degree of flexibility of labor markets in the country in comparison to others in terms of hiring and firing, the availability of part-time and fixed-term contracts, working time requirements, minimum wages, and minimum conditions of employment, among others.

Some observers have also pointed out that unskilled labor has become relatively expensive while semi-skilled and skilled labor remains relatively cheap in the country. Consequently, jobs in labor-intensive industries using unskilled workers are stagnating while jobs in industries using semi-skilled workers are growing. Hence, if the country were to reduce unemployment and poverty, it will have to deepen its growing advantage in semi-skilled labor-intensive industries through investments in the human capital of the labor force either by private firms, the government, or both. There is a need therefore to look into the factors that facilitate or hinder investments by firms in the human capital of their workers and to assess government's role in this regard.

On the basis of the foregoing, the objectives of the study are:

i) To look into how labor markets and industrial relations, particularly in Philippine manufacturing industries, evolved as the country shifted from an inward-looking import-substituting strategy to an outward-looking strategy based on the liberalization of trade and investment.

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[1] Associate Professor and Assistant Professorial Lecturer, respectively, Department of Economics, De La Salle University. The authors are grateful for the support provided by the Angelo King Institute for Economic and Business Studies and the International Development Research Centre-Canada. The writers also acknowledge the research assistance provided by Joseph Ples. The usual disclaimer applies.

ii) To examine the effect of liberalization policies on employment, productivity, compensation, and industrial structure;
iii) To explore how firms are adjusting to a more competitive environment through their labor policies and management of human resources; and
iv) To ascertain the degree of flexibility of Philippine labor markets in comparison to its competitors and to identify labor policies that impede adjustment to a more competitive environment.

II. OVERVIEW OF THE PHILIPPINE ECONOMY

The Philippines was the envy of its neighbors in the 1950s when it attained the highest economic growth rates in Southeast Asia. As shown in Table 1, the Philippine economy grew 6.5% annually, much better than Thailand's 5.7% and Indonesia's 4.0% during this period. However, the country began to fall behind in the 1960s growing by only 5.1% annually compared with 8.8% by Singapore, 6.5% by Malaysia, and 8.4% by Thailand. While the country grew modestly in the 70s, its annual growth rate of 6.3% was the slowest in the sub-region. The Philippine grew by a mere 1% annually in the 80s while its neighbors achieved growth rates ranging between 5.3% and 7.6%. Up to the 1990s, the Philippines continued to be the slowest growing country in this part of Asia.

Table 1: Average GDP Growth Rate, Selected Southeast Asian Countries 1950-2000

(percent per annum)

Country	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000
Indonesia	4.0	3.9	7.6	6.1	4.2
Malaysia	3.6	6.5	7.8	5.3	7.0
Philippines	6.5	5.1	6.3	1.0	3.2
Singapore	—	8.8	8.5	6.6	7.8
Thailand	5.7	8.4	7.2	7.6	4.2

Source: Balisacan and Hill (2003)

The structural transformation of the Philippine economy is revealed in the changing shares to GDP of the three major sectors of the economy (See Table 2). The share of agriculture, fisheries, and forestry has been declining from 30.2% in the mid-70s down to just 16.5% in 2000. The share of industry has been fairly constant, constituting about a third of the total output of the economy throughout the period. The lackluster performance of the industry sector can be traced to the stagnant showing of the manufacturing sub-sector whose share fell from a high of 25.6% in the mid-70s to 22.1% in 2000. Meanwhile, the share of the services sector has been expanding considerably from 38.6% in the 1970s to 52.6% in 2000.

Table 2: Share of Sectors to GDP at market prices, 1970-2000

(%)

Sector	1970	1975	1980	1985	1990	1995	2000
Agriculture, fisheries, and forestry	29.9	30.2	25.8	24.4	21.9	21.4	16.5
Industry	31.5	35.2	38.5	35.9	34.5	32.2	30.9
Mining and quarrying	1.8	1.6	2.1	2	1.5	0.9	0.6
Manufacturing	24.5	25.6	25.5	24.8	25	23	22.1
Construction	4.3	6.7	9.4	6.4	5.7	5.7	5.2

Electricity, gas, and water	0.8	1.4	1.6	2.6	2.2	2.6	2.9
Services	38.6	34.6	35.7	39.7	43.7	46.4	52.6

Source: Balisacan and Hill (2003)

The change in the structure of the Philippine economy is quite unusual. The typical pattern for an industrializing economy is one characterized by a declining share in agriculture accompanied by an increase in the share of industry. In the case of the Philippines, the share of industry particularly manufacturing also declined. It was the services sector that expanded.

The employment data presented in Table 3 mirrors this structural change in the economy. Agriculture used to account for over half of sectoral employment in the 1970s. By the year 2000, it accounted for less than 40% of total employment. The share of industry to total employment, which was already small in the first place, shrunk even further. It was the services sector that experienced a large increase in employment shares and it has now replaced agriculture as the principal employer of the country's labor force.

Table 3: Share of Major Sectors in Employment, 1970-2000

(%)

Year	Agriculture	Industry	Services
1970	52.1	16.1	30.9
1975	54.3	14.7	30.7
1980	51.3	15.1	33.5
1985	49.7	13.9	36.4
1990	44.8	15.6	39.2
1995	43.5	16	40.5
2000	38.6	15.8	46.3

Source: Balisacan and Hill (2003)

How do we account for this unusual shift in the structure of the economy? Some possible reasons are outlined below:

i) Surplus workers from the rural areas have difficulty finding employment in the industrial sector and become self-employed in the service sector – the employer of last resort.

ii) To some extent, higher disposable income in the hands of Filipinos from the remittances of overseas workers has fuelled the growth of services, particularly, personal services, construction, and retail trade.

iii) By far the most important factor is trade liberalization that began in the 80s and accelerated in the 90s and which considerably reduced the protection that Philippine manufacturing used to enjoy.

iv) At the same time that the manufacturing sector was subjected to intense competition from imports in the mid-90s, the country experienced a nominal and real appreciation of the exchange rate that made imports cheaper and domestically produced goods more expensive.

v) Immediately after the post-Marcos period, labor market policies pushed up wages in the formal sector affecting the competitiveness of tradable goods particularly manufacturing.

Data on labor productivity in Table 4 tend to corroborate some of these conjectures. Real value added per worker in agriculture increased from P15,884 in 1970 to P17,151 in 2000.

The increased labor productivity in agriculture indicates a movement of workers out of agriculture. On the other hand, productivity in the services sector rose to a high of P39,048 in the 1980s and then fell to a low of P32,436 in 2000. This decrease in labor productivity in services bolsters the view that much of the expansion in this sector was due to low productivity self-employment in the informal sector.

Table 4: Real Value Added Per Worker, 1970-2000

(PhP)

Year	Agriculture	Industry	Services
1970	15,884	62,364	36,666
1975	14,961	84,227	38,578
1980	16,791	99,162	39,048
1985	14,472	77,396	32,551
1990	16,046	69,976	33,279
1995	15,391	67,985	32,897
2000	17,151	72,000	32,436

Source: Balisacan and Hill (2003)

The table also shows a dramatic recovery in industrial productivity, which might be an indication of greater efficiency in the industrial sector as a consequence of trade liberalization. While trade liberalization may have resulted in the closure of enterprises that were inefficient, firms that were competitive or succeeded in becoming more efficient managed to pull through.

II. THE EVOLUTION OF PHILIPPINE MANUFACTURING

A. Challenges Faced by Philippine Manufacturing

The Philippine manufacturing sector has undergone remarkable changes throughout the last 25 years. These changes were brought by trade liberalization, the real appreciation of the peso throughout most of the 1990s, the rise of China as a major competitor in the global market for labor-intensive goods, some labor market policies of the government.

The first fundamental change in the economic landscape was the progressive dismantling of the protectionist policies of the past. The country began implementing unilateral tariff reductions through the Tariff Reform Program. From 1981-85, tariff rates were brought down to a maximum of 50%. From 1986 to 1989, non-tariff restrictions on imports were gradually lifted. Starting in 1996, tariff rates were reduced further to around 4.2% by 2004. (Lamberte et al, 2003).

Falling tariff barriers are also part of the Philippines' commitments under the Common Effective Preferential Tariff (CEPT) scheme of the ASEAN Free Trade Area (AFTA). Under the CEPT scheme, tariffs on intra-ASEAN goods complying with the 40% ASEAN content requirement will be eventually reduced to 5%. Tariff reductions have been more intense among ASEAN-6 members (Singapore, Malaysia, Thailand, Philippines, Indonesia, and Brunei) and more gradual among the new ASEAN members (Cambodia, Laos, Vietnam and Myanmar).

The Philippines has placed 5,633 items under the CEPT scheme. Out of the 5,633 items, 5,571 items are listed under the inclusion list, 35 items under the temporary exclusion list, and 27 items under the general exclusion list. Estimates from ASEAN-6 reveal that 92.7% (40,841 out of

44,060) of the items included in the CEPT will have tariffs ranging from 0 to 5% starting 2001. For the Philippines, 5,040 items will have 0-5% tariffs (Hernandez and Intal, 2005).

As revealed in Table 5, average effective protection rates (EPR) dropped by half, from 36.0% in 1974 to 18.4% in 2000. Tariff reductions were relatively large in the manufacturing sector so that average protection fell from its peak of 79.2% in 1983 to 19.2%. However, EPRs for agriculture increased from 5.0% in 1986 to 19.1% in 2000. After 1995 onward, the EPRs for agriculture exceeded those of manufacturing. David (2003) estimates that nominal protection rates (NPR) for major agricultural products increased from 1970 to 2000. For rice, the NPR rose from -4% to 71% during the 30-year period. For corn, the NPR increased from 24% to 87%; for sugar, 5% to 106%; for pork, 6% to 29%; and for chicken, 34% to 45%.

Table 5: Estimates of EPRs by Major Economic Sector, 1974-2000

(%)

Year	Agriculture, Fisheries, and Forestry	Manufacturing	All Sectors
Tan			
1974	9.0	44.0	36.0
Medalla et al			
1983	10.3	79.2	52.8
1985	9.2	74.1	49.3
1986	5.0	61.2	39.8
1988	5.2	55.5	36.3
Manasan			
1993-1995	24.4	29.1	26.7
2000	19.1	19.2	18.4

Source: David (2003)

The increased protection of the agricultural sector had negative consequences on the manufacturing sector. Rising food prices drove up inflation to an average of 8.8% annually throughout the 1990s. In turn, high inflation drove up nominal wages and the Philippines slowly lost its comparative advantage in those manufacturing industries where the wage bill constitutes a major component of the cost of production (World Bank, 2000).

After decades of protection through import-substitution policies, the tradable goods sector, particularly manufacturing, was exposed to intense competition as trade was progressively liberalized. To further compound the challenge posed by trade liberalization, the peso appreciated throughout much of the 1990s that is up until the 1997 Asian financial crisis. The real peso appreciation was driven by an increase in net capital and financial flows to the Philippines (see Table 6). Net capital and financial flows increased from US$1,776M in 1990 to US$11,075M in 1996. Net direct investment inflows increased from US$480M to US$3,517M throughout the same period.

Table 6: Net Capital and Financial Flows, Net Direct Investment, and Portfolio Inflows, 1990-2000

(in USD million)

Year	Net Capital and Financial Flows	Net Direct Investment Inflows	Net Short-term Capital Inflows
1990	1,776	480	19
1991	1,878	654	349
1992	1,850	737	660
1993	2,820	812	(148)
1994	4,547	1,558	1,002
1995	3,393	1,609	(56)
1996	11,075	3,517	540
1997	6,593	762	495
1998	478	1,672	(1,521)
1999	(1,816)	1,427	(4,617)
2000	(6,469)	1,348	(10,518)

Source: Gochoco-Bautista and Canlas (2003)

The real peso appreciation has further exacerbated the pressure to the tradable sector as Philippine exports become relatively more expensive compared to similar exports from other countries. On the other hand, an opposite effect of peso appreciation is that imported raw materials became cheaper.

China has undergone remarkable changes over the last 25 years after Deng Xiaoping implemented an "open door" trade and investment policy. China received a steady influx of foreign direct investment (FDI) that accelerated sharply after 1992 (Yusuf, 2003). The profile of FDI inflows to China has changed dramatically during the last 25 years. During 1980s, FDIs used to concentrate on labor-intensive industries like footwear, toys, textiles, and garments. FDIs then moved into capital-intensive activities starting in the early 1990s and to technology-intensive activities in recent years (UNCTAD 2001). China, having favored export-oriented FDIs, experienced a spurt in an FDI-driven growth of merchandise exports. With the influx of FDIs to China particularly into the manufacturing sector, its exports have risen considerably throughout the 1990s. In 2002, China's exports was valued at US$325,596M—a ten-fold jump from its level in 1990 or an annual growth rate of 14% (Hernandez & Intal, 2005).

According to Sicat (2004), the formal labor market is so excessively regulated that it has caused the unit cost of labor to rise artificially. In particular, he cites two regulations that have made it difficult to employ new workers because it has made regular employment more expensive.

For one, legislation and executive fiat on wage supplements and other benefits is often used to raise wages rather than to allow markets and collective bargaining at the company level to determine it. Hence, wage increases are no longer based on gains in the productivity of workers and only serve to raise the cost per unit of output. Minimum wages are often set above the ability to pay of most firms. The 13th month pay and cost of living allowances (COLA) that were designed to provide low-wage workers with temporary relief during momentary periods of high inflation have become permanent entitlements.

Second, and perhaps a cause for much greater concern, Philippine labor laws implicitly grant all regular employees security of tenure by imposing restrictions on the prerogative of employers to dismiss their workers. Workers cannot be dismissed without "just and authorized cause" and they

are entitled to due process. This often entails a long and costly process of justification before the Department of Labor and Employment and the courts when a judicial case is filed. Hence, this represents another source of the relatively high cost of employing Filipino workers.

Moreover, this policy has deprived employers of one major instrument to discipline their workers and discourage them from shirking. By implicitly guaranteeing tenure to employees, the policy has spawned moral hazard. The risk of losing one's job from shirking is reduced and the employee has no incentive work hard. It has also made it difficult for firms to trim their work force when necessary in order to reduce costs. Consequently, for many firms, increasing the productivity of workers has become increasingly difficult to achieve.

B. Structure of Philippine Manufacturing

The share of manufacturing to GDP from the 1970s to 2000s has been stable at around 22% to 26%. In 2000, the output of the manufacturing sector was estimated at PHP745 billion or 22.1% of GDP. The growth of manufacturing mirrored the growth of the Philippine economy in general and the industry sector in particular. The manufacturing sector posted a respectable growth rate of 6.6% in the 70s. It slowed dramatically to 1.2% in the 80s and slightly recovered at 2.3% in the 90s. Currently, manufacturing accounts for only 10% of total employment in the country.

The manufacturing sector has undergone significant changes in the last 30 years (see Table 7). The value of manufacturing output increased from PHP10 billion in 1970 to PHP745 billion in 2000. Food, beverage, and tobacco continue to dominate the manufacturing sector. The share of these groups to total manufacturing value-added increased from 44.4% in the 1970s to 49.1% in 2000.

Table 7: The Structure of Manufacturing Output, 1970-2000
(% of total manufacturing value added)

Major Groups	1970	1980	1985	1990	1995	2000
Food, beverage, tobacco	44.4	41.7	52.8	49.4	47.3	49.1
Labor-intensive	30.0	26.9	19.6	23.8	25.6	28.0
Heavy-industry	25.6	31.4	27.8	26.9	27.0	22.8
Total (PHP billion)	10.0	63.0	143.0	267.0	438.0	745.0
Selected Industries						
Food Processing	38.5	34.9	44.8	41.8	40.2	42.6
Beverages	3.0	3.6	4.5	4.6	4.7	4.4
Tobacco	2.9	3.2	3.5	3.0	2.4	2.1
Textile	4.2	5.5	3.7	3.4	2.5	1.6
Garments + footwear	4.2	5.5	4.0	6.3	6.9	5.4
Leather Products	0.1	0.1	0.1	0.1	0.1	0.1
Wood products and furniture	7.8	6.7	3.2	3.8	2.9	2.4
Non-metal minerals	3.2	3.3	1.9	2.8	3.9	2.7
Basic metals	2.0	1.9	3.0	3.2	3.0	1.6

Fabricated metals	4.8	2.7	2.0	2.4	2.2	1.7
Machinery	2.0	1.1	0.9	1.0	1.2	1.3
Electronics	4.4	3.1	3.3	3.7	6.4	11.6

Source: Hill (2003)

If the Philippines has a comparative advantage in unskilled or semi-skilled labor-intensive industries, then free trade should cause a contraction in industries that are capital and skill intensive and an expansion in industries that are skill and capital intensive. This is generally the case as shown in the table. The share of labor-intensive industries rose from 19.6% to 28 % during the period 1985-2000 while that of heavy industries fell from 31.4 to 22.8 % during the same period. What is notable is the spectacular growth in the share of the electronics sector. Its share to total output has almost quadrupled from 3.1% in 80s to 11.6% in 2000.

But this is not true in all cases. Other labor-intensive industries notably textiles and garments suffered declines. The share of textiles fell from its peak of 5.5% in the 80s to just 1.6% in 2000. The share of garments and footwear increased to more than 6% during the 90s only to decline to 5.4% in 2000.

The structure of manufacturing output mirrors the structure of manufacturing employment (see Table 8). The number of employed in the manufacturing sector rose from 512,000 in 1975 to 895,000 in 1994. The food, beverages, and tobacco group and heavy industries employed 22% each of the total workers employed. However, the share of food, beverages, and tobacco to total employment has been falling from 29.1% in 1975 to 22.2% in 1994. The share of heavy industries has fairly remained constant throughout the same period. Six out of 10 employed in the manufacturing sector are employed in labor-intensive industries.

Table 8: The Structure of Manufacturing Employment, 1975-94

(% of total employment)

Major Groups	**1975**	**1983**	**1988**	**1994**
Food, beverages, tobacco	29.1	25.3	24.0	22.2
Labor-intensive	48.3	52.5	57.0	55.4
Heavy industry	22.8	22.3	19.3	22.4
Total (in thousands)	512.0	701.0	857.0	895.0
Selected Industries				
Food Processing	19.6	18.7	18.8	18.1
Beverages	5.5	4.0	3.5	2.8
Tobacco	4.0	2.6	1.7	1.3
Textile	14.2	12.3	10.4	7.1
Garments	6.4	10.8	16.6	16.3
Footwear	0.7	1.2	1.1	1.7
Leather Products	0.4	0.5	0.6	0.7
Wood Products and furnitures	10.6	11.3	11.4	5.4

Non-metal minerals	4.3	4.0	3.5	4.2
Basic metals	2.0	3.0	2.1	2.8
Fabricated metals	4.4	2.8	2.5	3.3
Machinery	3.1	2.4	2.2	2.4
Electronics	4.2	7.5	6.4	12.1

Source: Hill (2003)

Among selected industries, food processing continues to be the main employer in the manufacturing sector at 18.1%. The shares of basic metals and non-metal minerals have been fairly constant at around 4.2% and 2.8% respectively. The share of textiles has been falling by more than half, from 14.2% in 1975 to 5.1% in 1994. The share of garments has risen from 6.4% in 1975 to 16.3% in 1994 though it has fallen from its high of 16.6%. The share of footwear has been rising from 0.7% in 1975 to 1.7% in 1994. The share of electronics sector has increased by almost three fold—from 4.2% in 1975 to 12.1% in 1994. This reflects the increasing importance of the electronics sector in the Philippine economy in general and to Philippine exports in particular.

C. Subsectoral Performance and Trade Liberalization

One possible explanation would be the uneven liberalization of trade within the manufacturing sector as shown in Table 9. EPRs are relatively high in the food processing, beverages, and tobacco and low in textiles, garments, footwear and furniture. Note, however, that EPRs in electronics are also low but this sector thrived during the period. This can be explained by the fact that the electronics sector in the country is import-dependent and the low EPRs in electronic inputs allowed electronics to remain competitive.

Table 9: Key Features of the Manufacturing Sector, 1995

(%)

Industry	Foreign	Exported	EPR
Food Processing	36.9	16.2	32.4
Beverages	35.3	0.1	44.0
Tobacco	42.9	1.3	53.4
Textile	27.2	47.1	1.9
Garments	45.3	73.8	4.6
Leather Products	67.5	68.9	8.0
Footwear	38.7	52.2	0.2
Wood Products	12.2	33.8	7.5
Furniture	13.3	67.6	(0.1)
Paper Products	48.3	10.0	19.9
Publishing	5.1	5.0	13.6
Industrial Chem	68.6	27.1	3.0
Other Chem	59.0	2.3	29.1
Petroleum refining	100.0	1.4	20.1
Misc. petroleum	41.1	0.1	(10.1)
Rubber Products	73.9	30.9	17.3

Plastic products	45.8	10.4	17.9
Ceramics	77.4	41.8	3.6
Glass Products	71.8	9.4	20.2
Cement	22.8	0.0	19.5
Other non-metals	46.7	14.4	18.4
Iron and Steel	44.2	5.6	9.1
Non-ferrous metals	89.8	77.4	(1.2)
Fabricated metals	15.6	22.2	28.7
Machinery	69.9	78.7	0.4
Electronics	84.1	70.8	4.7
Transport equipment	71.1	4.5	57.3
Professional equipment	—	78.2	1.1
Metal furniture	—	79.2	(4.5)
Miscellaneous	69.1	64.8	(0.8)
Total	56.6	24.6	19.2

Note: "% foreign" refers to the percentage of output in each industry produced by firms with foreign equity; "% exported" refers to the percentage of industry output that is exported.
Source: Hill (2003)

D. Subsectoral Performance and Differential Labor Costs

Another explanation can be found in differences in labor costs. When labor costs constitute a large share in the total costs of an enterprise or industry, the own-wage elasticity of demand for labor will tend to be high. This means that when trade is liberalized, the resulting fall in the real price of domestically produced import substitutes will lead to a much larger decrease in employment.

On the average, the main costs incurred by firms are raw materials, workers' compensation, electricity, and interest expense. Among industries, the cost structure varies. Table 10 shows that labor costs constitute a large proportion of the total costs of textiles, garments, footwear and furniture (hence, own-wage elasticity of demand for labor tends to be high) but only a small component in machinery and electronics. In particular, textile and garments employ mostly unskilled workers whose wages are affected primarily by minimum wage legislation.

Table 10: Cost Structure of Different Industries, 1999

(%)

Industry	Labor	Raw Materials	Fuels	Electricity	Interest Expense	Indirect Taxes	R&D
Food Processing	7.6	68.4	1.5	2.1	3.0	2.2	0.1
Beverages	8.8	53.3	1.1	1.9	1.7	12.9	0.1
Tobacco	2.8	30.6	0.1	0.4	2.1	24.8	0.0
Textile	21.2	50.9	1.1	4.2	2.7	1.8	0.0
Garments	25.7	52.0	0.9	2.0	1.8	1.0	0.0
Leather Products	26.0	57.0	1.4	2.0	0.4	0.6	0.0
Footwear	24.1	53.9	0.6	3.9	3.3	1.6	0.0
Wood Products	14.6	64.1	1.3	2.4	6.1	1.4	0.0

Furniture	19.1	60.7	0.9	1.9	1.9	0.9	0.1
Paper Products	9.5	63.2	4.1	7.4	7.7	1.4	0.1
Publishing	18.0	58.1	0.8	1.8	3.5	1.4	0.0
Industrial Chem	8.3	69.6	2.5	6.0	4.6	1.7	0.1
Other Chem	9.2	58.7	0.7	1.6	3.1	1.5	0.7
Petroleum refining	0.4	82.3	2.4	3.9	0.7	1.4	—
Misc. petro	7.1	72.4	1.8	1.4	5.4	0.6	0.0
Rubber Products	13.7	52.7	1.5	3.3	3.0	0.9	0.1
Plastic products	13.7	65.7	1.1	5.7	3.5	1.7	0.6
Glass Products	14.2	40.3	7.9	4.3	5.6	1.5	0.2
Cement	7.6	44.1	4.9	17.4	6.0	5.1	0.1
Other non-metals	15.3	50.4	3.2	2.4	9.3	1.2	0.1
Iron and Steel	6.1	64.3	2.7	7.0	13.4	1.4	0.0
Non-ferrous metals	3.6	74.8	0.6	2.7	7.4	1.0	—
Fabricated metals	12.8	73.2	1.2	2.2	1.0	1.0	0.0
Machinery	4.1	86.2	0.4	0.7	0.8	0.3	0.1
Electronics	8.0	76.2	0.4	3.8	1.9	0.4	0.1
Transport equipment	6.2	69.7	0.3	1.0	3.5	2.9	0.3
Professional equipment	23.9	62.6	0.1	3.0	0.3	0.9	0.3
Miscellaneous							
Recycling of wastes	20.0	62.4	0.5	2.1	1.6	0.7	0.2
	8.2	74.1	0.9	1.3	0.9	0.6	—
Average	8.2	68.7	1.2	3.0	2.9	2.5	0.1
Total (in billions)	**114.9**	**959.5**	**16.9**	**41.3**	**40.5**	**34.9**	**1.8**

Note: — means almost nil
Source: Hill (2003)

For food processing, the major costs incurred are raw materials and workers' compensation. For beverages and tobacco, firms are burdened more by indirect taxes. Labor costs comprise less than a tenth of total cost for food, tobacco, and beverage.

For the light industries, labor costs range from more than a tenth of total cost (14.6%) for wood products to more than a quarter (26.0%) for leather products. For textile, labor costs comprise 21.2% of total cost, for garments, 25.7%, and for footwear, 24.1%. For textiles and footwear, electricity expenses are also well above the manufacturing average.

For the materials industries, labor costs range from 0.4% of total cost for petroleum refining to 15.3% for non-metals. For rubber and plastic products, labor costs comprise 13.7% of total cost and for glass products, 14.2%. For cement, the costs of fuels, power, interest payments, and indirect taxes are above average. For iron and steel and non-metals, interest payments exceed 10%.

For the so-called capital goods industries, labor costs range from 4.1% of total cost for machinery to 23.9% for professional equipment. For electronics, labor costs comprise, 8.0% and for

transport equipment 6.2%. The cost of electricity is above average for electronics. Interest expense and indirect taxes are above average for transport equipment.

Research and development (R & D) expenses comprise a meager 0.13% of the total cost incurred by firms. R & D expenses are above average for professional equipment (0.26%), transport equipment (0.27%), and electronics (0.14%). R&D expenses are also above average for material industries like plastic (0.61%), glass (0.17%), and rubber (0.14%). R & D expenses are very much below the average for textiles (0.03%), garments (0.02%), leather (0.01%), footwear (0.03%) and wood furniture (0.02%).

E. Subsectoral Performance and Competition from China

Another explanation lies in the intense competition that our labor-intensive industries faced in both the export and domestic market from low-wage countries, particularly China.

China's top exports include labor-intensive goods like toys and sporting goods, garments, and footwear. China is the top global exporter of textile yarn and other textile articles and woven cotton fabrics; second in woven man-made fabrics; and third in knitted fabric. China export's share as a percentage of world exports of textile yarn is 9%, woven cotton fabrics, 16%; woven man-made fabric, 12%; and knitted fabric, 10% (Hernandez and Intal, 2005).

The advantage of China apparently lies in its relatively low wages. Table 11 presents labor cost per worker in manufacturing sector in selected East Asian countries. Labor cost per worker in manufacturing in China is well below most ASEAN countries except for Vietnam. Labor cost per worker in manufacturing in Thailand is 5.3 times more expensive than that of China; for Malaysia, it is 4.7 times; for Indonesia, it is 4.2 times; and for the Philippines, it is 3.4 times. This implies that the advantage ASEAN countries used to enjoy in attracting foreign investments through cheap unskilled labor has been gradually lost to China (Ishido, 2003). However, this does not mean that ASEAN countries can no longer attract foreign investment. ASEAN countries can attract foreign investment through the quality of its semi-skilled and skilled labor.

Table 11: Labor Cost per Worker in Manufacturing in China and ASEAN

(in USD)

Country	1980-1984 Average	1995-1999 Average
China	472	729
Singapore	5,576	21,317
Malaysia	2,519	3,429
Thailand	2,305	3,868
Philippines	1,240	2,450
Indonesia	898	3,054
Vietnam	—	711

Source: Ishido (2003)

In the case of the Philippines for instance, despite the formidable challenge posed by China, the share of its manufactured exports has been increasing from 59.7% in 1985 to 89.9% in 2000. (See Table 12) However, there is a notable change in the composition of manufactured exports towards high-technology exports (machinery and electronics) and away from light industries (garments and textiles). The share of the electronics sector has increased 1.7 times in the span of 15 years from 38.2% to 64.8% in 2000. The share of machinery has increased 15.7 fold from a meager

1.1% to 17.3%. The growth of electronics and machinery industries also mirrored the growth of employment towards the said industries. The share of employment in the electronics sector to total manufacturing employment has increased from 7.5% in 1983 to 13.9% in 1994. For the machinery sector, employment has increased from 2.4% to 3.0% during the same period. The high-technology sectors grew in spite of relatively higher wages because raw wage competitiveness is a minor cost consideration in influencing investors' decisions on production location. As shown earlier, labor costs comprise 86.2% of the total cost for machinery manufacturing and 76.2% for electronics. Labor costs comprise just 4.1% of total cost for machinery and 8.0% for electronics.

Table 12: Philippine Manufactured Exports, 1985-2000
(in USD million and percent)

Item	1985	1990	1995	2000
Total Exports	**4,629**	**7,821**	**17,447**	**38,079**
Manufactured Exports	2,765	5,995	14,224	34,242
	59.7	76.7	81.5	89.9
Electronics	38.2	32.8	52.1	64.8
Garments	22.5	26.3	18.1	7.5
Machinery	1.1	2.5	5.2	17.3
Textiles	1.4	1.5	1.5	0.7

Source: Balisacan and Hill (2003)

Table 12 also shows that the shares of garments and textiles in exports have been falling. For garments, the decline has been marked from 22.5% to 7.5%. For textiles, the decline has been from 1.4% to 0.7%. The falling shares of these light industries also mirrored the falling shares of employment to total manufacturing employment. The share of employment in the textile sector has fallen from 10.4% in 1988 to 5.1% in 1997. For the garments sector, employment has fallen from 16.6% to 14.5% during the same period. The textile and garments sectors are labor-intensive industries where raw wage competitiveness is paramount. (World Bank, 2000) As revealed by the 1999 Census of Establishments, raw materials comprise 50.9% of total cost for textile and 52.0% for garments. Labor costs comprise 21.2% of total cost for textiles and 25.7% for garments.

Indeed, the table shows the shifting comparative advantage of the country as indicated by the declining share of textiles and garments in exports and the increasing share of electronics and machinery. Other potential exportables over which the Philippines may have an advantage in terms of labor costs are auto parts, backroom services, and consumer electronics.

F. Raw Wages versus Unit Labor Costs

While raw wages may matter for some manufacturing industries what really matters most is unit labor cost or ULC, which is a better measure of international competitiveness. It is defined as the cost of worker's compensation per unit of output or alternatively, the ratio of worker's compensation to labor productivity. The lower the ULC, the more competitive is a firm, or the manufacturing sector, or the economy. Moreover, the slower the growth of ULC or the faster the decline in ULC, the more competitive is a firm or the manufacturing sector or the economy. One important implication of ULC analysis is that high wage countries can compete against low-wage countries through the higher productivity of labor in the latter (Felipe and Sipin, 2004).

Algebraically, ULC is defined as

$$ULC = \frac{w_N}{(VA_N / P) / L} = \frac{w_N L}{VA_N} * P \qquad (1)$$

where W_N is the nominal wage rate, VA_N is nominal value added, P is the output deflator, and L is employment. For inter-country comparisons, ULC can be rewritten as

$$ULC = \frac{(w_N / ER)}{(VA_N / PPP) / L} = \frac{w_N L}{VA_N} * \frac{PPP}{ER} \qquad (2)$$

where $(w_N L)/ VA_N$ is the "pure ULC effect" and PPP/ER is the price adjustment effect (Felipe and Sipin, 2004).

From equation (2), one way to maintain a low ULC is by keeping nominal wages (w_N) low or the so-called low road. An alternative option is to increase labor productivity (VA_N/L) or the so-called high road. Two mechanisms to increase labor productivity are (1) increasing physical investment or increasing the capital-labor ratio so that each worker becomes more productive with higher capital and (2) investment in the human capital of workers. Another option as suggested also in equation 2 is through the nominal depreciation of the exchange rate as this makes exported goods relatively cheaper.

Table 13 presents the growth rate of manufacturing wages, labor productivity, and unit labor cost from 1980-1997. The inflation rate is also presented to provide an estimate of the movement of real wages.

Table 13: Growth Rate of Manufacturing Wage, Labor Productivity, Unit Labor Costs, and Inflation Rate, 1980-1997

Year	Growth Rate of Nominal Wage	Growth Rate of Labor Productivity	Growth Rate in ULC	Inflation Rate
1981	10.1	(2.0)	1.7	14.7
1982	4.8	(20.6)	80.3	10.2
1983	3.8	86.2	(60.0)	10.0
1984	(12.6)	(6.8)	(4.5)	50.3
1985	6.6	(4.3)	21.4	23.1
1980-1985	**2.5**	**10.5**	**7.8**	**21.0**
1986	2.1	24.9	(15.7)	0.8
1987	15.3	0.8	37.2	3.8
1988	15.0	9.6	8.5	8.8
1989	11.5	(1.2)	10.9	12.2
1990	(5.1)	11.0	(28.2)	14.2
1991	6.1	1.5	5.9	18.7
1986-1991	**7.5**	**7.8**	**3.1**	**9.8**
1992	32.5	17.7	(1.9)	8.9
1993	(2.5)	12.7	(22.6)	7.6
1994	15.3	1.3	2.4	9.0
1995	9.0	14.1	(21.4)	8.0

1996	0.5	3.6	(15.2)	9.1
1997	(4.9)	2.0	(3.6)	5.9
1992-1997	**8.3**	**8.6**	**(10.4)**	**8.1**
Average	**6.1**	**8.9**	**0.2**	**12.9**

Source:: Felipe and Sipin (2004); 2003 Yearbook of Labor Statistics

The wage rate increased around 6.1% on average from 1980-1997, labor productivity improved by 8.9%, and unit labor costs slightly rose to 0.2%. During the last 6 years of the Marcos administration (1980-85), the nominal wage grew at a slower pace than that of labor productivity at a ratio of one is to four. The real wage deteriorated during this period as the nominal wage grew by a mere 2.5% while the inflation rate averaged 21%. This period coincided with the progressive reduction of tariffs through the Tariff Reform Program. The average tariff rate dropped from 43% in 1980 to 28% in 1985 (Bautista and Tecson, 2003).

During the Aquino administration (1986-91), the nominal wage grew at about the same pace as labor productivity at around 7%. Inflation was contained to single digits at 9.8%. But looking at the sub-period from 1987 to 1989, the nominal wage grew 14% annually while labor productivity grew by only 3%. Interestingly, estimates by Felipe and Sipin (2004) note that after 1989, China overtook the Philippines in terms of having a lower relative ULC.

During the Ramos administration (1992-97), labor productivity and wage growth continued at a similar pace at around 8%. Inflation was reined in at 8.1%. It was during the Ramos period that the Philippines experienced a significantly falling ULC at 10.37%. The nominal wage increased at a pace of 8.3% during the Ramos period, much faster than 7.49% during the Aquino period. However, labor productivity increased by 8.6% during the Ramos period, much faster compared to the 7.8% growth during the Aquino period.

III. RESPONDING TO A MORE COMPETITIVE ENVIRONMENT

A. The 1999 Industrial Relations at the Workplace Survey

How did firms try to cope with the more competitive environment? The 1999 Industrial Relations at the Workplace Survey discusses how firms tried to cope with globalization. The study covers industry and services and delineates between those firms with and without union and those wholly owned by Filipinos and those with foreign equity. The firms' adjustment mechanisms include improvement of quality of product/services, acquisition of technology, investment in human resource development, streamlining of work practices, and employment flexibility.

A total of 21,527 establishments with 20 or more workers nationwide were surveyed. Of the total surveyed, only 6,736 establishments or only 31.3% of total establishments have developed mechanisms to cope with globalization. Some 6,341 (29.5%) establishments were still in the process of developing mechanisms and 8,450 (39.2%) establishments have not yet developed mechanisms to cope with globalization. It is the more unionized (47%) firms rather than the non-unionized firms (27.4%) that have developed mechanisms to manage globalization. This implies that labor unions can be effective partners of employers in helping them adjust to globalization. In addition, firms with foreign equity (46.9%) rather than wholly Filipino-owned firms (28.6%) have developed mechanisms to manage globalization. This comes from the fact that foreign investors not only bring

in more capital but also better managerial skills and a greater knowledge and understanding of how to compete in global markets.

Table 14 presents the different mechanisms employed by firms to cope with globalization. Most firms improved the quality of their product and services (79.8%) and acquired more appropriate technology (73.7%). Improvement of product/service quality has been the preferred route for manufacturing (85.4%) and hotels/restaurants (80.4%). Acquisition of a more appropriate technology has been the more favored route for financial intermediaries (92.8%), private education (91.0%), utilities (83.9%) and construction (80%). Moreover, a quarter of the surveyed firms (25.2%) have increased their spending in research and product development. This is particularly true for mining (41.5%), manufacturing (36.6%) and hotels/restaurants (32.8%).

Table 14: Percent Share of Responding Establishments with Mechanisms to Cope with Globalization by Industry and Mechanisms Adopted

(%)

Industry	Total	Improvement of Quality of Product and Services	Acquisition of Appropriate Technology	Investment in Human Resource Development	Increase in Product Research and Development	Streamlining Work Practices	Employment Flexibility
Total	**6,736.0**	**79.8**	**73.7**	**53.3**	**25.2**	**52.6**	**36.8**
Mining	41.0	46.3	65.9	48.8	41.5	63.4	75.6
Manufacturing	1,979.0	85.4	63.4	39.8	36.6	51.0	40.9
Utilities	161.0	72.0	83.9	76.4	11.8	59.6	50.3
Construction	165.0	73.3	80.0	38.2	10.9	42.4	63.6
Trade	1,232.0	79.2	73.0	64.9	19.5	63.9	39.4
Hotel	842.0	80.4	67.7	51.4	32.8	39.5	43.8
Transport	316.0	77.5	76.9	51.6	10.8	47.5	33.9
Finance	680.0	78.4	92.8	72.2	22.8	72.2	15.6
Real Estate	434.0	74.7	77.4	47.9	17.3	44.5	26.5
Private Educ	598.0	76.1	91.0	61.9	20.2	43.5	23.2
Health	135.0	74.8	74.8	49.6	8.1	58.5	42.2
Others	153.0	76.5	61.4	41.8	5.2	32.7	48.4
With union	2,003.0	84.3	75.4	64.6	27.9	63.7	39.2
Without union	4,734.0	77.9	73.0	48.5	24.1	47.9	35.8
Wholly Filipino-Owned	5,248.0	78.5	72.9	51.0	25.1	53.2	36.0
With Foreign equity	1,488.0	84.1	76.7	61.2	25.5	50.7	39.7

Source: Bureau of Labor and Employment Statistics, 1999 Industrial Relations at the Workplace Survey

More than half (53.3%) of the surveyed firms have invested in human resource development (HRD). HRD has been the more favored route for utilities (76.4%), financial intermediation (72.2%), wholesale/retail trade (64.9%) and private education (61.9%). For manufacturing, only 39.8% firms have invested in HRD. More unionized firms (64.6%) rather than non-unionized firms (48.5%) invest in HRD. This suggests that labor unions can be effective partners of employers in workers' skills upgrading. In addition, more firms with foreign equity (61.2%) rather than wholly Filipino-owned firms (51.0%) invest in HRD. This indicates greater awareness of these firms of the importance of skills upgrading to increase labor productivity.

More than half (52.6%) of firms have streamlined their work practice and more than a third (36.8%) of firms have employed a certain degree of labor flexibility. More unionized firms (63.7%) than non-unionized firms (47.9%) have streamlined their work practice. Employment flexibility has been the favored route for mining (75.6%), construction (63.6%), utilities (50.3%), hotels/restaurants (43.8%) and manufacturing (40.9%).

B. Productivity

Table 15 presents recent estimates of labor productivity growth in manufacturing industries from 1998-2002. On average, labor productivity improved by 2.03% annually from 1998-2002. Labor productivity is above average for fabricated metal products, machinery and equipment (9.4%), for chemicals, petroleum, coal, rubber, and plastic (3.2%), and for basic metal (4.2%). Labor productivity of food, beverages, and tobacco (2.0%) is within average. Labor productivity is below average for textile, wearing apparel, and leather industries (1.3%) and non-metallic mineral products (0.1%). Average labor productivity is negative for paper and publishing (-3.1%) and wood products (-7.3%).

Table 15: Labor Productivity Growth Rate, 1998-2002

Industry	1998	1999	2000	2001	2002	Average
Food, beverages, and tobacco	3.7	4.6	(6.5)	6.3	2.0	2.0
Textile, wearing apparel, and leather industries	(19.3)	8.0	8.9	7.4	1.3	1.3
Wood and wood products	(9.8)	4.4	(18.3)	(5.6)	(7.3)	(7.3)
Paper and publishing	1.2	12.1	(24.2)	(1.4)	(3.1)	(3.1)
Chemicals, petroleum, coal, rubber, and plastic	4.3	7.4	(5.4)	6.5	3.2	3.2
Non-metallic mineral products	(10.8)	12.9	(7.3)	5.5	0.1	0.1
Basic metal	(14.8)	(21.5)	47.3	5.7	4.2	4.2
Fabricated metal products, machinery and equipment	14.1	14.9	(5.3)	14.1	9.4	9.4
Manufacturing	(0.0)	6.2	(2.8)	4.8	2.0	2.0

Source: 2003 Yearbook of Labor Statistics

C. Compensation Patterns

Compensation in manufacturing sector has been falling (see Table 16). Though the compensation for workers in industries and services has been growing at a mere 0.3% annually, compensation in the manufacturing sector has been declining by 1.8% annually. Within the manufacturing sector, changes in compensation have been mixed. The compensation of employees working in beverages, tobacco, petroleum and coal, basic metals, and electronics are above the manufacturing average. The compensation of employees working in food, footwear, wood products, furnitures, and machineries are within average. The compensation of employees working

in textile, leather, paper, publishing, rubber, chemical, non-metallic minerals, metal products and transport equipment are below average.

Table 16: Index of Compensation per Employee in Non-Agricultural Industries and in Manufacturing, 2002

(in establishments employing 20 and over; 1978=100)

Major and Minor Industry Group	Average
Non-Agricultural Industries	107
Manufacturing	63.4
Food	65.8
Beverage	114.6
Tobacco	124.9
Textile	59.5
Footwear and Wearing Apparel	63.9
Wood and Wood Products	60.2
Leather	21.8
Furnitures and Fixtures	68.4
Paper and Paper Products	38.3
Publishing and Printing	23
Rubber	33.3
Chemical and Chemical Products	55
Petroleum and Coal	94.1
Non-metallic Mineral Products	33.6
Basic Metals	76.7
Metal Products	57.2
Machineries (except electrical)	69.1
Electrical Machineries	86.1
Transport Equipment	27.5
Miscellaneous	59.4

Source: 2003 Philippine Yearbook of Labor Statistics

Focusing on labor-intensive light industries, employees' compensation in textile has been falling by 2.1% annually for the last 24 years; for footwear, 1.9%; for leather, 6.1%: and for furniture, 1.6%. Focusing on the so-called capital goods, employees' compensation in metal products has been falling by 2.3%; for machineries, 1.5%; for electronics 0.6%; and for transport equipment, 5.3%.

D. Flexible Labor Arrangements

Globalization brought to the fore, flexible production arrangements enabling firms to quickly and efficiently respond to changes in their product markets. McKay (1999) cites two roads to flexible production - the so-called low road and the high road. Firms on the low road are found in lower value-added production and compete more on price. Firms try to seek competitiveness through low labor cost and a deregulated labor market environment. Firms on the low road use cost-minimizing measures such as employing temporary labor. Wages are kept low, benefits to a

minimum, and little training and opportunity for advancement are provided to the workers. Firms on the high road are found are found in higher-value added production and compete more on quality rather than on price. Firms on the high road seek competitiveness based on efficiency enhancement and innovation. Firms on the high road focus on human resource development- from cost containment to skills enhancement. Firms invest in worker training and education to increase productivity.

Another way to look into labor flexibility is by looking through the internal (functional) or external (numerical) adjustments that can be employed by firm owners. Internal flexibility involves the adjustment of firm's regular staff to work demands. Adjustments could be in the work schedule, place, and skill. This could vary from working employees overtime, compressing the workweek, and adopting a flexible shift. It could also involve flexible workplace arrangements where workers are given the chance to work outside the working place (e.g at home). Internal flexibility also involves job rotation and multi-skilling. External flexibility refers to adjustments in the number of workers (e.g. hiring of non-regulars) to work demands. This includes subcontracting, agency hiring, and temporary employment (Aganon, 1997).

Aganon (1997) lists the most common forms of labor flexibilities in the Philippines as follows:

i) reduction in the core of permanent workers through the increasing employment of casual/agency hired or provided workforce;
ii) increasing work shifts per day and use of overtime work;
iii) increasing use of women flexible labor under the government's apprenticeship or student employment programs, or the work appreciation program;
iv) subcontracting the production of components or products previously manufactured by the firm;
v) subcontracting services like packaging, security, housekeeping, maintenance, and the like;
vi) increasing use of "permanent" casuals, who stay in the firm as casual for years or who work on an "off-on" basis depending on the workload;
vii) the growing use of multi-skilling measures and job rotation;
viii) the rising number of homeworkers;
ix) the wide use of labor-only subcontracting despite prohibitions posed by the Labor Code; and
x) payment by piece rate and the use of performance bonus systems.

The Philippine Labor Flexibility Survey (PLFS) of 1990, which surveyed around 1,311 establishments, provides a glimpse of the extent of growing labor flexibility in the Philippines. The PLFS is discussed extensively by Windell and Standing (1992). The study looks into different industries and the characteristics of firms engaged in flexible arrangements such as location, size, and degree of export-orientation.

In general, two out of three Filipino firms employed some form of non-regular employment like temporary/casual employment, probationary employment, and contract labor. Non-regular workers represent around 5% of their workforce. Around 75% of textile firms, 70% in the wood products sectors and slightly more than half in the electronics firms employed non-regular workers. When market conditions were unfavorable firms retrenched non-regular labor or hired fewer non-regular workers instead of dismissing regular employees. Understandably, firms with a greater

proportion of non-regular workers were likely to retrench more. This suggests that firms are likely to maintain a lean core of workers and hiring or firing non-regular workers depending on fluctuations in the demand for its product. Non-regular workers were paid less in terms of wages and benefits. Hiring of non-regular workers gave firms some degree of flexibility that allowed them to adjust to changing market demand for their products. Moreover, faced with a large labor surplus, it was not feasible for firms to hire regular workers.

Temporary labor or casual workers. Four out of ten firms employed temporary or casual workers in the previous two years (mid-1988 to mid-1990) and less than 10% in 1990. Electronics firms were likely to hire more (52.3%) temporary workers, followed by wholesale/retail trade (46.9%), and non-metal industries (46.0%). The larger the firm, the more likely it would for the firm to employ temporary workers. Filipino firms with foreign equity were likely to hire temporary workers. Casual workers filled out unskilled or semi-skilled positions and they were hired for short-term projects. They were paid less (73-84% less of the wage of a regular worker counterpart) and they received less benefits. There were even marked difference between benefits of unskilled regular workers and casual workers. At the end of the contract, only 1 out of 5 firms hired then as regular workers while most were rehired as casual workers.

Contract labor. Filipino firms hired contract labor directly or through sub-contracting agencies. Wood products and construction industries were likely to hire contract labor. Contract labor was positively related to the size of firms. They filled out skilled positions and were paid on a piece-rate basis. They are paid 88% less of the wage of a regular worker counterpart and slightly better than casual workers.

Probationary employment. Three out of every four workers are required to undergo probation for two years or more. Those on probationary employment are paid lower wages and receive fewer benefits than regular workers. They were likely to be terminated due to market fluctuations rather than for poor job performance.

Labor subcontracting. This involved firms allowing another firm or firms to do specific tasks or do the hiring for them. At least one out of five firms in the electronics, textiles, and wood products contracted out some activities. Labor contracting is positively related to the size of firms and export-orientation. Firms contracted out to reduce cost rather than to expand capacity.

Preliminary results of the 2000 Philippine Labor Flexibility Survey reveal that 27.1% of the surveyed firms employed temporary and casual workers, 22.5% part-time workers, 13.2% contractual workers, and 10.2% agency-hired workers. (Soriano and Imperial, undated)

Several studies (Sinay-Aguilar et al, 1990; Aganon, 1997) documents labor flexibility practices in the Philippines through surveys and case studies.

Sinay-Aguilar et al (1990) documents the subcontracting practices of export-oriented firms (e.g. garments, toys, furnitures, and electronics). For a garment company, subcontracting is a cheaper alternative since it does not have to pay minimum wages and benefits (health and social insurance). Company workers, having to work overtime during peak seasons, view subcontracting as advantageous to them as subcontracting allows the company to meet tight deadlines for their job

orders. A company will avoid subcontracting arrangements only if it is concerned with product quality.

Firms were able to subcontract by asking referrals from their workers. The workers, in turn, recommended relatives and friends to do the job. They subcontracted during peak periods, in the months of August and February. Subcontractors were chosen based on experience and the capacity to deliver on time. The company sends its quality inspectors to check for quality.

Table 17 shows the phases of production that a company usually subcontracts and the mode of payment. The company retains designing, styling, pattern making, and cutting for its workers but it may subcontract sewing and finishing during peak seasons. The company pays the subcontractor on a daily basis.

Table 17: Subcontracting in Garments

Phase of Production	Manufactured By	Mode of Payment
Designing, Styling	The company	Monthly
Pattern-making	The company	Monthly
Cutting	The company	Monthly
Sewing	The company Subcontractor	Daily
Finishing	The company Subcontractor	Daily
Packaging	The company Subcontractor	Daily

Source: Sinay-Aguilar, et al (1990)

The work for the subcontractor's workers is only available during peak seasons so a subcontractor hires and trains new workers every time. Sewers are paid in varying amounts. One worker earns P30 for attaching 120 collars. One receives P700 to P1,000 a week. For one subcontractor that does embroidery, workers are mostly from far-flung areas (e.g. Bicol region) to minimize the visits of friends and relatives. Workers are provided with housing, light, and water.

Workers undergo training in embroidery for two weeks. Workers are paid on a piece-rate basis. An embroiderer gets P400 to P1000 a week. The subcontractor is paid P22 a piece while he pays his worker P6.

The company also engages in labor subcontracting during the peak period. Building maintenance, loading and unloading of raw materials, and packaging tasks are subcontracted.

Electronics. The manufacturing process is mostly done overseas while some product assembly and repackaging is done locally. The company and subcontractors engage in semi-conductor assembly. They have ready buyers for their products.

Electronic and garment firms practice job rotation and multi-skilling. Flexible time arrangements can be granted to managers and supervisors of electronics firms. Flexible time arrangements are allowed for patchers, trimmers and finishers in garment factories. External flexibility arrangements, like subcontracting and temporary employment are used more by garments than electronic firms. Job rotations are done in Philippine firms to increase the number of workers

in one department of the company where there is much work falling behind schedule. It seemed there was no direct intent to enhance or enrich workers' skills and knowledge. The following were some accounts from Aganon (1997):

> "When one has finished his/her load or has a light load, he/she is shifted to where there is much work to be done, especially when there are rush orders to deliver…"Garment workers are all around workers and so they are rotated where they are needed from time to time."

Some workers go through a multi-tiered scheme until they become permanent employees. Some start as apprentices for 5 months after which they become probationary employees for the next 6 months. Some become "permanent casuals" who work during peak seasons. The firm or hiring agencies do the recruitment of these workers (Aganon, 1997).

Adopting flexible labor arrangements was another way by which firms sought to overcome policies that increased labor costs or prevented them from varying labor inputs in response to changing economic conditions. This included the practice of substituting regular or permanent workers with temporary or casual labor, the greater use of part-timers and apprentices, subcontracting components of production that were previously done in-house to outsiders especially informal sector producers, and the subcontracting of services performed inside the plant (undertaken previously by regular workers of the firm) to outsiders such as in the provision of janitorial services, security, transport and maintenance, etc. Esguerra (1997) included the use of overtime or increasing the number of shifts in a day and the use of pay systems based on piece rates and bonuses rather than working time as the other measures used by firms to promote employment flexibility.

To discourage the growth of contingent employment contracts, the government required firms to reclassify workers as regular employees after six months of continuous service. In response, firms simply hired their workers on a rotating basis or replaced them after six months. The attempt to provide workers employment security through legislation had the opposite effect. Being adequately employed and staying employed for longer periods became a privilege enjoyed by only a few workers.

E. Increasing Female Employment

Another way by which firms tried to adjust to a more competitive environment was via the "feminization" of the labor force. The increased use of female workers started even before the government began implementing trade liberalization measures. Labor-intensive export-oriented manufacturing firms facing strong competition in foreign markets were already employing females in large numbers. Women not only possessed characteristics that made them suitable for the kind of work needed by these industries but also were more willing to accept lower wages. They were also perceived to be less truculent and less likely to join unions.

F. Ignoring Labor Laws

Finally, firms simply ignored some of the more unrealistic labor laws particularly those concerning wages and other forms of compensation. Apparently, many firms saw that running the risk of getting caught and paying a fine (or a bribe) for violating labor laws was a cheaper alternative to paying workers legislated wages and benefits.

Table 18 shows the number of establishments inspected by the DOLE and the number and proportion found violating general labor standards. Of the 32,363 establishments inspected in 2002, over 50 percent were found to be violating at least one labor law. There does not seem to be a significant improvement over time in the proportion of firms found violating labor laws.

Table 18: Establishments Inspected and Found Violating General Labor Standards Philippines, 1980-2002

Year	Establishments Inspected	Establishments Found with Violations	Percentage of Establishments Found with Violations
1980	504	433	85.91
1981	367	297	80.93
1982	1,113	897	80.59
1983	712	612	85.96
1984	1,034	767	74.18
1985	1,307	676	51.72
1986	1,441	754	52.32
1987	12,044	5,145	42.72
1988	12,983	6,590	50.76
1989	27,219	13,901	51.07
1990	25,043	15,242	60.86
1991	25,854	14,968	57.89
1992	31,773	16,264	51.19
1993	37,485	22,482	59.98
1994	74,966	46,679	62.27
1995	77,849	43,380	55.72
1996	73,851	35,256	47.74
1997	60,134	30,770	51.17
1998	37,080	21,538	58.09
1999	50,129	25,588	51.04
2000	35,011	17,976	51.34
2001	33,914	17,719	52.25
2002	32,363	16,313	50.41

Source: 2003 Labor and Employment Statistics, Bureau of Labor and Employment Statistics

IV. HUMAN RESOURCE DEVELOPMENT

The "feminization" and "casualization" of the labor force are attempts by firms to legally overcome the constraints imposed by restrictive labor policies. This may have adverse consequences on the productivity and competitiveness of Philippine labor over the long run. At this stage, it is difficult for the Philippines to compete with countries like China and Vietnam in labor-intensive industries employing low-skilled workers. Given the relatively higher cost of labor, the country might be better off competing in skill-intensive industries where labor productivity is higher and consequently, it becomes feasible to pay workers higher wages. This will require greater investments in the human capital of our labor force through the formal educational system and through firm-level training.

Firm-level training and low worker turnover go hand in hand. Firms will train workers only if workers stay because they have to recover their training investments. At the same time, through training that raises the productivity of workers, firms can offer attractive compensation packages

that provide incentives for workers to stay. The labor force participation of females, however, tends to be discontinuous and firms will only provide training to them if they will shoulder the cost of the training in the form of lower wages. This becomes difficult when compensation may have to be set below the floor prescribed by legislation on minimum wages and benefits. Furthermore, because of the incentives of firms to hire contingent workers, it is unlikely that these workers will be given training by firms.

The state of Filipino workers' training leaves much to be desired (see Table 19). Training costs comprise a mere 0.76% of the total labor cost for non-agricultural firms. Manufacturing firms spends much less (0.57%) on the average. Workers' training are very much less on light industries such as textile (0.09%), footwear (0.06%), wearing apparel (0.16%), leather (0.10%), wood products (0.13%), and furniture (0.15%). In only three industries do expenditures exceed 1% of labor cost: rubber (1.23%), petroleum and coal (3.52%), and electrical machineries (1.32%).

Table 19: Percent Distribution of Labor Cost Per Employee in Non-Agricultural Establishments Employing 20 and Over By Major and Minor Industry Group and Major Cost Components, Philippines: 1998

(in Philippine pesos)

Major and Minor Industry Group	Total Amount (in millions)	Direct Wages	Cost of Training	Bonuses and Gratuities	Employer's Social Security Expenditures
Non- Agricultural	314844	76.63	0.76	8.68	9.10
Manufacturing	104994	76.68	0.57	7.60	9.69
Food	17415	76.31	0.36	8.04	8.93
Beverage	6734	77.14	0.23	6.84	10.90
Tobacco	832	78.98	0.12	7.45	9.76
Textile	4133	79.49	0.09	6.28	8.40
Footwear	1315	82.57	0.06	7.67	6.99
Wearing Apparel	9893	75.20	0.16	6.02	14.73
Leather	718	85.76	0.10	5.93	6.22
Wood Products	1134	80.53	0.13	6.34	8.26
Furnitures and Fixtures	261	83.22	0.15	8.05	5.44
Paper Products	1823	80.46	0.39	6.49	7.74
Publishing and Printing	2853	77.32	0.33	11.10	7.71
Rubber	889	78.99	1.23	6.08	7.30
Chemical Products	11361	74.79	0.62	10.30	9.68
Petroleum and Coal	1071	65.88	3.52	14.12	9.53
Cement	1046	74.17	0.64	7.53	12.15
Non-metallic Mineral	2250	77.88	0.43	6.89	8.69
Basic Metals	4101	81.04	0.37	6.22	8.44
Metal Products	2741	79.22	0.24	8.52	6.87
Machineries (except electrical)	2585	77.43	0.63	6.78	10.83

Electrical Machineries	6109	76.51	1.32	7.32	9.77
Transport Equipment	3048	60.71	0.35	11.67	17.53

Source: 2003 Philippine Yearbook of Labor Statistics

The 1999 Industrial Relations at the Workplace Survey covering 21,527 firms provides a glimpse of training-related benefits granted to employees. Only a quarter (26.6%) of unionized firms and a tenth (10.3%) of non-unionized firms provide study/scholarship leave to its employees (Table 20). More than half (50.2%) of unionized firms and a third (31.3%) of non-unionized firms provide skills development training (Table 21). This is truer for firms with foreign equity. Study grants for employees are offered less to workers as part of their welfare benefits. Only 15.5% of unionized firms and 8.0% of non-unionized firms provide such grants.

Table 20: Percent Distribution of Establishments by Type of Leave Benefits Granted to Employees, With or Without Union and Type of Ownership, 1999

Leave Benefit	With Union	Without Union
Study/scholarship leave	26.6	10.3
Vacation leave	98.0	81.4
Sick leave	96.9	85.2
Paid regular holidays	90.9	81.5
Maternity leave	87.6	79.4
Paternity leave	81.9	51.9
Paid special holidays	81.0	75.3
Union leave	66.7	—
Birthday leave	27.0	12.6
Service incentive leave	18.0	23.3

Source: BLES (2001)

Table 21: Percent Distribution of Establishments by Type of Other Welfare Benefits Granted to Employees, With or Without Union and Type of Ownership, 1999

Other Welfare Benefit	With Union	Without Union	With Foreign Equity	Wholly Filipino-owned
Skills development training	50.2	31.3	47.1	34.9
Study grants	15.5	8.0	8.0	10.3
Clothing allowance	74.3	53.0	68.1	58.6
Meal allowance	50.0	37.4	51.6	40.1
Recreation facilities	43.2	18.2	41.2	21.2
Rice allowances	38.4	15.1	31.5	18.7
Credit services	33.5	25.4	27.0	28.5
Family planning	21.2	3.2	14.2	5.8
Educational plan	15.0	5.6	6.5	8.1
Subsidized housing	12.0	10.3	9.9	11.3

Source: BLES (2001)

V. PROSPECTS FOR INDUSTRIAL UPGADING THROUGH HUMAN RESOURCE DEVELOPMENT

The comparative advantage of the Philippines lies in its people, particularly its endowment of semi-skilled and skilled labor. Rising domestic wages and the entry of low wage countries like Vietnam and China has gradually eroded the country's comparative advantage in unskilled labor. Nevertheless, several local and international surveys point to the relatively high quality of our workers as a possible source of industrial growth.

World Competitiveness Yearbook. The World Competitiveness Yearbook (WCY) is published annually by International Institute for Management Development and ranks the competitiveness of 59 mostly emerging economies based on quantitative and survey data. Four major aspects are looked into like economic performance, government efficiency, business efficiency, and infrastructure. The Philippines is part of Group 1, which is composed of 30 countries with a population greater than 20 million (Macaranas, 2003).

The Philippines has continually slipped in its ranking from the 12th place out of 30 in 1999 to 22nd place in 2003. The gradual erosion of Philippine competitiveness has been attributed to low productivity levels and poor and lack of infrastructure. However, the persistent strengths of the Philippines lie in its people. The Philippines is ranked second in availability of skilled labor, ranked third in competent senior managers, ranked third in labor costs, ranked fourth in remuneration in services profession and ranked fifth in the availability of finance skills. Moreover, the Philippines ranked sixth in information technology skills, ranked seventh on knowledge transfer between private firms and universities, and ranked sixth in good finance education. However, the Philippines was ranked the last in terms of high pupil-teacher ratio and second to the last in expenditure on research and development (Macaranas, 2003).

The Annual Corporate Survey. The 2003 Annual Corporate Survey conducted by Wallace Business Forum also points out that the country's major advantage is its people. Multinational companies (MNCs) rank English language proficiency as the number one benefit of doing business in the country. Other benefits cited by MNCs are labor availability, quality, and reliability (2nd), adaptability to Western culture and practices (3rd), quality and quantity of middle management/technical people (5th), positive Filipino attitude (6th), low cost environment, including labor cost (7th), and educational attainment/literacy of workers (8th). The survey also points out that the rapidly increasing wage cost is becoming one of the problematic operating issues for MNCs (Wallace, 2003).

JETRO Survey. A survey of Japanese subsidiaries in East Asia conducted by Japan External Trade Organization (JETRO) reports of the relatively good quality of Filipinos working in Japanese firms (see Table 22). Filipino managers, engineers, and general workers rank third and Filipino foreman rank fourth in quality out of the six ASEAN countries. The scores of Filipino managers and engineers are above those of their Chinese counterparts. However, the scores of Taiwanese workers are above that of Filipino workers in all aspects (Ishido, 2003).

Table 22: Average Score of Indigenous Workers Employed by Japanese Manufacturing Subsidiaries

Country	Manager	Engineer	Foreman	General Worker
Singapore	2.75	2.53	2.67	2.60
Malaysia	2.36	2.23	2.11	2.00

Thailand	2.14	2.17	2.27	2.52
Philippines	2.27	2.30	2.23	2.55
Indonesia	2.13	2.19	2.13	2.25
Vietnam	2.13	2.31	2.24	2.63
China	2.02	2.13	2.26	2.45
Taiwan	2.45	2.42	2.57	2.73

Notes: Criteria - 4 (satisfactory), 3 (almost satisfactory), 2 (slightly unsatisfactory), 1 (unsatisfactory)
Source: Cited in Ishido (2003)

Growth in skill-intensive industries depend also on the level of R&D. Unfortunately, relative expenditures of the Philippines on R&D is low. R&D in the Philippines is estimated to be a mere 0.21% of Gross National Income. Philippine R&D expenditure is considered lower compared to Singapore (1.13%) and Malaysia (0.42%) but above those of Thailand (0.10%), Indonesia (0.07%), and China (0.06%) (Ishido, 2003). Government plays a lead role in R&D (56.9%), followed by higher education (19.5%), the private sector (16.7%), and non-government organizations (6.8%) (Lamberte et al, 2003).

Lamberte et al (2003) summarized the results of several studies on R&D activities of manufacturing firms as follows:

i) Only big firms engage in innovation. These are industry leaders. Smaller firms may just be "along for the ride" and may not even be considered "followers".

ii) Innovation activities are perceived by the firms to improve their competitiveness through improved quality, lower production costs, and enhanced marketing performance. Firms formulate their technology strategy to support their overall business strategy

iii) Majority of the firms employ only college graduates or lower in their innovation activities, implying a very low level of innovation activity.

iv) Government research institutions rank very low as a source of innovation ideas. Internal R&D is not relied upon, except by the firms in the electronics and electrical industry. Ideas for innovation activities are usually sourced from the outside in the form of consultancy services, information on competitor activity generated by monitoring, purchase of technology, tangible and intangible, and the recruitment of manpower with the required skill.

v) Financial constraints such as risk and rate of return, lack of financing and taxation are the major hindrances to innovation. Technical constraints such as lack of information on new technologies, deficiency in external technical services, innovation costs, and uncertainty rank next as barriers to innovation. Other mentioned include difficulty in obtaining patents, low technological standards, lack of skilled personnel, and lack of opportunities for cooperation with other companies.

vi) Support facilities like testing centers, either government-run or government subsidized, standardization institution, and support industries like casing and others are lacking or non-existent. Access to recent and state-of-the-art technologies is lacking due to poor databases.

VI. CONCLUSION AND POLICY RECOMMENDATIONS

Unskilled labor in the Philippines has become relatively expensive while semi-skilled and skilled labor remains relatively cheap. Consequently, jobs in labor-intensive industries using unskilled workers are stagnating while jobs in industries using semi-skilled workers are growing. Hence, if the country were to reduce unemployment and poverty, it will have to deepen its growing advantage in semi-skilled and skilled labor-intensive industries.

One immediate step that the government can take in the area of policy is to eliminate the disincentives for firms to invest in the training of their workers. Specifically, the implicit policy of granting regular workers security of tenure has led to the growth of contingent labor contracts that in turn have reduced incentives for firms to invest in the training of their workers. Likewise, firms will hesitate to train its female employees unless they are allowed to recover the costs of their training via lower wages.

Government should play a more aggressive role in skills upgrading particularly since there are market failures inherent in private markets for the enhancement of workers' skills and because of its principal mandate to promote equity in behalf of society. Government can provide direct and indirect subsidy for workers' skill development and this could be done via the Technical Education and Skills Development Authority (TESDA).

TESDA, which is under the Department of Labor and Employment, is the lead government institution in developing and promoting middle-level manpower in the country. It is mandated to integrate, coordinate, and monitor skills development programs and develop an accreditation system for institutions involved in middle-level manpower development. It is also tasked to assist in training the trainers and approve skills standards and tests.

The government, in particular TESDA, should look into subsidizing human resource development (HRD) programs of firms. The government can reallocate a portion of its TESDA budget in subsidizing workers' training. Industry boards and TVET institutions can formulate training programs and modules suited to the industry in general (generic programs) and to individual firms in particular (specific programs). Firms' employees can enroll in these programs via scholarships provided by TESDA. Jointly formulating the training programs/modules make the program more relevant to industry needs. Generic and specific programs can also be offered to non-workers particularly those that plan to participate to apprenticeship programs by firms. Moreover, the industry boards, TESDA, and TVET institutions should coordinate and determine the long-run needs of industry. Official development assistance between the Philippines and a partner country should be oriented towards skills development and trainers' training.

Basic education, both primary and secondary schooling, should be strengthened. Emphasis should be on science, math, and English. Moreover, college scholarships should be directed to priority disciplines like basic sciences, math, and engineering.

The government should also address disincentives to the growth of domestic investments. For instance, the Philippines ranks among those having the most expensive power rates in East Asia. High electricity expense is considered one of the reasons for declining Philippine competitiveness. Electricity expense could reach as high as 41% of total operating costs in the Philippines compared to 10% in Malaysia. The prohibitive cost of electricity is cited as one of the primary reasons for the recent relocation of some of the electronics firms from the Philippines to China. Moreover, the quality and reliability of power are much to be desired as high technology products and equipments

need stable power supply. Installation of devices (e.g. power line conditioners) to protect products and equipments from unstable power supply increase the cost for electronics firms and erode the competitiveness of Philippine electronic firms.

Another issue that the government can address is basic infrastructure and logistics. This includes distribution infrastructure like roads, railroads, and air and water transportation. The Philippines is ranked last (30^{th}) in terms of quality basic infrastructure and distribution infrastructure based on World Competitiveness Yearbook. The lack of good infrastructure limits foreign investment as this raises the costs of production, making industries uncompetitive. Another considered benefit of good transport and logistics system is that it brings down the cost of food for workers particularly in the industrial area. Bringing down the cost of food will lessen the upward pressure on wages making wages internationally competitive.

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