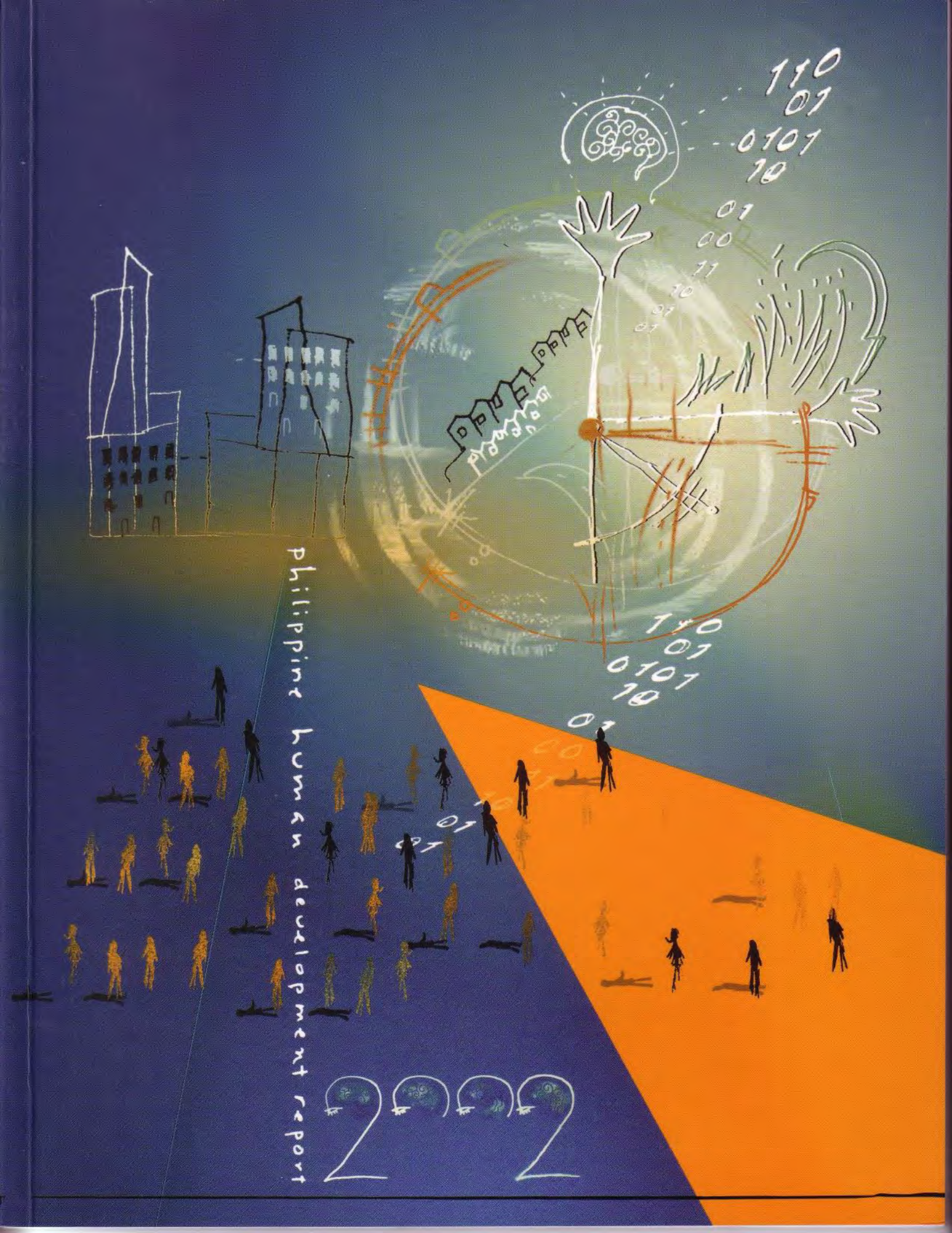
Philippine human development report
2002

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Foreword 1

On behalf of the UNDP, I would like to congratulate the Philippine Human Development Network for its production of the fourth Philippine Human Development Report.

The choice of the theme on employment cannot be more timely. In March last year, an Employment Summit was convened by the Government and widely participated in by the various sectors to address the urgent need to preserve and generate more and decent jobs in the face of the extended effects of the Asian economic crisis and prospect of continued global economic inertia.

While the overall health of the global economy sets the environment for increased investments and expectedly, job generation, the nature of employment in the world has seen dramatic changes in the last fifty years, which raise issues about job quality and security. Rapid technological developments, especially in the field of information and communications, and the globalization of production of and trade in goods and services driven by competitiveness, have shaped the changes in modes of employment, altering traditional employer-employee relationships, and in many situations, creating large pockets of unemployment in the process of restructuring during phases of adjustment.

The cost of social adjustment and displacement calls for serious rethinking of employment strategies. However, as the Report points out, the issue is not simply about jobs as source of livelihood and incomes, which is a fundamental right, it is also about the right to work as a source of human dignity and realization, and the right to social security. These are at the core of human development.

An employment policy cognizant and anchored on human rights — the right to just and favorable conditions of work, fair wages, non-discrimination and the right to social protection — is more likely to yield a different set of outcomes for society, outcomes that speak of better quality of human conditions, social equity and harmony.

We hope that the Report provides the added value of bringing the human development perspective in the ongoing discussion and consensus building for the country's human resource and employment policy.

RICARDA L. RIEGER
Resident Representative, a.i.
United Nations Development Programme

Foreword 2

In producing a Philippine Human Development Report (PHDR), every effort is taken to ensure the independence and integrity of its analysis and recommendations. The result is a document that is regarded by all stakeholders in the Philippine development process to be a fair and accurate depiction of the state of human development in the country as well as a comprehensive treatment of whatever issue is the special focus of the Report.

The recognition of the value of the PHDR and its contributions in pushing forward the quest for human development from concept into reality is not limited to local stakeholders. At the conclusion of the Second Global Forum on Human Development held in Rio de Janeiro, Brazil, in October, 2000, the first annual National Human Development Report (NHDR) Awards Programme was launched, and the PHDR 2000, was among the awardees.

PHDR 2000 won awards in three categories: Excellence in the Innovative Use of Human Development Measurement Tools, Excellence in Presentation and Design, and Excellence in Participation and Policy Impact. It shared the top honors in the Asia-Pacific Region with China's HDR. One can thus be pardoned for being proud not only of our award –winning Report, but for the two earlier ones, which almost surely would have been recognized as well had the NHDR Awards Programme been conceived earlier.

The theme of this year's Report, the fourth since 1994, was chosen, like those of its predecessors, after a process of consultation participated in not only by members of the Philippine Human Development Network, but also by other interested stakeholders. This time, unlike the others, the choice was relatively easy: Since the third PHDR zeroes in on the issue of increasing capabilities, it seemed only logical that the fourth PHDR should concentrate on the issue of increasing the opportunities for using those capabilities. Thus, while education was the special focus of PHDR 2000, employment is the special focus of PHDR 2002: Work and Well-Being.

This Report aims to trace the complex relationships between growth, employment, poverty and human development. A thorough survey of the existing literature, as well as studies commissioned specifically for the purpose of this Report and which will comprise a companion volume to this one, form the basis for the analysis and conclusions contained herein.

During the course of the Report preparation, the initial findings were the subject of a workshop-seminar, which was attended by the Advisory Board of the Report [comprised of Meneleo Carlos, Florian Alburo, and Edicio dela Torre] as well as selected members of the academe, government, and non-government organizations. The workshop, aside from identifying research gaps, served to enforce a proper balance between the requirements of scholarly investigation and the need for reader-friendly research output.

Some of the findings contained in Work and Well-Being are well known, others are intuitively obvious. Some will cause raised eyebrows, and still others may provoke heated debate. A few illustrations, all discussed at length and empirically validated in Chapter 1, will suffice to make the point:

- Philippine economic growth has been low for the region, has been erratic and unsustained.
- What little growth there has been in the Philippines has benefited the rich disproportionately more than the poor.
- Okun's law holds weakly in the Philippines. Unemployment does not easily respond to growth.
- Unemployment and poverty in the Philipines do not amount to the same thing. 82.6% of the unemployed are non-poor, only 17.4% are poor. It is more accurate to say that poverty is associated with the low quality of employment.
- "Leapfrogging" from agriculture to services (by-passing industry) may not be such a good idea, after all is said and done. There is no automatic process by which poverty in agriculture will be wiped out merely by an expansion of services sector employment.
- The output a worker produces depends on much more than the worker's individual qualities. Labor productivity depends just as much – if not more – on the employer's direction, business organization, and management practice. General economic conditions themselves and the availability of quality jobs in the economy play an even greater role than perhaps the characteristics of individual workers and firms in determining labor productivity in the aggregate.
- While liberalization has benefited almost all classes of workers, it has thus far not yet accomplished what it was supposed to do, namely, raise the wages of unskilled workers relative to skilled workers and property owners. Instead it has benefited skilled workers more than the unskilled.
- There is a direct link between inequality of educational opportunities and inequality of income. Ultimately, the inequality in access to education shows up as sheer poverty: the poor are also generally poorly endowed in education.
- The presence of the 110 state universities and colleges (SUCs) does not appear to have significantly reduced unequal access to higher education
- Working for foreign labor markets should now be recognized for the contribution to employment and income that it represents and should be encouraged
- The most important determinant of child labor is the household's ownership of an enterprise.
- If social insurance premiums must indeed be raised anyway, it may make more sense to raise them sufficiently and expand benefits to include limited forms of unemployment benefits.
- A significant if ambitious proposal is that of establishing unions along craft lines or by field of specialization.

Whether the Report's findings are met with agreement, surprise, or outrage, they provide a lot of food for thought — and an excellent basis for action.

SOLITA COLLAS-MONSOD
President
Human Development Network

Acknowledgements

The Human Development Network (HDN) expresses its appreciation to the many people who helped in the preparation of this Report. Edita Tan served as overall coordinator as well as co-wrote the main theme article with Emmanuel de Dios. The computations and analysis of the human development, gender development, and poverty indexes as well as the statistical annexes were prepared by Geoffrey Ducanes. Specially commissioned background papers were written by Michael Alba, Fernando Aldaba, Lawrence Dacuycuy, Joseph Anthony Lim, and Winfred Villamil. Ducanes and Solita Collas Monsod also provided the manuscript of an earlier paper they had co-written. A panel of advisers composed of Florian Alburo, Edicio de la Torre, Meneleo Carlos, Jr., and Lucita Lazo generously shared its time in commenting on earlier drafts of various papers. It should be clear, however, that the final contents of this report do not necessarily reflect their opinions.

Logistical arrangements for production of the report were overseen by Lorna Villamil, with the assistance of Joanne Agbisit, Ducanes, and Jermy Prenio of HDN, Teresita Lopez-Vibar, Jeanette Mallare, Rosa Bella Quindoza, Lauren Nerisse Samac, and Alvin Firmeza of the Philippine Center for Policy Studies.

Finally, the HDN wishes to thank the United Nations Development Programme for its continued unstinting moral and financial support. ■

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1 Work and well-being

A man willing to work, and unable to find work, is perhaps the saddest sight that fortune's inequality exhibits under the sun.
– Thomas Carlyle

The task of finding or providing work is an urgent personal as well as national concern. At the level of the household, the significance of finding and having work is obvious. Immediately it means income and survival. But with it also comes self-worth, social recognition, and a healthy mental and emotional state. Work is perhaps the most vital component of human development. It is essential to well-being both as a *means-to-an-end*, and as an *end-in-itself*. As a means to an end, work is the principal way that the great majority of people secure their material and physical existence. This is true whether people work under the direction of others (i.e., "employed" in the narrow sense), or work on their own account; whether they are explicitly paid wages and salaries, or are only implicitly compensated (e.g., unpaid family workers).

It is somewhat less noticed, however, that work is also an end-in-itself. Work is a profoundly human activity and contributes much to what makes people human. It was the young Karl Marx who spoke most eloquently about the universal potential of human labor:

> It is true that animals also produce. They build nests and dwellings, like the bee, the beaver, the ant, etc. But they produce only their own immediate needs or those of their young; they produce one-sidedly, while man produces universally; they produce only when immediate physical need compels them to do so, while man *produces even when he is free from physical need and truly produces only in freedom from such need*; they produce only themselves, while man reproduces the whole of nature; their products belong immediately to their physical bodies, while man freely confronts his own product.... [M]an is capable of producing according to the standards of every species and of applying to each object its inherent standard; hence man also produces in accordance with the laws of beauty [Marx 1975(1844):328-329].

In more recent times, the Nobel economist A.K. Sen has defined wellbeing in the same spirit, as the "capability to do and to be", which also bears directly on work and employment. Human development, for Sen, consists in a person's ability to unfold his capabilities. The entire gamut of human capabilities is expressible through work — not merely physical strength, but also dexterity, finesse, visual acuity, mental concentration, communication

skills, and sheer creativity. Indeed, the same capabilities are expressed and exercised through artistic creation as through work.[1] In principle, therefore, the denial of work, or the inability to find it, implies a vital channel for human development has been cut off. Work not in accord with human dignity or that does not draw out the full human potential stunts the human person.

For the great majority of Filipinos, however, the importance of work is felt at an even more elemental level. Work is simply the means to income and all this means. In a capitalist society like the Philippines, one's access to goods and services depends on income, namely, the hire of the assets one owns, such as rent from land and improvements, interest on capital, profit on risk-taking. With most Filipinos owning little more than their ability to work, their incomes consist largely of wages and salaries. Hence the incomes of the majority will clearly depend on the amount of employment they can find and the value society places on their effort.

The Philippine record

Generating employment has been an avowed goal of almost every Philippine administration. In her "Yearend economic report to the people" delivered interview-style on TV after her first year in office, President Arroyo, when pressed by interviewer (Human Development Network president and former socio-economic planning secretary) Solita Monsod to articulate concrete goals of her administration, said foremost among these is to create four million new jobs in the economy. Implicit is the idea that new employment will result in poverty alleviation and the improvement in the standard of living of the poor.

The generation of productive employment was also recognized by the United Nations World Summit for Social Development in 1995 as the most effective means of alleviating poverty, inequity, and social exclusion. In the Philippines, this goal was made particularly urgent and vivid by the so called EDSA 3 uprising in May 2001, in which a mass made up mostly of the disenfranchised and disenchanted poor tried to storm into Malacañang to seize the seat of power. Affording them employment means giving them a stake in the economy, giving them less reason to risk its destabilization.

Although international comparisons are less than exact[2], indicators show roughly that the Philippines performs unfavorably in terms of employment vis-à-vis other Southeast Asian countries (Table 1.1). Participation in the labor force is lower than Indonesia's and Thailand's although it is higher than Malaysia's or Singapore's. Open unemployment in the Philippines is also much higher than in all other countries in the table. Over time, there has been no discernible trend in the country's employment statistics. Both the open unemployment rate and labor force participation rate are at or near the levels they were two decades ago.

Previous issues of this Report have noted the creditable Philippine performance in human longevity and education. But income is its obvious deficiency. This is the reason that

Box 1.1. Understanding labor statistics

Notwithstanding differences in detail, labor statistics across countries are based on common concepts and measures. A first approximation of the total labor supply available in a country is simply the part of the population old enough to work. This **working-age population** (*WAP*) is based on social conventions of the minimum and maximum ages for working. In the Philippines it refers to everyone 15 years (the legal minimum working age) and over. In 2001, the *WAP* comprised 48.9 million people and was 62.3 percent of the total population, a figure that obviously fails to include child laborers. The size of the working-age population obviously depends on growth and age-profile of the population.

Even people of working age do not necessarily work or look for work. The obvious examples are full-time college students and homemakers. Thus the *WAP* is further divided into those who are in the **labor force** (*LF*) and those who are **not in the labor force** (*NLF*). The *LF* is that part of the WAP that is either at work or is looking for work. The *NLF* is the remainder of the WAP that is "not in the labor force". That is:

$$LF + NLF = WAP.$$

Of the 48.9 million-strong *WAP*, there were 16.1 million in the *NLF*. Whether or not a person of working age should join the labor force or not is clearly a major decision on the part of households. Wealth, personal values, the state of health, the status of women, aptitude for further education – these and many other factors may contribute to the decision whether a particular family member enters the labor force or stays out of it. A better-off household may choose to send more of its offspring to college compared to a poor household. The relationship between the man and woman in the household may determine whether the woman enters the labor force or not. Taking the LF as a proportion of the *WAP* yields the **labor-force participation rate** (*LFPR*).

$$LFPR = \frac{LF}{WAP},$$

which measures the propensity of people of working age to join the labor force. For the Philippines, the *LFPR* was 67.1 percent in 2001.

The labor force is further divided into those who are **employed** (*N*) and those who are **unemployed** (*U*). The employed comprises those who worked any number of hours during the reference week for the survey; the unemployed are those who sought work or who have since stopped looking for work,

$$N + U = LF.$$

The definition of "employed:" is quite permissive, since it makes no distinction between one who worked for an hour or for 40 hours during the week. This has been a cause for some dissatisfaction, since it conceals the problem of those with insufficient employment. This includes people on job-rotation as well as those working in part-time jobs. What's more, the category of the employed includes many unpaid family workers and lumps together those who work full time in regular positions and those who barely eke out a living in highly unstable and low-paying marginal jobs.

Once the number of the employed is determined, what is known as the **employment rate** (*n*) can be calculated as the proportion of the labor force who are employed:

$$n = \frac{N}{LF}.$$

This is the customary indicator of how well society is using its human resources. Conversely, the **open unemployment rate** (*u*) is the conventional measure of the degree of underutilization of labor in the country. The open unemployment rate is computed as the fraction of the labor force that is unemployed. Note that this is simply equivalent to one minus the employment rate:

$$u = \frac{U}{LF} = 1 - \frac{N}{LF} = 1 - n$$

so that a fall in the employment rate is equivalent to a rise in the unemployment, and vice versa for a rise. In the Philippines the unemployment rate stood at 11.1 percent in 2001 and the employment rate at 88.9 percent. ■

Table 1.1.
Employment figures for selected Southeast Asian countries, 1998-2000*

Country	Labor force participation rate	Unemployment rate	GDP per capita (PPP US$) 1999	HDI 1999
Philippines	65.8	9.4	3,805	0.749
Indonesia	67.9	5.5	2,857	0.677
Malaysia	60.6	3.4	8,209	0.774
Singapore	63.9	4.6	20,767	0.876
Thailand	72.2	4.3	6,132	0.757

Source: International Labor Organization, United Nations Development Programme.
*Years vary between 1998 and 2000.

the country's human development index (HDI) — a composite measure of health, knowledge, and income — is better than its level of income alone might suggest.[3] On the other hand, the incidence of poverty in the country is also relatively high. One is tempted to ask: are the country's high poverty and low income due to its high unemployment and its low labor force participation? The answer is less straightforward than it seems.

Poverty and employment

In the Philippines most of the unemployed and the nonlabor-force participants are not poor but those who can better afford *not* to be gainfully employed. It is the non-poor who swell the ranks of the unemployed and pull down the labor force participation. Of almost 16 million working-age people who were not in the labor force in 1998, 81 percent came from the non-poor, while only 19 percent were poor[4] (Table 1.2). And of the 2.5 million unemployed in the same year, only 17 percent came from poor households; the rest were not poor.

As a group the non-poor are less likely to participate in the labor force and more likely to be unemployed than the poor. (Figures 1.1 and 1.2). College students are an important example; they are not in the labor force and are also less likely to come from poor households. Upon graduation, they actively seek work and make up a large portion of the open unemployed. Besides coming from most

Table 1.2.
Poverty, labor force participation, and unemployment
(numbers of persons, in thousands; figures in parentheses percentages of total)

	Poor			Nonpoor		
	Male	Female	Total Poor	Male	Female	Total Nonpoor
Non-labor force	579	2495	3074	3446	9507	12953
	(3.6)	(15.6)	(19.2)	(29.5)	(59.3)	(80.8)
Unemployed	247	189	436	1281	795	2076
	(9.8)	(7.5)	(17.4)	(51.0)	(31.6)	(82.6)

Calculated from data of Monsod and Ducanes [2001] from merged LFS and FIES; poor as defined by Balisacan [2000].

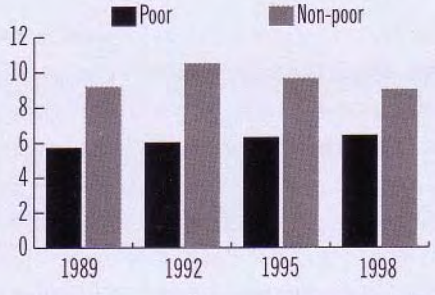
nonpoor households, part of the reason those with higher educational attainment tend to be unemployed is that they are presented a wider range of opportunities and can afford to be selective. Open unemployment is highest among those with high school and incomplete college education, respectively 12.2 and 15.2 percent. Unemployment was 10.9 percent among college graduates. By contrast it was only 6.5 percent among grade school graduates. Those with low education were more easily employed in family enterprises and other informal settings and so reported a lower unemployment rate. This is small comfort, however, since the jobs available to the poor are often those that pay little or nothing. Marginalized people, such as members of subsistence fishing or farming households, lack education opportunities and often enter the labor force at the earliest ages. They are immediately absorbed in their family's main occupation as unpaid workers or must take on outside jobs to supplement the household income. For them, a long spell of job-seeking is virtually unthinkable, since it requires a level of household wealth and a range of opportunities that are simply unavailable.

Among the employed, significant differences may also be noted between the poor and the nonpoor (Table 1.3). A larger proportion of the nonpoor (51 percent versus 40 percent for the poor) are involved in regular jobs with

Figure 1.1.
Labor force participation rate

Source: Calculations by Monsod and Ducanes from merged FIES and LFS. Poor as defined by Balisacan (2000).

Figure 1.2.
Open unemployment rate



Source: Calculations by Monsod and Ducanes from merged FIES and LFS. Poor as defined by Balisacan (2000).

Box 1.2. Gender, poverty, and work

Men and women each make up roughly half of the Philippines' working age population. There ar therefore no numerical reasons to cause the participation of either sex in the labor force to differ. In fac however, poverty and gender roles are powerful forces that modify patterns of employment between me and women.

As mentioned in the text, more of the poor are in the labor force compared to the nonpoor (69 versu 64 percent). It is also significant however that — compared to the nonpoor — women make up a large proportion of the poor who stay out of the labor force. Women are 81 percent of the nonlabor force amon the poor, while they are only 73 percent of the nonlabor among the nonpoor.

Why should poor women be less likely to enter the labor force than nonpoor women? This might seer surprising at first glance, since one would think that with their greater need to earn and accept employmer on any terms, poor families would be under greater pressure to send their women out to work. A large part c the answer may lie in the fact that poor households are larger with more dependent children. This effectivel ties women down to housework and prevents them (given traditional role assignments) from joining th labor force. Of the reasons given by women for staying out of the labor force, "housekeeping" is cited by 7 percent of the poor but only 64 percent of the nonpoor.

Box Table 1.
Gender distribution of poor* and non-poor working population, 1998

	Poor	Nonpoor	Total
Working-age population (%)	**100.0**	**100.0**	**100.0**
Women as a proportion	50.4	50.3	50.4
Nonlabor-force (%)	**31.0**	**36.0**	**35.0**
Women as a proportion	0.811	0.734	0.749
Labor force (%)	**68.7**	**64.0**	**65.0**
Women as a proportion	0.365	0.374	0.372
Unemployed	**4.3**	**5.8**	**5.5**
Women as a proportion	0.433	0.617	0.585
Employed	**64.4**	**58.2**	**59.5**
Women as a proportion	0.360	0.372	0.370

Calculations by Monsod and Ducanes (2001) from merged LFS and FIES
*Poor as defined by Balisacan (2000).

The share of women in employment is about the same low number (36-37 percent) for both poor a nonpoor, which reflects a pro-male bias in employment. Gender differences are also present in the comp sition of unemployment. As a whole, slightly more than half of the unemployed are women, which ag reflects a bias disfavoring female employment. Among the poor, however, the female share of the une ployed is much smaller (43 percent) than among the nonpoor (62 percent). This probably reflects seve factors, including the fact that less qualified poor women have already elected to stay out of the labor fo the likelihood that educated nonpoor women can afford to pick jobs and hence accept longer spells unemployment; and the greater need of poor women to find employment, even in jobs that may be m ginal but which permit easy entry. ■

Table 1.3.
Poverty and employment by class of worker
(1998, in percent)

Class of worker	Poor	Non-poor
Wage and salary	39.8	50.9
Self-employed	40.9	37.1
Unpaid family worker	19.3	12.0
Total	100.0	100.0
Memo: Population in thousands	6,336	20,951

Calculations by Monsod and Ducanes [2001] from merged LFS and FIES, poor as defined by Balisacan [2000].

wages and salaries. On the other hand, the poor are more likely to be employed as unpaid family workers (19 percent versus 12 percent for the nonpoor) or to become self-employed (41 percent versus 37 percent). One hardly needs to note, of course, that the meaning of "self-employed" varies greatly, as between a subsistence farmer or itinerant vendor, on the one hand, and a plantation owner or a *taipan*, on the other.

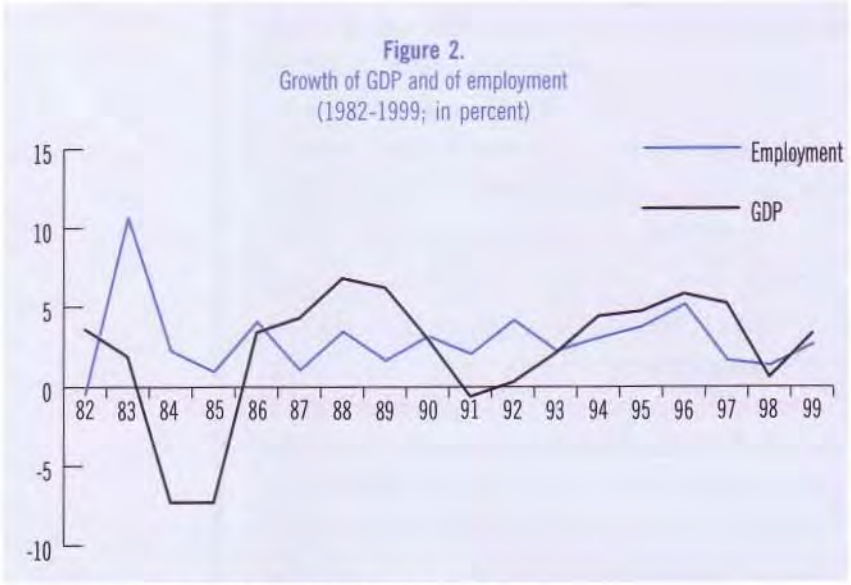
The scale of the problem of quality employment is also partly captured by data on *underemployment*, that is, the proportion of the employed who wanted additional work. Open unemployment averaged only eight percent over the past two decades, but underemployment was running at 22 percent. *Visible underemployment* — the proportion of the employed who worked less than the regular 40 hours a week and wanted additional hours of work — was 17 percent for the poor and 11 percent for the nonpoor. In other words, a huge number of the working poor were unable to find full time jobs and worked less than they wanted to.

Unemployment and poverty therefore do not amount to the same thing. Most of the poor are not unemployed, nor are most of the unemployed poor. This conclusion may surprise some, since it defies the stereotype in industrialized countries, where poverty and unemployment typically go hand in hand. In the Philippines, however, the poor cannot afford to be unemployed. Lacking any form of unemployment insurance, the poor must rest content with whatever jobs they can find or provide themselves.

The link between work and poverty is not primarily manifested in unemployment but rather in the *quality of employment*. While most of the poor may be employed, they are mostly mired in jobs with low productivity and low pay. One of every five employed poor was an unpaid family worker and two out of every five were self-employed — meaning only 40 percent were wage and salary workers. By contrast 51 percent of the nonpoor were wage and salary workers. Only one percent of the employed poor are professionals, compared to 10 percent for the nonpoor.

To sum up then: the high incidence of poverty in the country is not directly caused by high unemployment, nor are the poor predominantly represented by the unemployed. Hence it would be a mistake to take the size of unemployment in the country as the gauge of the problem of poverty. It is more accurate to say that poverty in the Philippines is associated primarily with a *low quality of employment*.

Many factors influence the quality of employment, and the next few sections will discuss those that are most crucial in context of the Philippines. These are namely: (a) the overall rate of economic growth; (b) the total amount of human resources that the economy must absorb; (c) the changing requirements



Source: NSCB. *Philippine Statistical Yearbook*, various years

and nature of jobs, as markets and technology affect different economic sectors, and (d) the skills and abilities of the country's labor force.

Growth, interrupted

Whether for specific skills or for the economy as a whole, the necessary condition for both employment and wages to rise is that the demand for labor should grow faster than its supply. All other permutations lead only to falling wages or falling employment, or both. But whence comes the demand for labor?

To say that the growth of output affects the growth of employment is almost to belabor the obvious. The demand for labor is, after all, one that is "derived". Labor is demanded not for its own sake but only to the extent it is needed to produce output. Hence if output grows, employment should grow as well. True enough, one readily finds a rough relationship between the growth of output and the growth of employment (Figure 2), although employment fluctuates within small bounds somewhat more than output.

Even from this vantage point, however, the failure of Philippine economic performance becomes immediately apparent. Although the country weathered the Asian financial crisis (beginning 1997) and the most recent global economic downturn (2001) better than other countries, it is evident that from a long-term perspective, Philippine economic growth has been profoundly unsatisfactory. Over two decades (1980-2000), annual GDP growth averaged only 3.7 percent. With population growing at 2.3 percent, however, the growth of output per person averaged only 1.4 percent over two decades.

One notable characteristic of Philippine growth has been its great instability. Annual levels of positive growth are not merely lower in regional perspective, they have also been unsustained. One instead observes what has been called a "boom-bust" pattern, typically consisting of a few years of moderate growth followed by years of retreat and or recession. This experience is in stark contrast to that of countries such as Singapore, Korea, Taiwan, and even Malaysia, which all had sustained rapid economic growth that translated into increased demand for labor, causing full employment, and ultimately even labor importation.

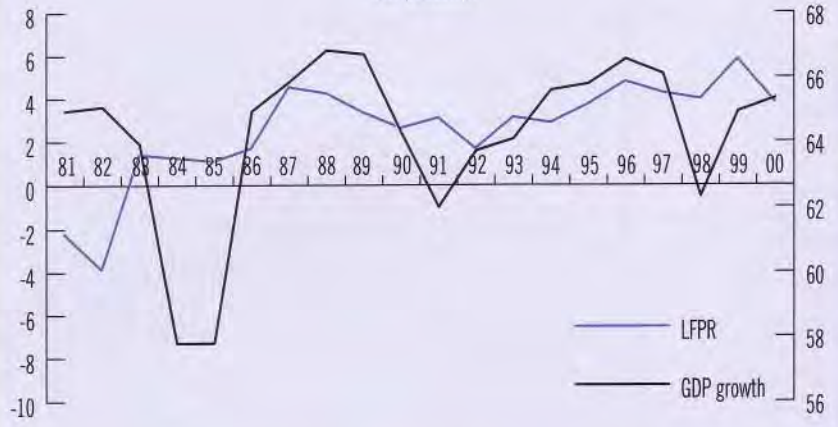
Turning to the relationship between employment and growth, another peculiar consequence of the low-quality job market and of

interrupted growth in the Philippines is that unemployment does not easily respond to economic growth (Box 1.3). On the other hand, bust periods are accompanied by massive unemployment. What has caused even more concern is that In the period 1998 to 2000, the country even seemed to experience "jobless growth", or the phenomenon of economic growth accompanied by higher unemployment [See Box 1.3.]

Part of the explanation is again the easy entry into and prevalence of low-quality jobs in the economy, which serve as a last resort when people are thrown out of regular jobs. Conversely, when output rises, some people may simply transfer from marginal to more regular jobs leaving the unemployment rate barely affected.[5] In the same manner, when output grows, labor force participation may rise (Figure 3), since some who were formerly out of the labor force may resume their active search for jobs. This may explain at least part (but not all) of the phenomenon of rising unemployment and rising output. As another factor, it has also been noted (e.g., by Lim [2002] and Lim and Bautista [2001]) that with the economy's recent exposure to globalization, many domestic firms now take the opportunity of downturns to rationalize their operations in search of greater efficiency and productivity per worker. This can mean a reduction of the workforce during a downturn without a corresponding increase even after the economy has picked up.

However, the deeper reason that Philippine economic growth has not made a larger impact on employment, is that the growth itself has been erratic and unsustained, manifesting what has now since been termed a "boom-bust" cycle. Ultimately, secure and productive jobs are created by new investment, which entails spending on machinery, equipment, physical structures, and land improvement. Being largely a bet on the future, investment is extremely sensitive to the expectations of larger markets. Where growth is predictably short-lived and frequently interrupted, however, investment is unlikely to occur during an upturn. Investment in the Philippines is among the lowest in Southeast Asia, running at around 20 percent of GDP compared with a norm of 30-35 percent for newly-industrializing economies. It should not be surprising therefore that stable and high productivity employment is hard to come by, and that marginal jobs are widespread.

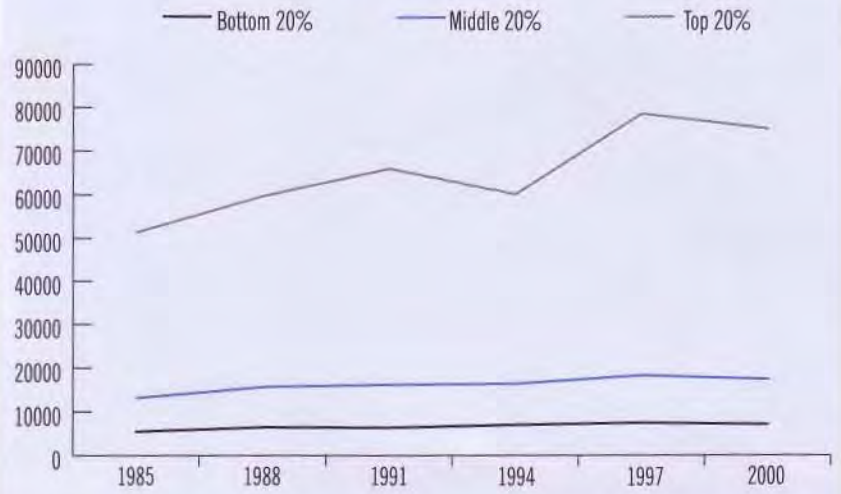
Figure 3.
Labor force participation rate (LFPR) and GDP growth, 1981-2000.
(in percent)



Source: National Statistical Coordination Board. *Philippine Statistical Yearbook*, various years

For what little growth there was, the poor benefited disproportionately less from it. Figure 4 shows the changes in average real per capita income by income quintile from 1985 to 2000. The richest 20 percent in 2000 are much richer than they were in 1985. On the

Figure 4.
Per capita income by Quintile
(1997 NCR pesos)



Source: FIES, 1985-2000

Table 1.4.
Unequal benefits from growth
Effect of a one-percent increase in per-capita income on living standards, (by quintile; in percent)

Quintile	percent
Poorest 20%	0.544
Second 20%	0.621
Third 20%	0.676
Fourth 20%	0.798
Richest 20%	1.045

Source: Table 6 in Balisacan and Pernia [2002]

other hand, the poorest 20 percent in 2000 are only slightly better off than they were in 1985. A recent investigation by Balisacan and Pernia [2002] demonstrates that while growth in the 1990s undoubtedly benefited all Filipinos, it was biased in favor of the richest part of the population. A one-percent increase in average per capita income over the period raised the living standards of the poorest 20 percent only by about half a percentage point. On the other hand, it increased the living standards of the richest more than one-for-one (Table 1.4). The character of general economic growth so far has generally been such that the poor have derived less benefits from it than the rich.

The reasons for weak economic growth in the Philippines are well-rehearsed themes (e.g., de Dios et al. [1992] and Canlas and Fujisaki [1999]) and need not be discussed in detail here. It is still worth mentioning some crucial factors, however, if only because they continue to deserve attention.

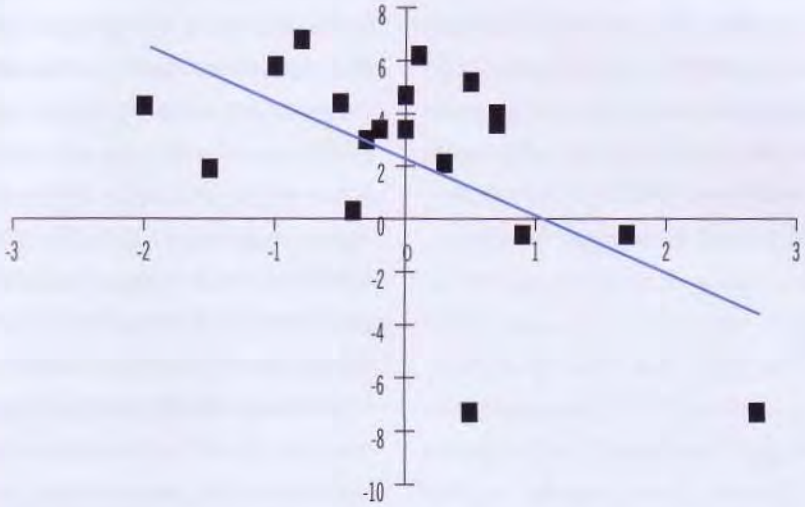
Investment and infrastructure

First, there is the obvious shortfall in public infrastructure, which any comparison with neighboring countries will make evident. The shortage of high quality roads and bridges, the inaccessibility of rural areas, and the high cost of inter-island transport are all important constraints to limiting the scope of internal markets as well as access to foreign ones. This is related in turn to the government's perennial inability to raise internal resources. All post-Marcos Philippine administrations have struggled with a fiscal dilemma: on the one hand, they recognize that long-term growth — and hence employment — requires the provision of crucial infrastructure and therefore greater government spending. On the other hand, with taxation performing poorly, however, and an annual budget that is almost 90 percent pre-empted by payrolls and operating expenses, there is little room to expand infrastructure spending without risking a growing budget deficit. With the latter, however, comes the ire of multilateral lending institutions like the IMF and private foreign lenders, who then

Box 1.3. The weak relationship between output growth and employment

Part of the skepticism regarding what economic growth can do is based on the observation that the level of growth hardly seems to matter to employment. With few exceptions, years of moderate growth do not generally coincide with notable employment expansion; nor do years of low or negative growth coincide with large falls in employment. The figure below plots for the Philippines what is known as the "Okun relationship". Named for the economist Arthur Okun, it means to illustrate the almost intuitive inverse relationship between changes in unemployment and economic growth. This relationship is highly stable in many economies (indeed, some refer to it as "Okun's Law"). For the Philippines, however, it holds only weakly. (The change in unemployment is only 30 percent correlated with the level of growth.)

The text gives some reasons why. First is the erratic nature of GDP growth itself, which causes producers to hesitate in making new investments during periods of upturn. Essentially firms may instead tend to retain labor during a downturn (e.g., through reduced hours) and simply utilize workers more fully once demand resumes. Whichever workers are let go are easily absorbed into lower paying jobs in the informal sector. Either way, neither employment nor unemployment is likely to change much.



More recently, the output-employment relationship has been further weakened by technological and industrial shifts brought about by globalization. Economic growth resumed without a corresponding rise in employment and indeed an increase in open unemployment, which has been called a phenomenon of "jobless growth". Lim and Bautista [2001] examine the record more closely and note that during the last episode, 1998-2000, output actually rose after a downturn while the employment rate fell. Part of the reason this occurred is that many industries took the economic downturn as an opportunity to downsize their work force and employ new technology. On the one hand, this represents an immediate threat to jobs; on the other hand, it does promise to produce an increase in labor productivity and, if the expansion of markets can be sustained, perhaps an increase in employment for the future. ■

threaten to raise the premium on further borrowing. Recent Philippine administrations have taken the modest option of limiting spending rather than risking a yawning deficit. Clearly, however, while this may earn the applause of a gallery of foreign investors and bondholders in the short run, it represents no solution for Filipinos in the long term to spend only 2-3 percent of GNP annually on public infrastructure. The obvious solution — namely to work for a drastic improvement in tax collections — has been a sonorous mantra for every administration. Yet none has succeeded in developing the will to confront the resistance of corrupt revenue bureaucrats or the courage to displease rich and well-connected tax evaders who are potential contributors to political campaigns. It remains to be seen whether the present administration will fare any differently. What is certain, however, is that there can be no basis for sustained output and employment growth unless the government's finances are fixed to accommodate public infrastructure investments on a more massive scale.

Population

A second long-term obstacle to Philippine growth, with its own direct impact on the employment problem, has been the unresolved issue of rapid *population growth*. The final results of the 2000 census now make it evident that the much-awaited slowdown in the country's population growth has in fact failed to occur. On the contrary, over the past two decades population growth even accelerated slightly[6], i.e. from 2.35 percent annually in the 1980s to 2.36 percent in the period 1995-2000. A Filipina of child-bearing age has 3.7 children on average, of which one birth is unplanned. This is high in relation to a world average of 2.9 children per woman. At this rate today's population of 76-odd million may be expected to double in 29 years. This contrasts with the accomplishment of similarly densely populated countries (among them Indonesia, China, India, Indonesia, Thailand, and Vietnam) which managed to reduce population growth to below two percent more than a decade ago.

The effects of a large population on employment are obvious. It immediately makes for a heavy burden of dependency among working people, who must feed more mouths on meager incomes. In 2000 there were 67 dependents (people too young or too old to work) for every 100 people of working age.[7] This statistic actually underestimates the adverse impact on overall productivity, since not all people of working age actually enter the labor force. The entry of women of working age — especially from the poor — into the labor force is hindered by their having a large number of children. High dependency is also an important factor explaining the country's low saving and investment, since saving is then more likely to be pre-empted by spending on necessities for nonworking members of the household. Ultimately of course a rapidly growing population eventually creates a pool of people of working age (or near it) who constitute a huge labor reserve that engenders keen competition for jobs and exerts further downward pressure on real wages.

From the viewpoint of needed public investment, a large and rapidly growing population strains government resources for both

physical infrastructure and human development (health, education, etc.) to the limit. Quality education and training are unlikely to be attained when public budgets must contend with simply coping with the sheer number of schoolchildren joining the annual stream. Nor is adequate physical infrastructure likely to materialize when urban settlements are bursting at the seams. Quite apart from poor revenue collection, the existence of a very young population — many of whom are either out of the work force or stuck in informal sector jobs with low pay — implies a narrow tax base from which to finance public infrastructure and social services. To this finally must be added the damage to the natural environment caused by a large population, which causes a worsening in the quality of life in both urban and rural areas, especially among the poor, that a cash metric alone cannot capture. In short, the result of a rapidly growing population would be a weak foundation for growth, in terms of both human and physical capital. Again, none of these effects is unknown. Yet successive post-dictatorship administrations have uniformly failed to put in place effective programs that will support informed reproductive choices that will make a long-run difference.

Political instability

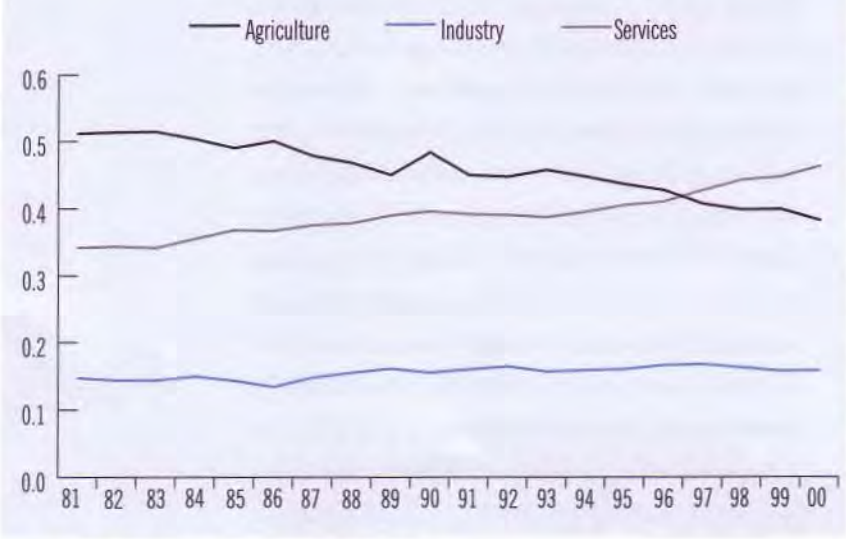
As a final reason for the instability and low level of Philippine growth, one must point to the historical *instability of the political process* itself. Objectively speaking, formal political processes in the Philippines have been periodically challenged and subverted, for both good reasons and bad. The sources of instability have run the gamut from the usurpation of power by Marcos, to threats of armed rebellion, coups d'etat, and, yes, even the two (or three) EDSA Uprisings. Such instances are bound to be a powerful discouragement to both domestic and foreign investment, since they often raise the prospect of wholesale changes in laws, policies, and even individual contracts. At bottom, however, the record of large-scale change in the Philippines must be traced to the failure of normal political institutions to accommodate and address what are deemed by significant sectors of the population to be fundamental inequities and injustices. It is this basic institutional failure that gives rise to attempts at redress that are extraconstitutional, at times even violent.

The upshot of this discussion is to point out the importance of understanding the problem of employment in the greater framework of growth — or more precisely the lack of it. The effort to provide stable and productive employment can succeed only if the economy can be put on a solid footing for rapid growth over a longer period — say a per capita growth of 5 percent or more over a period lasting at least a decade[8]. Any other solution is merely supplemental or palliative.

Structural change — of the wrong kind

An important consequence of interrupted growth is the lack of profound industrial trans-

Figure 5 .
Shares of employment, by sector (1981-2000), in percent



Source: NSCB, *Philippine Statistical Yearbook*, various years

formation in the Philippine economy. Industrial development is typically characterized by a decreasing share of agriculture in both total output and employment and a corresponding increase in the share of industry. In the Philippines, however, industrial transformation has been minimal. Indeed, after two decades (1981-2001) the share of industry in GDP has even fallen slightly from 36 to 34 percent, while the industrial share of *employment* has basically stagnated at around 16 percent over the entire period.

The Philippine experience departs noticeably from those of the new industrializing economies, where agriculture's falling share in both employment and output is first taken up by industry [Oshima 1989]. The move towards full employment almost always follows the same path: hidden unemployment in agriculture is first wiped out through a dramatic increase in agricultural production, which is almost always accompanied by rapid agrarian reform. Farm wages and incomes then typically rise, widening the market for industrial products. Farm mechanization increases in the face of rising farm wages, while domestic consumption of industrial goods increases, providing a market stimulus to industry. High agricultural productivity in turn keeps food prices and hence real industrial wages low, allowing industrial expansion and thus closing a virtuous circle. Full employment is then finally attained after a few decades of sustained growth when even industry must compete for labor and the wages of unskilled workers begin to rise faster than the average.

In the Philippines, agricultural employment has indeed fallen drastically from more than 50 percent in the early 1980s to only 38 percent in 2000. Industrial employment, however, has basically stagnated. Instead, whatever importance in employment agriculture has shed has been taken up by services, whose employment share rose from 35 percent in the early 1980s to 46 percent in 2000. (A landmark was quietly passed in 1998 when services finally overtook agriculture as the principal source of employment in the economy. (Figure 5).) What makes this pattern perverse — and contrasts it with the NIE experience — is that it is *not* associated with increasing agricultural productivity. In the healthy case, people leave agriculture because rising wages and labor productivity cause the introduction of farm mechanization.

By contrast, in the Philippines people leave agricultural jobs because real wages and productivity are stagnant or falling, owing both to a lack of agriculture productivity improve-

ments and to a rapidly growing population. The consequences are profound. Unlike other countries' experience, rural incomes do not rise and no upward pressure on wages is exerted; the sectoral shift merely transfers people from low-productivity jobs in agriculture to similar marginal jobs, especially in services. There is no impulse to the consumption of industrial goods, hence no industrial expansion occurs. Hence the observed pattern in the Philippines, where the agriculture shrinks, services expands, and industry stagnates.

Ironically, however, some have uncritically hailed the rapid shift away of people from agriculture and the precocious expansion of the services sector. Some even maintain that the country might actually "skip" or "leapfrog" industrialization (derisively termed the "second-wave") and immediately graduate into a service-economy like Singapore's, Hong Kong's, or even that of the US and most developed European countries — that is, without first wiping out rural poverty and establishing an industrial base. As a vague rationale for this, it is argued that the electronics and information-technology revolution has so changed the development process that one might altogether dispense with an industrialization phase as all mature and emerging economies have known it. At first glance the hypothesis seems plausible that the continued expansion of services might save the country: after all, one sees that a disproportionate amount of poor people (62 percent) are in agriculture[9], while many of the nonpoor (49 percent) are in services. If the poor were simply to move from agriculture to services — as they are doing — may they not therefore begin to enjoy the life of the nonpoor?

Things are unfortunately not as straightforward. To begin with, "services" unlike agriculture or industry, is a highly heterogeneous sector in terms of skills, technology, productivity, and pay; its working class comprises everyone from scavengers in Payatas to petty bank executives in Makati. Statistics unfortunately conceal the fact that there are at least two services sector. There is first the spanking "new" services, riding the crest of a new technology, which has created new jobs of a high quality. Prominent examples are found in telecommunications, finance, and media (e.g., backroom operations, software development, call centers, and computer animation.) It is these jobs in information and communication technology (ICT) on which the present administration has pinned its hopes for the future — with good reason. But there is still the second, "old" services sector, consisting mostly of jobs that are easy to enter but low in both productivity and pay. Many of which are found in the retail trade (e.g., from itinerant vendors to mall sales personnel), small transport operations (e.g., jeepney and tricycle drivers and operators), and personal, community, and social services (including government employees).

A study of wage differentials in 1994 [Alba 2002] shows that jobs in a number of services sectors were associated with systematically lower-than-average wage rates through time (Table 1.5). Males and females in the wholesale and retail trade, for example, received wages that were respectively 9 percent and 7 percent lower than those received by an average wage-worker in the economy, holding everything constant (i.e., including age, education, and so on). Males in transportation, storage and

Table 1.5.
Inter-industry wage differentials, 1988, 1994
(in percent relative to average)

	Males		Females	
	1988	*1994*	*1988*	*1994*
Agriculture	3.8	-6.1	6.4	4.3
Mining and quarrying	24.9	15.2	44.9	41.7
Manufacturing	11.3	11.9	10.8	4.9
Electricity, gas, and water	8.1	39.7	32.4	32.5
Construction	10.9	23.6	42.7	21.4
Wholesale and retail trade	-24.3	-8.8	-13.0	-7.0
Transportation, storage, and communication	-10.5	-3.2	17.8	15.0
Financing, insurance, real estate, etc.	1.9	20.5	10.2	18.6
Community, social, and personal services	-8.0	-0.5	-0.4	-1.1

Source: Alba [2002, Table 4.2.1a, b]

Table 1.6.
Distribution of employed by educational attainment

Education Level	Agriculture Workers	Services Workers
No grade completed	6.2	1.0
Elementary undergraduate	34.5	9.9
Elementary graduate	27.5	15.9
High school undergraduate	13.3	12.2
High school graduate	12.6	23.3
College undergraduate	4.3	16.1
College graduate	1.5	21.0
Not reported	0.0	0.6
Total	100.0	100.0

Source: Monsod and Ducanes [2000]

communications earned 3 percent less than the average. Those in community, social, and personal services (which include government services) earned between one to half a percent less. (Males in agriculture earned 6 percent less than the average.) By contrast, male workers in finance and real estate — also a services sector — earned 20 percent more, while male manufacturing wage workers earned 12 percent more, everything else being held constant. Such numbers conceal even larger disparities to the extent that subsectors are themselves aggregates. Hence, between 1988 and 1994, the wage discount in transport, storage, and communication declined, almost certainly reflecting the expansion of the telecommunications industry between those two years. But the smaller wage penalty in the sector on average is unlikely to have been felt among those in marginal jobs (e.g., small transport workers).

The stagnation of productivity and employment in agriculture — and hence poverty — is unlikely to be relieved by the observed expansion of "new services". Among others, the job requirements in new-service jobs are different from those needed to absorb leavers of agriculture. There is a substantial distance — not only geographically but culturally as well — between subsistence farms on mountain slopes and call centers in cyber-cities. As opposed to the agricultural sector, the new-services sector demands more from the worker in terms of education, experience, and training. Taking educational requirements as a case, Table 1.6 shows the distribution of workers in both sectors by education level. Of

the workers in the services industry, 62 percent are at least high school graduates, with 21 percent finishing college. In contrast, more than two-thirds of working-age people in agriculture have never set foot on high school grounds. Considering this profile, therefore, people shed by agriculture are highly unlikely to find quality places in services. More typically, agriculture-leavers gravitate towards easy-entry but marginal jobs in services. It could take a generation — perhaps even several — before children of erstwhile subsistence farmers obtain the education and skills required to enter the brave world of "new services".

There is therefore no automatic process by which poverty in agriculture will be wiped out merely by an expansion of services sector employment. Separate attention needs to be focused on raising the demand for labor on farms themselves through multicropping and crop-diversification, and on expanding the scope of markets through massive infrastructure. The main obstacles to new investments in agriculture, particularly property rights disputes; peace and order; the long-drawn out delays in the implementation of agrarian reform; and the overprotection of rice, must also be addressed. Much like a vehicle that has made a wrong turn, the economy must back up before it can get onto the right road. Therefore the truly hopeful sign of structural change in the Philippines would be if agriculture were to attract a *massive reverse flow* of young and educated workers and entrepreneurs who could reinvigorate that old and neglected sector with new crops and technology, fresh investments and ideas.

Table 1.7.
Labor productivity and average monthly compensation per employee, 1998 (in pesos)

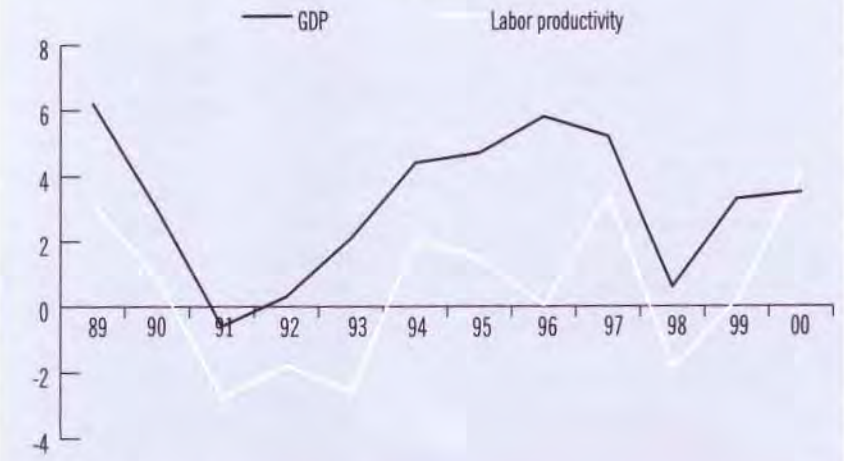
Industry group	Labor productivity[1]	Average monthly compensation[2]
Agriculture, fishery, and forestry	16,326	3967
Mining and quarrying	79,523	7,236
Manufacturing	81,901	6,571
Electricity, gas, and water	222,402	10,624
Construction	35,016	5,022
Wholesale and retail trade	32,703	6,522
Transportation, storage, and communication	31,611	10,568
Financing, insurance, real estate, etc.	89,102	9,409
Community, social, and personal services	19,070	5,210
All	32,216	6,817

[1]Ratio of gross value-added in constant 1985 pesos to corresponding employment; [2]wages and salaries in cash and kind, inclujding employer contributions to social-security, private pensions, casual insurance and similar schemes.
Source: Congressional Commission on Labor [2001: Tables 3.3 and 3.4].

Labor productivity and technology

Pay is closely linked to productivity. Increasing productivity reduces production cost and boosts profits, which would allow firms to either raise the wages of their existing workforce or increase employment, or both. There is truth to the statement — often heard from management — that the pay of Filipino workers is low because productivity is low, and that their salvation lies in raising their productivity. Table 1.7, for example, shows on an industry basis that high labor productivity tends to go hand in hand with higher pay.

Figure 6.
Growth of GDP and of labor productivity*
(in percent)



*gross value-added per employed person
Source: NSCB, *Philippine Statistical Yearbook*, various years

Less clear-cut, however, is how productivity is to be measured and raised. The readiest productivity measure to compute is *labor productivity*, the ratio of output to employment, which unfortunately conveys the impression that "productivity" is a quality exclusively inherent to the worker and therefore his sole responsibility. In truth, of course, the output a worker produces depends on much more than the worker's individual qualities. For one thing, a distinguishing characteristic of the employment- or wage-relationship is the worker's surrender of part or most of his autonomy to the employer (e.g., Marx [1844]. Coase [1935], Simon [1954].) Labor productivity thus depends just as much — if not more — on the employer's direction, business organization, and management practice. General economic conditions themselves and the availability of quality jobs in the economy play an even greater role than perhaps the characteristics of individual workers and firms in determining labor productivity in the aggregate. Figure 6 shows, for example, that labor productivity roughly rises or falls as GDP does; i.e., it is *procyclical* (Box 1.4). Properly understood, therefore, the responsibility for labor productivity — and therefore with it, worker's pay — is *jointly shared* between workers, employers, and those responsible for the performance of the economy at large. At the level of the whole economy, a good deal of the level and variation in labor productivity is clearly due to two factors, namely, the number of marginal jobs in the economy and the instability of growth. The large number of people employed in low-productivity jobs in the informal sector pulls down the average labor productivity. Hence, low-productivity in the economy as a whole is simply a reflection of the economy's inability to generate enough stable formal jobs and place people in them. On the other hand, the instability of economic growth will idle even people in productive jobs (through layoffs, shorter hours, and work-sharing), not to mention discourage new investment. This merely reiterates the point of the previous section, which is the importance of sustaining a level of growth well above the growth rate of population and the labor force.

At the level of the enterprise, the choice of technology is probably the most important factor influencing productivity, Once a technology is chosen and installed, staffing and skill requirements are almost completely preset and with this, a good part of the worker's productivity determined. (The other part is the worker's ability to fulfill the stated job requirements, which is determined by education, training, and experience.) The

Box 1.4. Why is labor productivity procyclical?

Firms adjust to short-run fluctuations in GDP in different ways. They may increase or decrease labor inputs either by hiring or firing workers or by varying work hours. At any one time, the employed will include some 20 percent underemployed who can be readily tapped to increase their work-hours. During an upswing, firms may find it less costly to increase the work-hours of underemployed workers or pay overtime premiums to those who are fully employed rather than hire new workers. In a downswing, different work sharing arrangements are made between employers and employees, since many would prefer to minimize layoffs. Many firms favor work-sharing arrangements over layoffs as a means of avoiding the costs of hiring and training new workers and out of simple concern for the welfare of employees. Economic fluctuations in themselves create uncertainty about sales and so encourage firms to adjust work-hours rather than varying the workforce. These short-run adjustments tend to result in a procyclical movement of labor productivity as measured by output to employment ratio.

Such adjustments may differ between sectors. The services and agricultural sectors may exhibit a larger drop in productivity during a recession if, in addition to work-sharing, they also absorb displaced labor from industry. These two sectors have greater flexibility in work-hours and implicit compensation and freer entry and exit of workers. Families take in workers displaced from the formal sector, share food and shelter with them, while the hosted relatives help in whatever work the family may be engaged in. In the recent recessions the country experienced, the services sector always increased its employment, consistent with the hypothesis that the sector serves as a last resort for the marginalized. Agriculture failed to absorb labor during the 1998-1999 recession, since the El Niño drought reduced cultivable areas and yields so there was less work and income to go around. During the 1989-1991 recession, industrial labor productivity fell by 5.5 percent, agriculture by 3.5 percent while services fell minimally by 0.6 percent. In the succeeding recovery, the productivity of the industrial and services sectors rose by 8.7 percent and 7.1 percent, respectively. In the next contraction (1997-1998), productivity fell by 4.8 percent in industry, 8.8 percent in agriculture but it rose in services by 3.8 percent. ■

investment required to introduce new technology, on the other hand, is influenced by larger factors, such as the size and growth of markets (which depends on aggregate economic growth) and the availability and cost of the required types of labor. Investment would be discouraged if the market for the particular industry was shrinking, or the available manpower was not suited to the technology to be introduced. Difficulties confronting the electronics industry (Box 1.5) — arguably one of the more dynamic in the economy — boil down precisely to these two factors: first, the global slump in the demand for electronics, and on the other, the shortage of workers with advanced IT education.

The effect of globalization on technology choice and employment is a somewhat involved issue. Especially since the 1990s, successive Philippine administrations have adopted liberalization policies that have progressively reduced tariff and nontariff barriers that in previous decades had protected domestic industries. Under protection, a number of such favored dominant industries adopted capital-intensive technologies that used rela-

tively little labor. On the other hand, numerous micro, small, and medium enterprises also survived in the interstices, producing poorer quality goods and employing more primitive and labor-intensive technology. In a domestic market that grew only slowly, investment, innovation, and employment could hardly be expected to be vigorous. In addition, smaller enterprises would have no chance to grow in a domestic market dominated by conglomerates, and the result was the typical highly skewed pattern of industry (a few large firms and numerous small firms on the fringe) that can still be observed today in many manufacturing sectors. Large firms typically serve the entire quality-spectrum, while SMEs and the informal sector supply only the lower end. (This is most evident, for example, in the food and beverages sector, which is dominated by conglomerates, but where much smaller firms are also in evidence.)

Liberalization confronted these firms with cheaper imports. In principle, comparative advantage compels all or most of them to shift their production towards producing more labor-using goods or to using more labor intensive techniques. Doing so would allow them to reduce their costs and meet the competition. In the meantime, the availability of cheaper imported inputs would permit the country's inherent advantages in inexpensive labor to be revealed, remove the cost penalty to labor-using industries, and cause these to expand. As capital- and skill-intensive industries contract and unskilled-labor industries expand, theory then suggests that the differential between the wages of unskilled and skilled labor should narrow, reducing income inequality.

In the event, the record is somewhat mixed. New industries have indeed arisen, so that now manufactures constitute more than 90 percent of all goods exports. Nonetheless, value-added in these new exports continues to be small, and they still contribute a relatively minor part of employment (the exportable electronics industry's direct employment is only 250,000), while other sectors, particularly food-processing, have been less successful in making export headway. Exportable electronics, in particular, is still capital-intensive by domestic standards, though it is admittedly the labor-intensive stages of *international* operations that have been established in the Philippines. One of the few empirical studies for the Philippines [Lanzona 2001] concludes that while liberalization has benefited almost all classes of workers, it has thus far not yet accomplished what it was supposed to do, namely, raise the wages of unskilled workers relative to skilled workers and property owners. Instead it has benefited skilled workers more than the unskilled.

What accounts for these mediocre results? Pending closer study, several possibilities may be enumerated. First, the erratic record of growth in the country as well as its insertion into global economic slowdowns and recessions certainly constitute one part of the explanation. That would suffice to explain at least part of the reluctance of new foreign investors to expand their operations in the country more aggressively, thus accounting for the slow growth of labor-intensive industries. A second possible explanation is that the moving technological frontier for many new exports may simply be beyond the Philippines' current reach. That is, minimal requirements for la-

Box 1.5. Electronics

The electronics industry is one of the oldest and now among the largest industries representing the success stories of liberalization and export-orientation. Multinationals and other foreign companies comprise 329 out of 462 or 70% of all registered companies in this sector. US companies number fewer than other nationalities at 39 as compared to 133 Japanese and 46 Korean companies though American companies constitute the largest group in terms of export share. The industry employs about 250,000 workers, a relatively small number in terms of its value added and the export earnings. The industry has formed an association called the Semiconductor Industry of the Philippines, Inc. to represent its interests to the government.

A 2001 SEIPI survey of members finds that the industry employs more educated workers and pays them better than the national average. About 10 percent of its executives have graduate education and all its production workers have at least a high school diploma. Its production managers earn from $1000-1500 monthly, supervisors from $450-700 a month, and production operators $6-7/day or $162.5 per month of 25 days. At an current exchange rate of P51/$1, these would amount to P63,750, P22,950 and P8,288. Wage rate appear to differ across firms as the range obtained from the SEIPI survey of 18 firms shows ranges of P22,00-P122,600, P7,000 to P43,000 and P5,221 to P16,000 for the respective positions. Small domestic firms possibly pay at the lower ranges, while large multinationals occupy the higher ranges. The minimum wage is P250/day vs. the industry wage of P331. The majority of the sample firms provide income in kind — 83 percent of them give transportation and meal allowance, 72 percent, rice allowance to the family, accident and life insurance and 100 percent paid leave and night shift wage premium. The employees acquire on-the-job training which appears to be general in nature and therefore marketable here and abroad and leading to high turnover and pirating. The on-the-job training takes programmed and unprogrammed forms. Virtually all the surveyed firms provide programmed training that lasts a few weeks depending on the skill required. The industry offers relatively good employment terms to its workers.

The industry is at the very heart of the most competitive high-tech industry in the world, with growth being highly sensitive to world demand. This may be seen in the drastic drop in exports following the Asian financial crisis and the downturn of the world economy after the September 11 attacks on the US. The prospects for recovery to the old growth levels depend on how the government is able to ease the manpower and infrastructure constraints that according to SEIPI the industry encounters. SEIPI reports that the country offers ample middle and lower level skilled manpower but that there is a shortage of manpower with advanced technical computer education and skills. The shortage is reflected in the high turnover of their IT professional manpower. In a 2001 survey of 18 companies the ratio of quits to new hires among the top executives was 105.7 percent, supervisory, 52.6 percent, technical 86.5 percent, clerical 57.1 percent, and production workers 50.6 percent. The most commonly cited reason for quitting was a new job. While the Philippines is said to be rich in middle-level skilled manpower it is very short of highly skilled workers. SEIPI pointed to rampant pirating of IT professionals among domestic as well as foreign companies. There is a large foreign market for high level computer- skilled labor in North America and East Asia. The educational system has so far been unable to respond to the demand for high quality graduates in computer science and engineering graduates. The hundreds of so-called computer schools that have sprouted since the late 1980s do not produce the quality of skills that the industry demands. SEIPI thus plans a dialogue with selected schools on curriculum issues.

SEIPI also points to inadequate communications infrastructure. The Philippine Long Distance Telephone Company continues to monopolize international telecom access and has no incentive to maximize capacity utilization. Provincial areas are poorly served. Even the IT users in central cities like Iloilo com-

plain of limited and slow internet service. Many universities have IT library services but access is problematic so students cannot rely on the facility. Investing in a broadband has been suggested but the capital requirement is large.

The prospects for the country's electronics industry lies with the solution to the constraints. The shortage of high-level technical manpower could be readily reduced by a reallocation of government support to higher education. The national budget for higher education currently is spent mainly on operating 110 state universities and colleges (SUC) which produce mainly business, teacher training and social science graduates. While there is rhetoric about preparing human resources for high-tech competition, nothing is being done to direct the budget towards expanding the education of scientific and technical manpower. The shortage of such manpower can be easily addressed if there is political will since there are a few good universities which can be directed to focus on S&T students. The government has the power to break the telephone monopoly and the capacity to package an investment program through BOT and other means for installing a broad band. Solving these two constraints will be important not only in maintaining the country's competitiveness in the existing products but in raising their technological contents. Local production is at the low-end technology where the local processes are largely assembly in nature requiring mainly inexpensive labor, chiefly female. In fact the SEIPI survey shows that 65 percent of the employed are female production workers; only 12.9 percent are technical workers. The further capability to produce electronics parts and software depends on the supply of high-level skilled people. ■

bor-intensive jobs, given current foreign technology[10], are higher than what the majority of Philippine workers possess. Hence it would be unrealistic to expect that new labor-intensive exports will suffice to absorb the pool of un- and underemployed in this country. Certainly the direction of employment expansion among foreign electronics exporters is towards greater education and skill requirements, not less (Box 1.5). Third and finally, the country's industrial structure may bear upon the explanation. In the face of keener import competition, large domestically oriented conglomerates may either upgrade technology or contract their operations. In most cases, however, meeting competition from imports, particularly those on the higher quality-end, will not be associated with retooling towards greater labor-intensity but rather towards higher capital per worker and a demand for higher skills. In such a process — especially when the episode coincides with recessions — unskilled workers[11] could be displaced, most likely moving to the informal services sector or the smaller industrial fringe where productivity is lower. While the workers remaining in large firms then become more productive (in terms of higher output per person), at least temporary losses in employment will be experienced unless and until such firms are able to win larger market shares. In the meantime, smaller firms on the fringe who do make use of unskilled labor may be unable to hurdle the requirements of exporting (e.g., financing and marketing links). Hence their markets — and with this the demand for unskilled industrial labor — may fail to expand sufficiently. As a result, wage and income inequality rises rather than falls.

The approaches to these problems are fortunately not mutually exclusive. Indeed they re-enforce some of the considerations given earlier. Once more the need for sustained eco-

nomic growth must be underscored if only because it is the key to greater investment and technology. Secondly, the mix of education and skills required to participate more fully in the globalizing economy must be examined in relation to the qualifications of the Philippine labor force, an issue that is discussed in the next section. Finally, specific programs, including credit and marketing, are required to address the inability of the small- and medium-scale firms to make the leap to global standards and sales.

Table 1.8.
Effect of education on wages and family income (in percent, 1994)

	Wage rate[1]	Family income[2]
No schooling	base	
Each year of elementary school	2.3	
Incomplete elementary school		base
Elementary school graduate	**13.8**	**8.0**
Each year of high school	3.5	
Incomplete high school		13.0
High school graduate	**27.8**	**23.0**
Each year of college	6.4	
Incomplete college		42.0
College graduate	**53.4**	**81.0**

[1]Relative to wage of a person with no schooling ; [2]Relative to a person with incomplete (0-5 years) elementary education
Sources: Alba [2002] for wage differentials; Dacuycuy [2002] for family-income differentials

Human capital, productivity, and pay

At the level of the worker, individual productivity — and hence pay — can be enhanced by accumulating *human capital*, particularly the education or skills a worker acquires that can be applied to work. One of the most constructive ways for government to support quality employment and promote the mobility and choice among workers is to improve access to education. (The topic of access, relevance, and quality of basic education was the subject of a previous issue of this Report [HDN 2000].)

Human capital refers to the addition to people's productive capacity arising from their knowledge, skill, and health. For the bulk of the population, who possess little by way of wealth in real property, goods, and financial assets, it is the most important — often the sole — form of wealth they own. Wages and salaries alone constitute 25 percent of national income.[12] On the part of workers, the crucial choice that determines their future income is the decision whether and how much to invest in education and acquiring skills, that is, *human capital*. The relationship between education and skills on the one hand, and pay, on the other is both intuitive and borne out by evidence. Better education or training raises a person's productivity, and this is reflected in the wages. Education and skills-training take on aspects of capital, since acquiring them entails present costs and sacrifice in anticipation of future gains. Families that send their young people on to obtain further schooling give up present opportunities to earn and to consume in the hope that such an "investment" will ultimately pay off in the form of higher productivity and higher incomes. Similarly workers who undergo genuine apprenticeship make a sacrifice by accepting lower wages in the meantime; they obviously anticipate, how-

Box 1.6. Determinants of family income

The returns to completed college from all sources of income are higher than that reported for wage employment but lower for completed high school and completed elementary. The age of the family head (a proxy for experience) affects family income much less than the wage rate, which may suggest that on-the-job training is more important in wage employment than in family enterprise.

Family size exerts a positive effect on family income, for children contribute labor in home production, which may partly explain the phenomenon of child labor and a general desire for large families among the poor. Families in the poor regions of the country such as Bicol, Eastern Visayas, Caraga and in Mindanao as a whole tend to earn less than the other regions. Metro Manila offers better opportunities for both wage and entrepreneurship than all the other locations. In the most favorable case, a family headed by a male college graduate, located in Metro Manila and working in the financial sector as a professional would earn P412,503 per year. A female-headed family in the same circumstances would earn very much less or P337,729. A family headed by a male agricultural worker in Bicol with a high school diploma would make P54,176. A female head with the same characteristics would earn P53,103. A family headed by a male with incomplete elementary education would earn only P35,516. (Based on regressions by Dacuycuy [2002].) ■

ever, that their future wages will be higher as a consequence.

Focusing on wage earners for the moment, and carefully holding everything else constant, a study by Alba [2002] for this report finds that the rate of return to *each* year of schooling was 2.3 percent at the elementary level, 3.5 percent at the secondary level and 6.4 percent at the college level (Table 1.8, column 2). A wage-earner who completes elementary schooling would thus earn 13.8 percent more than someone without any schooling[13]; a high school graduate would earn 14 percent more than an elementary school graduate, while a college graduate would take home 25.4 percent more pay than would a graduate of high school. Compared to a person without schooling, a high school graduate would earn 27.8 percent (= 3.8 + 14.0) more than one without schooling and a college graduate would earn more than half (53.4 percent).

Essentially the same conclusion is drawn even if — to capture the informal sector — we expand the inquiry beyond wages and salaries to include total family incomes [Dacuycuy 2002]. The impact of education on family income includes the effect of productivity on all forms of employment — both wage and non-wage — and enterprise profitability. The family-income function has the family head's education, age and occupation, urban or rural location, measures of family assets, access to electricity, and enterprise sectoral grouping of output. Dacuycuy uses a categoric schooling variable instead of years of schooling at each level. Relative to having 0-5 years of elementary schooling, the gain in family income to completing the elementary level is 8 percent; for uncompleted high school it is 13 percent; for completed high school it is 23 percent, for uncompleted college, 42 percent and for completed college 81 percent (Table 1.8, column 3).

Whether using wages or family incomes, therefore, these and other studies show the unmistakable contribution of human capital to differences in incomes and hence provide an explanation for the sources of poverty and income inequality. They directly link inequality of educational opportunities to inequality of income. The fact that college education earns a comparatively high rate of return but is very unequally distributed implies that income will be unequally distributed as well. The less educated, who form the great majority of the population, earn low incomes because the rate of return on their education is low. They will tend to earn low income whether they find employment in wage work or operate an enterprise.

Ultimately, the inequality in access to education shows up as sheer poverty: the poor are also generally poorly endowed in education. As can be seen from Table 1.9, two-thirds or 63 percent of poor people of working age failed to reach high school. Not even five percent managed to enter college, and less than one percent finished. In contrast, among the nonpoor, almost half completed at least high school, while 11 percent obtained a college degree.

A different set of statistics illustrates the systematic nature of the inequality of access to education. The first column of Table 1.10 divides the population into ten ranks (deciles) from poorest to richest in per capita terms. The succeeding columns state the proportion of each decile that has attained various levels of education. The continuous and regular behavior of education inequality is indeed striking: more than half (61 percent) of the poorest tenth of 17-24 year-olds stopped schooling before completing high school. Three percent did not go to school, 28 percent dropped out of elementary, 30 percent completed elementary. The proportion completing college is as small as only six-tenths of one percent. This is the complete mirror-image of conditions in the richest decile, where an overwhelming majority (75 percent) were either enrolled in college or had at least completed college. An increasing proportion of the poor drop out as the education level increases so that by the time they reach college age, relatively few have completed high school to qualify for college. The proportion that fail to complete elementary school (first two columns of numbers) uniformly *falls* as one moves from poorest to richest, while the proportion that are enrolled in college or graduate from it (last two columns) uniformly *rises*. In the richest decile, as much as 25 percent of youth in the top decile completed college. The vicious circle is thus closed: low parental income leads to poor children's education and to low children's future income.

Table 1.9.
Distribution of working age population by highest educational attainment, by poverty status, 1998

Education Level	Poor of Working Age	Nonpoor of Working Age
No grade completed	**6.6**	2.7
Elementary undergraduate	**29.3**	13.5
Elementary graduate	**27.2**	17.5
High school undergraduate	18.9	**17.2**
High school graduate	13.3	**21.7**
College undergraduate	4.0	**16.1**
College graduate	0.7	**11.0**
Not reported	0.0	**0.3**
Total	100.0	100.0

Source: Calculations by Monsod and Ducanes from merged Family Income and Expenditure Survey and Labor Force Survey; Poor as defined in Balisacan (2000

Box 1.7. Gender discrimination

Are women discriminated against in the labor market? The phenomenon is difficult to pin down because simple comparisons do not control for age, education, hours of work, and so on.

If women were paid the same wage as men given the same explanatory variables, their wage would be higher than their current level by at least 17.7 percent and can go as high as 27.7 percent in 1994 depending on the wage base used — women, men or weighted average of both. The rate of discrimination declined from the range of 20.1 percent to 32.3 percent in 1991. This partly results in the upward trend in the rate of return to women's high school and college education as compared to the downward trend for the men. It might have also resulted in the increasing employment of women in professional and administrative/executive jobs. The high rate of return has drawn an increasing proportion of women into higher education and into the professional occupations. More than 55 percent of the graduating class are now women and they dominate the teaching and health care occupations.

The rate of return to each year of schooling for women is higher than for men. In 1994, the rate of return was 3 percent for elementary, 5.6 percent for high school and 7.3 percent for college. The returns to experience or age are not significantly different. A female college graduate would earn 69.6 percent more than a woman without schooling. Yet on average women earned less than men even after controlling for education and age. ■

Based on Alba (2002)

Table 1.10.
Educational attainment of 17-24 year-olds by income decile, 1999
(as percentage of each decile population)

Per capita income decile	No elementary schooling	Incomplete elementary	Completed elementary; stopped before finishing HS	Enrolled in HS	Graduated HS then stopped	Enrolled in college	Completed college	Total
1 (Poorest)	**3.3**	**28.5**	**30.0**	14.2	17.1	6.3	0.6	100.0
2	2.7	19.8	29.7	14.9	21.8	9.7	1.3	100.0
3	2.2	16.7	26.8	12.5	27.6	12.0	2.2	100.0
4	1.9	12.1	24.6	10.9	30.0	17.7	2.8	100.0
5	1.3	6.9	23.8	9.9	34.0	20.2	3.8	100.0
6	0.9	6.5	21.1	7.8	36.3	21.8	5.6	100.0
7	0.9	3.0	17.8	7.2	35.4	29.6	6.1	100.0
8	0.9	2.5	11.3	5.8	34.5	34.9	10.1	100.0
9	0.4	1.4	6.5	5.7	27.5	44.8	13.8	100.0
10 (Richest)	0.2	0.9	2.9	3.2	18.1	**49.6**	**25.1**	100.0
Total	1.4	9.1	19.1	9.0	29.0	25.2	7.1	

Source: National Statistics Office, 1999 Annual Poverty Indicators Survey

It should therefore be of utmost public concern that education opportunities are distributed highly unequally, with most of the poor, especially in rural areas, unable to acquire education beyond the elementary level.

The presence of the 110 state universities and colleges (SUCs) does not appear to have significantly reduced unequal access to higher education. A recent survey of SUC students shows only 6.2 percent of them belong to poor families. The representation of the poor differs across the sample SUCs with a smaller proportion enrolled in the better quality and more prestigious SUCs. Attracting more students than they can admit, these SUCs must resort to screening measures, usually some form of college entrance test. Students from poor families, however, tend to acquire poorer quality college-preparatory education at home and in schools so that most of them perform poorly in SUC screening tests. At the University of the Philippines, considered the country's premier university country, performance in the entrance test is negatively correlated with the socio-economic background of the applicant; only 1.3 percent of its students come from poor families. In other reputable SUCs such as the Philippine Normal University and Bicol University, poor students constitute less than 6 percent of admissions.

A basic problem is that government support to education has been coursed in the form of direct provision of education in government schools rather than through direct subsidies to students. Public high schools and SUCs are fully financed by the national budget and charge very low fees. A subsidy is thus effectively given to whoever manages to enroll in these institutions. Poor youth are given no direct assistance to prepare for college. In the meantime, distance from school, poverty, and lack of information prevent the poor from completing the elementary or the high school level. Those who fail to complete the elementary do not qualify for the high school and those who do not complete high school do not qualify for college. Even if SUCs do not charge tuition, the poor youth who fail to complete high school cannot enroll in the SUC. The poor quality of schooling at the elementary and high school level contributes further to the inequality in access to college for less of the poor get admitted to college. Their poor pre-college education leads to their poor performance in college entrance tests, which is a common screening mechanism.

Notwithstanding such problems in provision and access, however, the education system appears to have produced a fairly well-educated labor force: 12 percent boast of college diplomas, 33 percent graduated from high school, and 51 percent completed elementary school. Only 4 percent have no schooling whatsoever (1999 data). This is a vast improvement over the 1960s, when 6 percent of the labor force were unschooled and those with high school and college education were only 28 percent and 10 percent, respectively. The country's gross enrollment rates are high by international standards, at 95, 60, and 27 percent for elementary, high school, and tertiary levels respectively. The country's combined gross enrollment rates of 84 and 80 percent for females and males, respectively are higher than, say, Singapore's 75 and 76 percent or Malaysia's 67 and 64 percent, both richer countries than the Philippines (UNDP 2001). China, undoubtedly one of the most dynamic

economies in the region, has gross college-enrollment rates of only 4 and 7 percent for females and males, while Poland has 26 and 21 percent, and Hungary (the birthplace of scientific geniuses like Szilard, Teller, and von Neumann) has 26 and 22 percent. Against these the Philippines has higher rates of 33 and 21 percent.

One of the outstanding paradoxes in Philippine human development, then, is why this respectable — even high — formal educational achievement fails to show up in aggregate productivity and income. This leads one to question whether the problem of raising economy-wide income and productivity may simply be resolved by increasing the number of places reserved for the poor in higher education. While there is no denying the urgency of improving the poor's ability to complete basic education up to high school and of improving their participation in higher education, many richer and indeed some developed countries have managed to parlay even lower levels of formal credentials into high human development.

There may not be only one but several possible answers. First, as already noted in the 2000 issue of this Report, the quality of Philippine education is an outstanding problem, causing the actual level of education and training in the Philippines to be overstated. What a Filipino leaver of high school knows may actually be no more than what a proper elementary-school graduate should know. As much is suggested by the country's scores in international math and science tests, where the Philippines invariable occupies a place close to the bottom of the list. Similarly, it is doubtful whether an average Filipino college graduate has mastered what is required for a *Abitur*, the typical central European pre-university qualification. Soon after independence (1946), the government expanded the public school system that was established by the American colonial government in 1900. At the same time the government allowed private schools relatively free entry at any level, complementing the government's provision of education. Until the late 1950s, the bulk of higher education or 93 percent of enrollment was in private institutions, while high schools were about equally shared by the public and private sectors. Beginning in the 1960s however more state universities and colleges were established, and in 1989 the national government took over financial responsibility for the local public high schools. These actions increased the national government responsibility for secondary and higher education. With an over-expanded mandate and resources stretched thinly by a growing population, government could not maintain quality.

Second, even holding quality constant, the unequal access to education opportunities may itself contribute to the lower impact of education on productivity. Innate talent and abilities are almost certainly distributed across the population in a manner that is less skewed than income or wealth. Owing to an unequal distribution of wealth and opportunities, however, not all talented youth from poor families enter college, while many affluent families may send their children on to further schooling regardless of talent. This too leads to an inflation of credentials relative to resulting productivity.

Finally it is important to note an important detail suggested earlier by Table 1.8,

namely, that the returns to education are increasing. The returns to elementary education are much lower than those to high school education, while they are highest for college education. This somewhat the reverse of the pattern observed in other countries (Psacharopoulos 1994); it also contradicts the notion that returns to higher levels of schooling should diminish given a person's fixed capacity for absorbing ever greater amounts of knowledge and skills. From this fact of rising returns to higher education, some are wont to draw the conclusion that even greater investments in higher education are necessary, particularly tertiary education. But although one can hardly argue with such logic at the level of *private* decisions, the same conclusion would be unwarranted at the level of *public policy*.

The data more likely reflect the simple labor-market reality that less job opportunities are currently available for those with lower levels of schooling. As a result, wages are bid down, both because of keener competition for available formal jobs, and because those who fail to obtain places must content themselves with low-productivity work, including self-employment. This lowers the return to those levels of schooling. By contrast, competition for places demanding college-qualifications is less (notwithstanding the observed high open unemployment among college graduates reflecting a higher reservation wage), hence returns are higher. It must be remembered, however, that this configuration of returns exists only because of the anomalous shortage of high-productivity jobs that *do not* require a college education, particularly, productive jobs in agriculture and in manufacturing. As discussed earlier, the country sought to cut corners in development by failing to develop its agriculture and industry fully and allowing workers simply to spill over from one low-productivity sector to the next.

As a result — and unlike the newly industrializing economies — the country has never experienced an extended period of rising wages for unskilled and semiskilled workers, which would have raised the returns to basic schooling without requiring an artificial bloating of the college market. The country has become saddled with misaligned education incentives — particularly the push for ever-higher qualifications to differentiate oneself from the great mass — largely owing to the distortion of its economic development and strategies. Part of the education-labor distortion may be seen in the profound absence in the local education-labor market of productive non-university careers involving skilled labor and craftsmanship. Apart from production-line jobs, technical careers in mechanics, electronics, various types of metalworking, woodworking, the building trades, as well as diversified farming — to name a few — are staple occupations that in many developed countries are viewed by the young as viable and decent lifetime careers. In the Philippines, however, these are only poorly represented and often viewed as transitional, low-status jobs. Partly for the same reason, the effort towards quality and proficiency in such occupations is also weak. Indeed the deficiencies of the domestic market are obvious in the fact that the only dynamic for quality and skills-certification comes from foreign labor markets (Box 1.8), as in the case of the merchant marines (or in the higher categories, nurses and doctors). In the meantime skills

Box 1.8. Overseas employment

Initially serving as a vent for underutilised labour, foreign labor markets have now become important regular employers of Filipino labor. In 1998, the total number of Filipino overseas workers (OWs) working abroad was estimated at about 6.4 million. Of these only 4.7 million used legal immigration channels and possessed appropriate visas; 1.8 million or 27.6 percent were considered irregular OWs with various problems with their status. Some entered the destination countries on tourist visa and overstayed to work. The largest group are Filipinos who crossed by small boats to Sabah to settle and work there in plantations and other agricultural production. They easily mix with the native population with whom they share physiological and cultural characteristics. Apart from migrant workers are permanent emigrants especially to North America and Oceania who have been granted the green card (working visas); these reunify their families and ultimately obtain foreign citizenship. By 1998, 3.2 million Filipinos had emigrated to these areas, 2.6 million or 81 percent to the US, 397,000 to Canada (12 percent) and 258,000 (8 percent to Oceania). By then, the total number of Filipinos who had left the country was almost 10 percent of the population or 21 percent of the labor force.

The two main categories of OWs are seafarers and land-based workers. Outflows of both have continued to grow since the large Middle East Market opened in 1975. The outflow of land-based workers rose more than 30 times from 12,500 to 380,263 at the height of the Middle East construction boom in 1975 to 1983. As its demand for foreign labor declined, the growth of OW deployment slowed down though it continued through 1999.

Owing to labor market flexibility and the labor force's alertness to employment opportunities, Filipino workers were able to find employment in increasingly varied destinations and occupations. Asia replaced the Middle East as the major market for OWs, particularly for females. Foreign employment is generally for a definite contract period, in many cases two years but many jobs have become permanent. About half of the 800,000 outgoing OWs in the late 1990s were new hires, the other half were returning to their foreign jobs. This number is less than 10 percent of the regular stock of OWs. If all were on strict two-year contracts, then half of the 4.5 million OWs abroad would have been coming back each year. Implicit contracts for longer than two years must be commonly agreed between the foreign employers and the OWs. Seafarers generally have long term careers in international shipping even if they regularly sign two-year contracts.

Destination countries decide monopsonistically on the occupations to open to foreign labor, the number to be admitted, and in most cases also their wage rate. They segment the market for foreign workers. The market segmentation and monopsonistic behavior result in very low wage relative to prevailing wage for natives. Each destination is a separate market with its own monopsony deciding the number of foreign employees and wage. This foreign labor market structure gives rise to wage differentials that are destination specific. Singapore and Hong Kong hire mainly female domestic workers, Taiwan, selected manufacturing skills, Europe nurses, and Indonesia finance managers. The Middle East has employed domestic workers and highly skilled blue collar workers. North America hires nurses in large numbers and workers with special skills. Among the most fortunate are regular migrants to the US and Canada who receive the same wage as the natives. Seafarers have standard wage rate for entering crewmen to senior officers. Nurses, for instance, would earn $406 in Saudi Arabia and $1,984 in the UK, machine operators $248 in Libya and $412 in Saudi Arabia. domestic helpers, $200 in Saudi Arabia and $900 in France. Risk of physical injury and contract violation also differ depending also on occupation and destination. Few countries offer their foreign workers the labor protection given to their own. Hong Kong and North America extend labor protection to their guest workers but most of the other destinations do not. Risk of injury and contract

violations is substantially higher for domestic workers in the Middle East where most of the reported violations occur. More deaths are also reported in Taiwan though their causes have not yet been identified. Domestic workers are specially vulnerable; being less educated, they are less able to avoid risk. They work in scattered and isolated homes away from the protective watch of fellow workers. Their jobs are largely in countries that do not provide foreign workers legal protection.

Box Table 2.
Foreign Monthly Wage Range, 1998 (US$)

	High		Low	
A. Professional				
1. Accountants	1650	Singapore	551	American Samoa
2. Nurses	1984	U.K.	406	Saudi Arabia
3. Engineers	2750	Guam	517	Bahrain
4. Computer programmers	4215	US	802	Saudi Arabia
B. Production workers				
1. Machine fitters	790	Qatar	403	Kuwait
2. Construction workers	600	American Samoa	275	Saudi Arabia
3. Machine operators	512	Saudi Arabia	248	Libya
4. Drivers	374	Saudi Arabia	330	UAE
5. Engineering technician	700	Kuwait	433	Saudi Arabia
C. Domestic Helpers	900	France		
	600	UK		
	476	Hong Kong		
	457	Italy		
	350	Singapore		
	206	Qatar		
	202	Malaysia		
	200	Saudi Arabia		

Source: POEA raw data, IMF, International Financial Statistics (December 1998), Jan-Oct exchange rates

OW income abroad is substantially higher than in the occupation they leave. Their earnings have greatly contributed to the country's foreign exchange earnings averaging 22% in 1995-2000. The lowest foreign wage is at least 1.6 percent higher than the domestic wage but can go as high as 4 times. Foreign earnings have raised the level of income for about 20% of families allowing them to send their children to higher level schooling, build homes and buy appliances. However, the psychic cost to the migrant and to his/her family may be quite significant though it is not revealed in the survey undertaken on migrant families. Perhaps the family members exert strong deliberate efforts to overcome the separation problems.

It is not clear what the fairly large scale migration of labor costs the economy. Migration has definitely reduced the unemployment problem at the aggregate level and by skill category. Excepting for computer professionals, no shortage has been reported for other skill categories. Educational institutions catering to foreign markets like maritime institutes and schools of nursing and physical therapy have increased rapidly. Alburo and Abella (1999) point out, however, that there is some skimming off of the more experi-

enced and better quality workers for foreign employment. The higher skilled migrants are mostly in prime age groups. This is to be expected since the queue for overseas work is long and the foreign employers can be selective. For instance, US and Canada have been recruiting high school and grade school teachers from the best schools in Manila like Ateneo and the Philippine Science High School. Note however, that on-the-job training is generally a continuous learning process. The process can be accelerated or slowed down depending on the work load and changes in technology. At any point in time, the employed are at different stages of the process, some are beginners, others are masters. An increase in demand for a high level group can be filled up by those employed in the next lower group. The migration of the more experienced workers may be replaced by those in the lower skill level. In some cases, there is deskilling of workers like the sensationalized teachers who work as maids. In other cases, like the seamen, there is skill acquisition. Generally, foreign shipping uses more advanced technology than domestic shipping. Maintenance workers abroad likely acquire higher level skills than if they stayed behind. No solid evidence on loss of skilled manpower due to labor migration has surfaced. The consensus is that going abroad increases the returns to investment in education and skills.

Despite its provisional origins, working for foreign labor markets should now be recognized for the contribution to employment and income that it represents and should be encouraged. Domestic government intervention should mainly take the form of facilitating reliable information, standard-setting and rationalisation of private placement agencies, encouragement of private insurance and pension plans for overseas workers, and protection of workers' interests abroad. Direct government placement should be ultimately phased out as the services of private institutions become more comprehensive and reliable. ■

untouched by such foreign markets languish in undistinguishable mediocrity.

The country's distorted sectoral development, aggravated by a historically ingrained social disdain for manual labor, confronts both rich and poor with an apotheosis of work as being primarily white-collar employment in a glossy skyscraper, surpassed only by a career in politics or — better yet — show business. This is reflected in the education system as well, where high school is perceived only in two aspects: either as a preparation to college, or a dead-end. Most vocational-technical institutes, in the meantime, suffer a reputation for low status which few of them bother, or are even able, to dispel.

Without denying the trend towards higher skills and qualifications in an increasing number of new-service jobs, public policy must confront the challenge of ensuring jobs across the board, for skilled as well as unskilled; for the less as well as for the better-educated. It cannot be the sole labor policy of government to simply maximize college enrollment among the population. The education system that the country must ultimately work to achieve is one where the quality and relevance of *basic education* is assured for rich and poor alike, and where continuing into tertiary education is relegated to its proper place in the decision-making of households, namely as merely one option among many, not the sole condition for survival and social uplift. But this can be achieved only if the economy starts showing a record of stable growth and if the industrial structure shifts towards giving agriculture and

industry their full due, resulting in a more rapid labor absorption and a stronger demand for a broader range of skills in formal employment. In the meantime, public provision should regain its focus on quality basic education, for which the reader is referred to Philippine Human Development Report 2000 for specific suggestions. In the same vein, the state must seriously consider reducing its involvement in tertiary education if it is to muster its resources effectively in support of basic education and advanced research and training in well-selected centers of excellence. The country lacks quality both at the very top and at the very bottom, and aside from quality basic education, advanced training and research in science and engineering are sorely lacking.[14]

Labor market institutions

The Philippines has a long tradition of labor market institutions that aim to protect the employed. Several laws exist which aim to protect the interests of labor, the more important ones being constitutional provisions and various statutes recognizing and elaborating the right of workers to organize and bargain collectively, instituting workmen's compensation for work-related injuries, instituting minimum wages, decent working conditions, working hours, and compensation for holiday and overtime work, child labor, and membership in the social insurance system.

The effectiveness of these laws very much depends on the structure of the labor market, and most of the country's labor-market institutions were conceived to suit the type of formal industrial relations prevalent in the mature capitalist countries. In practice, therefore, the scope and effectiveness of many of these institutions have been hampered by the country's sluggish agro-industrial transformation and the attendant amorphousness in the industrial relations. Previous sections have already pointed to the fact that family enterprises are the dominant business organization. Only 50 percent of those employed are wage workers, while only about 8 percent of enterprises are medium and large (employing more than 10 workers). Agriculture and services are the dominant sectors, while industry has stagnated. Meanwhile, high unemployment plus the large pool of reserve labor has probably weakened workers' bargaining position and the incentive to unionize. This structure poses serious obstacles to organizing unions and implementing the various labor laws. Nevertheless the laws do provide labor standards and set principles of fair labor practices. Awareness of the laws and other institutions has raised workers' awareness of their terms of employment and other entitlements, while employers are given an idea of what are fair employment practices. Laws provide unions with guidelines on the minimum terms they may demand in their collective bargaining agreements.

Unions are traditionally regarded as the primary means for workers to obtain fair and decent terms of employment. In more developed economies, they not merely serve as periodic bargaining instruments vis-à-vis

Table 1.11.
Union membership and workers covered by collective bargaining agreements (CBAs) (as percentage of total employment)

Year	Union membership	Workers covered by CBAs
1980	12.10	2.03
1985	11.70	1.44
1990	13.32	2.24
1991	13.11	2.35
1992	12.78	2.46
1993	13.11	2.55
1994	14.03	2.13
1995	13.97	1.42
1996	13.34	1.51
1997	13.12	1.89
1998	13.21	1.97
1999	12.65	1.79
2000	12.25	1.90

Source: Bureau of Labor and Employment Statistics

management, but also as important partners in raising overall firm productivity.

Most unions in the Philippines are local unions in larger enterprises. These may in turn align themselves with larger federations or alliances, often of a national character, in order to improve bargaining power or because of ideological affinities. Since 1989 government employees have also been allowed to organize. There are now about 10,000 registered unions with a total membership of 3.8 million. The average union size is 368. While the number of unions has risen through time from 1,747 in 1980 to 10,296 in 2000, membership has grown only minimally since the mid-1990s. Despite the century-old history of unions in the Philippines, union members still comprise only 12.3 percent of the employed[15], a figure that has largely stagnated for two decades (Table 1.11).

Even smaller is the proportion of employed workers covered by collective bargaining agreements. Over two decades, this figure has barely stirred from its level of about 2 percent in 1980 (Table 1.11). Hence at the turn of the century, unionism in the Philippines can hardly be described as in a healthy state.

Two factors are responsible for this state of affairs. While the typical legal hurdles for union recognition and attempts at union-busting are typically cited in the labor movement and certainly play a role, the larger reasons must be sought in the structure of Philippine industry itself, already alluded to, which is characterized by a large number of small firms as well as self-employment. As a result, a large part of the labor force is legally excluded a priori from the current industrial relations system. The small scale, low productivity, and at times temporary nature of employment for many members of the labor force immediately place them beyond the pale of unionism. The prevalence of informal arrangements and inapplicability of legal rules in the informal sector makes those who work under them unlikely to benefit from what has heretofore been the principal competence of organized unions in the Philippines, namely provision of assistance to workers in legal disputes with owners.

A second reason has been the growing trend, even among larger firms, to resort to "labor flexibility" as a means to become or remain competitive globally. The use of casual, contractual, and other regular employees has increased throughout the economy. A regular survey conducted by the Bureau of Labor and Employment Statistics (BLES) shows various types of non-regular workers increasing fro

20 to 21 percent of those surveyed between 1989 and 1997 with the category of contractual workers and part-time workers increasing fastest (Table 1.12). Of the firms surveyed by BLES in six regions in 2000, 39 percent employed temporary or casual workers; 33 percent directly hired contractuals, 24 employed agency-hired workers; and 11 percent part-time workers. The practice tends to occur more in home-market oriented rather than export-oriented firms, in Filipino- rather than foreign-owned, and in larger rather than smaller firms.

Table 1.12.
Types on non-regular workers
(as percentage of total surveyed)

Year	Part-time workers	Casual Workers	Contractual workers	Total non-regular workers
1989	1.3	4.1	8.3	13.7
1990	1.6	3.7	9.2	13.5
1991	1.5	4.1	7.0	12.7
1992	1.5	3.7	10.0	15.7
1993	1.9	3.3	9.9	15.1
1994	1.6	4.5	8.1	14.2
1995	1.8	4.4	11.8	18.0
1996	2.0	4.1	12.3	18.5
1997	2.2	4.7	14.0	20.9

Source: Bureau of Labor and Employment Statistics, Survey of Specific Groups of Workers, various years.

It is a conviction among many in the labor movement that the spread of flexible-labor arrangements has to do primarily with firms' attempts to avoid having to provide mandated non-wage benefits for permanent employees and possibly an attempt to weaken unionism in general. While it cannot be ruled out that these motives have also contributed to the practice, other weightier economic imperatives for labor flexibility may probably be found. The protection of many large firms in the past shielded them from competition and allowed them to earn rents, some of which were shared with their workers partly in the form of an over-expanded permanent workforce. In the face of greater competition, however, much of these rents are no longer sustainable, especially in conditions that require many firms to adjust quickly to fluctuating demand, distinguish between their core and peripheral operations, use internal labor markets, and provide specific versus general training [Esguerra 1997].

Unionism based on traditional legal concepts of industrial relations is thus being squeezed both by the past and the future. The challenge is how to continue to be a relevant voice for workers' rights given the country's large and heterogeneous informal sector on the one hand, and the spread of flexible labor arrangements on the other. Given its limited reach in terms of membership and collective bargaining agreements, organized labor has occasionally taken refuge in national issues to maintain its prominence and demonstrate bargaining power. (In particular, proposals for national minimum-wage legislation and opposition to increases of various prices are explicable advocacies, since they purport to benefit the entire labor force, including the unorganized.) There can be no denying, however, that the scope for union action to benefit the bulk of the labor force has become increasingly circumscribed and new strategies are necessary.

It is objectively in the long-term interest of the organized-labor movement — even its most radical elements — to support an agenda of sustainable growth in the economy as well as industrial transformation. For that would expand formal employment across all sectors

and provide the basis for the operation of collective bargaining. Against this is an apprehension that unions might lose leverage and their credibility among their members by being co-opted. While some continue to hold on to the view that the problem is simply one of advocating an expansion of laws on industrial relations to cover the informal sector, organized labor is clearly threatened by a reduction to passivity as long as it merely reacts to the development of the economy and the labor market instead of acting positively to shape them. This implies that the organized-labor movement must take on an explicitly developmental role by internalizing the problems of the entire labor force, including the problems of promoting employment and raising productivity, and not merely those of negotiating legal terms of already-existing employment relations.

Such a realization has not been lost on the more thoughtful sections of the working class. Hence, among others, there is an increasing recognition that organized labor should be involved in the provision of safety nets, programs for retraining, retooling, and entrepreneurship and greater investment in human resources development, and the provision of labor-market information and placement services. There is also a growing appreciation of the need to rethink the customarily adversarial and legalistic stance of organized labor vis-à-vis owners and managers if only to improve the investment climate to encourage both domestic and foreign investments[16].

A significant if ambitious proposal is that of establishing unions along craft lines or by field of specialization. This has the positive aspect of allowing workers to organize across all firm sizes and types of business organization and across different employers. Aside from their obvious potential as lobby groups, however, craft unions could play a further development role through programs aimed at raising the levels of skill among their members. This might be done through skills-training programs sponsored by unions, especially in close co-ordination with certification agencies such as the Technical Education and Skills Development Authority (TESDA) or with private technical institutes. Other types of innovative workers' organizations might include small-scale businesses or cooperatives among the ranks of home-workers or domestic outworkers to link them with larger businesses.

In the context of improving labor-management relations, steps must be taken to reduce the prevalent legalism in labor relations and settle disputes through mechanisms such as grievance machineries, voluntary arbitration, and labor management cooperation schemes. Schemes that align pay incentives with productivity, e.g., profit-sharing and bonuses, can be proposed and agreed where appropriate. The point is ultimately to find forms of organization that remove obstacles to fair and mutually beneficial transactions in the labor market.

Social insurance

Social security is probably the most significant labor market institution in the Philippines today in terms of coverage. For civil servants there is the Government Service Insurance System (GSIS), while workers in the private sector are covered by the Social Security System (SSS). To be sure, the benefits

the labor force are not clearly evident nor are they equitably distributed. Once more, however, weaknesses of implementation must be taken in the context of the underdeveloped labor market. Membership is compulsory for wage and salary workers in private and public sectors. In later years SSS membership was extended on a voluntary basis to self-employed and informal sector employees like household helpers. With this expanded scope, the proportion of the workforce covered increased, so that now 76 percent of the employed are covered. This percentage vastly exceeds the proportion of wage and salary workers (50 percent). The non-wage workers and even those on casual employment are reported to make irregular contribution and so lose out on SSS benefits.

As a form of insurance, the social security system is somewhat better than nothing. The average amount paid per claim in 1999 was P9,415 for the SSS and P21,926 for the GSIS. Limited benefits are offered in the form of health insurance for non-catastrophic medical treatment and three-month salary loans and housing loans to higher-earning members. There is, however, no unemployment insurance. More recently, exorbitant staff salaries, and the lack of prudential control over the management of the system's funds have blown up administrative cost and reduced the rate of return on the funds. A closer look into the systems' fund management reveals a poor return on pensions within the system, a fact that approaches an injustice considering the mandatory nature of the contributions from the less affluent. Moreover, while higher-salaried people can afford take out additional private insurance to fully hedge their risks, no such options are available to low income earners.

Given the small size of benefits, low availment rates, and display of blatant mismanagement in the social insurance systems, the lack of enthusiasm for them among a growing number of workers' representatives is hardly unjustified in regarding social insurance deductions primarily as a tax on earnings rather than as an investment for the future. This issue is likely to come to a head, especially after politically instigated abuses in the administration of the social insurance systems depleted their resources, making it necessary to increase the premiums or reduce benefits, or both. If premiums must indeed be raised anyway, it may make more sense to raise them sufficiently and expand benefits to include limited forms of unemployment benefits. Any suggestion of unemployment insurance in this country is generally denounced as an unaffordable luxury. Anxieties about the financial implications of such a scheme may be allayed through a proper calibration of benefits; on the other hand, unemployment insurance can play a role in facilitating the mobility of labor, especially in declining industries. In any case, any objections to the expansion of benefits should be tempered by the knowledge of the magnitude of past depredations and raids on these pension funds for purposes that never benefited their members. The GSIS and the SSS dispose not over government money but over mutual funds held in trust for workers; it is of utmost importance to ensure that the board and officers of these funds will henceforth be immune to political influence and instead hold themselves accountable only to the members.

It is also useful to realize that social insurance and protection may also be pursued in other forms than through explicit schemes. A conscious effort to smooth out any inevitable industrial restructuring and adjustment may be also understood as a form of social protection. Emergency loans, livelihood programs, provision of subsidized goods, etc., are also known forms of "safety nets" that have been implemented by government in some form and at some time or other. The effectiveness of such schemes, however, is typically hampered by a lack of an overall concept, their fragmentation, and their intermittent nature, which threaten to reduce them to mere tokenism that can be hijacked for political purposes. It is preferable therefore for these efforts to be embedded in more broadly conceived and narrowly targeted anti-poverty programs that are part of a sustained effort based on a consensus between organized labor, business, and other parts of civil society. Responsibility for providing worker security must be removed from the narrow confines of specific employer-employee relations and spread across society at large.

Table 1.13.
Incidence of child labor by household-income group

Household income per month	Number of child workers	Number of children	Incidence (in percent)
Less than P2,000	282,419	1,855,831	15.22
P2,000-P2,999	509,736	3,802.797	13.40
P3,000-P4,999	573,820	5,610.219	10.23
P5,000-P9,999	292,001	3,941.545	7.41
P10,000 and over	135,127	2,093,932	6.45
Not reported	3,954	52,372	7.55

Source: Table 4.2, Villamil [2002], computed from NSO 1995 Survey

Child labor

Children, those aged 5-14 years, are among the most vulnerable groups in the labor market. They participate in market- and home-production, particularly in family enterprises or the informal sector. They help care for younger siblings, cleaning house, and other home production tasks. Many are also employed in family enterprises, palpably more in lighter agricultural tasks such as feeding livestock and in retail trade. The informal sector usually employs its own children as unpaid family workers. The various tasks children are assigned to do affect their well-being, some positively, others negatively. Most home activities have education/training content and are also good for inculcating discipline and other traits. In subjective intent, parents may be assumed to be protective of their children, assigning tasks that are not expected to harm their physical and mental development. Children who work outside the home, however, lose this protection, with some being employed in jobs that are clearly hazardous. Of 17.5 million children in 1995, 1.86 million worked to produce market goods. Of these, 412,000 were employed outside their own homes: in other homes, factories, the streets, construction and mining sites, and other places.

The effect of work on children's schooling depends on the nature of the tasks and the time devoted to them. A few hours' light work at home need not disrupt schooling. Employment outside the home, however, generally requires continuous and longer hours of work. The job leaves a child little time and energy to study. Social concern is greatest over children who

Box 1.9. Determinants of child labor

What determines whether and to what extent children work?

In a study commissioned for this Report, Villamil [2002] uses data from the 1995 NSO Survey on child labor to estimates the likelihood that a child will work full time or combine schooling with work. Apart from the influence of family income, he finds that the probability a child will combine work with school or interrupt schooling entirely: is greater for older children; is smaller for girls; decreases with the education level of the head of the household; decreases with wealth; and increases with the number of children. The inverse effect of family income and education on child labor is part of a cycle of poverty and low education leading to child labor, and returning to poverty and low education levels once more.

Villamil finds however that the most important determinant of child labor is the household's ownership of an enterprise. It reduces by 13 percent the probability that a child will remain in school not working; it increases by 25 percent the probability that the child combines work and school; and it increases the probability by 8.4 percent that a child completely stops school and goes to work. ■

work in gold panning, diving, domestic services and prostitution, where hazards are greatest.

Family income and demographic variables are the important determinants of the hours and nature of work assigned to a child (Box 1.9). Among households in the lowest income bracket (earning less than P2000 monthly in 1995), the incidence of child labor was 15 percent (Table 1.13). From there a neat monotonic relationship exists, with the incidence of child labor declining to only 6 percent for those earning P10,000 and above. Affluent families who employ household help would have little work left for a child to do. Poor families who tend to have larger families and no extra help have more home chores to assign their children. The poorest families are compelled to send their children to work outside the home even to known hazardous jobs. Proportionately more of these children drop out of school early. Poverty, the high cost of quality education, and the lack of superior employment prospects for the future bias the choices of families in favor of child labor, which can add a substantial amount to household income.

While the law prohibits the employment of children (defined as less than 15 years old) outside the home, government enforcement is marginal. The government has only a meager capacity to monitor child employment. The failure of the government to solve the more general problem of dire poverty often compels it to close its eyes to violators of the child labor law. Like many other problems discussed in this Report, child labor is an unfortunate outcome of the state of the labor market. Addressing the problem at its roots cannot be divorced from the effort to achieve growth that is sustained and equitable, creating stable, high-productivity jobs for adults and providing hopeful career prospects for children after a reasonably brief period of schooling. The existing configuration of returns to education — where the highest returns are attained only at the highest and most expensive stage of edu-

cation — serves as a powerful disincentive for poor parents to keep their children in school. The fact that the incidence of child labor is strongly associated with the number of children in the family also points to the need for a serious program of reproductive health that will assist families in working out their desired family size and help them attain it. Aside from feeding programs tied to school attendance, poverty-alleviation programs to assist household enterprises should also be so designed that assistance is tied to school attendance and performance by children. Making schools more accessible and less costly, with priority given to regions lagging in education infrastructure, can also reduce the likelihood of children leaving school.

Conclusions and recommendations

1. The government has important roles to play in the education-labor market. Foremost among these is the adoption of macroeconomic and sectoral policies that will place the economy on the high road of income and employment growth. This especially includes encouraging a high level of investment through the provision of physical infrastructure (which implies in turn that government must resolve its perennial financial and fiscal dilemma); aggressively pursuing a long-overdue policy on population that provides the people with enlightened and effective reproductive choices; and averting the destabilization caused by political upheavals by drawing substantive democratic demands and competing social claims within the orbit of constitutional democracy.
2. In terms of sectoral policies, government should pursue and make good its thrust to revitalize and modernize agriculture and the rural areas first and foremost, making it an effective absorber of labor. Well-known measures of crop-diversification, multi-cropping, irrigation, programs of research, extension, and credit must be combined with the rapid resolution of outstanding property rights disputes and agrarian reform. In the meantime, the national bet on "new services" and global export industries should be continued through a continuous program to encourage quality improvements in private tertiary education and through a few carefully planned public investments in R&D in public and private centers of excellence. Credit and other programs that support domestic small and medium industries should be revitalized, with the potential to make the leap towards global supply.
3. At the level of the working household, education is the most powerful determinant of earnings, whether in the form of wages or of total family income. This underscores the importance of providing the poor with access to quality basic (elementary and high school) education, which today is largely in the hands of the public sector. Quality basic education also implies sufficient preparation for the option to pursue decent working careers that *do not* require

further investments in costly tertiary education. Creating social esteem and status for skilled manual labor, technicians, and other blue-collar work will require an environment of growth in employment and wages in those categories plus conscious efforts to set clear quality standards and surpass them. In accomplishing these tasks, government must (a) gradually withdraw from its overextension in tertiary education, yielding to the private sector; (b) focus its attention on uplifting basic education as discussed in detail in the 2000 issue of this Report; and (c) yield technical training to the private sector and instead concentrate on its more important role of certification of skills and controlling the quality of technical institutes; (d) institute a system of high school vouchers, university scholarships, and loan-study programs targeted narrowly at the most brilliant among the poor.

4. Efforts of organized labor to take a larger development role beyond collective bargaining and tripartism should be supported. These include organized labor's attempts to promote employment, provide labor-market information, and raise productivity; the formation of craft unions that also aim to raise the skill-levels of members; the formation of small businesses or cooperatives among home-workers or domestic outworkers; reduction of the legal malaise in labor relations and the resort to more expeditious mechanisms to settle disputes; and where applicable the use of schemes like profit-sharing and bonuses that align incentives with productivity.
5. The workers' savings in the social insurance funds must henceforth be protected from political influence. In their bid to raise members' contributions to preserve the viability of these funds, serious consideration should be given to the possibility of also expanding benefits to include limited forms of unemployment benefits. These not only justify the increase in contribution but also serve to facilitate worker mobility.
6. Foreign labor markets have now become important regular employers of Filipino labor. Overseas work should thus be recognized for its contribution to employment and income and should be encouraged. The government should eventually move away from direct placement of workers and leave this to private institutions. Domestic government intervention should mainly take the form of facilitating reliable information, standard-setting and rationalisation of private placement agencies, encouragement of private insurance and pension plans for overseas workers, and protection of workers' interests abroad.
7. The problem of child labor cannot be addressed in isolation from laying the conditions for sustained employment growth, the generation of regular and productive jobs, progress in reducing family sizes, and changes in the priorities in the education system. Poverty-alleviation programs with implicit contracts for school-attendance and performance, school feeding programs, and provision of education infrastructure in well chosen areas will also be effective in reducing the likelihood that

children interrupt their schooling for work. ■

Notes

1 Indeed, one might follow Marx and regard artistic creation and work as belonging to the same spectrum.

2 Official Philippine statistics count discouraged workers — those not looking for work because they believe no work is available — as unemployed. This partly (but not completely) explains the country's higher unemployment rate and its lower labor force participation rate. Discouraged workers make up more than a quarter of the unemployed. A little algebra will show that if all discouraged workers are removed from the reckoning, Philippine unemployment would be 6.9 percent (rather than 9), still notably higher than the regional norm, while the labor force participation only change marginally to 67 rather than 66 percent.

3 Another reason is that education, while widespread, is of uneven and even poor quality, so that attainment in education does not translate into higher productivity and incomes. This was the focus of the Philippine human development report of 2000 [HDN 2000].

4 Data for 1998 are the most current for which this type of analysis is possible.

5 Indeed, if they should decide to join the openly unemployed, unemployment may conceivably increase even when output is rising. Of course, this is not the only factor: another one is technological change, especially that enforced by globalization.

6 Using preliminary reports, the State of the Philippine Population Report [Population Commission 2000] initially reported the population growth for 1995-2000 at 2.02 percent, which would have been a slow but still significant decline. The final estimates, however, have revised this to indicate that no gains have been made at all [See: http://www.census.gov.ph/census2000/c2khighlights_final.html].

7 That is, a dependency ratio of 0.67. This figure has been computed from the medium scenario projections of the 2000 population and housing census (http://www.census.gov.ph/data/sectordata/poproj03.txt)).

8 Growing at this rate, per capita income would be 63 percent more in a decade and would double in about 14 years. By contrast, the historical growth rate of 1.14 percent would raise per capita income only by a third in a decade and would require 23 years for it to double.

9 These are data for 1998, the latest year for which such a breakdown is possible.

10 Adopting this explanation admittedly jettisons the assumptions of the standard (i.e., the Heckscher-Ohlin or factor endowments) trade model, which assumes technology is common across countries although with vast substitution possibilities between factors of production.

11 In such contractions, unskilled workers are the most vulnerable. Firms are more likely to "hoard" workers who are skilled and have idiosyncratic knowledge of the operations of the enterprise.

12 The share of wages and salaries underestimates the importance of labor incomes, since it excludes the incomes earned by self-employed farmers, fishers. and others in the informal sector who do not work for wages.

13 This is obtained by taking the average 2.3 percent rate of return to each year of elementary schooling and multiplying it with the six years of such schooling. Hence, 2.3 x 6 = 3.8. The returns to graduation from high school (3.5 x 4 = 14) and from college (6.4 x 4 = 25.4) are similarly obtained.

14 The top state institution, the University of the Philippines, for example, is unable to offer a viable doctoral program in engineering.

15 Bitonio [2000] notes that figures from the Bureau of Labor Relations suggest actual union membership in both public and private sectors may actually be less than the above, which are based on self-reporting by unions in their registration papers.

16 These union leaders' views are reported in Aldaba [2002] citing a project of the Institute of Labor Studies of the Department of Labor and Employment.

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2 Human development, human poverty, and gender equity

The period covered by this issue of the Philippine Human Development Report is of particular interest, since it coincides with a time when the country suffered almost simultaneously from the Asian financial crisis and the El Niño. It also corresponds roughly with the term of the Estrada administration, which took office in June 1998, but which was compelled to step down by People Power II, just two weeks into 2001 and replaced by the administration of President Gloria Macapagal-Arroyo. The latter part of President Estrada's administration was marred by poor business performance and high joblessness, as business and investor confidence waned amidst allegations of gross impropriety by the former president during the impeachment trial. The question is whether human development suffered as a consequence of these events.

Human Development Index

The current Philippine Human Development Report, fourth in the series, contains the third updating of the provincial *human development indices* (HDIs). The first issue of this Report in 1994 contained only regional estimates. The 1997 PHDR computed provincial HDIs for 1991 and 1994, the 2000 PHDR for 1994 and 1997. This issue contains estimates for 1997 and 2000. Because of refinements in the HDI methodology and discontinuities in the data series, however, the HDIs unfortunately should not be compared across editions.

The HDI is a simple tool seeking to measure overall achievements in three basic dimensions of human development, namely, longevity, knowledge, and a decent standard of living. The Human Development Report published by the United Nations Development Programme measures these dimensions across countries using life expectancy, educational attainment (adult literacy and combined primary, secondary, and tertiary enrollment) and adjusted income per capita in purchasing-power parity (PPP) US dollars.

In the latest global HDR [UNDP 2001] the Philippines ranked 70th among 162 countries, placing it in the upper half of countries with middle human development. A steady improvement in the country's HDI has been observed, from 0.649 in 1975 to 0.749 in 1999. As has already been noted in previous PHDRs,

it is in the area of educational attainment that the Philippines performs best relative to other countries. While GDP per capita is actually lower for the Philippines than for the average for countries with medium HDI, and life expectancy only 3.3 percent better, Philippine adult literacy and combined enrollment rates are respectively, 21 percent and 22 percent higher than the group-average. This has enabled the country to rank much better in HDI (70th) than it does in terms of per capita GDP (91st). The 2001 HDR also reports that the Philippines does well in terms of the *gender-related development index* (GDI), which is simply HDI adjusted for gender inequality. On this index the Philippines ranked 62nd among 146 countries.

This is not enough, however. Viewed from a distance, everything may be "blue and green", but a closer look will often reveal patches of desert and denudation. Both present and previous issues of this Report have taken the task of looking more deeply into the components of human development in terms of examining the quality of the performance as well as the internal disparities hidden in national averages. PHDR 2000, for example, effectively questioned the quality of the high reported statistics on education achievement, while the first chapter of this Report questioned the quality of employment in the country. This chapter in turn devotes itself to a local-level discussion of each of the components of the human development index and other related indices in order to present a fuller picture of human and social conditions in the country.

Longevity

Our **life expectancy** figures for 1997 and 2000 were derived using straight line projections from life expectancy data points for the years 1970, 1980, 1990, and 1995 obtained from Flieger and Cabigon (1994 and 1999). These estimates unfortunately are not yet informed by data from the recently conducted 2000 Census of Population and Housing, for which corresponding life-expectancy tables are still unavailable. The need to rely on less current projections for life expectancy should be counted as one of the weaker aspects of the results reported here, although it should be noted that life expectancy is among the variables that change only slowly through time.

Except for Maguindanao, life expectancy was estimated to have gone up in all provinces. Davao del Sur achieved the highest gain of 1.7 years, followed by Leyte and North Cotabato with 1.6 years, and Camarines Sur and Bukidnon both with 1.4 years. While it is encouraging to note that three of the top five gainers were Mindanao provinces, the same is unfortunately true at the opposite end: three of the smallest gainers in life expectancy were also Mindanao provinces, including Maguindanao, as already mentioned, where life expectancy declined by six-tenths of a year. Life expectancy in Aurora and Quirino rose by only three-tenths and in Basilan and Tawi Tawi only four-tenths of one year.

Provincial disparities continue to be large (Table 2.1). Cebu had the highest life expectancy (71.8 years), followed by Pampanga (71.4 years), Batangas (71 years), Bulacan (70.7 years), and Rizal (70.2 years). At the bottom of the list are the four provinces of the Au-

tonomous Region of Muslim Mindanao, namely Tawi-Tawi (50.8 years), Sulu (52.3 years), Maguindanao (52.6 years), and Lanao del Sur (56.9 years). On their heels is Abu Sayyaf base province and current US military exercise site Basilan (60.2 years). Considering how these same provinces are the ones most plagued by peace and order problems, the results are not surprising. On the other hand, one Mindanao province, Davao del Sur, made it to the top ten provinces in life expectancy, indicating that substantial disparities exist even in Mindanao itself.

Cebu's life expectancy lies between that of a middle-human development country (average life expectancy of 66.8 years according to latest global HDR) and a high-human development country (77.3 years). It's life expectancy is comparable to that of countries such as Hungary (71.1 years) and Lithuania (71.8 years), as well as other middle-human development countries such as Malaysia (72.2 years), Mexico (72.4 years), and Sri Lanka (71.9 years). On the other hand, Tawi-Tawi's life expectancy is below even the average for low human development countries, which is at 52.6 years, and comparable to the Democratic Republic of Congo (51 years), Mauritania (51.1) years, and Tanzania (51.1 years).

Table 2.1.
Life expectancy
(in years, 2000)

Top ten	Years	Bottom ten	Years
Cebu	71.8	Ifugao	61.9
Pampanga	71.4	Kalinga	61.8
Batangas	71.0	Apayao	61.6
Bulacan	70.7	E. Samar	61.1
Rizal	70.2	W. Samar	60.6
Nueva Ecija	70.2	Basilan	60.2
Camarines Sur	69.9	Lanao del Sur	56.9
Davao del Sur	69.9	Maguindanao	52.6
La Union	69.8	Sulu	52.3
Cavite	69.7	Tawi-Tawi	50.8

Source: Statistical Annex 1

Knowledge

Since the provincial HDI's were first generated, the knowledge component of the index has been based, either entirely or in part, on functional literacy rates obtained from the Functional Literacy, Education, and Mass Media Survey (FLEMMS) of the National Statistics Office. In the 1997 PHDR, the knowledge component consisted entirely of the functional literacy rate, whereas in 2000 it was the weighted average of the functional literacy rate and the basic enrollment ratio. The last FLEMMS was conducted in 1994, however, and the National Statistics Office has announced that it will not be repeating the survey again, citing the lack of demand for the data and the budget constraint the agency faces.

Hence, while the functional literacy rate is perhaps the ideal or the best indicator we have of a province's achievement in terms of knowledge, it now makes little sense to still use it for use in inter-provincial comparisons, especially over time. Continuing to use the 1994 literacy rates in computing the HDI for more recent years would seriously misstate the changes in level and distribution in the education component of the index.

In place of the functional literacy rate, this Report now uses the *percentage of those at least*

Table 2.2.
High-school graduate ratio (18 and above)
2000

Top ten	%	Bottom ten	%
Rizal	66.9	Bohol	33.1
Benguet	64.7	Biliran	32.6
Cavite	64.3	Davao Oriental	31.8
Bataan	62.2	Northern Samar	31.8
Laguna	60.8	Apayao	31.3
Batanes	60.7	Basilan	28.6
Zambales	60.2	Eastern Samar	27.8
Pangasinan	60.0	Masbate	23.3
Misamis Oriental	55.2	Western Samar	22.3
Ilocos Norte	54.9	Sulu	18.1

Source: Statistical Annex 1

high-school graduate among those 18 years and above in the province. This might be called the **high-school graduate ratio**. Intuitively, this figure is expected to be highly correlated with functional literacy. Indeed, getting the rank correlations of these two measures for the years 1989 and 1994, one obtains statistics of 0.93 and 0.71, respectively, which are quite high indicating that, more or less, they contain the same information. An especial advantage to the high-school graduate ratio is that it is generated regularly as part of the quarterly labor force surveys.

The second component of the education index remains the **basic enrollment ratio** or the proportion of children aged 7-16 years who are currently enrolled. For this Report, however, the estimate comes from the Annual Poverty Indicators Survey (APIS). In past issues the statistic was previously estimated using two data sources: (1) the number of elementary and secondary school enrollees by province from the Department of Education Culture and Sports, and (2) the estimated population of 7-16 years old from NSO. By using only one source, APIS, it is hoped that there will be greater consistency in the estimates. Because APIS is a sample survey, of course, there is the drawback of sampling error, but then that applies to all the other indicators, which are also sample-based.

For the whole country, the proportion of high-school graduates among adults in 2000 was 49.4 percent. This was an improvement from the 1997 level of 46.8 percent. Rizal heads the list with over 2/3 of its adult population having completed at least high school. Seven other provinces have at high school graduate ratios of least 60 percent. These are Benguet, Cavite, Bataan, Laguna, Batanes, Zambales, and Pangasinan. A Mindanao province, Misamis Oriental, also made it to the top ten.

On the other extreme there is Sulu with less than a fifth of its adult population carrying high-school diplomas. Other provinces with less than a third of their adult population being high-school graduates are Western Samar, Masbate, Eastern Samar, Basilan, Apayao, Northern Samar, Davao Oriental, Biliran, Bohol, Negros Oriental, Occidental Mindoro, and Agusan del Norte. It is striking that all the Samar provinces are in the bottom ten.

The overall basic education enrollment ratio was stable at around 90 percent during 1998-1999 (APIS years). Batanes had the highest enrollment ratio at 98 percent, followed by Mt. Province at 95.7 percent. Other provinces making up the top ten in enrollment rates for basic education were Cavite, Catanduanes, Siquijor, Camiguin, Ilocos Norte, Antique, Zambales, and Benguet. It is surprising to find usually poor-performing provinces such as

Antique, Siquijor, and Catanduanes at the top of the list, especially since they did not perform so well on the high-school graduate ratio. In Siquijor's case, it is likely due to the rising per capita in the province (see Table 2.4). PHDR 2000 showed the strong relationship between the enrollment ratio and real per capita income.

Over the period, the basic enrollment ratio rose in 47 provinces but declined in 30 others. This was in the midst of the Asian crisis and the drought, when 6.4 percent of families said they responded to the hardship by taking their children out of school (Balisacan 2000). The highest percentage-point increases in enrollment rates were in Siquijor (7.3 percentage-point increase), Antique (6.3), Leyte (5.3), Masbate (4.7), and Agusan del Sur (4.5). The biggest declines were in Surigao del Sur (-5.3), Lanao del Sur (-5.0), Negros Oriental (-4.7), Camarines Sur (-4.2), and Tarlac (-3.8).

Table 2.3.
% basic enrollment rate
(7-16 years old)
1999

Top ten	%	Bottom ten	%
Batanes	98.0	Davao del Sur	85.3
Mt. Province	95.7	Camarines Sur	84.5
Cavite	95.6	Masbate	84.0
Catanduanes	95.3	Bukidnon	82.8
Siquijor	95.2	Basilan	82.1
Camiguin	94.9	Negros Oriental	79.7
Ilocos Norte	94.9	Sulu	77.7
Antique	94.8	Lanao del Sur	76.9
Zambales	94.8	Maguindanao	76.6
Benguet	94.8	Sarangani	69.3

Source: Statistical Annex 1

Standard of living

The Family Income and Expenditures Survey provides the source of estimates of provincial per capita income. Consistency with the global HDI would have required provincial per capita GDP, but the latter is unavailable, since GDP is disaggregated only up to the regional level.

To make sure income comparisons are consistent, two adjustments are made: first, income is measured consistently over time by deflating it to 1997 price levels using regional consumer price indices from the National Statistics Office; and second, they are rendered consistent across space (provinces) by adjusting them using provincial cost-of-living indices derived by Balisacan (2000). These two adjustments fairly ensure that incomes are based on what they are able to purchase, and not simply their numerical peso amounts.

In the aggregate, real per capita income declined 4.6 percent between 1997 and 2000. This was likely to have reflected the triple curse of the Asian crisis, the El Niño, and the Estrada crisis, all of which the country endured in this period. Per capita income fell in 53 provinces, and rose in only 24 provinces. Metro Manila's per capita income declined 7.4 percent. (Table 2.4). The largest increases in per capita income on the other hand were in Davao Oriental (24.2 percent) and Mt. Province (22.2 percent). Incomes also increased by double-digit percentages in Siquijor, Iloilo, Leyte, Southern Cotabato, and Southern Leyte. On the other hand, per capita income fell by a large 42.7 percent in Tawi-Tawi, and 40.8 percent in Basilan — two provinces where income were among the lowest to begin with, while falling

Table 2.4.
Largest gainers and losers in per capita income
2000

Top ten	%	Bottom ten	%
Davao Oriental	24.2	Ifugao	-17.4
Mt. Province	22.2	Marinduque	-18.5
Siquijor	19.0	Misamis Oriental	-19.2
Iloilo	18.8	Agusan del Sur	-20.8
Leyte	16.8	Tarlac	-21.3
Southern Cotabato	15.8	Sultan Kudarat	-21.4
Southern Leyte	10.6	Zamboanga del Sur	-22.4
Abra	9.3	Batanes	-23.5
Eastern Samar	9.3	Basilan	-40.8
Northern Samar	9.2	Tawi-Tawi	-42.7

Source: Statistical Annex 1

Table 2.5.
Real per capita income
(NCR 1997 Pesos)
2000

Top ten	Pesos	Bottom ten	Pesos
Rizal	39,895	Western Samar	17,262
Ilocos Norte	36,460	Marinduque	16,973
Laguna	34,717	Lanao del Sur	15,936
Bataan	33,907	Romblon	15,679
Bulacan	32,318	Sorsogon	15,637
Southern Cotabato	32,101	Eastern Samar	15,253
Benguet	31,968	Basilan	13,193
Cavite	31,814	Masbate	12,825
Misamis Oriental	31,795	Tawi-Tawi	11,349
Nueva Vizcaya	31,515	Sulu	7,850

Source: Statistical Annex 1

more than 20 percent in the provinces of Batanes, Zamboanga del Sur, Sultan Kudarat, Tarlac, and Agusan del Sur.

Table 2.5 shows the provinces with the highest and lowest levels of per capita income. Of the top ten, eight come from Luzon — from around Metro Manila and northern Luzon, and two are from Mindanao. The bottom ten are spread across the country: the Luzon provinces of Masbate, Sorsogon, and Marinduque; the Visayas provinces of Eastern Samar, Romblon, and Western Samar; and the Mindanao provinces of Sulu, Tawi-Tawi, Basilan, and Lanao del Sur. Sulu was the only province with real income per head of less than P10,000. Its income of P7,850 is only 16.1 percent that of Metro Manila's, and only 19.7 percent that of Rizal's.

Ilocos Norte and Nueva Vizcaya benefit from very low costs of living, estimated to be only 2/3 that of Metro Manila. Misamis Oriental, Benguet, and South Cotabato are locations of the large and relatively rich cities of Cagayan de Oro, Baguio, and General Santos, respectively. In addition, the cost of living in Misamis Oriental is only 62 percent that of Metro Manila. Rizal, Laguna, Bataan, Bulacan, and Cavite are, of course, industrially relatively more advanced than the rest of the country.

HDI levels

As in the previous volume, two sets of HDIs are computed in this report. The first, labeled HDI-1, departs somewhat from the global HDI in its substitution of percentage of high school graduates in lieu of literacy rate, and in its computation of the income index. The second, labeled HDI-2, hews as closely as possible to the global HDI computation and is used to compare provinces with other countries. Table 2.6 lays out the differences in the computations of the global HDI and HDIs-1 and -2.

Statstical Annex 1 presents both HDI-1 and HDI-2 for the provinces. Unless we specifically say otherwise, any reference to HDI in the following text refers to HDI-1.

Table 2.6.
Indicators used in HDI computation

HDI	Long and healthy life	Knowledge I	Knowledge II	Standard of living
Global HDI	Life expectancy	Simple literacy	Combined elementary, secondary, and tertiary enrollment rate	GDP per capita in purchasing power parity US$
Maximum	85	100	100	40,000
Minimum	25	0	0	100
HDI-I	Life expectancy	Functional literacy	Combined elementary and secondary enrollment rate	Per capita income in purchasing power parity US$
Maximum	85	100	100	40,000
Minimum	25	0	0	100
HDI-II	Life expectancy	% of adults high school graduate	Combined elementary, and secondary enrollment rate	Real per capita income in NCR 1997 prices
Maximum	85	100	100	Highest income in 1997 and 2000
Minimum	25	0	0	Lowest income in 1997 and 2000

Metro Manila continues to stand out, having the only HDI to exceed 0.8. Two provinces out of 77 have HDIs exceeding 0.7, although three others come close. Two provinces have HDIs less than 0.4, while 11 others have less than 0.5

The top seven provinces in HDI for 2000 were comprised of Luzon provinces. In order of decreasing HDI, they are Rizal, Ilocos Norte, Bataan, Cavite, Laguna, Benguet and Bulacan. Two non-Luzon provinces are in the top ten: Misamis Oriental is eighth, and Iloilo is ninth. Pampanga completes the group.

The four provinces of ARMM plus Basilan occupy the bottom five of the totem pole. They are joined in the bottom ten by Masbate, Western Samar, Eastern Samar, Sarangani, and Romblon. Except for Masbate and Romblon, these are all provinces from Visayas and Mindanao and even these two are closer to most of Visayas than it is to Luzon.

Table 2.7.
Top and bottom 10 provinces in HDI 2000

1997 Rank[a]	Top provinces	HDI 2000	1997 Rank[b]	Bottom provinces	HDI 2000
1	Rizal	0.758	11	Romblon	0.488
7	Ilocos Norte	0.708	8	Sarangani	0.480
4	Bataan	0.698	3	E. Samar	0.452
5	Cavite	0.693	7	W. Samar	0.448
6	Laguna	0.690	4	Masbate	0.433
8	Benguet	0.688	6	Maguindanao	0.431
12	Bulacan	0.672	5	Lanao del Sur	0.425
2	Mis. Orient.	0.665	10	Basilan	0.420
18	Iloilo	0.653	2	Tawi-Tawi	0.378
9	Pampanga	0.652	1	Sulu	0.311

[a]Number of places from top, e.g., 1=top;
[b]Number of places from bottom, e.g., 1=last
Source: Statistical Annex 1

Changes in HDI

The economic and political crises the country suffered during the period told heavily on human development. The HDI level declined in 34 provinces, including Metro Manila, while it increased in 43 others.

Table 2.8.
Top gainers in HDI
1997-2000

Province	%age change	Province	%age gap improvement
Davao Oriental	11.8	Davao Oriental	12.6
Leyte	10.2	Mt. Province	11.4
Mt. Province	10.0	South Cotobato	11.2
Siquijor	8.1	Iloilo	11.1
South Cotobato	7.4	Leyte	10.7
Iloilo	7.1	Rizal	9.3
S. Leyte	6.9	Ilocos Norte	8.5
Nueva Viscaya	5.6	Nueva Viscaya	8.4
N. Samar	5.2	Siquijor	7.9
Guimaras	4.9	Bulacan	7.3

Source: Statistical Annexes 1 and 2

Table 2.9.
Top losers in HDI
1997-2000

Province	%age change	Province	%age gap improvement
Basilan	-13.7	Batanes	-19.6
Tawi-Tawi	-12.3	Mis. Orient.	-16.8
Batanes	-8.2	Basilan	-12.9
Tarlac	-7.1	Tarlac	-12.6
Sultan Kudarat	-6.9	Tawi-Tawi	-9.3
Mis. Orient.	-6.7	Sultan Kudarat	-8.6
Sulu	-5.8	Z. del Sur	-6.4
Z. del Sur	-5.1	Quirino	-5.9
Ifugao	-5.0	Ifugao	-5.8
Marinduque	-4.8	Batangas	-5.8

Source: Statistical Annexes 1 and 2

Table 2.8 gives the list of top ten gainers in HDI based on two ways of computing improvement. The first is the usual percentage improvement given by the formula:

$$\text{percentage improvement} = (HDI_t - HDI_{t-1})/ HDI_{t-1}.$$

The Second is the *gap* improvement given by the formula:

$$\text{Gap improvement} = (HDI_t - HDI_{t-1})/(1 - HDI_{t-1}).$$

Many prefer the latter measure because it is not biased against those who already have high HDIs, since improvements are appreciated rated based on how far one still is from the perfect HDI (which is 1). Either way, however, seven of the top ten gainers were the same provinces, namely Davao Oriental (biggest gainer in both cases), Leyte, Mt. Province, Siquijor, South Cotabato, Iloilo, and Nueva Viscaya.

Table 2.9 gives the list of the biggest losers in HDI again using the two measures. Once more there is great consistency: eight out of the ten provinces are the same for each measure, and make up a combination of high-ranking and low-ranking provinces. These provinces are Basilan, Tawi-Tawi, Batanes, Tarlac, Sultan Kudarat, Misamis Oriental, Zamboanga del Sur, and Ifugao. It is particularly disheartening and worrisome that Tawi-Tawi and Sulu can once more be found on the list, since these two provinces have been at the bottom of the list ever since the provincial HDI measures were first computed.

These changes resulted in major re-rankings between 1997 to 2000. (Recall, however, that the 1997 rankings presented here are

Box 2.1. International comparisons

If provinces were countries unto themselves, how would they fare against other countries? To gain an idea, one must make some changes in computation to make comparisons consistent. From HDI-1, which has heretofore been used, a recomputation is made to generate what may be called HDI-2. This differs from HDI-1 in its use of functional literacy instead of percentage of high school graduates and in its treatment of income, which is converted to US dollar purchasing power parity and discounted so that increases are less and less important at increasingly higher levels of income.

Compared to HDI-1, the estimated internationally comparable HDIs are less dispersed, with the high HDI-1s generally having equivalently lower HDI-2s, and the low HDI-1s generally having equivalently higher HDI-2s. This is almost entirely due to the shift to the international maximum income threshold which dwarfs even Metro Manila's per capita income. Table 2.10 shows the HDI of the provinces interspersed with that of some countries.

All provinces, Metro Manila included, fall within the medium human development category (HDI 0.5 to below 0.8). The national capital region's HDI is roughly equivalent that of Malaysia's, Bulgaria's, and Romania's, but much lower than those in the high human development categories such as Australia (0.936), Singapore (0.876), and even Hong Kong. Rizal's HDI, the highest among provinces, is slightly better than Thailand's, which, in turn, is of almost the same level as Cavite's. China's HDI is slightly lower thar Ilocos Norte's and Pampanga's. The lowest in the country, Sulu's, is at the same level as Cameroon's and only slightly better than Congo's. If there's any consolation, it is that none of the provinces fall in the low human development category. ■

different from that in PHDR 2000 owing to changes in data and methodology.) Bulacan rose 5 slots and Iloilo 9 slots to get into the top ten, replacing Batanes (down 8 slots) and Pampanga (down 1 slot), respectively. Ilocos Norte rose 5 slots to go from the seventh to the second position. The largest improvements in ranking were accomplished by Davao Oriental (up 30 slots), Mt. Province (up 29 slots), and Leyte (up 29 slots). The largest deteriorations in ranking were suffered by Sultan Kudarat (down 25 slots), Zamboanga del Sur (down 21 slots), and Quirino (down 20 slots).

Income changes are primarily responsible for these changes of fortune. Davao Oriental, Mt. Province, and Leyte are among the the top five gainers in income, while Sultan Kudarat, Zamboanga del Sur, and Batanes are among the bottom five. Quirino also suffered a double-digit percent decline in income.

Table 2.10.
Provincial HDI in international perspective
(province figures for 2000, country figures for 1999)

Hong Kong	0.880	Camarines Sur	0.686	Bolivia	0.648
Malaysia	0.774	Catanduanes	0.686	Romblon	0.648
Metro Manila	0.773	Albay	0.683	Lanao del Norte	0.648
Bulgaria	0.772	Viet Nam	0.682	Surigao del Sur	0.639
Romania	0.772	Bohol	0.682	Biliran	0.639
Rizal	0.765	South Cotobato	0.679	Sultan Kudarat	0.638
Thailand	0.757	Guimaras	0.679	Z. del Norte	0.637
Cavite	0.756	Nueva Viscaya	0.678	Quirino	0.636
Saudi Arabia	0.754	Indonesia	0.677	Egypt	0.635
Brazil	0.750	Mindoro Oriental	0.677	Honduras	0.634
Bulacan	0.746	Leyte	0.677	E. Samar	0.633
Batangas	0.741	Abra	0.676	Kalinga	0.631
Bataan	0.738	Negros Occid.	0.676	Apayao	0.631
Sri Lanka	0.735	Cagayan	0.676	Negros Orient.	0.628
Benguet	0.730	Davao del Sur	0.675	Guatemala	0.626
Batanes	0.729	Marinduque	0.674	N. Samar	0.623
Nueva Ecija	0.726	Sorsogon	0.671	Gabon	0.617
Laguna	0.725	Aurora	0.669	Masbate	0.611
Albania	0.725	Siquijor	0.668	Sarangani	0.611
Ilocos Norte	0.724	S. Leyte	0.667	Equatorial Guinea	0.610
Pampanga	0.721	Bukidnon	0.667	W. Samar	0.608
China	0.718	Camiguin	0.665	Agusan del Sur	0.606
Iran	0.714	Davao Oriental	0.664	Namibia	0.601
Iloilo	0.711	Mis. Occid.	0.663	Morocco	0.596
La Union	0.711	Mt. Province	0.663	Ifugao	0.584
Pangasinan	0.710	Aklan	0.662	Swaziland	0.583
Kyrgyzstan	0.707	Surigao del Norte	0.661	India	0.571
Cebu	0.704	Tajikistan	0.660	Myanmar	0.551
Mis. Orient.	0.703	Camarines Norte	0.660	Lanao del Sur	0.545
South Africa	0.702	Davao del Norte	0.659	Basilan	0.545
Zambales	0.701	Mindoro Occidental	0.659	Cambodia	0.541
Uzbekistan	0.698	Agusan del Norte	0.657	Maguindanao	0.539
Isabela	0.698	North Cotobato	0.654	Papua New Guinea	0.534
Quezon	0.696	Palawan	0.654	Tawi-Tawi	0.521
Algeria	0.693	Capiz	0.652	Kenya	0.514
Ilocos Sur	0.688	Z. del Sur	0.651	Sulu	0.507
Tarlac	0.687	Antique	0.649	Cameroon	0.506

Source: Statistical Annex 1 and (Global) Human Development Report 2001

Gender-related Development Index

Looking at just the average for a group is often insufficient and sometimes even misleading. After all, a group is often naturally divisible into different subgroups, and among subgroups, large disparities could exist. Just as the national figures could mask differences in the provincial figures as we have seen in the HDI and its components, provincial figures can mask differences in subgroups within the province. There are many natural subgrouping, such as by gender, by ethnic group, by income level, and others.

The gender-related development index (GDI) is a measure of human development adjusted for inequality in the achievement of men and women. In other words, it is the HDI discounted for gender inequality. If, on average, human development is the same for both genders, the GDI will be identical to the HDI. Once again we compute two sets of estimates: we have the GDI-1, which we deem more appropriate for inter-provincial comparisons and which uses the same data as HDI-1, and then we have GDI-2, which is for international comparisons and which uses the same data as HDI-2.

Table 2.11 shows the top and bottom ten provinces in terms of GDI-1. Except for Batangas, which displaced Pampanga, the top ten in GDI is the same as the top ten in HDI. This means that while human development is on average better in Pampanga than in Batangas, the inequality between men and women in the former is such that, discounting for this inequality, Batangas is actually better off. The bottom ten is also almost the same group as in the HDI but with Agusan del Sur displacing Romblon.

There were some large improvements in ranking when moving from the HDI to the GDI. Camiguin goes up 10 notches in rank to 35th under the GDI from 45nd in HDI. It was the biggest such change. Other big gainers include North Cotabato (9 notches), Albay (9 notches), and Surigao del Norte (7 notches). For these provinces, while the estimated earned income of women is smaller than men's (true for all provinces except Mt. Province and Quirino), the much better performance of women in terms of longevity and education is somewhat much more pronounced than in other provinces. Generally, women fare better than men in life expectancy and the education variables, but fare worse in terms of estimated earned income.

On the other extreme is Lanao del Norte whose ranking falls 15 notches to 41st in GDI from 26th in HDI. Mindoro Occidental (down 12 notches) and Negros Occidental (down 10

Table 2.11.
Top and bottom 10 provinces in GDI-1
2000

Rizal	0.690	Agusan del Sur	0.466
Ilocos Norte	0.661	E. Samar	0.448
Cavite	0.642	Sarangani	0.446
Bataan	0.641	W. Samar	0.433
Laguna	0.630	Masbate	0.425
Benguet	0.623	Lanao del Sur	0.409
Bulacan	0.622	Basilan	0.406
Mis. Orient.	0.617	Maguindanao	0.400
Iloilo	0.611	Tawi-Tawi	0.366
Batangas	0.607	Sulu	0.322

Source: Statistical Annex 3

Table 2.12.
Selected internationally-comparable provincial GDIs (GDI-2)
vis-à-vis other countries
(province figures for 2000, country figures for 1999)

Top	GDI	Middle	GDI	Bottom	GDI
Malaysia	0.768	Indonesia	0.671	Zimbabwe	0.548
Rizal	0.762	Sorsogon	0.668	Lanao del Sur	0.547
Thailand	0.755	Siquijor	0.668	Ghana	0.538
Cavite	0.752	S. Leyte	0.666	Maguindanao	0.538
Brazil	0.743	Aurora	0.666	Basilan	0.537
Bulacan	0.743	Camiguin	0.663	Cambodia	0.534
Lebanon	0.741	Tajikistan	0.656	Kenya	0.512
Batangas	0.738	Bolivia	0.640	Tawi-Tawi	0.511
Bataan	0.734	Nicaragua	0.628	Sulu	0.505
Sri Lanka	0.732	Honduras	0.623	Comoros	0.503

Source: Statistical Annex 3 and (Global) Human Development Report 2001

notches) are two other provinces were gender inequality is apparently bad.

Table 2.12, using GDI-2, gives us an indication of how our provinces compare to other countries in terms of gender-related human development. The relative positions of the provinces against other countries is pretty much the same as it was in the HDI (Table 2.10), except that now Maguindanao is ranked higher than Cambodia, and that Kenya is ranked higher than Tawi-Tawi.

Poverty

A more common measure of well being than either the HDI or the GDI is poverty incidence, defined as the proportion of the population whose income falls below the poverty line. The poverty line is the amount of money just sufficient to meet a person's most basic food and non-food needs.

Several estimates of the poverty line exist. Here, we use the poverty lines developed by Balisacan (1999), adjusted for inflation, as it is deemed more appropriate for inter-provincial comparisons. Following his methodology, we also use per capita expenditure instead of per capita income because, as he has argued, it is more reflective of permanent income (the income we really want to measure), and also, it is likely to be more accurate given the level of detail at which it is obtained.

Household income and consumption survey data that can be used for direct poverty estimation is available only beginning 1985. From that time until 1997, there has been, more or less, a steady decline in poverty incidence, from 40.9 percent to 25.1 percent. The change from 1991 to 1994 is ambiguous but

Table 2.13.
Top and bottom gainers in poverty incidence, 1997-2000
(based on percentage-point change)

Top Provinces	Poverty Incidence		% age-point change	Bottom Provinces	Poverty Incidence		% age-point change
	1997	2000			1997	2000	
S. Leyte	45.9	32.5	-13.5	Z. del Sur	31.9	42.2	10.3
Davao Oriental	40.2	28.3	-11.9	Marinduque	38.2	48.8	10.5
Batanes	21.7	9.9	-11.9	Maguindanao	24.0	36.2	12.2
Biliran	57.0	47.1	-9.9	Negros Occidental	18.8	31.3	12.5
Apayao	19.7	10.4	-9.3	Romblon	61.5	74.4	13.0
Eastern Samar	70.9	61.7	-9.2	Lanao del Norte	32.9	46.0	13.0
North Cotabato	42.7	34.8	-8.0	Catanduanes	29.6	43.2	13.5
N. Samar	55.0	48.0	-7.1	Sultan Kudarat	21.6	35.3	13.7
Benguet	19.7	12.6	-7.0	Tawi-Tawi	52.1	75.3	23.2
Siquijor	57.5	51.1	-6.4	Basilan	30.2	63.0	32.8

Source: Statistical Annex 4

the worst that can be said was that poverty in that period was unchanged. For the most recent period, however, 1997-2000, overall poverty increased from 25.1 percent to 27.5 percent. There were an estimated 3.3 million more poor Filipinos in 2000 than there were in 1997.

Fortunes differed across provinces, but more suffered from higher incidence than those who enjoyed lower incidence in the most recent period (Statistical Annex 4): poverty incidence increased in Metro Manila and in 42 provinces, and declined in 35 provinces. Table 2.13 shows the top and bottom provinces in terms of percentage point reduction in poverty incidence. Three provinces had double-digit reductions; these were Southern Leyte (down 13.5 percentage points), Davao Oriental (down 11.9 percentage points), and Batanes (down 11.9 percentage points). On the other hand, double-digit increases in incidence occurred in 12 provinces, with the highest occurring in Basilan (up 32.8 percentage points, more than doubling incidence of poverty in province), Tawi-Tawi (up 23.2 percentage points), and Sultan Kudarat (up 13.7 percentage points).

Statistical Annex 4 also shows the levels and changes in poverty depth and severity across provinces. Roughly, poverty depth is an indicator of the incidence of poverty adjusted for how far the poor are, on average, from the poverty line. For two provinces with the same incidence, one with a higher poverty depth means that, on average, its poor are poorer (farther from the poverty line). Poverty severity is like poverty depth but in addition, it also accounts for the inequality among the poor. Poverty depth deteriorated in 46 provinces plus Metro Manila, and improved in 31 provinces. Poverty severity worsened in 43 provinces plus Metro Manila, and improved in 34 provinces.

Both of these facts indicate that, on average, the poor are getting poorer and that, among the poor, some are approaching the nadir of poverty.

Table 2.14 shows the top and bottom provinces in terms of poverty incidence alongside their HDI ranks. The HDI is of course in intention a broader measure of well being than poverty incidence as it covers not only income but outcomes such as long life and knowledge as well. Note that while the composition of the top and bottom are for the most part similar (7 of the 10 in both the top and bottom are the same provinces as in the HDI rankings), there are glaring differences. For one, the top HDI province Rizal has only the 9th lowest poverty incidence. Likewise, Apayao, which is a far 38th in HDI ranking, has the 8th lowest incidence of poverty. On the other hand, Siquijor, has the 10th worst poverty incidence, whereas it only ranked 25th from the bottom in HDI. Sulu and Tawi-Tawi comprise the bottom two using either measure. In Romblon and Tawi-Tawi, three out of every four people are poor. In Sulu, 9 out of every 10 people are poor.

The HDI measures overall progress in a country in achieving human development. The **human poverty index** (HPI) measures *deprivation* in the same dimensions of basic human development as the HDI. The UNDP has proposed it as an alternative measure of poverty that does not rely simply on incomes. It focuses instead on deprivations in three dimensions: longevity, as measured by the probability at birth of not surviving to age 40; knowledge, as measured by the adult illiteracy rate; and overall economic provisioning, public and private, as measured by the percentage of people not using improved water sources and the percentage of children under five who are underweight.

Unfortunately, some of the indicators that go in to the computation of the HPI are available less than regularly. As previously mentioned, the last available functional literacy rate figures pertain to 1994 and are unlikely to be

Table 2.14.
Top and bottom provinces in poverty incidence
2000

HDI Rank from Top	Province	Incidence	HDI Rank from Bottom	Province	Incidence
2	Ilocos Norte	6.2	25	Siquijor	51.1
3	Bataan	7.6	7	Western Samar	51.3
5	Laguna	7.7	24	Z. del Norte	51.9
10	Pampanga	8.7	15	Sorsogon	52.9
15	Nueva Vizcaya	9.3	8	Eastern Samar	61.7
7	Bulacan	9.5	3	Basilan	63.0
11	Batanes	9.9	5	Masbate	70.8
38	Apayao	10.4	10	Romblon	74.4
1	Rizal	10.5	2	Tawi-Tawi	75.3
4	Cavite	10.9	1	Sulu	92.0

Source: Statistical Annex 4

updated any time soon. The probability of not surviving to a certain age can be computed from life tables, but these are based on the census, which is held only after every five years. Data on underweight children also come out irregularly. For this reason, the HPI constructed here comprises indicators from widely divergent years from 1994 to 2000. For this reason as well, no comparison of provincial HPIs across time was made. However, the indicators used here more or less correspond exactly with the indicators used in the global HPI so that comparisons of provinces with other countries is quite tenable. Statistical Annex 5 shows the HPI for all provinces.

The top ten and bottom ten provinces in HPI are in Table 2.15. The top ten are Cavite, Nueva Ecija, Bulacan, Batangas, Bataan, Pangasinan, Isabela, Laguna, Oriental Mindoro, and Marinduque, which are all Luzon provinces, although the last two are not part of mainland Luzon. The top four provinces have even higher HPIs than Metro Manila, which has an HPI of 9.6.

Only four of these provinces are also in the top ten in terms of HDI (using percentage of high school graduates in lieu of functional literacy rates), and these are Cavite, Bataan, Bulacan, and Laguna. The top two HDI provinces — Rizal and Ilocos Norte are only 30th and 28th, respectively, in terms of HPI. Iloilo, which is 9th in HDI, is as far back as 49th in HPI.

The bottom ten provinces are Capiz, Zamboanga del Norte, Guimaras, Apayao, Maguindanao, Masbate, Ifugao, Lanao del Sur, Sulu, and Tawi-Tawi. Five of these provinces — Sulu, Tawi-Tawi, Lanao del Sur, Maguindanao, and Masbate are also in the bottom ten in HDI. The HPI of Tawi-Tawi, the bottom province, is about five times the top province Cavite. Tawi-Tawi ranks worst in terms of the probability of not surviving to age 40 and of the percentage of population without access to improved water sources.

Comparing these provincial HPIs with the country values found in HDR 2001, it can be seen that Cavite and Nueva Ecija have about the same HPI as Panama, Venezuela, and Jordan. Bulacan and Batangas are at par with Colombia and Mexico. Bataan is comparable to Lebanon, Paraguay, or Malaysia. Tawi-Tawi has about the same HPI as Yemen and Haiti. Sulu is at the same HPI-level as Madagascar and Togo. Ifugao and Lanao del Sur are similar to Nigeria, Papua New Guinea, and Zimbabwe in HPI. Masbate and Maguindanao are at par with Viet Nam, Ghana, and Congo.

Table 2.15.
Top and bottom provinces in HPI
(1994-2000)

Top provinces	HPI	Bottom provinces*	HPI
Cavite	8.8	Capiz	24.4
Nueva Ecija	8.9	Zamboanga del Norte	24.7
Bulacan	9.0	Guimaras	24.8
Batangas	9.2	Apayao	26.4
Bataan	10.3	Maguindanao	29.4
Pangasinan	11.5	Masbate	29.9
Isabela	11.5	Ifugao	35.8
Laguna	11.6	Lanao del Sur	35.9
Oriental Mindoro	11.8	Sulu	37.8
Marinduque	12.2	Tawi-Tawi	42.4

*Data on the percentage of underweight children is unavailable for Basilan so the HPI was not computed for this province. But were it available, Basilan is likely to be among the bottom ten in HPI.
Source: Statistical Annex 5

Inequality

We have already seen the high inequality of income across provinces (Sulu's per capita income is just a fifth of Rizal's and less than a sixth of Metro Manila's). Inequality *within* provinces is similarly high. Statistical Annex 6 shows various measures of within-province inequality using (for consistency with the poverty estimates) per capita expenditure (proxying for permanent income) adjusted for cost-of-living differences and price changes over time.

In 28 of the 77 provinces, the poorest ten percent of the population had less than 1/10 of the income of the richest ten percent. Zamboanga del Norte was the most severe case as its richest decile had 17 times the income of its poorest decile. The richest decile in Lanao del Norte and Leyte had income 16 times that of the poorest decile. On the other hand, in the poorest province of Sulu, the richest 10 percent had only three times the income of the poorest ten percent. In Tawi-Tawi, the second poorest province, the ratio is only five times. To know that everybody in your community is about as poor as you are, is little compensation, however, for one's own poverty. The best scenario is something like Pampanga, which has low inequality (fourth lowest), low poverty incidence (fourth lowest), and in addition, high human development (10th highest).

There are, of course, alternative measures of inequality, the most well known being the so-called **Gini ratio**. Table 2.17 gives the top and bottom 10 most inequitable provinces in terms of the Gini ratio. This list is almost

Table 2.16.
Top and bottom provinces in inequality
based on share in consumption of richest10% to poorest 10%
2000

Least Inequitable Provinces	Share in consumption			Most Inequitable Provinces	Share in consumption		
	Poorest 10%	Richest 10%	Ratio: Richest 10% to Poorest 10%		Poorest 10%	Richest 10%	Ratio: Richest 10% to Poorest 10%
Sulu	6.0	19.3	3.2	Misamis Oriental	2.6	30.4	11.9
Lanao del Sur	5.2	21.5	4.2	Camarines Norte	3.0	35.9	12.0
Apayao	4.8	22.1	4.6	Iloilo	2.8	33.8	12.1
Pampanga	4.4	22.4	5.1	Agusan del Norte	2.6	31.8	12.3
Basilan	4.5	24.1	5.3	Negros Oriental	2.6	35.0	13.4
Tawi-Tawi	4.6	24.3	5.3	Catanduanes	3.0	41.5	14.0
Sultan Kudarat	4.7	26.5	5.6	Rizal	2.5	35.5	14.0
Nueva Ecija	4.2	24.1	5.7	Leyte	2.3	37.0	15.8
Cagayan	4.2	25.4	6.1	Lanao del Norte	2.3	37.5	16.0
Guimaras	4.3	27.0	6.3	Z. del Norte	2.2	38.1	17.0

Source: Statistical Annex 6

identical to that in Table 2.16, except that Bohol and Capiz replace Agusan del Norte and Misamis Oriental in the list of most inequitable, and Bulacan replaces Guimaras among the least inequitable. Catanduanes had the highest Gini ratio at 48.7, while Sultan Kudarat had the lowest at 19.2.

For the country as whole, inequality hardly changed between 1997 to 2000, with the Gini ratio rising very slightly to 42.9 from 42.7. Within provinces, however, major changes in income distribution occurred. The Gini ratio improved in 42 provinces but deteriorated in 35 others. It was unchanged in Metro Manila. Pampanga, Cagayan and Agusan del Sur had the highest point improvements in Gini. Lanao del Norte, Maguindanao, and Bukidnon had the highest deteriorations in Gini.

Table 2.17.
Top and bottom provinces in inequality based on Gini ratios
2000

Least Inequitable Provinces	Gini	Most Inequitable Provinces	Gini
Sulu	19.2	Camarines Norte	42.5
Lanao del Sur	23.6	Capiz	42.6
Apayao	25.9	Iloilo	42.8
Basilan	27.1	Bohol	43.8
Tawi-Tawi	27.6	Negros Oriental	43.9
Pampanga	27.6	Rizal	44.5
Nueva Ecija	28.8	Leyte	46.3
Sultan Kudarat	30.2	Lanao del Norte	47.5
Cagayan	31.1	Z. del Norte	47.6
Bulacan	31.8	Catanduanes	48.7

Source: Statistical Annex 6

Table 2.18.
Inequality: most and least improved provinces based on Gini ratios
2000

Provinces with most improvement in inequality	Gini ratio 1997	Gini ratio 2000	Point change	Provinces with most deterioration in inequality	Point change 1997	Point change 2000	Point change
Pampanga	43.9	27.6	-16.3	Negros Oriental	37.2	43.9	6.8
Cagayan	40.5	31.1	-9.4	Rizal	37.5	44.5	7.0
Agusan del Sur	40.9	31.8	-9.2	Pangasinan	26.9	34.2	7.3
Tarlac	41.8	33.2	-8.6	Camarines Norte	34.5	42.5	8.0
Romblon	46.9	38.8	-8.1	Surigao del Sur	30.3	38.6	8.3
Quirino	41.8	34.0	-7.8	Agusan del Norte	30.4	40.5	10.1
Misamis Oriental	47.2	40.1	-7.1	Catanduanes	38.1	48.7	10.6
Guimaras	39.4	32.5	-6.9	Bukidnon	28.4	40.0	11.6
Lanao del Sur	29.9	23.6	-6.2	Maguindanao	24.1	36.0	12.0
Aurora	41.4	35.3	-6.1	Lanao del Norte	33.5	47.5	14.0

Source: Statistical Annex 6

Other indicators

Unemployment and underemployment

Statistical Annex 7 shows the provincial unemployment and underemployment rates from 1997 to 2000. These were estimated using NSO's definitions which classifies as unemployed those who, during the reference period (week preceding survey), actively looked for work but did not find work, and also those who had no work and who are not looking for work for any reason other than schooling, housekeeping, young or old age, retirement, or permanent disability — any of which will make them not part of the labor force. The unemployment rate is the ratio of the unemployed to the labor force. The underemployed are those who are already employed but who are looking for additional hours of work. The underemployment rate is the ratio of the underemployed to the total employed.

For 16 of the 77 provinces, unemployment rate was at or near double-digit figures for each year in the 1997-2000 period. In contrast, for 9 provinces, unemployment was consistently below 6 percent for the period.

Table 2.19 shows the top and bottom ten provinces in unemployment rate in the 1997-2000 period. Both the top and bottom provinces are mixtures of poor and non-poor, and low and high human development (relative to one another) provinces. Some of the lowest unemployment rates are to be found in the poorest provinces: Sulu has the second lowest unemployment rate in the period at only 3.1 percent; Tawi-Tawi has the seventh lowest at 4.2 percent. The catch is that in both these provinces the vast majority (more than three out of every four) are employed as low-income agricultural workers. On the other hand, some provinces like Ilocos Norte and Batanes enjoy high human development, low poverty, and low unemployment rates at the same time.

It is understandable why an urban center or a prosperous province could have high unemployment, as people from other places flock there to find jobs, as is the case in Metro Manila and some of the provinces in the list. But the combination of low human development and/or high poverty, and high unemployment is cause for despair as it means that people there do not have the means to dig themselves out of the hole they are in. Fortunately, the extreme case where the same province ranks among the bottom ten in all these indicators has not occurred. But, to a lesser extent, there is Lanao del Norte, which has high poverty

Table 2.19.
Top and bottom provinces in unemployment rate (average 1997-2000)

Low Unemployment Provinces	Average Unemployment Rate (1997-2000)	High Unemployment Provinces	Average Unemployment Rate (1997-2000)
Camiguin	2.7	Iloilo	11.3
Sulu	3.1	Cavite	11.5
Batanes	3.3	Lanao del Norte	11.6
Mt. Province	3.7	Surigao del Sur	11.8
Siquijor	3.9	Tarlac	12.7
Surigao del Norte	4.1	Cebu	12.8
Tawi-Tawi	4.2	Agusan del Norte	14.0
Bukidnon	4.3	Bataan	14.0
Cagayan	4.5	Zambales	15.0
Ilocos Norte	4.7	Aurora	15.3

Source: Statistical Annex 7

and high unemployment (but decent human development), and Surigao del Sur, which has low human development and high unemployment (but below average poverty incidence).

Underemployment, likewise, varied widely across provinces. For 25 of the 77 provinces, the underemployment rate was never less than 25 percent in the period. For seven provinces, the underemployment rate was at or near single-digits for all the four years. Table 2.20 shows the top and bottom provinces in underemployment rate. Batanes had almost nonexistent underemployment that averaged only 1.5 percent in the period. On the other hand, more than half the employed in Camarines Sur and Bukidnon are underemployed. Comparing the numbers, there is also no straightforward relationship to be discerned between underemployment and human development or poverty. Among those with the lowest underemployment are the relatively low-human development, high-poverty provinces of Sulu, Basilan, Lanao del Sur, and Siquijor, alongside the relatively high-human development, low-poverty provinces of Batanes and Zambales. At the same time, among those with the highest underemployment rates are Nueva Vizcaya (low poverty, high human development rank) alongside Lanao del Norte and Eastern Samar (both with high poverty, and low human development rank).

Table 2.20.
Top and bottom provinces in underemployment rate
(average 1997-2000)

Low Underemployment Provinces	Average Underemployment Rate (1997-2000)	High Underemployment Provinces	Average Underemployment Rate (1997-2000)
Batanes	1.5	Lanao del Norte	40.3
Basilan	4.6	Nueva Vizcaya	40.6
Sulu	5.7	Davao Oriental	43.3
Zambales	6.0	Catanduanes	43.6
Lanao del Sur	6.8	Apayao	43.9
Camiguin	7.1	Albay	45.6
Nueva Ecija	8.2	Eastern Samar	46.6
Siquijor	9.0	South Cotabato	49.4
Surigao del Norte	9.1	Bukidnon	50.4
Tarlac	9.2	Camarines Sur	53.0

Source: Statistical Annex 7

Gender inequality in economic activity

Statistical Annex 8 gives some measures of gender inequality in economic activity across provinces. In all provinces, the economic activity rate (the sum of the employed and the unemployed over the total population, otherwise known as the labor participation rate) of women is lower than men's. It is not that women are lazier than men but only that, by custom, women do most of the housekeeping work, and when one does not look for work for reason of housekeeping, he/she is not considered to be part of the labor force.

Still, the gap in gender activity rates showed great variation. For the country as whole, averaged over the 1997-2000 period, the economic activity rate was 49.7 percent for females and 83.5 percent for males. Table 2.21 gives the top and bottom provinces in terms of the relative economic 'activeness' of females against males. Sulu had the lowest female economic activity rate at only 19.1 percent, equivalent to less than a fourth of the corresponding male rate. Other Muslim Mindanao provinces such as Lanao del Sur, Basilan, and Maguindanao are also in the bottom five, both in terms of the female economic

Table 2.21.
Top and bottom provinces in terms of female economic activity rate as % of Male Rate (average 1997-2000)

Top Provinces	Female economic activity rate (%)	As % of male rate	Bottom Provinces	Female economic activity rate (%)	As % of male rate
Bukidnon	83.6	87.1	S. Leyte	41.5	48.3
Mt. Province	77.3	85.2	Z. del Sur	41.0	48.0
Batanes	84.1	84.8	Sorsogon	40.5	47.8
Ifugao	65.9	81.8	Pampanga	37.0	46.4
Nueva Vizcaya	66.1	75.2	Sultan Kudarat	38.6	45.5
Capiz	62.0	74.2	Maguindanao	38.6	44.9
Biliran	63.9	71.4	Nueva Ecija	36.4	43.5
Ilocos Norte	59.5	69.7	Basilan	26.1	31.3
Negros Oriental	59.4	69.1	Lanao del Sur	20.8	25.8
Kalinga	58.3	68.9	Sulu	19.1	23.0

Source: Statistical Annex 8

activity rate and in its ratio to the male rate. This is not a thing peculiar to Mindanao, however, as the rates are also quite low in the Luzon provinces of Nueva Ecija, Pamapanga, and Sorsogon, and the Visayas province of Southern Leyte. In contrast, Batanes and Bukidnon had female economic activity rates of 84.1 percent and 83.6 percent, respectively, higher even than the overall rate for males (although still lower than for the males in their own provinces). Five of the top ten are the Northern Luzon provinces of Mt. Province, Ifugao, Nueva Vizcaya, Ilocos Norte, and Kalinga.

All the provinces in the top ten above employ majority of their working females in the agricultural sector, where there is ease of entry and exit. These provinces are now in the minority as over the past two decades, there has been a gradual (but faster for women than men) shift in employment from the agricultural to the industrial and services sectors In the 1997-2000 period, 53 of the 77 provinces had a plurality of their working females in the services sector. ■

Technical notes

based on Human Development Report 2001

The human development index (HDI)

There are two HDIs computed for this report: HDI-1for inter-provincial comparisons and HDI-2 for purposes of comparing provinces with other countries. The HDIs are computed based on three indicators, namely, longevity, knowledge, and standard of living. These are measured respectively by life expectancy at birth; the basic enrolment ratio (or enrolment ratio of children 7 to 16 years old), the high-school graduate ratio, and the functional literacy rate; and real income per capita.

Before the HDI itself is calculated, an index needs to be created for each of these dimensions. To calculate these dimension indices — the life expectancy, education, and income indices — minimum and maximum values (goalposts) are chosen for each underlying indicator.

Performance in each dimension is expressed as a value between 0 and 1 by applying the following general formula:

$$\text{Dimension index} = \frac{\text{actual value - minimum value}}{\text{maximum value - minimum value}}$$

The HDI is then calculated as a simple average of the dimension indices. Below, we illustrate the calculation of the HDI for a sample province.

Goalposts for calculating the HDI

Indicator	Maximum value	Minimum value
Life expectancy at birth (years)	85	25
Basic enrolment ratio (%)	100	0
High school graduate ratio (%) [for HDI-1]	100	0
Functional literacy rate [for HDI-2]	100	0
Real per capita income (Pesos) [for HDI-1]	52,704 (NCR per capita income 1997)	7,850 (Sulu per capita income 2000)
Real per capita income (PPP US$) [for HDI-2]	40,000	100

Calculating the HDI

The illustration of the calculation of the HDI uses data for Rizal.

1. Calculating the life expectancy index

The life expectancy index measures the relative achievement of a country in life expectancy at birth. To obtain the life expectancy figures for this report, a straight-line regression was done using the gender-differentiated life expectancy figures for 1970, 1980, 1990, and 1995 obtained from Flieger and Cabigon (1994 and 1999), and this was projected to 1997 and 2000. The life expectancy in a province is assumed to be just the simple average of the male and the female life expectancies. For Rizal, with an estimated life expectancy of 70.2 in 2000, the life expectancy index is 0.753.

$$\text{Life expectancy index} = \frac{70.2 - 25}{85 - 25} = 0.753$$

2. Calculating the education index

The education index measures a country's relative achievement in education. For HDI-1, first, an index for the basic enrolment ratio and the high-school graduate ratio are calculated. Then the simple average of these two indices is computed to create the education index. For HDI-2, the functional literacy rate replaces the high-school graduate ratio in the above computation. For Rizal, with a basic enrolment rate of 94.2 percent, a high-school graduate ratio of 0.669, and functional literacy of 0.892, Education Index -1 (for HDI-1) is 0.805 and Education Index -2 (for HDI-2) is 0.917.

$$\text{Basic enrolment index} = \frac{94.2 - 0}{100 - 0} = 0.942$$

$$\text{High school graduate index} = \frac{66.9 - 0}{100 - 0} = 0.669$$

$$\text{Functional literacy index} = \frac{89.2 - 0}{100 - 0} = 0.892$$

$$\text{Education Index -1} = \tfrac{1}{2}\,(\text{Basic enrolment index}) + \tfrac{1}{2}\,(\text{High school graduate index})$$

Education Index -1 = ½ (Basic enrolment index) + ½ (High school graduate index)
= ½ (0.942) + ½ (0.669)
= 0.805

Education Index -2 = ½ (Basic enrolment index) + ½ (Functional literacy index)
= ½ (0.942) + ½ (0.892)
= 0.917

3. Calculating the real per capita income index

The Income Index is calculated using adjusted per capita income figures obtained from the Family Income and Expenditures Survey. In the HDI, income serves as a surrogate for all the dimensions of human development not reflected in a long and healthy life and in knowledge.

To compute for Income Index-1 (for HDI-1), the per capita income figures are first deflated to 1997 prices using the National Statistics Office's regional consumer price indices to make them consistent over time, and then adjusted further using the provincial cost-of-living indices derived by Balisacan (2000) to make them consistent across space.

To compute for Income Index-2 (for HDI-2), the (unadjusted) per capita income figures are first converted to US currency using the average peso-dollar exchange rate for the year. This is then converted to purchasing power parity US$ using the exchange rate implicit in the 2001 *Human Development Report*. The Income index-2 is based on a scale defined by a minimum income of PPPUS$100 and a maximum of PPPUS$40,000. First, the gap between a province's PPPUS$ income and the minimum income of PPPUS$100 is computed as the difference between their logarithms. This difference is then taken as a proportion of the gap between the maximum income of PPPUS$, and the minimum income of PPPUS$100, again taken as the difference between their logarithms.

For Rizal,with a real per capita income in pesos of 39,895 (for provincial comparisons) and in PPPUS$ of 4,190 (for comparison with other countries), Income Index-1 is 0.714 and Income Index-2 is 0.623.

$$\text{Income index - 1} = \frac{39{,}895 - 52{,}704}{52{,}704 - 7{,}850} = 0.714$$

$$\text{Income index - 2} = \frac{\log (4{,}190) - \log (100)}{\log (40{,}000) - \log (100)} = 0.623$$

4. Calculating the HDI

Once the dimension indices have been calculated, determining the HDI is straightforward. It is the simple average of the three dimension indices.

HDI-1 = 1/3 (life expectancy index) + 1/3 (education index-1) + 1/3 (income index-1)
= 1/3 (0.753) + 1/3 (0.805) + 1/3 (0.714)
= 0.758

HDI-2 = 1/3 (life expectancy index) + 1/3 (education index-2) + 1/3 (income index-2)
= 1/3 (0.753) + 1/3 (0.917) + 1/3 (0.623)
= 0.765

The gender-related development index (GDI)

While the HDI measures average achievement, the GDI adjusts the average achievement to reflect the *inequalities* between men and women in the following dimensions as the HDI. Two GDI indices are computed in these report, GDI-1 and GDI-2, corresponding to HDI-1 and HDI-2.

The calculation of the GDI involves three steps. First, female and male indices in each dimension are calculated according to this general formula:

$$\text{Dimension index} = \frac{\text{actual value - minimum value}}{\text{maximum value - minimum value}}$$

Second, the female and male indices in each dimension are combined in a way that penalizes differences in achievement between men and women. The resulting index, referred to as the equally distributed index, is calculated according to this general formula:

$$\text{Equally distributed index} = \{[\text{female population share} \times (\text{female index}^{1-\epsilon})] + [\text{male population share} \times (\text{male index}^{1-\epsilon})]\}^{1/1-\epsilon}$$

ϵ measures the aversion to inequality. In the GDI $\epsilon = 2$. Thus the general equaltion becomes:

$$\text{Equally distributed index} = \{[\text{female population share} \times (\text{female index}^{-1})] + [\text{male population share} \times (\text{male index}^{-1})]\}^{-1}$$

which gives the harmonic mean of the female and male indices.

Third, the GDI is calculated by combining the three equally distributed indices in an unweighted average.

Goalposts for calculating the GDI

Indicator	Maximum value	Minimum value
Female life expectancy at birth (years)	87.5	27.5
Male life expectancy at birth (years)	82.5	22.5
Basic enrolment ratio (%)	100	0
High school graduate ratio (%) for GDI-1	100	0
Functional literacy rate for GDI-2	100	0
Estimated earned income (Pesos) for GDI-1	67,933 (NCR male estimated earned income 1997)	5,000*
Estimated earned income (PPP US$) for GDI-2	40,000	100

*somewhat arbitrary and simply chosen so as to be less than value for minimum income province, to ensure that GDI-1 is defined for all provinces.

Calculating the GDI

The illustration of the calculation of the GDI uses data for Rizal.

1. Calculating the equally distributed life expectancy index

The first step is to calculate separate indices for female and male achievements in life expectancy, using the general formula for dimension indices.

FEMALE

Life expectancy: 73.6 years

$$\text{Life expectancy} = \frac{73.6 - 27.5}{87.5 - 27.5} = 0.768$$

MALE

Life expectancy: 66.9 years

$$\text{Life expectancy} = \frac{66.9 - 22.5}{82.5 - 22.5} = 0.739$$

Next, the female and male indices are combined to create the equally distributed life expectancy index, using the general formula for equally distributed indices. The male and female population shares are obtained from the 2000 Labor Force Surveys.

FEMALE

Population share: 0.499

Life expectancy index: 0.768

MALE

Population share: 0.501

Life expectancy index: 0.739

Equally distributed life expectancy index = $\{[0.499\ (0.768^{-1})] + [0.501\ (0.739^{-1})]\}^{-1} = 0.753$

2. Calculating the equally distributed education index

First, indices for the basic enrolment rate, the high-school graduate ratio, and the functional literacy rate are calculated separately for females and males. Calculating these indices is straightforward, since the indicators used are already normalized between 0 and 100.

FEMALE
- Basic enrolment rate: 96.3
- Basic enrolment index: 0.963
- High-school graduate ratio: 66.0
- High-school graduate index: 0.660
- Functional literacy rate: 90.6
- Functional literacy index: 0.906

MALE
- Basic enrolment rate: 92.3
- Basic enrolment index: 0.923
- High-school graduate ratio: 67.8
- High-school graduate index: 0.678
- Functional literacy rate: 87.6
- Functional literacy index: 0.876

Second, the education indices are computed separately for females and males.

Female education index-1= ½ (0.963) + ½ (0.660) = 0.812

Male education index-1= ½ (0.923) + ½ (0.678) = 0.800

Female education index-2= ½ (0.963) + ½ (0.906) = 0.935

Male education index-2= ½ (0.923) + ½ (0.876) = 0.900

Finally, the female and male education indices are combined to create the equally distributed education index:

FEMALE
- Population share: 0.499
- Education index-1: 0.812
- Education index-2: 0.935

MALE
- Population share: 0.501
- Education index-1: 0.800
- Education index-2: 0.900

Equally distributed education index-1 = $\{[0.499\ (0.812^{-1})] + [0.501\ (0.800^{-1})]\}^{-1} = 0.806$

Equally distributed education index-2 = $\{[0.499\ (0.935^{-1})] + [0.501\ (0.900^{-1})]\}^{-1} = 0.917$

3. Calculating the equally distributed income index

First, female and male earned income are estimated. This is done by calculating the female and male shares in total income (from 1999 APIS) and then multiplying these by the real per capita income figures in the HDI table. As there are two income figures (one for provincial and another for international comparisons), there are also two equally distributed income indices. The income indices are calculated for each gender.

FEMALE

$$\text{Income index -1} = \frac{29{,}970 - 67{,}933}{67{,}933 - 5{,}000} = 0.397$$

$$\text{Income index - 2} = \frac{\log(3{,}148) - \log(100)}{\log(40{,}000) - \log(100)} = 0.576$$

MALE

$$\text{Income index -1} = \frac{39{,}895 - 67{,}933}{67{,}933 - 5{,}000} = 0.712$$

$$\text{Income index - 2} = \frac{\log(5{,}231) - \log(100)}{\log(40{,}000) - \log(100)} = 0.660$$

Second, the female and male income indices are combined to create the equally distributed income index:

FEMALE
- Population share: 0.499
- Income index-1: 0.397
- Income index-2: 0.576

MALE
- Population share: 0.501
- Income index-1: 0.712
- Income index-2: 0.660

$$\text{Equally distributed income index-1} = \{[0.499\ (0.397^{-1})] + [0.501\ (0.712^{-1})]\}^{-1} = \mathbf{0.510}$$

$$\text{Equally distributed income index-2} = \{[0.499\ (0.576^{-1})] + [0.501\ (0.660^{-1})]\}^{-1} = \mathbf{0.615}$$

4. Calculating the GDIs

Calculating the GDI is straightforward. It is simply the unweighted average of the three component indices — the equally distributed life expectancy index, the equally distributed education index and the equally distributed income index.

GDI-1 = 1/3 (life expectancy index) + 1/3 (education index-1) + 1/3 (income index-1)
= 1/3 (0.753) + 1/3 (0.806) + 1/3 (0.510)
= 0.690

GDI-2 = 1/3 (life expectancy index) + 1/3 (education index-2) + 1/3 (income index-2)
= 1/3 (0.753) + 1/3 (0.917) + 1/3 (0.615)
= 0.762

The human poverty index for developing countries (HPI)

While the HDI measures average achievement, the HPI measures *deprivation* in the three basic dimensions of human development captured in the HDI:

- A long and healthy life – vulnerability to death at a relatively early age, as measured by the probability at birth of not surviving to age 40. This was derived from the *1995 Gender-specific Life Tables for the Philippines, its Regions and Provinces* by Flieger and Cabigon.
- Knowledge – exclusion from the world of reading and communications, as measured by the functional illiteracy rate. This was obtained from the 1994 Functional Literacy and Mass Media Survey of the NSO.
- A decent standard of living – lack of access to overall economic provisioning, as measured by the percentage of the population not using improved water sources and the percentage of children under five who are underweight. These were obtained, respectively, from the 2000 FIES and the 1998 National Nutrition Survey of the Food and Nutrition Research Institute.

Calculating the HPI

The illustration of the calculation of the HPI uses data for Rizal.

1. Measuring deprivation in a decent standard of living

An unweighted average of two indicators is used to measure deprivation in a decent standard of living.

Unweighted average = ½ (population not using improved water sources)
+ ½ (underweight children under five)

For Rizal:
Population not using improved water sources = 30.9%
Unweighted children under five = 9.4%

Unweighted average = ½ (30.9) + ½ (9.4) = 20.1

2. Calculating the HPI

The formula for calculating the HPI is as follows

$$HPI = [1/3(P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha})]^{1/\alpha}$$

Where:

P_1 = Probability at birth of not surviving to age 40 (times 100)

P_2 = Functional illiteracy rate

P_3 = Unweighted average of population not using improved water sources and underweight children under age five

$\alpha = 3$

For Rizal

$P_1 = 1.3$

$P_2 = 16.8$

$P_3 = 20.1$

$$HPI = [1/3\ (11.3^3 + 10.8^3 + 20.1^3)]^{1/3} = 15.4$$

Annexes

Statistical annex 1

Rank in HDI-2	PROVINCE	Life expectancy at birth (years) 2000	% high school graduate 2000	Functional literacy 1994	Primary and high school enrollment rate (%) 1999	Per capita income (NCR 1997 pesos) 2000	Per capita income (PPP US$) 2000
	Metro Manila	69.2	74.3	92.41	93.8	48,816	4,943
1	Rizal	70.2	66.9	89.17	94.2	39,895	4,190
10	Ilocos Norte	69.3	54.9	84.69	94.9	36,460	2,489
5	Bataan	68.8	62.2	88.74	94.4	33,907	2,980
2	Cavite	69.7	64.3	92.80	95.6	31,814	3,250
9	Laguna	67.1	60.8	86.09	93.1	34,717	3,187
6	Benguet	68.7	64.7	83.89	94.8	31,968	3,010
3	Bulacan	70.7	52.1	90.59	90.0	32,318	3,095
16	Mis. Orient.	68.4	55.2	84.54	92.1	31,795	2,041
12	Iloilo	68.8	51.5	83.59	92.2	30,830	2,334
11	Pampanga	71.4	53.4	79.23	91.3	28,383	2,482
7	Batanes	64.8	60.7	92.68	98.0	29,842	3,047
26	South Cotobato	67.2	50.2	73.63	89.8	32,101	2,208
17	Zambales	66.7	60.2	81.71	94.8	27,826	2,315
34	Davao del Sur	69.9	49.4	68.78	85.3	29,641	2,087
28	Nueva Viscaya	64.6	48.9	78.20	93.6	31,515	2,175
4	Batangas	71.0	51.7	90.40	93.4	26,053	2,514
14	Pangasinan	69.1	60.0	87.38	94.5	25,332	1,841
13	La Union	69.8	52.9	87.43	89.7	27,151	2,006
20	Ilocos Sur	65.6	52.9	83.29	93.3	27,332	2,082
31	Abra	62.6	50.8	90.11	92.6	30,062	1,863
21	Tarlac	68.8	51.6	82.22	87.7	23,736	1,792
40	Bukidnon	67.2	34.1	83.15	82.8	29,817	1,638
44	Mt. Province	62.9	43.1	81.08	95.7	27,296	1,714
18	Isabela	67.3	47.1	89.45	88.4	24,278	2,019
15	Cebu	71.8	41.6	80.18	89.5	21,843	1,820
57	Lanao del Norte	63.7	47.7	73.39	92.4	25,572	1,654
8	Nueva Ecija	70.2	50.9	92.42	91.7	19,731	2,055
42	Davao Oriental	68.3	31.8	74.61	87.4	26,298	1,565
19	Quezon	67.7	46.4	87.25	91.2	22,283	1,814
52	Palawan	64.4	44.9	77.35	87.3	25,202	1,791
30	Leyte	67.3	36.2	79.45	88.9	24,183	1,805
27	Guimaras	67.1	39.0	83.59	89.6	23,367	1,648
64	Kalinga	61.8	38.7	70.35	93.8	26,435	1,572
32	Negros Occid.	69.0	38.0	78.30	90.2	21,774	1,505
23	Catanduanes	65.8	39.6	87.01	95.3	22,591	1,644
37	Aurora	63.0	50.1	84.16	93.3	22,058	1,856
55	Antique	62.0	38.4	78.45	94.8	24,976	1,612
45	Aklan	62.9	50.3	83.01	94.6	21,391	1,621
65	Apayao	61.6	31.3	70.35	94.1	26,506	1,576

Human development index 2000

Sources: Flieger and Cabigon (1994 and 1999); 2000 LFS; 1999 APIS; 1994 FLEMMS; 2000 FIES

Life expectancy index	Education index I	Education index II	Income index I	Income index II	HDI (I) 2000	HDI (II) 2000
0.737	0.840	0.931	0.913	0.651	0.830	0.773
0.753	0.805	0.917	0.714	0.623	0.758	0.765
0.739	0.749	0.898	0.638	0.536	0.708	0.724
0.731	0.783	0.916	0.581	0.567	0.698	0.738
0.746	0.799	0.942	0.534	0.581	0.693	0.756
0.702	0.770	0.896	0.599	0.578	0.690	0.725
0.729	0.797	0.893	0.538	0.568	0.688	0.730
0.761	0.710	0.903	0.545	0.573	0.672	0.746
0.724	0.737	0.883	0.534	0.503	0.665	0.703
0.729	0.719	0.879	0.512	0.526	0.653	0.711
0.774	0.723	0.853	0.458	0.536	0.652	0.721
0.663	0.793	0.953	0.490	0.570	0.649	0.729
0.703	0.700	0.817	0.541	0.517	0.648	0.679
0.695	0.775	0.883	0.445	0.524	0.639	0.701
0.748	0.673	0.770	0.486	0.507	0.636	0.675
0.661	0.712	0.859	0.528	0.514	0.634	0.678
0.767	0.725	0.919	0.406	0.538	0.633	0.741
0.734	0.772	0.909	0.390	0.486	0.632	0.710
0.747	0.713	0.886	0.430	0.501	0.630	0.711
0.676	0.731	0.883	0.434	0.507	0.614	0.688
0.627	0.717	0.914	0.495	0.488	0.613	0.676
0.730	0.696	0.850	0.354	0.482	0.593	0.687
0.704	0.584	0.830	0.490	0.467	0.593	0.667
0.631	0.694	0.884	0.434	0.474	0.586	0.663
0.704	0.678	0.889	0.366	0.502	0.583	0.698
0.779	0.656	0.849	0.312	0.484	0.582	0.704
0.646	0.700	0.829	0.395	0.468	0.580	0.648
0.753	0.713	0.921	0.265	0.505	0.577	0.726
0.722	0.596	0.810	0.411	0.459	0.577	0.664
0.711	0.688	0.892	0.322	0.484	0.574	0.696
0.657	0.661	0.823	0.387	0.482	0.568	0.654
0.705	0.625	0.842	0.364	0.483	0.565	0.677
0.702	0.643	0.866	0.346	0.468	0.564	0.679
0.613	0.663	0.821	0.414	0.460	0.563	0.631
0.733	0.641	0.842	0.310	0.452	0.562	0.676
0.679	0.674	0.911	0.329	0.467	0.561	0.686
0.633	0.717	0.887	0.317	0.488	0.555	0.669
0.617	0.666	0.866	0.382	0.464	0.555	0.649
0.632	0.725	0.888	0.302	0.465	0.553	0.662
0.610	0.627	0.822	0.416	0.460	0.551	0.631

Statistical annex 1

Rank in HDI-2	PROVINCE	Life expectancy at birth (years) 2000	% high school graduate 2000	Functional literacy 1994	Primary and high school enrollment rate (%) 1999	Per capita income (NCR 1997 pesos) 2000	Per capita income (PPP US$) 2000
53	Capiz	64.5	41.3	76.45	91.1	22,408	1,562
51	North Cotobato	68.0	42.9	72.76	90.9	19,443	1,288
24	Albay	67.9	46.0	82.31	91.0	18,763	1,663
22	Camarines Sur	69.9	35.5	85.97	84.5	20,798	1,560
43	Mis. Occid.	65.7	41.3	84.83	90.4	21,170	1,345
41	Camiguin	63.6	46.2	85.90	94.9	20,606	1,450
25	Bohol	69.0	33.1	84.86	92.3	20,042	1,302
48	Davao del Norte	65.1	36.5	85.49	88.5	22,668	1,391
50	Agusan del Norte	63.8	46.7	88.16	87.6	21,340	1,441
49	Mindoro Occidental	63.0	33.2	83.12	92.4	23,876	1,629
29	Mindoro Oriental	65.0	40.7	91.54	87.1	21,268	1,679
39	S. Leyte	64.6	37.6	86.35	89.6	21,519	1,575
62	Quirino	62.3	39.6	80.14	86.6	23,484	1,520
38	Siquijor	63.6	34.3	86.27	95.2	21,532	1,506
54	Z. del Sur	66.9	37.7	77.23	85.7	20,185	1,404
61	Z. del Norte	63.1	37.8	74.49	90.5	21,934	1,484
66	Negros Orient.	65.0	33.1	73.82	79.7	23,698	1,473
33	Cagayan	65.6	37.8	86.72	89.2	19,816	1,681
58	Surigao del Sur	62.7	40.2	82.43	85.8	22,028	1,463
46	Surigao del Norte	65.9	35.3	81.64	91.7	19,244	1,355
47	Camarines Norte	64.0	42.9	90.01	86.6	19,776	1,452
60	Sultan Kudarat	63.1	41.9	78.63	93.5	18,653	1,227
72	Ifugao	61.9	34.4	51.07	90.1	21,173	1,307
36	Sorsogon	67.8	37.4	79.38	92.3	15,637	1,421
67	N. Samar	63.3	31.8	73.63	87.2	20,509	1,301
35	Marinduque	64.8	33.7	91.25	92.1	16,973	1,410
59	Biliran	62.8	32.6	79.45	90.4	18,902	1,373
71	Agusan del Sur	62.4	33.2	71.84	88.0	18,462	1,075
56	Romblon	63.8	38.7	85.92	90.2	15,679	1,226
69	Sarangani	67.2	33.6	73.63	69.3	17,722	1,202
63	E. Samar	61.1	27.8	86.25	89.8	15,253	1,211
70	W. Samar	60.6	22.3	76.41	85.5	17,262	1,254
68	Masbate	64.0	23.3	75.21	84.0	12,825	1,020
75	Maguindanao	52.6	36.1	68.71	76.6	19,967	1,306
73	Lanao del Sur	56.9	35.7	59.31	76.9	15,936	1,250
74	Basilan	60.2	28.6	48.08	82.1	13,193	1,077
76	Tawi-Tawi	50.8	34.2	52.67	90.9	11,349	1,218
77	Sulu	52.3	18.1	57.73	77.7	7,850	1,027

Human development index 2000

Sources: Flieger and Cabigon (1994 and 1999); 2000 LFS; 1999 APIS; 1994 FLEMMS; 2000 FIES

Life expectancy index	Education index I	Education index II	Income index I	Income index II	HDI (I) 2000	HDI (II) 2000
0.659	0.662	0.838	0.325	0.459	0.549	0.652
0.717	0.669	0.818	0.258	0.427	0.548	0.654
0.714	0.685	0.867	0.243	0.469	0.548	0.683
0.748	0.600	0.852	0.289	0.459	0.546	0.686
0.679	0.659	0.876	0.297	0.434	0.545	0.663
0.643	0.706	0.904	0.284	0.446	0.545	0.665
0.733	0.627	0.886	0.272	0.428	0.544	0.682
0.668	0.625	0.870	0.330	0.439	0.541	0.659
0.647	0.671	0.879	0.301	0.445	0.540	0.657
0.633	0.628	0.877	0.357	0.466	0.539	0.659
0.666	0.639	0.893	0.299	0.471	0.535	0.677
0.661	0.636	0.880	0.305	0.460	0.534	0.667
0.621	0.631	0.834	0.349	0.454	0.534	0.636
0.644	0.647	0.908	0.305	0.453	0.532	0.668
0.699	0.617	0.815	0.275	0.441	0.530	0.651
0.635	0.641	0.825	0.314	0.450	0.530	0.637
0.667	0.564	0.768	0.353	0.449	0.528	0.628
0.676	0.635	0.880	0.267	0.471	0.526	0.676
0.628	0.630	0.841	0.316	0.448	0.525	0.639
0.682	0.635	0.867	0.254	0.435	0.524	0.661
0.650	0.647	0.883	0.266	0.447	0.521	0.660
0.634	0.677	0.861	0.241	0.418	0.517	0.638
0.616	0.622	0.706	0.297	0.429	0.512	0.584
0.713	0.649	0.859	0.174	0.443	0.512	0.671
0.638	0.595	0.804	0.282	0.428	0.505	0.623
0.664	0.629	0.917	0.203	0.442	0.499	0.674
0.629	0.615	0.849	0.246	0.437	0.497	0.639
0.623	0.606	0.799	0.237	0.396	0.489	0.606
0.646	0.645	0.881	0.175	0.418	0.488	0.648
0.704	0.515	0.715	0.220	0.415	0.480	0.611
0.602	0.588	0.880	0.165	0.416	0.452	0.633
0.594	0.539	0.809	0.210	0.422	0.448	0.608
0.650	0.537	0.796	0.111	0.388	0.433	0.611
0.460	0.563	0.727	0.270	0.429	0.431	0.539
0.532	0.563	0.681	0.180	0.422	0.425	0.545
0.587	0.553	0.651	0.119	0.397	0.420	0.545
0.429	0.625	0.718	0.078	0.417	0.378	0.521
0.455	0.479	0.677	0.000	0.389	0.311	0.507

Statistical annex 2

1997 Rank	PROVINCE	Life expectancy at birth (years) 1997	% high school graduate 1997	Primary and high school enrollment rate (%) 1998	Per capita income (NCR 1997 Pesos) 1997	Life expectancy index	Education index I	Income index I	HDI I 1997
	Metro Manila	68.4	73.2	94.5	52,704	0.724	0.839	1.000	0.854
1	Rizal	69.4	62.0	93.7	38,392	0.740	0.778	0.681	0.733
7	Ilocos Norte	68.7	52.0	92.8	34,396	0.729	0.724	0.592	0.681
4	Bataan	68.0	58.2	91.4	35,992	0.716	0.748	0.627	0.697
5	Cavite	68.9	60.2	93.5	33,266	0.732	0.768	0.567	0.689
6	Laguna	66.4	56.9	94.1	35,431	0.691	0.755	0.615	0.687
8	Benguet	67.4	60.9	94.1	31,413	0.707	0.775	0.525	0.669
12	Bulacan	69.9	50.6	90.4	29,617	0.749	0.705	0.485	0.646
2	Mis. Orient.	67.2	54.5	92.4	39,327	0.703	0.734	0.702	0.713
18	Iloilo	68.1	49.5	92.2	25,959	0.718	0.709	0.404	0.610
9	Pampanga	70.7	52.2	90.8	31,012	0.761	0.715	0.516	0.664
3	Batanes	64.0	58.3	96.6	38,995	0.651	0.774	0.694	0.706
19	South Cotobato	66.1	47.4	88.9	27,726	0.685	0.682	0.443	0.603
10	Zambales	65.8	59.4	93.9	31,451	0.680	0.767	0.526	0.658
14	Davao del Sur	68.6	44.6	87.1	31,608	0.727	0.658	0.530	0.638
20	Nueva Viscaya	64.0	42.8	90.9	29,492	0.650	0.668	0.482	0.600
11	Batangas	70.2	52.0	93.5	29,247	0.754	0.728	0.477	0.653
15	Pangasinan	68.3	55.8	93.9	26,372	0.721	0.748	0.413	0.628
16	La Union	69.0	50.1	88.8	28,009	0.733	0.694	0.449	0.626
17	Ilocos Sur	65.1	48.3	94.6	28,145	0.669	0.714	0.452	0.612
22	Abra	62.1	50.3	93.8	27,498	0.618	0.721	0.438	0.592
13	Tarlac	68.0	49.0	91.5	30,163	0.716	0.703	0.497	0.639
26	Bukidnon	65.8	29.8	84.1	28,775	0.680	0.569	0.467	0.572
52	Mt. Province	61.7	36.6	96.4	22,341	0.611	0.665	0.323	0.533
31	Isabela	66.1	41.7	88.5	23,366	0.685	0.651	0.346	0.561
21	Cebu	70.9	39.0	88.4	25,469	0.764	0.637	0.393	0.598
27	Lanao del Norte	62.8	45.6	88.2	26,233	0.631	0.669	0.410	0.570
28	Nueva Ecija	69.1	45.4	90.9	20,604	0.736	0.681	0.284	0.567
58	Davao Oriental	66.6	24.5	86.6	21,175	0.694	0.556	0.297	0.516
23	Quezon	66.8	43.8	89.5	25,661	0.697	0.667	0.397	0.587
38	Palawan	63.2	42.6	89.0	24,240	0.637	0.658	0.365	0.553
60	Leyte	65.7	30.9	83.6	20,710	0.679	0.572	0.287	0.513
48	Guimaras	66.7	36.5	86.3	21,410	0.695	0.614	0.302	0.537
24	Kalinga	61.0	41.7	89.9	30,079	0.601	0.658	0.496	0.585
34	Negros Occid.	67.9	37.8	84.4	23,381	0.715	0.611	0.346	0.557
39	Catanduanes	64.9	36.2	94.2	22,846	0.665	0.652	0.334	0.550
35	Aurora	62.6	43.8	95.8	23,365	0.627	0.698	0.346	0.557
37	Antique	61.4	36.7	88.5	27,226	0.607	0.626	0.432	0.555
30	Aklan	62.4	44.6	96.2	23,843	0.624	0.704	0.357	0.561

Human development index 1997

Sources: Flieger and Cabigon (1994 and 1999); 1997 LFS; 1998 APIS; 1997 FIES

1997 Rank	PROVINCE	Life expectancy at birth (years) 1997	% high school graduate 1997	Primary and high school enrollment rate (%) 1998	Per capita income (NCR 1997 Pesos) 1997	Life expectancy index	Education index I	Income index I	HDI I 1997
29	Apayao	60.8	31.2	91.5	29,282	0.597	0.613	0.478	0.563
25	Capiz	63.8	42.3	93.9	25,347	0.647	0.681	0.390	0.573
49	North Cotobato	66.4	42.0	89.0	19,649	0.691	0.655	0.263	0.536
47	Albay	66.8	42.2	90.4	19,269	0.696	0.663	0.255	0.538
45	Camarines Sur	68.5	36.1	88.7	19,894	0.725	0.624	0.269	0.539
41	Mis. Occid.	64.7	37.5	90.1	23,266	0.661	0.638	0.344	0.548
43	Camiguin	62.6	46.8	94.9	21,033	0.627	0.709	0.294	0.543
55	Bohol	68.0	31.1	88.0	18,829	0.717	0.595	0.245	0.519
42	Davao del Norte	64.0	33.9	90.8	24,315	0.651	0.623	0.367	0.547
51	Agusan del Norte	62.6	41.8	91.2	21,726	0.626	0.665	0.309	0.534
50	Mindoro Occidental	62.3	33.2	89.1	24,398	0.622	0.612	0.369	0.534
40	Mindoro Oriental	64.1	36.3	90.1	23,954	0.652	0.632	0.359	0.548
64	S. Leyte	63.9	29.0	89.3	19,450	0.648	0.592	0.259	0.499
32	Quirino	61.9	37.2	89.4	27,150	0.616	0.633	0.430	0.560
66	Siquijor	62.9	35.5	87.9	18,093	0.631	0.617	0.228	0.492
33	Z. del Sur	65.6	34.7	84.2	26,016	0.676	0.594	0.405	0.558
59	Z. del Norte	62.4	32.5	88.3	21,850	0.624	0.604	0.312	0.513
44	Negros Orient.	64.4	28.8	88.1	25,106	0.656	0.585	0.385	0.542
61	Cagayan	64.6	32.0	91.5	19,527	0.660	0.618	0.260	0.513
54	Surigao del Sur	61.8	38.6	91.1	21,642	0.613	0.648	0.307	0.523
56	Surigao del Norte	64.6	32.6	90.2	20,370	0.660	0.614	0.279	0.518
62	Camarines Norte	63.0	38.3	86.6	20,406	0.633	0.624	0.280	0.512
36	Sultan Kudarat	62.3	45.7	92.3	23,737	0.622	0.690	0.354	0.555
46	Ifugao	60.9	34.1	90.1	25,642	0.599	0.621	0.397	0.539
57	Sorsogon	66.5	37.2	92.8	17,345	0.691	0.650	0.212	0.518
69	N. Samar	62.1	26.8	88.9	18,781	0.618	0.579	0.244	0.480
53	Marinduque	63.8	35.8	91.2	20,831	0.647	0.635	0.289	0.524
65	Biliran	61.8	28.2	93.0	19,849	0.614	0.606	0.268	0.496
63	Agusan del Sur	61.2	31.7	83.5	23,318	0.603	0.576	0.345	0.508
67	Romblon	62.8	32.4	92.6	17,588	0.631	0.625	0.217	0.491
70	Sarangani	66.2	27.5	66.6	18,202	0.687	0.470	0.231	0.463
75	E. Samar	60.5	26.2	88.0	13,952	0.591	0.571	0.136	0.433
71	W. Samar	59.9	26.5	81.7	19,683	0.582	0.541	0.264	0.462
74	Masbate	63.2	22.4	79.4	14,796	0.636	0.509	0.155	0.433
72	Maguindanao	53.2	33.8	79.9	21,915	0.471	0.568	0.314	0.451
73	Lanao del Sur	56.0	39.2	82.0	16,145	0.517	0.606	0.185	0.436
68	Basilan	59.8	30.1	81.3	22,269	0.580	0.557	0.321	0.486
76	Tawi-Tawi	50.4	32.9	87.6	19,794	0.423	0.602	0.266	0.430
77	Sulu	51.9	22.4	81.3	8,994	0.448	0.519	0.026	0.331

Statistical annex 3

Province	Gender-related development index (GDI)				Life expectancy at birth (years) 2000		% high school graduate (10 and above) 2000		Functional literacy rate (%age 10 and above) 1994		Primary and high school enrollment rate (%) 1999		Estimated earned income (NCR 1997 pesos) 2000		Estimated earned income (PPP US$) 2000	
	Rank 1	Value 1	Rank 2	Value 2	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Metro Manila		0.732		0.769	72.2	66.2	73.2	75.5	93.0	91.8	95.1	92.5	34,442	63,926	3,488	6,473
Rizal	1	0.690	1	0.762	73.6	66.9	66.0	67.8	90.6	87.6	96.3	92.3	29,970	49,804	3,148	5,231
Ilocos Norte	2	0.661	8	0.724	72.2	66.5	58.1	51.6	86.2	83.2	100.0	89.5	34,995	37,939	2,389	2,590
Bataan	4	0.641	5	0.734	71.9	65.8	61.7	62.8	89.2	88.3	95.7	93.2	24,384	43,100	2,143	3,787
Cavite	3	0.642	2	0.752	75.1	64.4	62.9	65.8	93.2	92.4	95.2	95.9	23,459	40,265	2,397	4,114
Laguna	5	0.630	9	0.721	71.3	62.9	60.3	61.4	88.3	83.8	94.2	92.0	24,634	44,694	2,261	4,103
Benguet	6	0.623	6	0.728	71.7	65.8	66.8	62.7	88.8	84.4	97.5	92.5	19,637	43,646	1,849	4,109
Bulacan	7	0.622	3	0.743	74.1	67.3	51.5	52.7	92.1	89.0	89.3	90.5	24,060	40,669	2,304	3,894
Mis. Orient.	8	0.617	17	0.704	71.8	65.1	57.7	52.8	89.2	84.4	94.0	90.5	24,208	39,171	1,554	2,514
Iloilo	9	0.611	12	0.709	71.1	66.4	54.2	48.6	85.4	81.6	95.1	89.4	24,791	36,904	1,877	2,794
Pampanga	12	0.599	10	0.719	74.8	68.0	53.4	53.4	83.4	80.9	92.0	90.6	18,140	38,291	1,586	3,349
Batanes	11	0.605	7	0.726	66.2	63.3	56.6	64.5	94.3	91.0	100.0	96.4	22,203	37,165	2,267	3,795
South Cotobato	15	0.594	27	0.678	69.5	64.8	54.3	45.9	79.3	71.6	93.5	86.5	22,989	41,639	1,581	2,864
Zambales	14	0.597	15	0.705	68.6	64.9	57.7	62.5	87.4	85.5	96.8	93.0	19,610	35,155	1,631	2,924
Davao del Sur	17	0.592	20	0.690	71.6	68.1	51.1	47.8	83.3	76.4	91.4	79.9	22,010	36,967	1,550	2,603
Nueva Viscaya	19	0.574	32	0.671	65.4	63.9	49.4	48.4	77.8	78.5	96.8	90.4	20,581	42,482	1,420	2,932
Batangas	10	0.607	4	0.738	75.1	66.9	52.1	51.3	91.8	86.5	94.4	92.3	23,304	28,851	2,249	2,784
Pangasinan	13	0.597	14	0.706	72.3	65.9	58.1	61.8	87.7	87.1	96.4	92.8	18,248	32,077	1,326	2,331
La Union	16	0.594	13	0.708	72.7	66.9	53.4	52.5	89.1	85.8	93.6	86.2	20,528	33,649	1,517	2,487
Ilocos Sur	18	0.577	22	0.686	69.8	61.3	53.1	52.6	84.7	82.0	96.4	90.4	20,819	33,926	1,586	2,585
Abra	20	0.569	30	0.674	65.4	59.8	49.4	52.3	91.3	89.2	93.3	91.9	22,643	37,385	1,403	2,317
Tarlac	21	0.568	19	0.691	70.1	67.5	50.1	53.0	89.1	83.2	89.3	86.2	18,852	28,382	1,424	2,143
Bukidnon	28	0.537	43	0.660	69.8	64.6	36.9	31.6	88.1	78.6	84.8	80.6	19,175	39,447	1,053	2,167
Mt. Province	24	0.558	41	0.662	65.7	60.0	49.1	37.6	77.5	83.8	100.0	92.0	28,975	25,848	1,819	1,623
Isabela	22	0.560	18	0.697	69.7	64.8	47.1	47.2	89.7	89.2	91.8	85.2	20,929	27,473	1,741	2,285
Cebu	23	0.558	16	0.704	73.1	70.4	41.5	41.6	85.2	79.6	91.4	87.7	16,402	27,080	1,366	2,256
Lanao del Norte	41	0.527	57	0.647	65.9	61.6	49.0	46.5	83.9	73.9	93.9	91.0	14,581	36,448	943	2,357
Nueva Ecija	25	0.542	11	0.717	72.2	68.1	50.3	51.6	92.3	92.7	92.1	91.2	11,539	28,171	1,202	2,934
Davao Oriental	27	0.538	44	0.659	71.7	65.0	34.2	29.5	78.8	70.6	94.0	81.5	18,834	33,599	1,121	1,999
Quezon	29	0.537	21	0.689	71.2	64.1	47.2	45.6	88.7	86.7	94.0	89.0	13,932	29,912	1,134	2,434
Palawan	31	0.533	53	0.650	66.4	62.5	47.5	42.4	80.3	74.5	91.7	83.3	17,931	31,986	1,274	2,273
Leyte	36	0.531	31	0.673	70.2	64.4	38.0	34.2	74.1	85.1	94.3	84.3	17,004	31,117	1,269	2,323
Guimaras	26	0.539	28	0.676	69.4	64.9	41.5	36.8	85.4	81.6	95.6	84.5	18,387	27,751	1,297	1,957
Kalinga	38	0.529	65	0.628	64.9	58.7	43.1	34.5	72.9	68.0	94.7	93.1	20,195	32,379	1,201	1,925
Negros Occid.	44	0.524	33	0.671	72.3	65.7	41.0	35.1	83.9	76.4	91.8	88.6	13,253	29,882	916	2,065
Catanduanes	30	0.535	23	0.683	68.1	63.4	41.2	37.9	86.7	87.4	94.7	95.9	17,093	28,178	1,244	2,050
Aurora	39	0.529	39	0.666	65.2	60.7	48.4	51.7	84.0	84.3	95.7	91.2	15,750	27,648	1,325	2,327
Antique	34	0.532	55	0.648	65.7	58.3	38.1	38.8	82.1	75.0	95.5	94.2	22,480	27,258	1,451	1,759
Aklan	40	0.528	45	0.658	65.8	60.0	52.1	48.4	86.6	79.8	97.9	91.7	15,692	26,960	1,189	2,043

Gender-related development index 2000

Sources: Flieger and Cabigon (1994 and 1999); 2000 LFS; 1999 APIS; 1994 FLEMMS; 2000 FIES

Province	Gender-related development index (GDI)				Life expectancy at birth (years) 2000		% high school graduate (10 and above) 2000		Functional literacy rate (%age 10 and above) 1994		Primary and high school enrollment rate (%) 1999		Estimated earned income (NCR 1997 pesos) 2000		Estimated earned income (PPP US$) 2000	
	Rank 1	Value 1	Rank 2	Value 2	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Apayao	42	0.525	64	0.630	65.2	58.1	33.7	29.0	72.9	68.0	92.2	95.5	24,541	28,336	1,459	1,685
Capiz	37	0.530	49	0.651	67.3	61.8	43.8	38.8	84.4	69.5	93.8	88.2	19,600	25,321	1,366	1,765
North Cotobato	32	0.532	48	0.651	71.4	64.6	45.3	40.8	76.1	69.8	94.7	87.5	15,402	23,133	1,021	1,533
Albay	33	0.532	25	0.681	70.2	65.5	47.9	43.9	84.1	80.6	93.3	89.0	14,377	23,172	1,274	2,053
Camarines Sur	45	0.520	24	0.682	72.9	66.8	37.8	33.4	86.1	85.9	87.0	82.3	14,598	26,655	1,095	1,999
Mis. Occid.	51	0.511	46	0.655	69.3	62.2	43.6	39.1	86.9	82.9	94.5	86.5	13,380	28,772	850	1,828
Camiguin	35	0.531	40	0.663	66.1	61.1	47.9	44.8	89.7	81.8	96.8	93.0	19,012	22,141	1,338	1,558
Bohol	43	0.524	26	0.679	71.5	66.5	34.1	32.0	86.8	82.9	93.7	90.9	15,073	25,077	979	1,628
Davao del Norte	54	0.505	47	0.652	68.8	61.4	38.0	35.1	88.6	82.7	88.4	88.6	14,527	29,925	891	1,836
Agusan del Norte	48	0.516	51	0.650	66.2	61.5	47.5	45.9	91.4	81.8	91.0	84.6	15,737	26,559	1,063	1,793
Mindoro Occidental	61	0.496	50	0.651	66.3	59.7	36.4	30.1	85.3	81.0	95.3	89.4	14,677	32,469	1,002	2,216
Mindoro Oriental	46	0.518	29	0.676	67.5	62.5	40.4	40.9	93.7	89.7	89.6	85.1	17,970	24,139	1,419	1,906
S. Leyte	49	0.516	38	0.666	66.8	62.4	38.6	36.4	87.2	85.6	94.9	84.9	18,031	24,897	1,320	1,822
Quirino	50	0.514	59	0.636	62.6	62.0	41.5	37.9	82.3	78.4	92.7	81.1	24,314	22,723	1,573	1,470
Siquijor	47	0.517	37	0.668	65.0	62.3	35.8	32.7	84.8	87.8	96.2	94.5	19,960	23,119	1,396	1,617
Z. del Sur	59	0.500	52	0.650	69.4	64.4	40.3	35.1	84.3	77.1	88.2	83.1	12,933	27,345	899	1,902
Z. del Norte	53	0.507	61	0.634	64.9	61.2	40.4	35.3	78.0	70.9	92.9	88.4	16,756	26,680	1,134	1,806
Negros Orient.	62	0.489	66	0.621	66.7	63.4	35.2	30.9	75.6	72.2	83.9	75.8	15,210	31,767	945	1,975
Cagayan	58	0.501	34	0.670	68.2	62.9	39.5	36.0	86.0	87.4	93.4	85.2	13,525	26,087	1,147	2,213
Surigao del Sur	56	0.502	60	0.635	65.2	60.2	41.9	38.7	88.1	76.8	89.9	81.9	16,984	26,764	1,128	1,777
Surigao del Norte	52	0.510	42	0.660	69.5	62.4	37.0	33.6	85.3	78.0	91.1	92.4	15,756	22,805	1,109	1,605
Camarines Norte	65	0.484	54	0.649	66.1	61.9	45.8	39.9	92.9	87.2	89.2	84.1	11,130	28,360	817	2,083
Sultan Kudarat	55	0.505	58	0.636	65.6	60.5	45.3	38.7	80.7	76.7	96.4	90.7	15,385	21,800	1,012	1,434
Ifugao	60	0.497	72	0.582	65.6	58.3	34.3	34.4	54.4	47.9	93.5	87.3	19,022	23,197	1,174	1,432
Sorsogon	57	0.501	36	0.668	69.4	66.2	39.3	35.5	81.9	77.2	94.8	89.8	11,452	19,700	1,041	1,790
N. Samar	67	0.478	67	0.618	65.9	60.7	32.2	31.4	75.8	71.8	91.2	83.5	13,837	26,740	878	1,697
Marinduque	64	0.484	35	0.670	66.9	62.8	35.4	31.9	92.6	89.7	93.0	91.3	12,103	21,800	1,005	1,811
Biliran	66	0.482	62	0.632	64.3	61.2	32.1	33.1	83.7	70.6	97.7	85.2	14,536	23,228	1,056	1,687
Agusan del Sur	68	0.466	71	0.599	63.5	61.3	35.2	31.3	79.6	64.3	93.3	83.6	12,188	23,805	710	1,386
Romblon	63	0.484	56	0.647	66.6	60.9	35.5	42.1	89.4	82.0	93.2	87.6	13,148	18,193	1,029	1,423
Sarangani	70	0.446	70	0.602	69.6	64.9	35.3	32.1	79.3	71.6	68.9	69.6	9,433	25,125	640	1,704
E. Samar	69	0.448	63	0.631	63.7	58.5	27.1	28.6	88.1	84.4	92.9	87.5	12,461	17,860	989	1,418
W. Samar	71	0.433	69	0.605	61.9	59.4	24.1	20.6	83.7	70.6	88.6	82.8	12,464	21,678	905	1,575
Masbate	72	0.425	68	0.605	66.8	61.2	23.6	23.1	78.5	72.1	86.1	81.9	8,576	16,903	682	1,344
Maguindanao	75	0.400	74	0.538	53.9	51.3	34.8	37.3	71.1	75.6	81.0	72.4	12,484	27,504	817	1,799
Lanao del Sur	73	0.409	73	0.547	58.7	55.2	35.7	35.8	63.6	64.8	81.1	72.9	10,596	21,174	831	1,661
Basilan	74	0.406	75	0.537	63.8	56.6	26.1	31.1	43.8	52.8	83.9	80.6	7,981	18,047	652	1,474
Tawi-Tawi	76	0.366	76	0.511	53.2	48.3	32.5	35.9	47.9	57.1	92.2	89.5	6,530	16,099	701	1,728
Sulu	77	0.322	77	0.505	55.0	49.7	17.1	19.1	56.3	59.1	74.7	80.3	6,358	9,380	831	1,226

Statistical annex 4

PROVINCE	Incidence		Depth		Severity	
	1997	2000	1997	2000	1997	2000
Metro Manila	3.5	5.6	0.6	0.9	0.17	0.24
Rizal	12.3	10.5	2.2	2.4	0.59	0.78
Ilocos Norte	8.3	6.2	1.2	0.6	0.36	0.09
Bataan	7.0	7.6	1.2	1.0	0.31	0.23
Cavite	9.1	10.9	1.7	1.9	0.47	0.58
Laguna	8.2	7.7	1.4	1.4	0.33	0.37
Benguet	19.7	12.6	4.6	2.3	1.43	0.58
Bulacan	10.1	9.5	1.8	1.7	0.50	0.49
Misamis Oriental	22.9	22.8	5.8	5.9	2.08	2.15
Iloilo	22.0	21.8	4.8	4.5	1.62	1.41
Pampanga	5.8	8.7	0.6	1.2	0.12	0.25
Batanes	21.7	9.9	3.3	1.1	0.69	0.22
South Cotabato	25.4	25.2	6.9	5.3	2.45	1.69
Zambales	13.8	18.2	2.5	3.7	0.68	0.97
Davao del Sur	21.6	18.8	4.6	4.2	1.46	1.42
Nueva Vizcaya	10.8	9.3	2.5	1.4	0.77	0.37
Batangas	17.4	16.3	4.2	3.0	1.44	0.84
Pangasinan	25.2	24.3	4.7	5.1	1.27	1.53
La Union	22.6	19.4	5.8	4.4	1.91	1.45
Ilocos Sur	13.3	17.0	2.0	3.6	0.46	1.05
Abra	22.0	19.7	4.7	3.4	1.33	0.97
Tarlac	15.4	20.2	3.0	5.1	0.89	1.91
Bukidnon	23.1	24.7	4.9	5.8	1.53	1.91
Mt. Province	31.4	25.1	5.9	5.1	1.71	1.47
Isabela	36.1	32.6	10.3	8.0	3.79	2.92
Cebu	31.9	35.7	9.8	11.1	4.19	4.62
Lanao del Norte	32.9	46.0	9.4	14.0	3.68	5.82
Nueva Ecija	26.8	31.8	6.1	6.0	1.94	1.79
Davao Oriental	40.2	28.3	12.4	7.5	4.74	2.68
Quezon	30.3	29.3	7.4	7.9	2.33	2.93
Palawan	26.1	25.4	5.6	6.6	1.75	2.44
Leyte	41.9	44.3	13.2	14.3	5.45	6.23
Guimaras	17.6	16.5	3.7	3.3	1.05	0.81
Kalinga	16.3	26.5	2.2	8.1	0.42	3.14
Negros Occidental	18.8	31.3	4.2	7.5	1.32	2.50
Catanduanes	29.6	43.2	6.7	10.7	2.21	3.56
Aurora	19.2	27.4	3.5	6.0	0.90	2.08
Antique	23.5	25.1	5.0	4.5	1.52	1.35
Aklan	32.8	30.7	7.0	7.4	2.27	2.57
Apayao	19.7	10.4	4.7	1.7	1.38	0.40

Poverty incidence, depth, and severity

Source: 1997 and 2000 FIES

PROVINCE	Incidence		Depth		Severity	
	1997	2000	1997	2000	1997	2000
Capiz	26.0	36.1	4.7	8.4	1.23	2.56
North Cotabato	42.7	34.8	13.4	8.8	5.45	2.93
Albay	49.8	44.6	13.8	12.0	5.14	4.68
Camarines Sur	35.1	44.1	8.5	11.9	2.94	4.39
Misamis Occidental	37.1	43.2	10.9	13.1	4.41	5.24
Camiguin	33.6	32.3	9.1	7.7	3.52	2.68
Bohol	43.1	48.1	11.9	13.7	4.65	5.08
Davao	26.2	27.3	6.4	7.1	2.16	2.43
Agusan del Norte	32.3	34.1	9.2	10.1	3.61	4.28
Mindoro Occidental	17.3	23.4	3.3	4.6	1.07	1.33
Mindoro Oriental	32.8	42.0	7.7	13.0	2.41	5.24
S. Leyte	45.9	32.5	12.2	9.1	4.18	3.28
Quirino	18.5	19.8	3.4	3.8	0.97	1.12
Siquijor	57.5	51.1	18.2	15.6	7.96	6.17
Z. del Sur	31.9	42.2	6.9	12.1	2.21	4.84
Z. del Norte	44.2	51.9	12.0	18.6	4.75	8.75
Negros Oriental	35.1	41.0	9.3	11.9	3.43	5.01
Cagayan	31.7	35.5	6.5	7.5	1.90	2.22
Surigao del Sur	36.5	30.1	10.0	7.3	3.88	2.60
Surigao del Norte	43.0	36.9	10.8	8.2	3.90	2.67
Camarines Norte	39.5	49.3	9.7	12.9	3.27	4.92
Sultan Kudarat	21.6	35.3	3.2	5.8	0.71	1.40
Ifugao	31.3	40.9	4.4	8.2	0.87	2.36
Sorsogon	50.3	52.9	14.6	15.1	5.60	5.31
N. Samar	55.0	48.0	19.5	14.6	9.00	6.10
Marinduque	38.2	48.8	10.8	12.0	3.97	3.94
Biliran	57.0	47.1	15.4	13.5	5.81	5.07
Agusan del Sur	36.3	34.9	8.8	7.5	3.02	2.48
Romblon	61.5	74.4	17.5	23.7	6.58	9.86
Sarangani	38.1	43.5	10.4	14.4	3.69	6.41
Eastern Samar	70.9	61.7	25.1	18.7	10.87	7.48
Western Samar	55.2	51.3	15.6	14.4	5.88	5.07
Masbate	64.9	70.8	20.6	24.2	8.47	10.46
Maguindanao	24.0	36.2	4.0	9.2	1.10	3.48
Lanao del Sur	40.8	48.1	10.4	9.7	3.75	2.71
Basilan	30.2	63.0	5.9	16.7	1.66	5.97
Tawi-Tawi	52.1	75.3	13.4	25.8	4.91	11.14
Sulu	87.5	92.0	33.1	37.3	14.53	17.04
Philippines	**25.1**	**27.5**	**6.4**	**7.2**	**2.31**	**2.71**

Statistical annex 5

PROVINCE	HPI Rank	HPI	Probability at birth of not surviving to age 40 (% of cohort)[1] 1995	Adult functional Illiteracy rate (% age 15 and above)[2] 1994	Popn not using improved water sources (%)[3] 2000	Underweight children under age five (%)[4] 1998
Metro Manila	-	9.6	9.6	7.6	15.1	7.1
Rizal	30	15.4	11.3	10.8	30.9	9.4
Ilocos Norte	28	15.3	12.4	15.3	25.7	9.1
Bataan	5	10.3	12.2	11.3	3.2	4.9
Cavite	1	8.8	11.7	7.2	3.4	3.1
Laguna	8	11.6	12.1	13.9	5.3	7.0
Benguet	23	14.6	15.4	16.1	19.9	3.0
Bulacan	3	9.0	10.6	9.4	6.4	5.1
Mis. Orient.	13	13.3	13.0	15.5	13.6	7.3
Iloilo	49	19.0	13.4	16.4	35.1	12.9
Pampanga	27	14.9	10.0	20.8	0.0	6.6
Batanes	11	12.3	17.3	7.3	2.6	1.5
South Cotabato	53	20.1	14.5	26.4	14.4	14.5
Zambales	33	15.9	13.0	18.3	18.4	12.6
Davao del Sur	62	22.7	12.8	31.2	19.3	7.5
Nueva Vizcaya	45	17.9	16.4	21.8	20.7	6.8
Batangas	4	9.2	10.8	9.6	5.6	5.8
Pangasinan	6	11.5	13.0	12.6	5.3	9.5
La Union	22	14.3	12.5	12.6	22.6	11.1
Ilocos Sur	20	13.9	14.4	16.7	6.3	9.3
Abra	18	13.8	18.1	9.9	6.2	13.1
Tarlac	17	13.7	12.3	17.8	0.7	11.9
Bukidnon	48	18.9	16.0	16.9	37.2	7.9
Mt. Province	40	17.2	20.3	18.9	3.5	4.8
Isabela	7	11.5	14.2	10.6	7.7	9.2
Cebu	37	16.8	11.0	19.8	25.7	8.6
Lanao del Norte	54	20.2	16.6	26.6	16.5	5.6
Nueva Ecija	2	8.9	11.7	7.6	0.1	7.5
Davao Oriental	52	19.6	15.6	25.4	21.0	6.1
Quezon	36	16.5	13.7	12.8	33.1	8.3
Palawan	55	20.8	18.1	22.7	31.8	10.3
Leyte	43	17.4	15.6	20.6	19.9	9.6
Guimaras	69	24.8	15.7	16.4	56.3	10.6
Kalinga	66	24.2	24.8	29.7	6.5	16.6
Negros Occidental	51	19.5	14.1	21.7	28.2	14.0
Catanduanes	15	13.6	17.1	13.0	4.3	10.0
Aurora	26	14.8	17.8	15.8	0.3	10.7
Antique	47	18.7	18.7	21.6	10.5	18.6
Aklan	50	19.5	17.8	17.0	31.4	14.2

Source: 1. Flieger and Cabigon 1999; 2. FLEMMS 1994; 3. 2000 FIES; 4. FNRI Fifth National Nutrition Survery (1998)

PROVINCE	HPI Rank	HPI	Probability at birth of not surviving to age 40 (% of cohort)[1] 1995	Adult functional Illiteracy rate (% age 15 and above)[2] 1994	Popn not using improved water sources (%)[3] 2000	Underweight children under age five (%)[4] 1998
Apayao	70	26.4	20.0	29.7	47.8	7.5
Capiz	67	24.4	16.9	23.6	47.3	11.8
North Cotabato	58	21.6	14.6	27.2	23.8	14.1
Albay	25	14.7	14.2	17.7	16.3	4.9
Camarines Sur	14	13.5	13.1	14.0	17.3	9.3
Mis. Occ.	24	14.6	16.2	15.2	17.2	6.3
Camiguin	16	13.7	16.7	14.1	6.7	4.7
Bohol	35	16.4	13.5	15.1	31.2	7.6
Davao	57	21.1	16.7	14.5	45.7	9.2
Agusan del Norte	19	13.8	16.3	11.8	16.8	8.3
Mindoro Occidental	29	15.3	16.6	16.9	12.7	9.9
Mindoro Oriental	9	11.8	15.4	8.5	9.1	8.0
S. Leyte	21	14.1	16.4	13.7	5.8	16.8
Quirino	38	16.8	18.0	19.9	5.6	11.9
Siquijor	12	13.1	16.0	13.7	2.3	5.6
Z. del Sur	56	21.0	15.9	22.8	33.3	12.7
Z. del Norte	68	24.7	16.6	25.5	47.8	9.8
Negros Oriental	59	21.9	15.1	26.2	35.3	7.8
Cagayan	41	17.3	16.0	13.3	30.3	11.4
Surigao del Sur	42	17.3	19.3	17.6	18.6	10.0
Surigao del Norte	31	15.4	15.6	18.4	8.4	12.3
Camarines Norte	64	22.7	18.0	10.0	49.7	11.4
Sultan Kudarat	44	17.7	16.0	21.4	17.1	11.1
Ifugao	73	35.8	21.4	48.9	38.5	6.2
Sorsogon	46	18.3	15.6	20.6	24.7	11.3
N. Samar	61	22.4	19.2	26.4	28.1	12.7
Marinduque	10	12.2	15.3	8.8	10.4	11.2
Biliran	39	17.2	18.1	20.6	9.9	6.1
Agusan del Sur	65	23.1	19.3	28.2	30.0	8.8
Romblon	32	15.7	17.0	14.1	23.2	8.5
Sarangani	63	22.7	15.1	26.4	34.4	13.0
E. Samar	34	15.9	19.8	13.8	15.6	8.6
W. Samar	60	21.9	20.4	23.6	31.4	11.9
Masbate	72	29.9	17.4	24.8	63.3	14.9
Maguindanao	71	29.4	24.3	31.3	52.2	10.7
Lanao del Sur	74	35.9	22.9	40.7	70.5	7.4
Basilan	-	-	18.1	51.9	53.7	-
Tawi-Tawi	76	42.4	29.7	47.3	81.1	10.4
Sulu	75	37.8	28.6	42.3	71.0	8.9

Statistical annex 6

PROVINCE	Share of consumption				Inequality measures			Gini index 1997
	Poorest 10%	Poorest 20%	Richest 20%	Richest 10%	Richest 10% to poorest 10%	Richest 20% to poorest 20%	Gini index 2000	
Metro Manila	2.5	6.1	51.8	37.4	14.8	8.5	44.9	44.9
Rizal	2.5	6.2	51.9	35.5	14.0	8.4	44.5	37.5
Ilocos Norte	3.6	8.1	43.1	26.5	7.3	5.3	34.5	37.6
Bataan	3.4	8.0	43.3	27.5	8.0	5.4	35.0	31.1
Cavite	3.3	7.8	42.1	26.2	7.9	5.4	33.9	36.4
Laguna	3.3	7.7	42.5	26.6	8.0	5.5	34.5	39.0
Benguet	3.3	7.6	41.9	26.5	8.0	5.5	34.2	37.6
Bulacan	3.6	8.4	40.3	25.0	6.9	4.8	31.8	31.2
Misamis Oriental	2.6	6.2	46.6	30.4	11.9	7.5	40.1	47.2
Iloilo	2.8	6.5	49.8	33.8	12.1	7.6	42.8	38.5
Pampanga	4.4	9.6	37.0	22.4	5.1	3.8	27.6	43.9
Batanes	4.1	8.7	44.4	25.9	6.4	5.1	35.8	33.8
South Cotabato	3.0	6.8	48.3	32.2	10.7	7.1	41.3	37.1
Zambales	3.6	8.1	43.0	27.2	7.5	5.3	34.8	34.3
Davao del Sur	2.9	6.9	46.0	29.5	10.2	6.6	38.4	37.6
Nueva Vizcaya	3.7	7.7	42.2	26.8	7.2	5.5	35.0	31.3
Batangas	3.5	8.0	44.2	29.5	8.5	5.5	35.9	38.2
Pangasinan	3.6	8.2	42.7	26.8	7.5	5.2	34.2	26.9
La Union	3.3	7.6	46.8	31.0	9.5	6.2	38.2	37.2
Ilocos Sur	3.4	7.7	43.9	28.3	8.3	5.7	35.8	34.0
Abra	3.4	7.5	49.5	32.3	9.6	6.6	41.0	38.6
Tarlac	3.2	7.8	41.4	26.5	8.4	5.3	33.2	41.8
Bukidnon	3.0	6.8	47.5	31.5	10.6	6.9	40.0	28.4
Mt. Province	3.5	8.0	44.5	27.1	7.8	5.5	36.6	37.5
Isabela	2.9	7.1	48.2	31.8	10.9	6.8	39.9	43.3
Cebu	2.6	6.4	47.4	31.0	11.9	7.4	40.3	44.3
Lanao del Norte	2.3	5.6	54.5	37.5	16.0	9.7	47.5	33.5
Nueva Ecija	4.2	9.7	39.0	24.1	5.7	4.0	28.8	34.5
Davao Oriental	2.9	6.6	50.0	34.8	11.9	7.5	42.5	40.7
Quezon	2.9	6.9	45.2	29.2	10.0	6.6	38.0	40.5
Palawan	2.9	7.1	45.4	29.7	10.2	6.4	37.5	40.2
Leyte	2.3	5.8	53.3	37.0	15.8	9.2	46.3	39.9
Guimaras	4.3	9.2	42.0	27.0	6.3	4.6	32.5	39.4
Kalinga	2.9	6.6	42.9	27.1	9.4	6.5	36.7	37.3
Negros Occidental	3.2	7.3	48.9	34.0	10.8	6.7	40.5	42.6
Catanduanes	3.0	6.7	55.0	41.5	14.0	8.2	48.7	38.1
Aurora	3.4	8.1	43.6	27.5	8.2	5.4	35.3	41.4
Antique	3.3	7.7	46.6	30.3	9.2	6.1	38.5	37.2
Aklan	3.2	7.4	45.3	29.5	9.3	6.1	37.5	39.9
Apayao	4.8	11.0	36.9	22.1	4.6	3.4	25.9	28.4

Inequality in consumption, 2000

Source: 2000 FIES

PROVINCE	Share of consumption				Inequality measures			Gini index 1997
	Poorest 10%	Poorest 20%	Richest 20%	Richest 10%	Richest 10% to poorest 10%	Richest 20% to poorest 20%	Gini index 2000	
Capiz	3.4	7.5	51.6	36.3	10.6	6.9	42.6	36.2
North Cotabato	3.7	8.0	44.8	30.1	8.1	5.6	36.1	36.9
Albay	2.9	7.2	48.3	32.7	11.2	6.7	40.4	42.1
Camarines Sur	3.2	7.2	48.8	33.2	10.5	6.8	40.4	36.7
Misamis Occidental	3.0	7.0	47.9	31.6	10.7	6.9	40.1	37.0
Camiguin	3.4	8.2	46.3	30.8	9.2	5.7	37.6	42.6
Bohol	3.0	7.1	51.8	36.1	11.9	7.3	43.8	42.7
Davao	3.1	7.2	45.9	29.6	9.6	6.4	38.0	41.1
Agusan del Norte	2.6	6.3	47.3	31.8	12.3	7.5	40.5	30.4
Mindoro Occidental	3.7	8.3	45.9	32.5	8.7	5.5	36.9	36.1
Mindoro Oriental	3.0	7.1	48.3	33.8	11.1	6.8	40.4	34.4
S. Leyte	3.5	7.8	46.0	30.4	8.8	5.9	36.9	42.7
Quirino	4.0	8.8	43.3	28.4	7.2	4.9	34.0	41.8
Siquijor	3.1	7.7	49.0	32.6	10.6	6.4	40.4	36.4
Z. del Sur	3.0	7.1	45.4	29.4	9.8	6.4	38.0	37.9
Z. del Norte	2.2	5.5	54.6	38.1	17.0	9.9	47.6	44.4
Negros Oriental	2.6	6.2	52.4	35.0	13.4	8.4	43.9	37.2
Cagayan	4.2	9.3	40.5	25.4	6.1	4.3	31.1	40.5
Surigao del Sur	3.2	7.3	46.4	31.6	10.0	6.4	38.6	30.3
Surigao del Norte	3.8	8.6	43.5	27.9	7.4	5.1	34.9	38.7
Camarines Norte	3.0	7.2	51.3	35.9	12.0	7.2	42.5	34.5
Sultan Kudarat	4.7	10.4	41.2	26.5	5.6	4.0	30.2	35.4
Ifugao	4.0	8.9	45.8	30.7	7.7	5.1	35.8	41.0
Sorsogon	4.0	8.7	45.2	30.7	7.7	5.2	36.1	32.3
N. Samar	2.9	7.0	47.8	33.5	11.6	6.8	40.5	41.4
Marinduque	4.0	8.8	44.3	29.8	7.5	5.0	35.3	36.6
Biliran	3.9	8.1	46.4	30.7	8.0	5.8	37.1	37.3
Agusan del Sur	3.9	9.1	40.8	26.4	6.8	4.5	31.8	40.9
Romblon	4.0	8.8	48.4	36.0	9.0	5.5	38.8	46.9
Sarangani	2.8	6.9	40.3	26.9	9.5	5.8	35.9	34.7
Eastern Samar	3.7	8.3	48.1	33.7	9.1	5.8	38.5	39.2
Western Samar	3.9	8.7	44.9	29.9	7.6	5.2	36.0	38.0
Masbate	3.9	8.6	46.2	32.2	8.4	5.4	37.0	38.9
Maguindanao	3.3	7.9	44.6	30.0	9.0	5.6	36.0	24.1
Lanao del Sur	5.2	11.6	35.6	21.5	4.2	3.1	23.6	29.9
Basilan	4.5	10.6	37.7	24.1	5.3	3.5	27.1	28.5
Tawi-Tawi	4.6	10.4	37.2	24.3	5.3	3.6	27.6	30.5
Sulu	6.0	13.0	32.0	19.3	3.2	2.5	19.2	22.8
Philippines	**3.1**	**7.2**	**47.2**	**31.9**	**10.4**	**6.6**	**42.9**	**42.7**

Statistical annex 7

Province	Open Unemployment Rate				Underemployment Rate			
	1997	1998	1999	2000	1997	1998	1999	2000
Metro Manila	13.8	16.0	16.2	17.5	15.2	15.5	15.8	14.3
Rizal	7.1	10.3	11.2	13.2	17.3	12.5	12.6	8.8
Ilocos Norte	3.5	4.8	4.0	6.3	22.7	23.1	20.3	27.0
Bataan	13.0	14.0	14.9	14.2	13.1	10.8	11.5	17.9
Cavite	10.1	10.2	10.2	15.4	9.3	15.6	15.3	14.6
Laguna	9.5	9.9	10.5	12.5	23.1	19.9	17.6	19.8
Benguet	7.6	7.7	8.5	10.1	9.9	10.6	7.5	19.1
Bulacan	7.5	9.3	8.6	8.3	10.6	14.0	20.1	13.0
Misamis Oriental	8.4	9.3	9.6	10.0	23.6	28.5	36.2	25.6
Iloilo	11.2	13.2	10.8	10.0	38.9	36.0	43.9	41.5
Pampanga	9.7	11.0	11.6	11.5	16.0	14.5	18.4	12.8
Batanes	2.3	2.5	4.0	4.4	0.3	0.7	0.1	4.8
South Cotabato	9.6	11.8	9.7	11.1	50.6	50.8	50.8	45.6
Zambales	20.1	13.3	12.6	14.0	5.5	7.3	4.3	7.0
Davao del Sur	7.3	10.1	9.2	10.9	31.3	30.4	27.9	28.8
Nueva Vizcaya	5.1	5.4	3.9	5.4	45.0	44.8	36.8	35.6
Batangas	8.7	9.4	9.4	13.3	21.6	21.6	22.7	23.2
Pangasinan	10.0	11.0	9.9	12.2	17.6	18.2	16.8	18.8
La Union	6.2	6.3	7.8	8.2	17.5	16.2	20.5	21.9
Ilocos Sur	8.0	7.5	6.9	9.7	8.1	5.4	8.0	16.3
Abra	5.7	5.4	6.7	8.4	14.3	11.7	8.8	10.4
Tarlac	10.8	12.6	11.6	15.8	10.0	7.4	12.9	6.4
Bukidnon	3.7	5.5	3.4	4.5	62.9	51.9	48.1	38.9
Mt. Province	3.3	3.1	3.5	4.7	16.8	16.6	21.1	28.6
Isabela	5.4	8.7	5.9	7.1	14.2	19.5	16.4	24.4
Cebu	11.0	14.3	13.3	12.6	8.9	9.8	10.7	13.2
Lanao del Norte	10.2	11.3	9.3	15.5	35.9	41.6	37.7	45.9
Nueva Ecija	6.1	6.9	9.3	10.7	7.8	10.1	8.1	6.8
Davao Oriental	6.5	7.0	8.0	8.8	46.1	41.4	48.0	37.6
Quezon	7.8	8.1	6.9	8.0	17.5	14.1	15.1	17.1
Palawan	5.5	7.6	8.9	7.8	7.8	3.6	11.5	19.3
Leyte	7.8	8.9	7.2	11.6	21.3	17.3	15.4	20.0
Guimaras	8.9	8.0	8.0	7.7	28.9	34.8	41.5	32.3
Kalinga	6.6	7.2	4.7	4.3	31.5	37.8	28.0	31.0
Negros Occidental	8.5	10.0	8.5	13.4	16.4	19.1	15.8	20.3
Catanduanes	6.1	8.3	7.8	10.4	27.1	48.4	49.1	49.7
Aurora	12.4	14.5	15.4	18.9	27.7	36.2	41.1	42.1
Antique	8.7	9.6	9.7	10.7	23.8	13.0	14.5	22.1
Aklan	6.8	7.1	6.9	13.2	14.0	13.0	15.0	12.1
Apayao	6.4	12.2	7.1	4.3	38.0	43.8	45.0	48.6

Open unemployment and underemployment rates, 1997-2000

Source: 1997 to 2000 LFS

Province	Open Unemployment Rate				Underemployment Rate			
	1997	1998	1999	2000	1997	1998	1999	2000
Capiz	5.3	6.5	4.0	5.9	14.1	14.7	22.1	24.0
North Cotabato	4.4	6.2	5.4	5.5	46.9	38.8	33.3	32.4
Albay	9.6	11.7	10.2	10.3	43.3	46.8	50.7	41.4
Camarines Sur	5.8	7.5	7.8	10.4	52.2	52.7	58.1	48.9
Misamis Occidental	9.2	11.2	11.8	10.7	15.6	12.1	12.7	13.7
Camiguin	3.0	3.5	2.2	2.3	5.2	4.1	1.2	17.7
Bohol	8.4	11.4	7.2	10.1	10.8	10.7	8.9	10.6
Davao	8.4	8.1	7.2	6.9	34.6	36.0	31.5	29.9
Agusan del Norte	13.7	16.3	12.2	13.8	34.9	35.2	42.2	38.1
Mindoro Occidental	6.5	7.6	6.9	10.6	31.6	33.3	28.2	41.5
Mindoro Oriental	5.5	7.9	6.9	8.6	18.9	17.3	22.0	34.7
S. Leyte	8.5	11.1	10.6	12.0	28.6	25.4	27.1	27.0
Quirino	3.5	5.6	6.0	8.6	15.3	15.2	9.4	24.3
Siquijor	5.5	4.4	2.4	3.3	3.8	5.9	16.6	9.7
Z. del Sur	5.4	6.2	6.0	7.6	24.6	21.4	22.6	14.4
Z. del Norte	8.6	10.9	8.1	7.3	29.8	30.2	36.4	33.4
Negros Oriental	4.4	6.8	5.0	10.4	23.3	13.2	17.3	16.4
Cagayan	3.7	5.4	3.9	5.0	11.5	12.7	9.9	12.0
Surigao del Sur	12.9	12.9	10.9	10.4	32.0	37.7	42.6	39.0
Surigao del Norte	4.2	5.0	3.7	3.4	9.8	6.8	11.2	8.7
Camarines Norte	8.4	10.9	11.6	10.5	33.6	27.4	30.6	27.4
Sultan Kudarat	3.7	4.9	5.3	7.5	7.9	8.1	8.9	16.2
Ifugao	4.3	6.5	4.0	5.1	8.3	8.4	13.0	21.2
Sorsogon	10.0	10.4	10.3	13.7	23.4	26.7	28.4	25.9
N Samar	9.1	8.9	7.7	11.6	16.0	15.6	13.4	20.7
Marinduque	6.3	9.0	6.7	8.3	24.9	23.0	21.7	27.5
Biliran	5.3	6.9	7.4	10.3	24.5	20.6	16.5	12.3
Agusan del Sur	5.1	7.7	6.9	7.4	16.3	12.6	13.8	10.5
Romblon	9.8	8.3	9.7	9.2	18.6	16.4	13.3	22.2
Sarangani	4.9	5.8	6.0	8.2	24.6	31.5	29.2	23.8
Eastern Samar	11.4	8.2	8.3	13.1	37.2	50.4	48.9	50.0
Western Samar	8.6	8.2	6.8	8.0	41.4	36.4	34.4	37.1
Masbate	4.1	5.7	5.7	6.2	22.9	31.6	21.7	26.6
Maguindanao	4.4	6.6	5.5	5.5	25.8	24.1	20.8	20.3
Lanao del Sur	5.7	5.5	4.4	8.3	2.2	11.5	5.6	7.9
Basilan	4.8	5.8	9.5	9.6	3.0	3.3	5.7	6.6
Tawi-Tawi	3.2	5.0	3.9	4.6	26.9	18.4	13.2	15.5
Sulu	1.8	4.0	3.7	2.8	8.3	5.1	4.3	5.1
Philippines	**8.6**	**10.1**	**9.4**	**11.1**	**22.1**	**21.8**	**22.3**	**21.9**

Statistical annex 8

Province	Female economic activity rate (age 15 and above)		Employment by economic activity						Contributing family workers	
			Agriculture		Industry		Services			
	Rate (%)	As % of male rate	Female	Male	Female	Male	Female	Male	Female (as % of total)	Male (as % of total)
Metro Manila	51.2	65.1	0.3	1.6	17.6	29.6	82.2	68.8	61.7	38.3
Rizal	46.7	61.0	2.2	12.4	30.4	39.8	67.4	47.8	53.9	46.1
Ilocos Norte	59.5	69.7	53.1	64.7	4.1	11.2	42.8	24.1	55.3	44.7
Bataan	47.9	60.8	6.2	31.3	24.6	26.6	69.2	42.1	34.5	65.5
Cavite	43.0	53.6	5.0	21.1	30.8	32.3	64.2	46.6	39.7	60.3
Laguna	50.1	62.7	4.8	20.1	33.1	34.3	62.2	45.6	62.8	37.2
Benguet	50.2	64.5	42.0	42.9	9.2	25.0	48.8	32.1	64.4	35.6
Bulacan	49.1	60.6	4.8	17.6	32.3	35.9	62.9	46.5	45.1	54.9
Misamis Oriental	53.8	64.9	20.4	36.2	8.2	19.3	71.4	44.4	61.0	39.0
Iloilo	50.9	63.5	33.8	56.7	6.7	12.5	59.5	30.7	48.5	51.5
Pampanga	37.0	46.4	3.1	21.3	20.2	36.3	76.7	42.4	34.1	65.9
Batanes	84.1	84.8	67.7	62.7	1.7	9.2	30.5	28.1	66.6	33.4
South Cotabato	59.8	67.8	37.9	56.8	8.2	13.9	53.9	29.3	57.3	42.7
Zambales	47.0	57.0	11.6	31.4	13.7	24.2	74.7	44.3	46.5	53.5
Davao del Sur	55.2	65.6	23.2	44.5	8.2	17.3	68.6	38.2	53.3	46.7
Nueva Vizcaya	66.1	75.2	56.5	67.8	2.2	9.8	41.3	22.4	62.4	37.6
Batangas	47.3	58.2	13.8	36.3	23.8	24.0	62.4	39.7	43.5	56.5
Pangasinan	44.2	54.3	24.8	45.1	9.2	21.8	66.1	33.2	52.6	47.4
La Union	58.5	66.7	39.5	53.8	9.9	20.2	50.7	26.0	50.4	49.6
Ilocos Sur	48.2	58.7	52.0	70.6	4.0	8.9	44.0	20.4	51.0	49.0
Abra	43.6	52.3	60.3	72.3	2.4	8.2	37.3	19.5	51.2	48.8
Tarlac	43.5	51.2	24.2	45.2	12.7	20.8	63.1	34.0	39.6	60.4
Bukidnon	83.6	87.1	71.2	76.8	2.4	6.8	26.5	16.4	58.6	41.4
Mt. Province	77.3	85.2	76.7	76.0	1.3	9.3	22.0	14.7	63.5	36.5
Isabela	47.9	54.8	46.4	68.5	2.9	10.0	50.7	21.5	49.8	50.2
Cebu	51.1	64.6	22.2	31.7	21.1	27.1	56.7	41.2	56.0	44.0
Lanao del Norte	50.0	58.6	30.9	52.1	6.4	16.5	62.7	31.5	49.2	50.8
Nueva Ecija	36.4	43.5	25.9	57.4	6.3	14.6	67.8	28.0	33.1	66.9
Davao Oriental	62.8	67.7	36.3	71.2	9.6	10.4	54.1	18.4	46.2	53.8
Quezon	42.8	50.6	20.2	48.9	13.3	18.7	66.6	32.4	48.6	51.4
Palawan	46.6	55.1	32.6	63.2	8.4	11.1	59.0	25.7	43.6	56.4
Leyte	50.1	58.5	34.6	59.4	10.2	12.0	55.2	28.7	56.2	43.8
Guimaras	48.0	54.8	46.2	69.5	7.8	10.6	46.0	19.8	42.8	57.2
Kalinga	58.3	68.9	69.8	71.9	1.4	7.8	28.8	20.3	62.0	38.0
Negros Occidental	49.8	60.3	38.1	62.0	5.4	11.4	56.4	26.5	52.0	48.0
Catanduanes	53.1	61.3	39.1	63.8	4.2	11.8	56.7	24.5	54.5	45.5
Aurora	60.0	68.3	18.5	61.2	16.6	11.0	64.9	27.8	51.9	48.1
Antique	44.7	53.5	31.6	71.9	8.2	7.5	60.2	20.5	43.1	56.9
Aklan	51.5	65.9	31.5	48.0	18.0	21.0	50.5	31.0	65.4	34.6
Apayao	47.9	54.3	74.4	83.8	0.3	3.6	25.3	12.5	61.7	38.3

Gender inequality in economic activity, 1997-2000

Source: 1997 to 2000 LFS

Province	Female economic activity rate (age 15 and above)		Employment by economic activity						Contributing family workers	
			Agriculture		Industry		Services			
	Rate (%)	As % of male rate	Female	Male	Female	Male	Female	Male	Female (as % of total)	Male (as % of total)
Capiz	62.0	74.2	53.8	62.3	4.7	10.7	41.4	27.0	65.8	34.2
North Cotabato	60.1	67.0	54.6	74.2	3.0	5.4	42.4	20.4	44.2	55.8
Albay	53.8	65.2	15.7	44.2	21.9	19.6	62.4	36.2	52.3	47.7
Camarines Sur	56.6	63.8	42.0	61.3	8.6	13.5	49.4	25.3	58.3	41.7
Misamis Occidental	50.1	58.4	43.1	59.3	4.1	12.4	52.8	28.3	54.8	45.2
Camiguin	51.5	60.4	29.3	61.2	3.2	12.1	67.6	26.7	41.6	58.4
Bohol	45.9	54.7	29.3	60.4	23.0	14.7	47.6	24.9	60.3	39.7
Davao	48.5	56.2	45.6	65.4	2.8	14.7	51.6	19.9	44.2	55.8
Agusan del Norte	56.6	66.0	35.4	48.6	7.0	16.5	57.6	35.0	57.1	42.9
Mindoro Occidental	58.3	63.4	45.6	69.3	3.2	11.3	51.1	19.4	50.4	49.6
Mindoro Oriental	61.0	66.4	44.4	65.8	5.1	11.0	50.5	23.2	47.8	52.2
S. Leyte	41.5	48.3	24.9	68.8	4.7	11.6	70.4	19.7	36.5	63.5
Quirino	47.2	53.4	45.3	71.9	0.8	10.8	54.0	17.3	47.2	52.8
Siquijor	58.6	67.0	66.2	70.7	2.4	12.0	31.4	17.3	60.1	39.9
Z. del Sur	41.0	48.0	40.4	60.7	5.2	10.7	54.4	28.6	49.4	50.6
Z. del Norte	47.4	55.4	41.2	65.4	4.1	11.8	54.7	22.8	56.0	44.0
Negros Oriental	59.4	69.1	57.9	65.2	3.5	9.7	38.6	25.1	63.2	36.8
Cagayan	57.2	64.5	63.4	74.5	1.1	7.5	35.5	18.0	63.0	37.0
Surigao del Sur	52.7	62.5	41.9	65.3	5.6	11.7	52.5	23.0	60.9	39.1
Surigao del Norte	52.5	61.0	42.7	64.6	8.4	12.0	48.9	23.4	60.2	39.8
Camarines Norte	50.5	57.5	32.3	47.3	12.6	20.1	55.0	32.6	49.1	50.9
Sultan Kudarat	38.6	45.5	36.5	76.0	4.6	6.4	58.9	17.6	33.3	66.7
Ifugao	65.9	81.8	69.5	70.9	4.3	11.7	26.2	17.4	70.0	30.0
Sorsogon	40.5	47.8	19.5	66.7	15.7	10.9	64.8	22.4	37.7	62.3
N. Samar	43.0	48.4	43.7	64.0	5.8	8.7	50.5	27.4	58.6	41.4
Marinduque	56.5	64.7	33.3	52.1	7.3	19.5	59.4	28.4	56.5	43.5
Biliran	63.9	71.4	51.0	73.9	7.6	7.0	41.4	19.1	67.2	32.8
Agusan del Sur	51.9	57.4	48.5	74.9	4.6	5.9	46.9	19.2	55.6	44.4
Romblon	50.2	60.8	32.5	61.3	17.3	15.8	50.2	22.8	54.8	45.2
Sarangani	63.3	68.9	58.9	74.6	2.6	8.7	38.5	16.6	68.8	31.2
Eastern Samar	50.2	57.2	58.8	79.6	4.4	3.7	36.8	16.7	59.7	40.3
Western Samar	56.2	61.8	43.7	66.7	6.7	8.3	49.7	25.0	58.4	41.6
Masbate	46.4	52.7	48.2	70.2	8.1	11.6	43.7	18.2	64.5	35.5
Maguindanao	38.6	44.9	47.2	71.3	6.1	5.3	46.6	23.5	50.4	49.6
Lanao del Sur	20.8	25.8	21.8	66.3	17.1	3.4	61.1	30.3	42.5	57.5
Basilan	26.1	31.3	34.2	74.1	3.5	4.1	62.3	21.8	15.0	85.0
Tawi-Tawi	48.6	56.4	75.8	81.8	4.2	3.0	20.0	15.2	58.4	41.6
Sulu	19.1	23.0	51.4	81.5	5.1	1.3	43.5	17.1	24.0	76.0
Philippines	49.7	59.5	29.0	48.4	12.2	17.7	58.8	34.0	53.5	46.5