II Human development in Philippine provinces: 1997-2009

kaginhawaan (Tagalog), *gin-awa* (Ilokano)
masalese (Kapampangan),
kasanggayahan (Naga Bikol Sorsogon)
humugaway (Cebuano Bukidnon)
kasangyangan (Tausug Badjao)
ayahay (Cebuano Suriganon), *maupay* (Waray)
well-being (English)[1]

TWO crises serve as bookends to the period covered by this chapter: the 1997 Asian financial crisis and the 2008 global economic recession. Income-based measures of progress make it evident these were trying times.

The year after the 1997 Asian financial crisis hit the Philippine economy, per capita gross national product (GNP) fell by 2.6 percent while unemployment rose to 9.6 percent from 7.9 percent the previous year. Adverse weather leading to a drop in agricultural production and a surge in food prices contributed to the decline [Datt and Hoogeveen 2003; and Lim 2000]. Datt and Hoogeveen [2003] estimated that the impact on the Philippines of both the Asian financial crisis and the El Niño weather disturbance was a 5 percent reduction in living standards and a 9 percent increase in poverty incidence.

Figure 2.1 Relationship between per capita income and HDI (1997-2009)

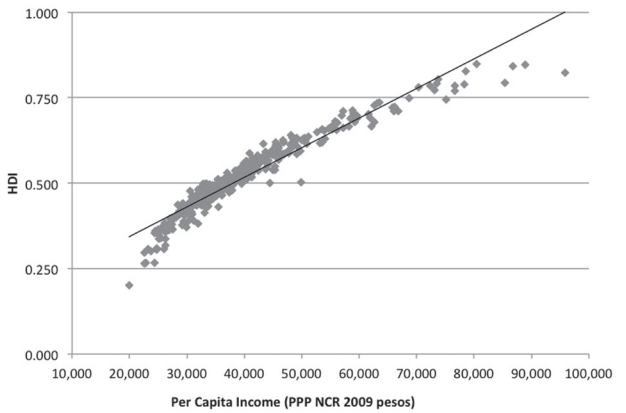
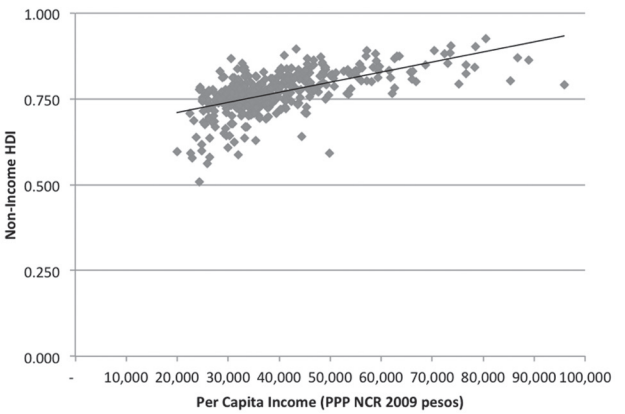


Figure 2.2 Relationship between per capita income and non-income HDI



In 2009, a year after the onset of the U.S. and European recession, Philippine GNP per capita growth slowed down to 1 percent from more than 4 percent the previous year. GDP per capita fell by 1.1 percent. These results were influenced by a spike in food prices in late 2007, which continued until early 2008 [Balisacan et al. 2010].

In both instances, the economy recovered its lost production after a few years.

The Asian financial crisis underscored the massive welfare losses that result from an unstable macroeconomic environment [Reyes et al. 1999]. It was in this context that Congress passed Republic Act 8425, or the Social Reform and Poverty Alleviation Act.

This experience was to be repeated in the last quarter of 2008, when the collapse of the U.S. housing mortgage bubble turned into a global economic crisis. Administrative Order 21 issued by the President in 2011 provided a set of revised implementing rules and regulations for R.A. 8425 strengthening support for the implementation of flagship programs and the sectoral representation process of the National Anti-Poverty Council created under the law.

What is evident is a process of strengthening the democratization of governance structures in the country that accompanied economic and social reforms. Apart from R.A. 8425 ensuring sectoral representation in the anti-poverty arena, two pieces of legislation enacted in the 1990s are notable. R.A. 7160, the Local Government Code, and R.A. 7941, the Party-List System, sought to decentralize political power away from the national government and the elite political class.[2] As the theme chapter shows, however, it remains an open question how far these initiatives have succeeded in establishing a governance structure conducive to the achievement of human development goals in the provinces.

This chapter presents consistent estimates of the human development index (HDI) from 1997 to 2009 using the latest estimation methods established by the Human Development Report Office of the United Nations Development Programme (UNDP HDRO). The HDI is a summary measure of human development, measuring the average achievement in three basic dimensions: a long and healthy life, knowledge, and a decent standard of living. It is motivated by the principle that income alone cannot faithfully reflect the basic dimensions of human development. Income is a means toward human development, not an *end*.

An extended time-series of the HDI at the subnational level is made available here for the first time, making it possible to assess longer-term human development gains and losses in specific geographical areas. The Gender-related Development Index (GDI), whose estimation has been adjusted following the new HDI method, will also be discussed.

The UNDP introduced two new measures in the

Figure 2.3 Relationship between per capita income growth and change in HDI (1997-2009)

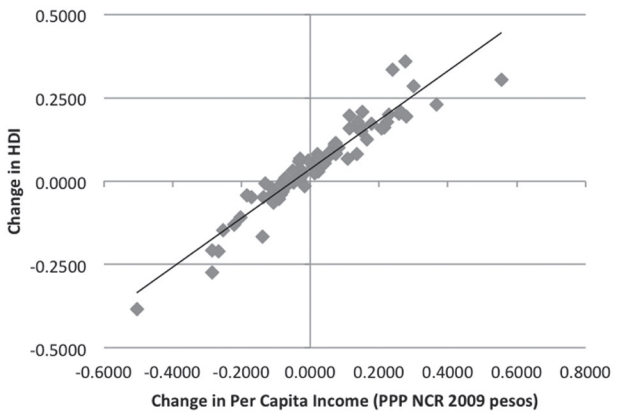
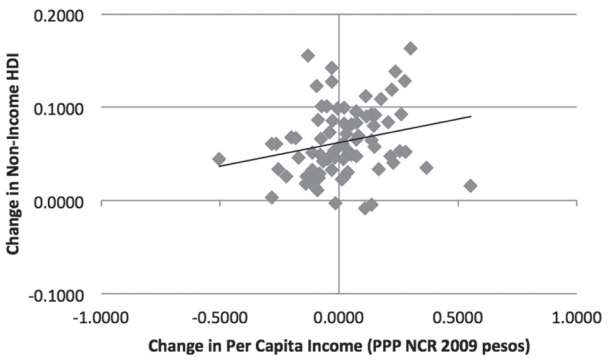


Figure 2.4 Relationship between per capita income growth and change in non-income HDI (1997-2009)



global *Human Development Report* of 2010. The first is called the Inequality-adjusted Human Development Index or IHDI. Only the 2009 figures for IHDI are reported in this chapter owing to data limitations associated with one of the components.

The second measure, the Gender Inequality Index (GII), is meant to replace the GDI. Unfortunately, however, it has not been possible at this time to produce province-level estimates for the GII because data are unavailable for several components. Instead, suggestions will be made regarding how this new measure can be adapted for computation in the Philippines.

Changes to the estimation of the human development index reflect improved understanding and better information in data collection and statistical methods. In this chapter, as in the past volumes of the PHDR, the HDI has been estimated taking into account updates in the method of computation. As already noted in *PHDR 2008/2009*, there were also changes in 2003 with the data collection for the Family Income and Expenditure Survey (FIES), which is the dataset used for estimating incomes, one of the components that make up the HDI, at the provincial level.

Income growth and human development

Before discussing the performance of the provinces over the period covered, we first look at the usefulness of using the HDI as an alternative measure for the well-being of nations compared to per capita income.

It is tempting to presume that since income is a component of the HDI, and because health outcomes and education often vary with income, then the two measures are very closely correlated and therefore little additional information can be obtained from the composite index. **Figure 2.1** indeed shows a strong correlation between provincial per capita income in constant NCR 2009 pesos plotted on the horizontal axis and provincial HDI plotted on the vertical axis. Removing income from the HDI and plotting that against per capita income also shows a strong correlation, though with greater variation, as shown in **Figure 2.2**. **Figure 2.3** also shows a strong relationship between changes in per capita income and changes in HDI.

But this is as far as strong correlations go. Once the comparison is made between *changes* in income with *changes* in non-income HDI, practically no correlation can be found [**Figure 2.4**].

This last result is consistent with studies reported in the *2010 Human Development Report* showing weak

association between income growth and other changes in the quality of life indicators such as health, education, and political freedoms, or with the Millennium Development Goals [Easterly 1999; and Bourgignon et al. 2008 as cited in UNDP 2010]. In other words, the HDI data of the Philippine provinces behave similarly with those of the rest of the world.

The *2010 HDR* looked separately at health and education and explained the absence of an association. The drivers for health achievements are typically due to technological innovations [UNDP 2010]. In the Philippines, increases in average life expectancy are partly explained by declines in mortality rates that are due to improvements in health status. There has been a slow decline in infant mortality rates and maternal mortality rates as well as a decline in the prevalence of communicable diseases, although noncommunicable diseases appear to be on the rise [Romualdez et al. 2011].

Educational achievements around the world may also be due to changing social ideals, parents' aspirations for their children, as well as the massive expansion of public education [UNDP 2010]. Mass education was introduced in the Philippines during the first half of the 20th century even before the country received political independence. This long history has inculcated "a deep regard" for education [DepEd 2008] both among households and in political discourse. This is arguably one reason that the country's educational achievements were for many years precociously sustained notwithstanding diminished economic performance.

In the last few decades, however, the country's challenge has been one of sustaining that broad access to basic education and improving its quality. Public provisioning, which is affected by revenue, which in turn depends on economic performance, is crucial to the expansion and increase in the quality of education. Even so, significant leads and lags can be expected before purely economic factors affect non-income aspects of HDI.

Progress and variability in provincial HDIs and their components

Maps 15 to 18 provide an overview of the geographical distribution of the HDI and its components for 2009. For the HDI, provinces with high human development (> .799) are in green, those with medium human development (0.500 to 0.800) in yellow, and those with low human development (<0.500) in red. For component indices—Life expectancy, Education and Income—provinces with very high scores have the darkest colors while those with the lowest scores have the lightest colors.

Before discussing the progress in provincial HDIs as a whole, it is useful first to discuss their progress with respect to the individual components of HDI in order to gain an insight into underlying trends.

Life expectancy index by province shows a stable upward trend promising sustained progress in the future [**Figure 2.5**]. Only Zambales and Surigao del Norte regressed in this component.

For Zambales, the biggest drop occurred between 1997 and 2000, going down from 68.7 years to 66.4 years.3 Since 2000, however, Zambales has slowly but steadily improved in life expectancy going up to 68.3 in 2009. If this trend continues, then the province should soon recover its 1997 level.

Surigao del Norte's story is similar, but its rate of recovery has been much slower. In 1997 life expectancy in Surigao del Norte was 66.8 years; in 2000 it dropped to 64 years.[4] This slightly improved to 64.1 years in 2003 and to 64.4 years by 2009, but Surigao del Norte still has far to go before it can recover its life expectancy in 1997.

Several provinces saw declines in the life expectancy index between 1997 and 2000, but their recoveries were rapid because these declines were minimal. The largest gainers were Misamis Occidental (61.1 percent), Cagayan (55.8 percent), Zamboanga del Norte (53.2 percent), Benguet (53.0 percent), La Union (49.0 percent), Cavite (46.8 percent), Isabela (46.5 percent), Bukidnon (45.9 percent), Sorsogon (45.1 percent), and Albay (43.9 percent) [**Table 2.1**].

Table 2.2 lists provinces in the top and bottom 10 of the life expectancy index for 1997 and 2009 showing

the life expectancy at birth in years. In 1997, Pampanga showed the highest life expectancy (71.9 years), followed by Batangas (71.0), Bulacan and Rizal (70.1), Ilocos Norte and La Union (70.0), Nueva Ecija and Cebu (69.8), and Cavite (69.3). (By comparison, it was 68.8 for Metro Manila.)

New provinces appeared on the top 10 list for 2009. This time it was La Union with the highest life expectancy (76.4 years), followed by Cavite (75.8), Misamis Occidental (75.4), Benguet (74.8), Bulacan (74.6) Camarines Sur and Ilocos Norte (74.6), Cagayan (74.3), Isabela (73.8), and Sorsogon (73.7).

The bottom 10 provinces in 1997 were Ifugao (59.8), Surigao del Sur (59.7), Western Samar (59.6), Mt. Province (59.4), Kalinga (59.2), Basilan (58.9), Lanao del Sur (53.8), Maguindanao (52.4), Sulu(49.0), and Tawi-Tawi (46.8). In 2009, almost the same set of provinces were in the bottom 10, except for Surigao del Sur and Western Samar, which were replaced by Apayao and Palawan. The bottom 10 provinces were Mt. Province (63.7), Apayao (63.5), Palawan (63.2), Basilan (62.7), Kalinga (62.6), Ifugao (61.7), Lanao del Sur (59.7), Maguindanao (58.5), Sulu (56.8), and Tawi-Tawi (53.6).

Improvements in life expectancy are noteworthy, considering that total health expenditure even fell slightly as a share of gross national product between 2005 and 2007, from 3.4 percent to 3.2 percent, according to the Philippine National Health Accounts produced by the NSCB. Private sources of funds constitute most of health spending with out-of-pocket expenditures increasing their share from 49.2 percent in 2005 to 54.3 percent in 2007. But part of this trend could also reflect improvements in the direction and utilization of health funds.

The education index also shows improvements for most provinces but with greater variability than life expectancy [**Figure 2.6**]. Twenty-two provinces fared more poorly in 2009 than in 1997. The 10 that experienced the biggest declines were Tawi-Tawi (down 60.3 percent), Maguindanao (57.9 percent), Zamboanga del Norte (55.5 percent), Sulu (50.4 percent), Lanao del Sur (32.9 percent), Catanduanes (30.5 percent), Mt. Province (28.3 percent), Sultan Kudarat (27.7 percent), Capiz (25.5 percent), and Ifugao (22.4 percent) [**Table 2.3**]. The HDI for Catanduanes, North Cotabato, Capiz, Ifugao, and Mt. Province increased during this period despite the declines in their education index as both the mean years of schooling and the expected years of schooling in these provinces decreased during the period covered.

At the other end of the performance scale, the largest gainers were Batanes (100.0 percent), Benguet (74.1 percent), Bohol (37.3 percent), Siquijor (35.0 percent), La Union (33.3 percent), Eastern Samar (33.3 percent), Nueva Vizcaya (29.9 percent), Lanao del Norte (29.8 percent), Bataan (29.6 percent), and Camiguin (28.5 percent). These provinces already had high levels of educational achievement in 1997.

Benguet's performance is especially notable when compared to its neighboring provinces, Ifugao and Mt. Province, that saw losses in educational achievements. Benguet's expected years of schooling for 2008 at 14 years surpassed even Metro Manila's expected years of schooling at 12.9 years (which was lower than its value in 1998 at 13.2 years).

Per capita incomes do not correlate with mean years of schooling in Philippine data, a result consistent with global results [UNDP 2010]. However, household surveys such as the Annual Poverty Income Survey (APIS) indicate that in 2004 and 2007, the high cost of education and the affordability of schooling expenses were among the most frequently cited reasons for 6- to 17-year-old children dropping out before completing high school [Alba 2010]. Income shocks also contributed to children dropping out of school [Albert et al. 2012].

The lack of access to quality educational services, especially publicly provided ones, can also explain poor educational achievements of the country [World Bank and AusAID 2012; Albert et al. 2012; and Alba 2010]. Differences in performance across provinces must be studied in greater detail, since most analyses of the education sector are undertaken at the national level. While some studies point to regional differences, efforts to explain these are not undertaken in detail, except for broad statements about the extent of poverty or the presence of armed conflict in a particular region.

In relation to fiscal decentralization, the activities of local government units for the education sector are limited to those undertaken by the Local School Board that manages the portion of real estate tax collection earmarked for education, so that responsibilities

for public provisioning clearly lie with the national government [Diokno 2012].

Figure 2.7 shows trends of the income index across provinces, and the variability in the performance of this component can be clearly seen, while **Table 2.4** shows gainers and losers for the income index. Almost half of the provinces saw their income indices decline between 1997 and 2009. The largest drops in income index were in Batanes (down 182.7 percent), Tawi-Tawi (45.0 percent), Rizal (31.0 percent), Laguna (19.2 percent), Basilan (19.2 percent), Quezon (15.9 percent), Zamboanga del Norte (15.0 percent), Batangas (13.1 percent), Maguindanao (13.0 percent), and Davao Oriental (12.6 percent).

The juxtaposition of some of the poorest and some of the richest provinces may at first appear paradoxical. The large declines for the troubled Mindanao provinces are particularly disconcerting considering their levels of income in 1997 were already low to begin with. On the other hand, these are more readily comprehensible because of perennial problems of conflict and human insecurity in these areas [HDN 2005].

By contrast, the drops in index for Rizal, Laguna, and Batangas—already among the top 10 provinces with the highest income indexes in 1997—may involve more complex factors. First, drops in the indices of relatively well-off regions may well have been exacerbated by their greater exposure to deep global financial crisis and recession beginning in late 2008. Balisacan et al. [2010] point to large output declines in the manufacturing sector owing to the global economic crisis, which affected Metro Manila and surrounding provinces where industrial concentration is greatest. Further relevant factors include the increase in population in those provinces, as commercial and industrial activities attract migrants, and the higher-than-average rise in prices they experience.

On the other hand, the largest gainers over the 12-year period were Benguet (37.0 percent), Biliran (27.3 percent), Catanduanes (18.6 percent), Nueva Vizcaya (18.0 percent), Cagayan (16.7 percent), Quirino (16.2 percent), South Cotabato (15.5 percent), Occidental Mindoro (11.6 percent), Aurora (11.5 percent), and Leyte (11.3 percent). Several of these top performers also began with low values in 1997 but managed to post large gains over the same period despite economic crises.

The variability in provincial income indices partly reflects how the effects of the crises have been distributed across the country or, conversely, how some provinces may have been shielded from them. It is very difficult to attribute effects with precision, however, without further investigation of the distributional consequences of economic crises in the Philippines. Existing studies often look at the effects of crises on household income distribution. Provinces are seldom, if ever, a unit of analyses.

The overall impact of these differing levels of achievement on education, health, and purchasing power across provinces is reflected by the HDI. **Figure 2.8** shows a line graph of all 78 provinces with HDIs computed at three-year intervals between 1997 and 2009. Definite progress will be noted, but there is no clear upward path for all provinces. Instead, high variability in provincial performance is observed during the period covered. The path to progress varies, and not all succeed in sustaining their levels of human development.

Figure 2.9 shows different groups of provinces. Each group started at nearly the same level of human development in 1997, but the figures show how their paths diverged, with provinces ending up at widely different levels of human development 12 years later.

Twenty-five of the 78 provinces saw their HDI levels in 2009 fall below their 1997 levels. The 10 showing the biggest losses were Tawi-Tawi (38.9 percent), Zamboanga del Norte (19.5 percent), Maguindanao (19.2 percent), Batanes (19.0 percent), Basilan (17.2 percent), Davao Oriental (17.2 percent), Rizal (16.4 percent), Quezon (16.2 percent), Aklan (11.4 percent), and Batangas (9.6 percent). Declines in HDI were due mostly to declines in the income and education components of the index [**Table 2.5**].

The rest of the provinces showed gains. The largest improvements were registered in Benguet (46.0 percent), Biliran (28.4 percent), Cagayan (27.7 percent), Nueva Vizcaya (22.5 percent), Catanduanes (22.4 percent), Quirino (21.6 percent), South Cotabato (20.4 percent), Aurora (20.0 percent), Bohol (19.8 percent), and Eastern Samar (17.0 percent). The good results were due to improvements in life expectancy and income. This is especially true for Biliran and Catanduanes, where declines in their education index were clearly offset by

improvements in the two other components of HDI, even using a geometric mean that limits these compensatory changes.

In 1997, the top 10 provinces were Batanes (0.822), Rizal (0.772), Benguet (0.721), Laguna (0.710), Cavite (0.690), Batangas (0.665), Bataan (0.662), Bulacan (0.657), Pampanga (0.650), and Zambales (0.629) [**Table 2.6**]. These provinces had high levels of achievement in life expectancy and in education.

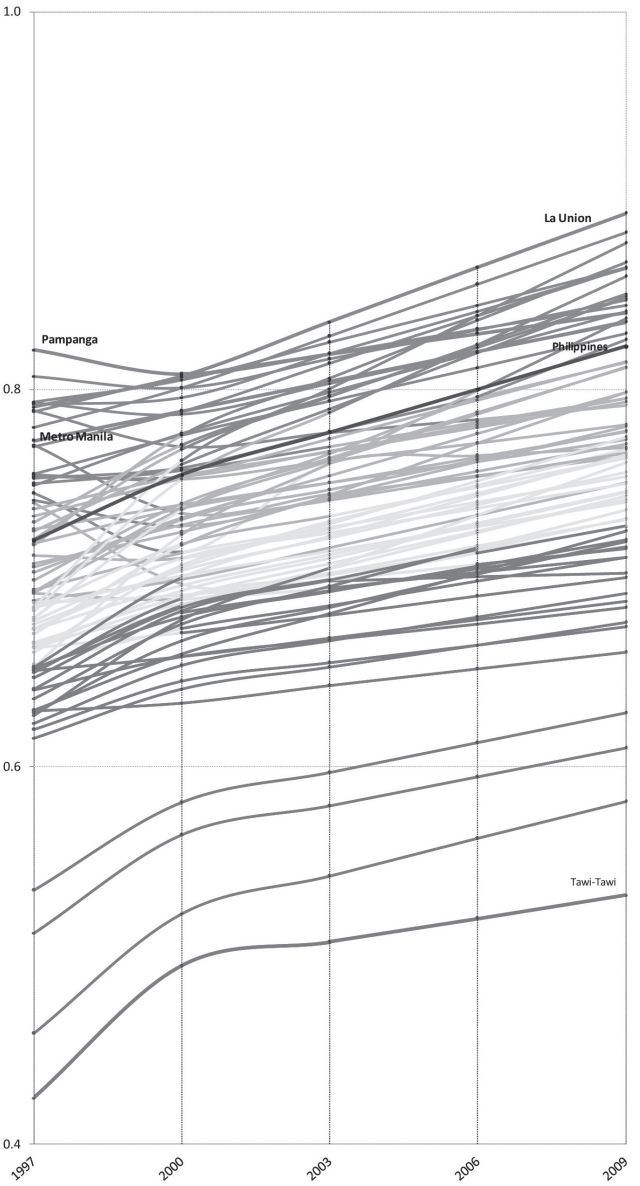
In 2009 the list of top provinces remained almost the same except for two changes [**Table 2.7**]. The top-ranked province was Benguet with an HDI of 0.849, followed by Batanes (0.789), Rizal (0.734), Cavite (0.709), Bulacan (0.699), Bataan (0.698), Laguna (0.695), two new entrants, Nueva Vizcaya (0.678) and Ilocos Norte (0.641), and Pampanga (0.634). These provinces also showed high levels of achievement in the health and education components of the HDI.

The bottom 10 provinces in 1997 had HDIs comparable to countries in the global report with low human development. These were Mt. Province (0.411), Siquijor (0.407), Sarangani (0.378), Agusan del Sur (0.369), Romblon (0.363), Northern Samar (0.357), Bohol (0.354), Masbate (0.340), Eastern Samar (0.338), and Sulu (0.318). For 2009, a different set of provinces was found at the bottom. These were Romblon (0.428), Lanao del Sur (0.416), Masbate (0.406), Zamboanga del Norte (0.384), Sarangani (0.371), Davao Oriental (0.356), Agusan del Sur (0.354), Tawi-Tawi (0.310), Maguindanao (0.300), and Sulu (0.266).

Both sets of provinces at the bottom in 1997 and 2009 showed very poor performance in the income component of the HDI even as their health and education components can be considered of medium-level achievement. Sulu's HDI of 0.266 was almost as bad as those of Niger (0.261), Democratic Republic of Congo (0.239), and Zimbabwe (0.140). The HDI values of Philippine provinces traversed almost the entire range of HDI values found in the global reports.

The changes in the HDI ranking between 1997 and 2009 are captured in [**Figure 2.10**]. A province's rank in 2009 is indicated by the filled dot and the rank in 1997 by the hollow dot. The closer a dot is to zero, the higher the rank. If the filled dot is above the hollow dot, then the province's rank in 2009 is lower than its rank in 1997.

Figure 2.5 Life expectancy index by province (1997-2009)



Half of the provinces saw their rank worsen in 2009. Sulu was the only province that did not change ranks, only because it was the bottom province in 1997 and still was in 2009. The rest of the provinces saw their HDI rank improve over the 12 years covered by this chapter.

Economic crises demonstrate the volatility of income growth as a measure of progress. There is also the difficulty of translating incomes into outcomes, of which there are multiple channels dependent on a variety of factors such as institutional structures, revenue generation capacity, spending patterns, opportunity

Table 2.1 Largest gainers and losers in life expectancy index between 1997 and 2009

Life expectancy index	1997	2009	Gap improvement (%)
Largest gainers			
Misamis Occidental	0.685	0.877	61.1
Cagayan	0.682	0.860	55.8
Zamboanga del Norte	0.653	0.837	53.2
Benguet	0.717	0.867	53.0
La Union	0.791	0.893	49.0
Cavite	0.780	0.883	46.8
Isabela	0.721	0.851	46.5
Bukidnon	0.679	0.826	45.9
Sorsogon	0.725	0.849	45.1
Albay	0.729	0.848	43.9
Largest losers			
Zambales	0.771	0.764	-2.8
Surigao del Norte	0.740	0.702	-14.3

Table 2.2 Top and bottom provinces in life expectancy (1997 and 2009)

Top provinces	Life expectancy at birth (years) 1997	Top provinces	Life expectancy at birth (years) 2009
Pampanga	71.9	La Union	76.4
Batangas	71.0	Cavite	75.8
Bulacan	70.1	Misamis Occidental	75.4
Rizal	70.1	Benguet	74.8
Ilocos Norte	70.0	Bulacan	74.6
La Union	70.0	Camarines Sur	74.6
Nueva Ecija	69.8	Ilocos Norte	74.6
Cebu	69.8	Cagayan	74.3
Cavite	69.3	Isabela	73.8
Zambales	68.7	Sorsogon	73.7
Bottom provinces	**Life expectancy at birth (years) 1997**	**Bottom provinces**	**Life expectancy at birth (years) 2009**
Mt. Province	63.7	Ifugao	59.8
Apayao	63.5	Surigao del Sur	59.7
Palawan	63.2	Western Samar	59.6
Basilan	62.7	Mt. Province	59.4
Kalinga	62.6	Kalinga	59.2
Ifugao	61.7	Basilan	58.9
Lanao del Sur	59.7	Lanao del Sur	53.8
Maguindanao	58.5	Maguindanao	52.4
Sulu	56.8	Sulu	49.0
Tawi-Tawi	53.6	Tawi-Tawi	46.8

sets, and even the weather. Human development and the capabilities approach compel us to look directly at what matters. The HDI values range over a broader set of indicators beyond what income has to offer and permit an appreciation of progress defined by fundamental requirements of human life.

Progress can also be assessed by undertaking a comparison of provincial ranking revealing how some provinces managed to achieve high human development outcomes without having high levels of income. **Figure 2.11** shows a comparison of provincial ranking in HDI with per capita income (PCI) rank. The filled dot represents the HDI rank of the province and the hollow dot the per capita income rank of the province in 2009. The closer to zero the dot is, the higher the rank of the province. If the filled dot is above the hollow dot, then the HDI rank is lower than the per capita income rank. The provinces are ordered according to the rank difference between PCI rank and HDI rank.

Thirty-five provinces had an HDI rank lower than their per capita income rank in 2009. That is, these provinces performed better when the basis of comparison was per capita income.

Thirty-three provinces had an HDI rank higher than their per capita income rank in 2009. For these provinces relative achievements were better when comparison was based on the HDI. These provinces can be said to be achieving progress with a bias for human development.

More than half of these 33 provinces had per capita income ranks below the median, which means these provinces had very low per capita incomes. Despite this low level, they were able to outperform other provinces because they achieved more in the health and education components of the HDI. Twelve provinces did not change their ranks.

A final comparison to be made is of the growth

Figure 2.6 Education index by province (1997-2009)

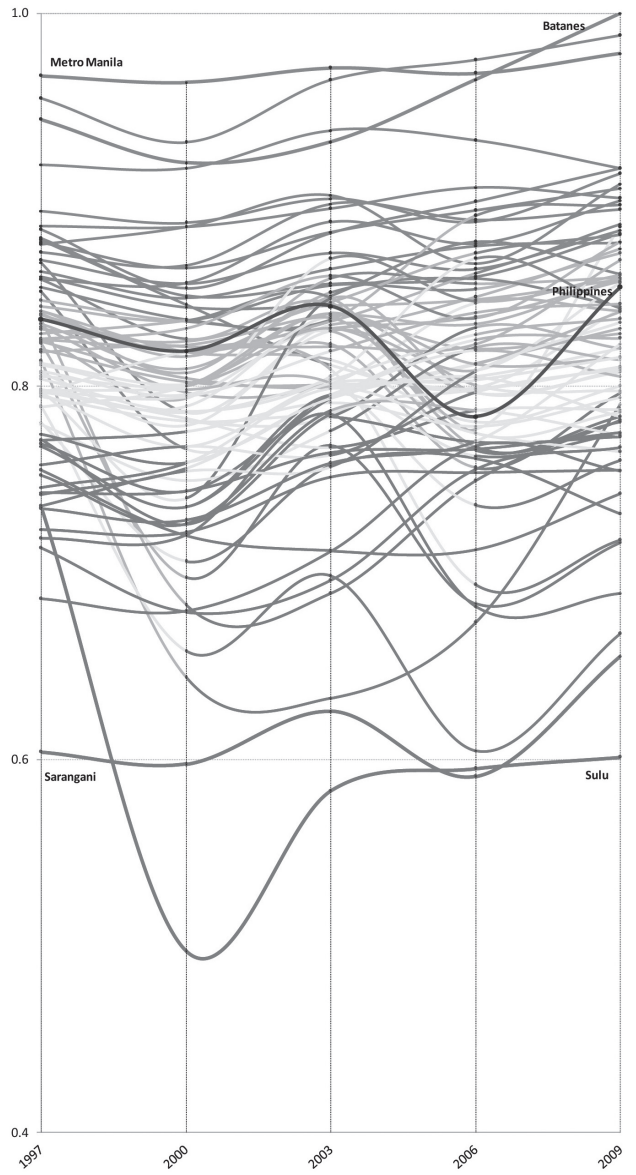


Table 2.3 Largest gainers and losers in education index between 1997 and 2009

Education index	1997	2009	Gap improvement (%)
Largest gainers			
Batanes	0.943	1.000	100.0
Benguet	0.954	0.988	74.1
Bohol	0.736	0.834	37.3
Siquijor	0.796	0.868	35.0
La Union	0.846	0.897	33.3
Eastern Samar	0.734	0.823	33.3
Nueva Vizcaya	0.830	0.881	29.9
Lanao del Norte	0.825	0.878	29.8
Bataan	0.857	0.900	29.6
Camiguin	0.884	0.917	28.5
Largest losers			
Ifugao	0.781	0.731	-22.4
Capiz	0.840	0.800	-25.5
Sultan Kudarat	0.828	0.781	-27.7
Mt. Province	0.866	0.828	-28.3
Catanduanes	0.878	0.841	-30.5
Lanao del Sur	0.836	0.782	-32.9
Sulu	0.735	0.601	-50.4
Zamboanga del Norte	0.818	0.717	-55.5
Maguindanao	0.789	0.667	-57.9
Tawi-Tawi	0.823	0.716	-60.3

trends of HDI and per capita income between 1997 and 2009. The comparison of trends provides us with a sense of trajectories for the provinces over 12 years.

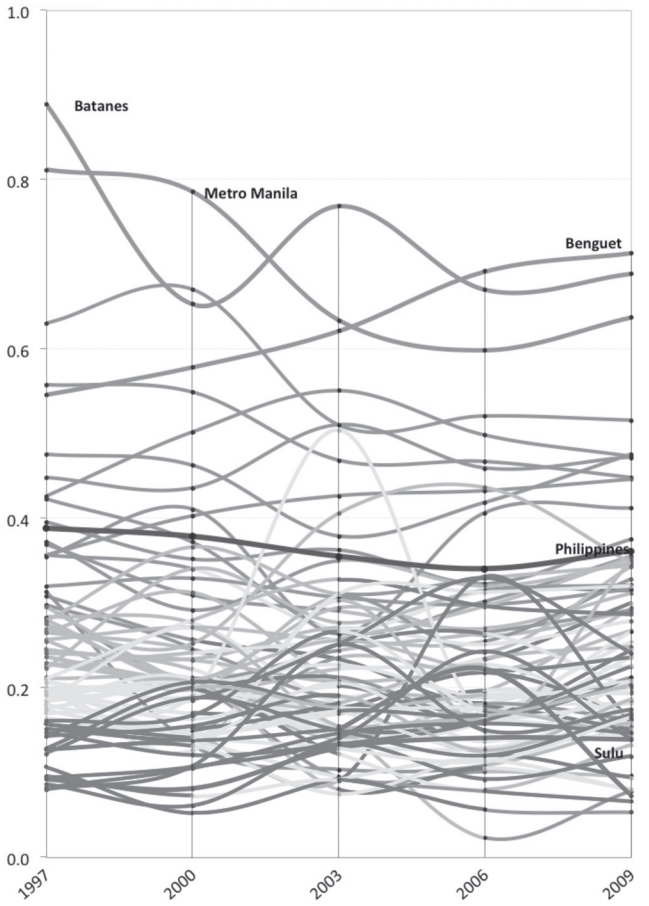
Following Ranis et al. [2000], we classify provinces into four types according to the combination of HDI growth and income growth. Provinces with HDI growth coupled with income growth may benefit from a virtuous cycle of development, where income and human development reinforce each other.

Where income has declined along with human development, however, provinces are said to be experiencing a vicious cycle of development. Provinces where per capita income grew but exhibited poor HDI performance are said to have a lopsided development in favor of income growth. Provinces where human development improved but saw per capita income decline have a biased progress in favor of human development. **Figure 2.12** plots the provinces accordingly, and a quadrant can be drawn with the origin located at the values of the national average per capita income growth (-4.3 percent) and HDI growth (4.5 percent). **Table 2.8** provides the list of provinces in each type.

Table 2.4 Largest gainers and losers in income index between 1997 and 2009

Income index	1997	2009	Gap improvement (%)
Largest gainers			
Benguet	0.547	0.714	37.0
Biliran	0.192	0.412	27.3
Catanduanes	0.201	0.350	18.6
Nueva Vizcaya	0.356	0.472	18.0
Cagayan	0.226	0.356	16.7
Quirino	0.255	0.376	16.2
South Cotabato	0.223	0.343	15.5
Occidental Mindoro	0.170	0.266	11.6
Aurora	0.270	0.354	11.5
Leyte	0.210	0.300	11.3
Largest losers			
Davao Oriental	0.184	0.081	-12.6
Maguindanao	0.174	0.066	-13.0
Batangas	0.424	0.348	-13.1
Zamboanga del Norte	0.213	0.094	-15.0
Quezon	0.298	0.186	-15.9
Basilan	0.314	0.182	-19.2
Laguna	0.559	0.474	-19.2
Rizal	0.631	0.516	-31.0
Tawi-Tawi	0.364	0.078	-45.0
Batanes	0.890	0.690	-182.7

Figure 2.7 Income index by province (1997-2009)



Forty-two provinces can be said to have gone through a virtuous cycle of progress. Meanwhile, 27 provinces had the opposite experience undergoing a vicious cycle. The stronger the links between economic growth and human development, the more pronounced the positive or negative cycles tend to be based on analysis of country-level data [Ranis et al. 2000].

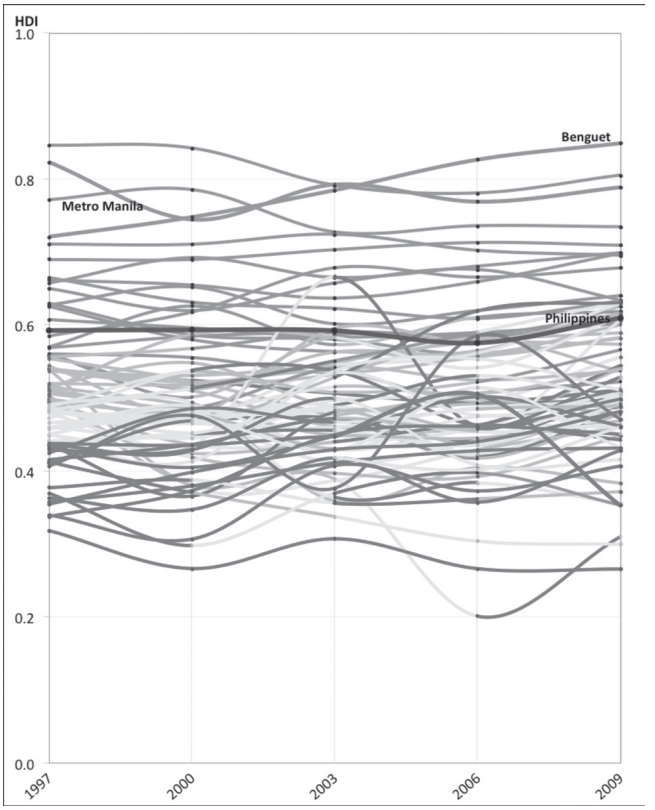
Eight provinces saw performance that was lopsided for income growth, and no province had a lopsided performance for human development. In these last two sets of provinces, linkages may be weak. In provinces with good income growth, there is likely to be difficulty translating means into outcomes.

It will be particularly important to determine how increases in household incomes can support public spending to improve human development outcomes.[5] Although none of the provinces showed lopsided performance in favor of human development, Ranis et al. [2000] found that in countries where human development is high, complementary resources that facilitate income growth may not be present. This latter group emphasizes the possibility of improving human development outcomes even when income performance is poor. Indeed, the paths to progress are varied.

Two questions follow. Can such growth paths be sustained? How does a province move from any of the three quadrants experiencing one or a combination of declines toward a virtuous cycle of development?

Again, following Ranis et al. [2000], the 12-year

Figure 2.8 Human Development Index by province (1997-2009)



period is split into two medium-term periods of six years each: from 1997 to 2003 and from 2003 to 2009. Provinces are classified accordingly, and the movements between quadrants can be noted.[6] Table 2.8 gives the list of provinces by type of improvement in each period.

Ten provinces—Agusan del Norte, Benguet, Biliran, Bohol, Cagayan, La Union, North Cotabato, Occidental Mindoro, Quirino, and South Cotabato—stayed within the virtuous quadrant from first period to the second period. These provinces sustained their virtuous progress. Five provinces—Agusan del Sur, Batanes, Maguindanao, Misamis Occidental, and Tawi-Tawi—stayed within the vicious quadrant throughout the two periods. Another five provinces—Camarines Norte, Lanao del Norte, Mt. Province, Surigao del Norte, and Western Samar—remained in the PCI-lopsided quadrant displaying continuous per capita income growth for both periods. There were no provinces in the HD-lopsided quadrant for both periods.

There are provinces whose performance needs to be understood better. One group comprises 11 provinces[7] that began with a virtuous cycle of progress that turned into a vicious cycle in the second period. Two provinces, Pampanga and Sulu, began with a PCI-lopsided progress in the first period, and moved into a vicious cycle by the second period. This result is consistent with Ranis et al. [2000] where all countries that had a PCI-lopsided cycle were unable to sustain this performance over the longer term.

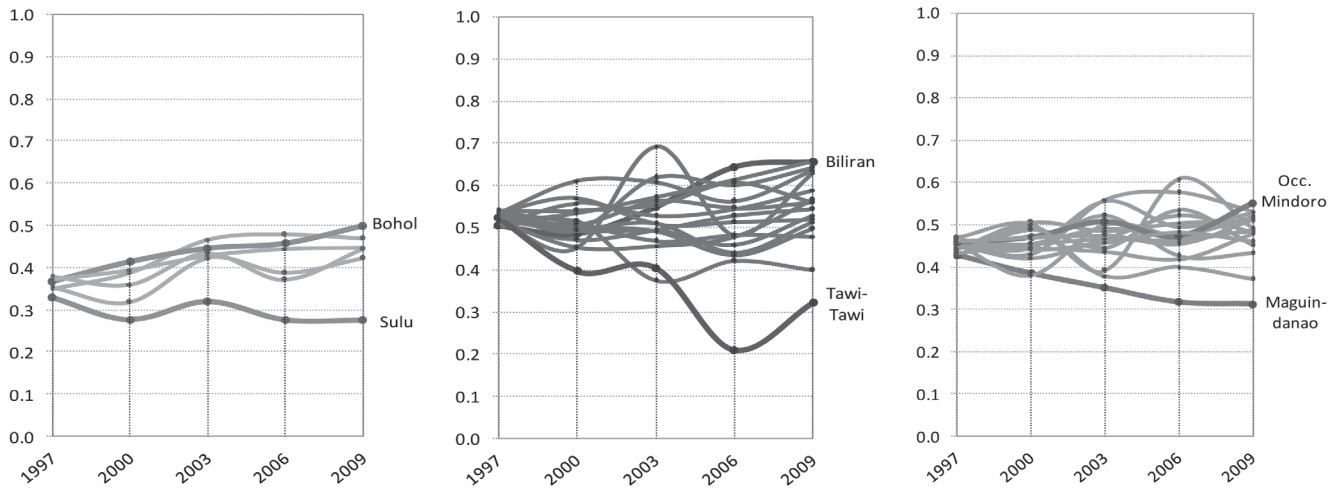
Another group of provinces ended up in the PCI-lopsided quadrant during the second period coming from outside of it in the first period. Eight provinces—Albay, Cavite, Isabela, Masbate, Northern Samar, Romblon, Sorsogon, and Southern Leyte—saw their human development achievements deteriorate even as they sustained their per capita income growth. Meanwhile, the provinces of Abra, Camiguin, Catanduanes, Davao del Norte, Eastern Samar, Ifugao, Laguna, Lanao del Sur, Negros Occidental, Nueva Vizcaya, and Tarlac seemed to encounter difficulty in converting means into sustainable achievements in human development.

On the other hand, 11 provinces saw an improvement, starting from the vicious cycle quadrant and seeing growth in per capita income in the second period. These were Aklan, Antique, Batangas, Davao Oriental, Nueva Ecija, Oriental Mindoro, Palawan, Quezon, Rizal, Sarangani, and Zamboanga del Norte.

The third group is composed of provinces that found themselves in the virtuous cycle quadrant in the second period. Nine provinces—Aurora, Bulacan, Camarines Sur, Capiz, Cebu, Iloilo, Leyte, Pangasinan, and Zamboanga del Sur—moved from the PCI-lopsided quadrant in the first period to the virtuous quadrant in the second period. This movement appears to indicate an ability to use incomes to support human development achievements.

Even more impressive is the performance of 12 provinces that began in the vicious cycle quadrant in the first period and managed to move to the virtuous quadrant in the second period. Moving from vicious to virtuous was extremely rare in the cross-country analysis by Ranis et al. [2000]. When seen in combination with the reverse movement from the virtuous quadrant to the vicious quadrant (involving 11 provinces) discussed earlier, questions must be raised on the leaps made by a

Figure 2.9 Different paths from similar starting points (1997-2009)



considerable number of provinces. Why can the virtuous path not be sustained? What factors contributed to the movement from vicious to virtuous? What is clear at this stage is the volatility of the achievements. Further explorations in-depth are clearly needed.

Provincial GDIs mimic provincial HDI performance

The Gender-related Development Index or GDI accounts for gender-based differences in the human development. It has the same components as the HDI, but the component indices are adjusted for inequality in achievements between males and females. The GDI measures achievements for males and females as well as the disparity in achievements between the two. The greater the disparity in achievements between the sexes, the lower the GDI. Any gender-based inequality suffices to make GDI lower than HDI. In other words, it discounts HDI values for gender-based inequalities.

Refinements in the computation of the GDI were made essentially to align it with the HDI and make the two comparable. The sources of data, differing benchmarks by gender, and the method of computation are discussed in detail in the Technical notes. It also important to note that some data required for the computation of GDI are not available for certain provinces, namely, Apayao, Aurora, Batanes, Camiguin, Capiz, Guimaras, Nueva Vizcaya, Siquijor, Surigao del Sur, and Tawi-Tawi. As a result, these provinces have not been included and do not appear in the GDI rankings.

Figure 2.13 shows a comparison of the provincial ranking of HDI and GDI for 2009. The hollow dot represents the GDI rank of the province while the filled dot represents the HDI rank. If the hollow dot is below the filled, then that province's rank improved, indicating that gender-based inequality is less serious in that province compared to others.

Thirty-six provinces saw an improvement in ranking using the GDI indicating their relatively lower gender-based inequalities. In other words, human development achievements are more evenly distributed between males and females in these provinces. The largest rank improvement was by Sultan Kudarat (up by 13 in the rankings), Abra and Western Samar (12), Surigao del Norte (10), Eastern Samar (9), Bohol (7), Lanao del Sur and Zamboanga del Norte (6), and Iloilo and Northern Samar (5).

There was no change in ranking for seven provinces while the rest saw their provincial rankings go down. The largest drop in ranking was by Basilan and Agusan del Norte (down by 15), followed by Ilocos Norte (14), Compostela Valley (13), North Cotabato (11), Quezon, Oriental Mindoro, and Misamis Occidental (7), and Pangasinan, Davao del Norte, Catanduanes, and Antique (6).

Figure 2.14 shows the GDI trends between 1997 and 2009. Twenty-five provinces saw their GDI in 2009 fall below their 1997 levels. Improvements between 1997

Table 2.5 HDI gainers and losers between 1997 and 2009

HDI rank		Province	Gap improvement			
1997	2009		HDI (%)	Life expectancy index (%)	Education index (%)	Income index (%)
Largest HDI gainers and comparative gap improvements						
3	1	Benguet	46.0	53.0	35.0	18.0
44	13	Biliran	28.4	12.6	-12.9	-8.0
41	12	Cagayan	27.7	55.8	74.1	27.3
14	8	Nueva Vizcaya	22.5	22.5	12.1	0.9
40	20	Catanduanes	22.4	24.7	13.7	1.4
34	17	Quirino	21.6	32.4	20.5	5.0
32	19	South Cotabato	20.4	20.9	9.1	-1.3
28	14	Aurora	20.0	38.8	25.0	8.4
76	53	Bohol	19.8	36.7	23.8	6.8
78	64	Eastern Samar	17.0	27.5	18.8	4.3
Largest HDI losers and comparative gap improvements						
6	11	Batangas	-9.6	20.8	-1.2	-13.1
31	63	Aklan	-11.4	22.8	14.6	-11.7
21	52	Quezon	-16.2	20.5	-12.9	-15.9
2	3	Rizal	-16.4	21.0	-2.8	-31.0
56	74	Davao Oriental	-17.2	38.8	-10.4	-12.6
24	62	Basilan	-17.2	15.9	-12.4	-19.2
1	2	Batanes	-19.0	14.3	100.0	-182.7
69	78	Maguindanao	-19.2	20.1	-57.9	-13.0
43	72	Zamboanga del Norte	-19.5	53.2	-55.5	-15.0
36	77	Tawi-Tawi	-38.9	18.7	-60.3	-45.0

and 2009 were demonstrated by Benguet, which saw GDI levels increase by 44.8 percent, followed by Biliran (31.4 percent), Cagayan (30.1 percent), Northern Samar (25.2 percent), Bohol (19.2 percent), (25.5 percent), Marinduque (19.0 percent), Eastern Samar (18.6 percent), Zamboanga del Sur (15.0%), Quirino (15.0 percent), and Bulacan (15.0 percent). The largest declines in GDI between these two years were exhibited by Basilan (down 35.9 percent), followed by Davao Oriental (20.1 percent), Ilocos Norte (13.9 percent), Oriental Mindoro (12.7 percent), Aklan (11.5 percent), Quezon (11.1 percent), and Zamboanga del Norte (9.2 percent), Antique (8.8 percent), Maguindanao (6.6 percent), and Palawan (6.4 percent). [**Table 2.9**]

Tables 2.10 and 2.11 show the top and bottom provinces for GDI in 1997 and 2009. The top provinces for GDI in 2009 were Benguet (0.800), Rizal (0.700), Laguna (0.667), Bulacan (0.665), Bataan (0.663), Cavite (0.662), Cagayan (0.634), Biliran (0.625), and Iloilo (0.618), and Batangas (0.616). The same provinces were at the top in 1997, except for Bataan, Batangas, Ilocos Norte, and Misamis Oriental. The equally distributed education and life expectancy indices of these provinces were especially high.

The bottom provinces for GDI in 2009 were Basilan (0.313), Agusan del Sur (0.332), Sulu (0.337), Maguindanao (0.348), Davao Oriental (0.356), Compostela Valley (0.358), Zamboanga Sibugay (0.383), Sarangani (0.408), Romblon (0.422), and Masbate (0.424). Six of these provinces were also in the bottom in 1997, except for Camarines Norte, Bohol, Eastern Samar, and Northern Samar. The equally distributed income and education indices of these provinces were relatively much lower bringing the

Table 2.6 HDI top and bottom provinces (1997)

HDI rank		Province	HDI	Life expectancy index	Education index	Income index
1997	2009					
Top provinces						
1	2	Batanes	0.822	0.663	0.943	0.890
2	3	Rizal	0.772	0.793	0.919	0.631
3	1	Benguet	0.721	0.717	0.954	0.547
4	7	Laguna	0.710	0.736	0.872	0.559
5	4	Cavite	0.690	0.780	0.886	0.476
6	11	Batangas	0.665	0.807	0.859	0.424
7	6	Bataan	0.662	0.754	0.857	0.448
8	5	Bulacan	0.657	0.793	0.838	0.426
9	10	Pampanga	0.650	0.821	0.843	0.397
10	23	Zambales	0.629	0.771	0.876	0.370
Bottom provinces						
71	68	Mt. Province	0.411	0.623	0.866	0.128
72	57	Siquijor	0.407	0.688	0.796	0.123
73	74	Sarangani	0.378	0.699	0.604	0.128
74	76	Agusan del Sur	0.369	0.630	0.746	0.107
75	70	Romblon	0.363	0.650	0.797	0.092
76	69	Northern Samar	0.357	0.651	0.743	0.094
77	54	Bohol	0.354	0.749	0.736	0.081
78	72	Masbate	0.340	0.663	0.686	0.086
79	65	Eastern Samar	0.338	0.636	0.734	0.082
80	80	Sulu	0.318	0.459	0.735	0.096

overall value of their respective GDIs down.

Figure 2.15 shows the changes in GDI ranking between 1997 and 2009. The filled dot indicates a province's rank in 2009 and the hollow dot its rank in 1997. The closer the dot is to zero, the higher the rank. If the filled dot is below the hollow, then the province's rank improved between 1997 and 2009.

Thirty-one provinces saw rank improvements between these two years. The biggest improvements were by Biliran (up by 40), Cagayan (32), Marinduque and Bohol (28), Occidental Mindoro (23), Eastern Samar (22), Abra (18), Southern Leyte (17), and Camarines Sur and Northern Samar (16). Meanwhile, 26 provinces saw their ranking fall, led by Basilan (down by 37), Oriental Mindoro (30), Quezon and Aklan (27), Davao Oriental (24), Zamboanga del Norte and Antique (23), Palawan (17), and Ifugao (14).

We can also examine at the performance of the provinces according to each component of the GDI. For life expectancy, most provinces saw improvements in their equally distributed life expectancy indices between 1997 and 2009 [**Figure 2.16**], with 32 provinces seeing increases of more than 20 percent between 1997 and 2009. The 10 provinces with the biggest improvements saw an increase of their equally distributed life expectancy indices by more than 40 percent. These were Zamboanga del Norte (65.6 percent), Cagayan (63.9 percent), La Union (60 percent) Isabela (50 percent), Benguet (47.2 percent), Ilocos Norte (46.8 percent), Western Samar (45.3 percent), Albay (45 percent), Sorsogon (43 percent), and Abra (42.6 percent) [**Table 2.12**].

Table 2.7 HDI top and bottom provinces (2009)

HDI rank		Province	HDI	Life expectancy index	Education index	Income index
1997	2009					
Top provinces						
3	1	Benguet	0.849	0.867	0.988	0.714
1	2	Batanes	0.789	0.711	1.000	0.690
2	3	Rizal	0.734	0.836	0.917	0.516
5	4	Cavite	0.709	0.883	0.901	0.449
8	5	Bulacan	0.699	0.864	0.884	0.446
7	6	Bataan	0.698	0.795	0.900	0.476
4	7	Laguna	0.695	0.793	0.895	0.474
14	8	Nueva Vizcaya	0.678	0.750	0.881	0.472
11	9	Ilocos Norte	0.641	0.864	0.882	0.345
9	10	Pampanga	0.634	0.840	0.871	0.348
Bottom provinces						
66	70	Lanao del Sur	0.416	0.628	0.782	0.146
77	71	Masbate	0.406	0.745	0.754	0.119
43	72	Zamboanga del Norte	0.384	0.837	0.717	0.094
72	73	Sarangani	0.371	0.812	0.655	0.096
56	74	Davao Oriental	0.356	0.812	0.689	0.081
73	75	Agusan del Sur	0.354	0.725	0.765	0.080
22	76	Zamboanga Sibugay	0.353	0.780	0.775	0.073
36	77	Tawi-Tawi	0.310	0.532	0.716	0.078
69	78	Maguindanao	0.300	0.610	0.667	0.066
79	79	Sulu	0.266	0.582	0.601	0.054

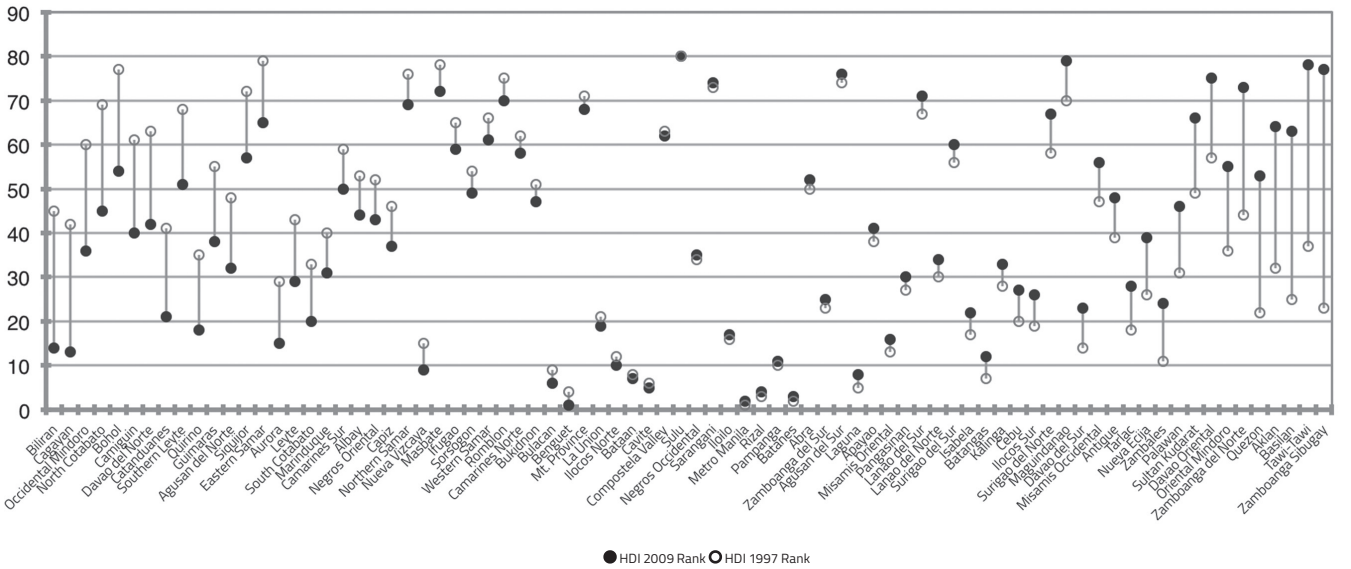
Only eight provinces saw declines, of which Palawan had the biggest, dropping by 16.4 percent. The other provinces were Pangasinan (down 7.7 percent), Nueva Ecija (7.6 percent), Ifugao (6.1 percent), Davao del Sur (5.6 percent), Agusan del Norte (2.3 percent), Quezon (0.5 percent), and Tarlac (0.4 percent).

Meanwhile, 20 provinces saw declines in their equally distributed education indices [**Figure 2.17**], where it will be recalled that women on the national average had the advantage. The largest declines were in Maguindanao (down 61.3 percent), Zamboanga del Norte (57.6 percent), Sulu (52.6 percent), Catanduanes (42.8 percent), Mt. Province (35 percent), Lanao del Sur (31.8 percent), Sultan Kudarat (31 percent), Ifugao (23.9 percent), North Cotabato (20.5 percent), and Quezon (14.3 percent) [**Table 2.13**].

Mean years of schooling among males declined between 1997 and 2009 in these provinces except for Mt. Province and Catanduanes. Female achievements in mean years of schooling also declined, except for Catanduanes. Expected years of schooling for males in these provinces also decreased during this period except in Lanao del Sur. Females also saw a decrease in their expected years of schooling. There was no change in Ifugao and Catanduanes, and there was an increase in Lanao del Sur and Sulu.

Mean years of schooling for females were higher than males even in the bottom provinces, but the gap was getting smaller, except in Zamboanga del Norte where the female advantage became bigger. In Sulu males had the advantage

Figure 2.10 HDI rank by province 1997 and 2009



in mean years of schooling while Maguindanao showed equality between the two sexes. Both instances deviated from the average phenomenon where females normally had the advantage on this measure.

In Lanao del Sur and Mt. Province, the advantage switched from males to females between 1997 and 2009. Females had the advantage in expected years of schooling in all these provinces, with the female advantage becoming smaller in Quezon, North Cotabato, Lanao del Sur, Zamboanga del Norte, and Maguindanao. Meanwhile, the female advantage in expected years of schooling increased in Ifugao, Sultan Kudarat, and Mt. Province. In Catanduanes and Sulu, the advantage that males had in 1997 was lost so that females in 2009 had higher expected years of schooling.

Improvements in the equally distributed education index between 1997 and 2009 were registered in Benguet (87.6 percent), Bohol (38.2 percent), Eastern Samar (33.5 percent), Lanao del Norte (30.6 percent), Bataan (30.2 percent), Bulacan (29.4 percent), Marinduque (28.5 percent), and Iloilo (26.1 percent) [Table 2.13]. Mean years of schooling increased for both males and females between 1997 and 2009. Expected years of schooling also increased for these provinces, except for Iloilo. Expected years of schooling for females increased only for Bohol, La Union, and Eastern Samar.

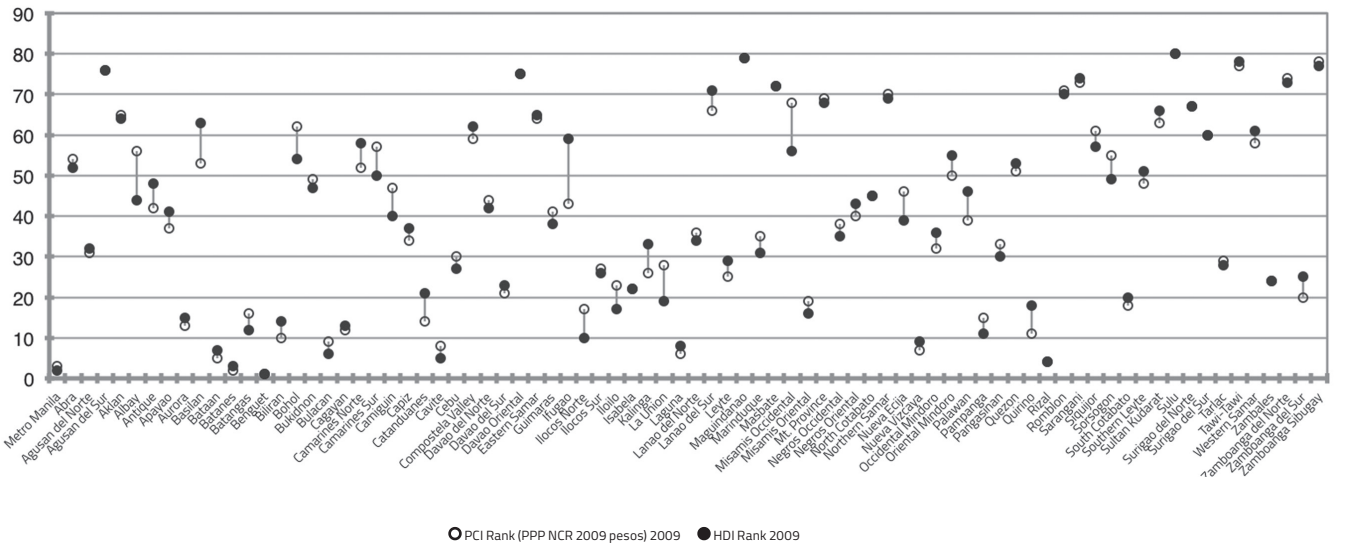
In seven of these provinces, the advantage in mean years of schooling switched from males to females between 1997 and 2009. In Bohol and La Union, however, the switch was the reverse: from female advantage in 1997 to male advantage in 2009. As for expected years of schooling, females retained their advantage over males during the period but with a smaller gap. In Lanao del Norte and Bulacan, the female advantage in expected years of schooling was lost although the gap between the two sexes was now smaller.

Higher achievements for females in mean years of schooling must be further assessed as to whether these achievements help these provinces achieve other human development outcomes as implied in the work of Ranis et al. [2000]. Then there is the issue, yet again, of sustaining these achievements over the long run.

Finally, consider the equally distributed income index shown in **Figure 2.18**. Thirty provinces saw this index in 2009 fall below their 1997 levels. The largest declines were by Basilan (down 24.7 percent), Ilocos Norte (19 percent), Aklan (13.5 percent), Davao Oriental (13.2 percent), Oriental Mindoro (11.3 percent), Zamboanga del Norte (10.9 percent), Antique (10.7 percent), and Misamis Oriental (8.8 percent). These declines are not as large as the declines in the equally distributed education index, however, or the declines in the equally distributed life expectancy index [**Table 2.14**].

Provinces with the largest improvements in the

Figure 2.11 Rank comparisons of HDI and per capita income (2009)

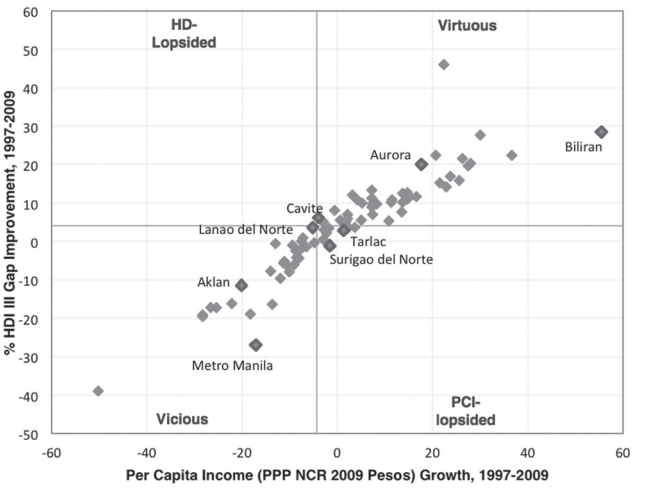


equally distributed income index were Benguet (36.5 percent), Biliran (27.4 percent), Cagayan (17.8 percent), Northern Samar (13.4 percent), Marinduque (11.5 percent), South Cotabato (11.1 percent), Zamboanga del Sur (11.1 percent), Occidental Mindoro (9.6 percent), Bohol (8.9 percent), and Eastern Samar (8.4 percent). These improvements were also not as great as those of the equally distributed education index or those of the equally distributed life expectancy index.

The *2010 Human Development Report* introduced a new measure to account for gender-based inequalities. The components of the Gender Inequality Index or GII are reproductive health, empowerment, and the labor market. The first two components are considered to be particularly critical for assessing women's opportunities and outcomes.

The Philippines' GII was computed at 0.623, and the country ranked 78th out of 137 countries for which data were available in 2010. This figure improved to 0.427 in 2011 raising the Philippines' rank by three steps. The smaller the GII, the lower the inequality measured by the GII [Box 2.1].

Figure 2.12 Provinces by type of improvement between 1997 and 2009



Note: Origin of quadrant at -4.30, 4.09 represents Philippine average values

Table 2.8 List of provinces by type of improvement (1997-2009, 1997-2003, 2003-2009)

Province	1997-2009	1997-2003	2003-2009
Abra	PCI-lopsided	Virtuous	Vicious
Agusan del Norte	Virtuous	Virtuous	Virtuous
Agusan del Sur	Vicious	Vicious	Vicious
Aklan	Vicious	Vicious	PCI-lopsided
Albay	Virtuous	Virtuous	PCI-lopsided
Antique	Vicious	Vicious	PCI-lopsided
Apayao	PCI-lopsided	Vicious	Virtuous
Aurora	Virtuous	PCI-lopsided	Virtuous
Basilan	Vicious	Vicious	Virtuous
Bataan	Virtuous	Vicious	Virtuous
Batanes	Vicious	Vicious	Vicious
Batangas	Vicious	Vicious	PCI-lopsided
Benguet	Virtuous	Virtuous	Virtuous
Biliran	Virtuous	Virtuous	Virtuous
Bohol	Virtuous	Virtuous	Virtuous
Bukidnon	Virtuous	Vicious	Virtuous
Bulacan	Virtuous	PCI-lopsided	Virtuous
Cagayan	Virtuous	Virtuous	Virtuous
Camarines Norte	Virtuous	PCI-lopsided	PCI-lopsided
Camarines Sur	Virtuous	PCI-lopsided	Virtuous
Camiguin	Virtuous	Virtuous	Vicious
Capiz	Virtuous	PCI-lopsided	Virtuous
Catanduanes	Virtuous	Virtuous	Vicious
Cavite	Virtuous	Virtuous	PCI-lopsided
Cebu	Virtuous	PCI-lopsided	Virtuous
Compostela Valley	NA	NA	Virtuous
Davao del Norte	Virtuous	Virtuous	Vicious
Davao del Sur	Vicious	Vicious	Virtuous
Davao Oriental	Vicious	Vicious	PCI-lopsided
Eastern Samar	Virtuous	Virtuous	Vicious
Guimaras	Virtuous	Vicious	Virtuous
Ifugao	Virtuous	Virtuous	Vicious
Ilocos Norte	PCI-lopsided	Vicious	Virtuous
Ilocos Sur	Virtuous	Vicious	Virtuous
Iloilo	Virtuous	PCI-lopsided	Virtuous
Isabela	Virtuous	Virtuous	PCI-lopsided
Kalinga	PCI-lopsided	Vicious	Virtuous
La Union	Virtuous	Virtuous	Virtuous
Laguna	Vicious	Virtuous	Vicious
Lanao del Norte	Vicious	PCI-lopsided	PCI-lopsided
Lanao del Sur	Vicious	Virtuous	Vicious
Leyte	Virtuous	PCI-lopsided	Virtuous
Maguindanao	Vicious	Vicious	Vicious
Marinduque	Virtuous	Vicious	Virtuous
Masbate	Virtuous	Virtuous	PCI-lopsided
Metro Manila	Vicious	Vicious	Virtuous
Misamis Occidental	Vicious	Vicious	Vicious
Misamis Oriental	Vicious	Vicious	Virtuous
Mt. Province	Vicious	PCI-lopsided	PCI-lopsided
Negros Occidental	Virtuous	Virtuous	Vicious
Negros Oriental	Virtuous	Vicious	Virtuous
North Cotabato	Virtuous	Virtuous	Virtuous
Northern Samar	Virtuous	Virtuous	PCI-lopsided
Nueva Ecija	Vicious	Vicious	PCI-lopsided
Nueva Vizcaya	Virtuous	Virtuous	Vicious
Occidental Mindoro	Virtuous	Virtuous	Virtuous
Oriental Mindoro	Vicious	Vicious	PCI-lopsided
Palawan	Vicious	Vicious	PCI-lopsided
Pampanga	Vicious	PCI-lopsided	Vicious
Pangasinan	PCI-lopsided	PCI-lopsided	Virtuous
Quezon	Vicious	Vicious	PCI-lopsided
Quirino	Virtuous	Virtuous	Virtuous
Rizal	Vicious	Vicious	PCI-lopsided
Romblon	Virtuous	Virtuous	PCI-lopsided
Sarangani	Vicious	Vicious	PCI-lopsided
Siquijor	Virtuous	Vicious	Virtuous
Sorsogon	Virtuous	Virtuous	PCI-lopsided
South Cotabato	Virtuous	Virtuous	Virtuous
Southern Leyte	Virtuous	Virtuous	PCI-lopsided
Sultan Kudarat	Vicious	Vicious	Virtuous
Sulu	Vicious	PCI-lopsided	Vicious
Surigao del Norte	PCI-lopsided	PCI-lopsided	PCI-lopsided
Surigao del Sur	Vicious	Vicious	Virtuous
Tarlac	PCI-lopsided	Virtuous	Vicious
Tawi-Tawi	Vicious	Vicious	Vicious
Western Samar	Virtuous	PCI-lopsided	PCI-lopsided
Zambales	Vicious	Vicious	Virtuous
Zamboanga del Norte	Vicious	Vicious	PCI-lopsided
Zamboanga del Sur	Virtuous	PCI-lopsided	Virtuous
Zamboanga Sibugay	NA	NA	Vicious

Note: Origin of quadrant at -4.30, 4.51 represents Philippine average values

Box 2.1 The Gender Inequality Index and its application in the Philippines

THE Gender Inequality Index or GII has three components that are deemed critical for evaluating the achievements in human development for women. These are reproductive health, empowerment, and labor market participation.

The indicators for reproductive health component are maternal mortality rates and adolescent fertility rates. Empowerment is measured by women's share of parliamentary seats and women's share of population (aged 25 and over) with at least a secondary education. Labor market participation is measured by the female labor force participation rate.

These indicators are independent of a country's level of development ensuring that only gender-based inequalities are measured by the index. The GII is constructed such that it is a discounted value of the HDI, where a value close to 0 reflects no inequality and a value close to 1 reflects complete inequality.

Another characteristic of the GII is that it reflects the strength of complementarities across the components. The stronger the correlation among the components, the worse the inequality that the index measures [UNDP 2010].

It is not possible to compute for province-level GIIs chiefly because of missing data. There is no data issue with female labor force participation rates because the quarterly Labor Force Surveys conducted by the National Statistics Office (NSO) redesigned the household sampling in 1996 to allow for reliable estimates at the province and key city geographic level. Educational attainment at the secondary level or higher is also easy to obtain from a variety of survey-based sources.

The indicator on women's share of parliamentary seats needed for the empowerment component may need to be replaced since provinces have a limited number of congressional districts, although it is clear that using this original indicator can be easily produced. An alternative indicator might be the share of women in elective local government positions from the provincial level and below. The Commission on Elections (Comelec) should be able to provide this dataset.

The more difficult set of measures is for reproductive health. The main data source is the National Demographic and Health Survey (NDHS), which is not regularly conducted. The latest survey was undertaken in 2008 and the one before that in 1998. In addition, the sampling design is nationally representative, but it is not intended to provide provincial level estimates. It is recommended that the NDHS be conducted more frequently and adjustments be made to allow for province-level estimates.

Exploring other methodologies for estimating these two indicators is also needed. For example, Yabut and Bautista [2007] provide indirect estimates of maternal mortality rates based on civil registry data (noting well-known limitations) and the latest Census of Population. Their paper provides estimates for each region; it is likely that they can provide estimates at the province level as well.

Similar explorations may be considered for adolescent fertility rates.

Figure 2.13 HDI rank and GDI rank by province (2009)

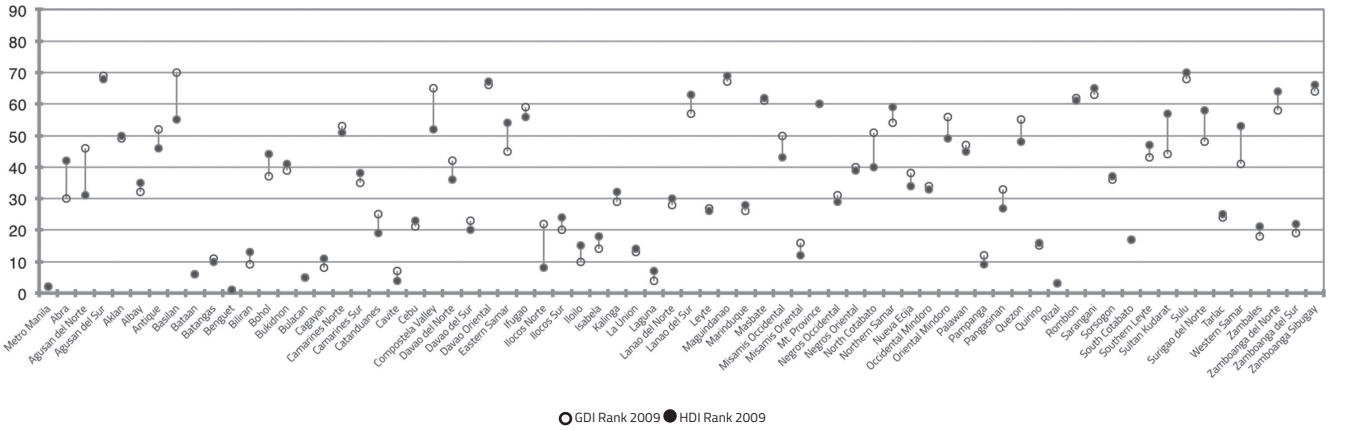
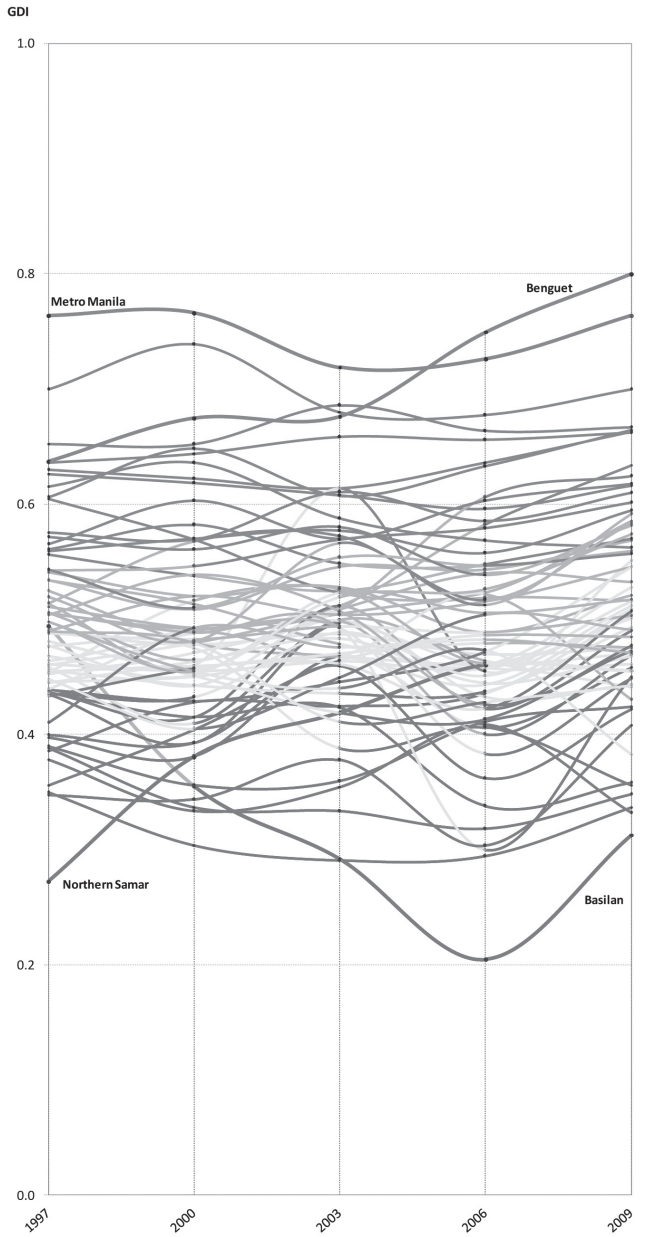


Figure 2.14 Gender Development Index by province (1997-2009)



Significant losses in HDI due to inequalities

The HDI measures an average value for a given population. Its value declines when human development achievements are concentrated only among some groups of people while there is sustained deprivation in others. The 2010 Human Development Report introduced the "Inequality-adjusted HDI" or IHDI to capture the uneven distribution of human development across a population.

The IHDI has the same three components as the HDI—health, education and income—and it represents the losses in human development due to inequalities in these components [**Box 2.2**]. In other words, where no inequality exists, IHDI will be equal to HDI. A loss is measured in the presence of inequality because a proportion of the population has yet to attain the average HDI value.

For the Philippines with a medium level of human development and an HDI value of 0.644 in 2011, the estimated loss to human development is equivalent to 19.9 percent when accounting for the presence of inequality. The IHDI for the Philippines in 2011 was at 0.516, which is lower than its HDI.

Provincial IHDI have been estimated only for the single year 2009. **Figure 2.19** shows a comparison of the HDIs of each province with their IHDIs. The IHDIs are represented by the red dots and the HDIs by the blue dots. The difference indicates the losses to human development in each province due to inequality.

As expected, IHDI values were always less than the HDI values. Provinces in Figure 2.19 are ordered according to the size of the difference between HDI and IHDI.

Fifty of the 80 provinces incurred at least a 50 percent loss in HDI due to inequalities while the rest of the provinces had losses of almost a quarter of the HDI values. This clearly shows the gravity of the inequality in the Philippines. The 10 provinces with the largest losses were Sulu (declining by 77.8 percent), Maguindanao (74.4 percent), Tawi-Tawi (73.5 percent), Zamboanga Sibugay (73.5 percent), Agusan del Sur (70.4 percent), Davao Oriental (69.0 percent), Sarangani (68.7 percent), Zamboanga del Norte (68.6 percent), Lanao del Sur (66.5 percent), and Masbate (65.6 percent). [**Table 2.15**]. Many of these provinces had very low HDIs to begin with and the added presence of inequalities was an aggravating factor.

The 10 provinces with the smallest losses in their HDI values due to inequalities were were Ilocos Norte (decreasing by 43.7 percent), Pampanga (43.0 percent), Nueva Vizcaya (41.5 percent), Bataan (39.4 percent), Laguna (38.4 percent), Bulacan (37.9 percent), Cavite (36.7 percent), Rizal (35.8 percent), Batanes (29.4 percent), and Benguet (26.9 percent). Most these provinces also had some of the highest HDI levels [**Table 2.16**].

Table 2.9 Largest gainers and losers in GDI between 1997 and 2009

GDI rank		Province	Gap improvement			
1997	2009		GDI	Equally distributed life expectancy index	Equally distributed education index	Equally distributed income index
Largest GDI gainers and comparative gap improvements						
3	1	Benguet	44.8%	47.2%	87.7%	36.5%
48	8	Biliran	31.4%	22.1%	-4.9%	27.4%
39	7	Cagayan	30.1%	63.9%	24.6%	17.8%
69	53	Northern Samar	25.2%	20.6%	11.9%	13.4%
64	36	Bohol	19.2%	32.6%	38.2%	8.9%
53	25	Marinduque	19.0%	21.7%	28.5%	11.5%
66	44	Eastern Samar	18.6%	33.9%	33.5%	8.4%
30	18	Zamboanga del Sur	15.0%	11.6%	20.6%	11.1%
22	14	Quirino	15.0%	39.8%	10.6%	6.5%
8	4	Bulacan	15.0%	35.8%	29.4%	6.7%
Largest GDI losers and comparative gap improvements						
29	46	Palawan	-6.4%	-16.4%	-7.4%	-2.6%
63	66	Maguindanao	-6.6%	29.2%	-61.3%	-5.9%
28	51	Antique	-8.8%	18.4%	1.8%	-10.7%
34	57	Zamboanga del Norte	-9.2%	65.6%	-57.6%	-10.9%
27	54	Quezon	-11.1%	-0.5%	-14.3%	-7.7%
21	48	Aklan	-11.5%	24.8%	19.3%	-13.5%
25	55	Oriental Mindoro	-12.7%	9.4%	-5.6%	-11.3%
7	21	Ilocos Norte	-13.9%	46.8%	0.1%	-19.0%
41	65	Davao Oriental	-20.1%	14.9%	-12.9%	-13.2%
32	69	Basilan	-35.9%	14.0%	-13.9%	-24.7%

Another way to view performance is to see how each province's rank changed after accounting for inequality. **Figure 2.20** shows a comparison of the HDI and IHDI ranking for all provinces. As before, the filled dots are the rank values for HDI, and the hollow dots are the rank values for IHDI. If a hollow dot is below a filled dot, then the province improves its ranking when accounting for inequalities.

Rank improvements indicate that despite the losses in HDI, the extent of inequality in that province is still better than in the other provinces. Twenty-nine provinces experienced improvements in their ranking despite the presence of inequalities. The provinces in this group were Zambales (whose rank went up by 5), Sorsogon (4), Aklan, Camarines Sur, Compostela Valley, Negros Occidental, Quezon, and Quirino (3), and Palawan and Albay (2).

Rank declines, on the other hand, indicate that the province's level of inequalities is worse than in the others. Twenty-five provinces saw their ranking fall further. The declines were led by Biliran (down by 7 in the ranking), Antique, Ifugao, and Negros Oriental (5), South Cotabato and Catanduanes (3), Mt. Province, Bohol and Bukidnon (2) [**Tables 2.17 and 2.18**].

Figure 2.21 is a stacked-bar graph of the absolute values of the losses in life expectancy, education, and

Table 2.10 GDI top and bottom provinces (1997)

GDI rank		Province	GDI	Equally distributed		
1997	2009			Life expectancy index	Education index	Income index
Top provinces						
1	3	Rizal	0.700	0.752	0.925	0.493
2	4	Laguna	0.653	0.706	0.877	0.449
3	1	Benguet	0.637	0.722	0.960	0.374
4	7	Cavite	0.636	0.744	0.893	0.388
5	6	Bataan	0.630	0.731	0.866	0.396
6	11	Batangas	0.626	0.766	0.865	0.371
7	22	Ilocos Norte	0.616	0.742	0.885	0.355
8	5	Bulacan	0.606	0.761	0.845	0.346
9	16	Misamis Oriental	0.605	0.717	0.901	0.342
Bottom provinces						
60	61	Romblon	0.400	0.649	0.804	0.122
61	52	Camarines Norte	0.398	0.651	0.796	0.121
62	60	Masbate	0.389	0.655	0.690	0.131
63	66	Maguindanao	0.388	0.498	0.796	0.148
64	36	Bohol	0.386	0.731	0.741	0.106
65	68	Agusan del Sur	0.378	0.623	0.746	0.116
66	44	Eastern Samar	0.356	0.612	0.742	0.100
67	67	Sulu	0.350	0.476	0.741	0.121
68	62	Sarangani	0.347	0.703	0.609	0.098
69	53	Northern Samar	0.272	0.638	0.751	0.042

income due to inequalities in each of these components. Provinces are ordered first by the loss due to income inequality, followed by education inequality and, finally, by life expectancy inequality.

For almost all the provinces, the losses due to inequality in education exceeded those due to inequalities in income and health. There were 17 provinces where losses due to income inequalities were higher than losses due to education and health inequalities. In Camiguin and Misamis Occidental, the losses due to inequalities in life expectancy exceeded the losses due to inequalities in education and income.

Concluding remarks

On three different measures of human development, Philippine provinces demonstrated a wide and variable range of trends over 20 years between 1997 and 2009, closely resembling global trends of country achievements in human development. More than two-thirds of Philippine provinces demonstrated progress in human development over this period.

At the same time, the gap between the province with lowest HDI and that with the highest increased in 2009 (Sulu's HDI of 0.266 and Benguet's HDI of 0.849) compared to 1997 (Sulu's HDI of 0.318 and Batanes' HDI of 0.822). As mentioned earlier, in a global comparison,

Table 2.11 GDI top and bottom provinces (2009)

GDI rank		Province	GDI	Equally distributed		
1997	2009			Life expectancy index	Education index	Income index
Top provinces						
4	1	Benguet	0.800	0.853	0.995	0.603
2	2	Rizal	0.700	0.800	0.922	0.464
3	3	Laguna	0.667	0.777	0.900	0.424
9	4	Bulacan	0.665	0.847	0.890	0.390
6	5	Bataan	0.663	0.748	0.906	0.429
5	6	Cavite	0.662	0.779	0.908	0.410
40	7	Cagayan	0.634	0.883	0.832	0.347
49	8	Biliran	0.625	0.715	0.859	0.397
13	9	Iloilo	0.618	0.812	0.912	0.318
6	10	Batangas	0.616	0.815	0.862	0.332
Bottom provinces						
44	58	Ifugao	0.441	0.594	0.732	0.198
52	59	Mt. Province	0.430	0.632	0.833	0.152
62	60	Masbate	0.424	0.720	0.760	0.140
60	61	Romblon	0.422	0.696	0.815	0.132
68	62	Sarangani	0.408	0.783	0.657	0.133
41	65	Davao Oriental	0.356	0.752	0.692	0.087
63	66	Maguindanao	0.348	0.645	0.671	0.097
67	67	Sulu	0.337	0.573	0.605	0.111
65	68	Agusan del Sur	0.332	0.688	0.768	0.069
32	69	Basilan	0.313	0.657	0.795	0.059

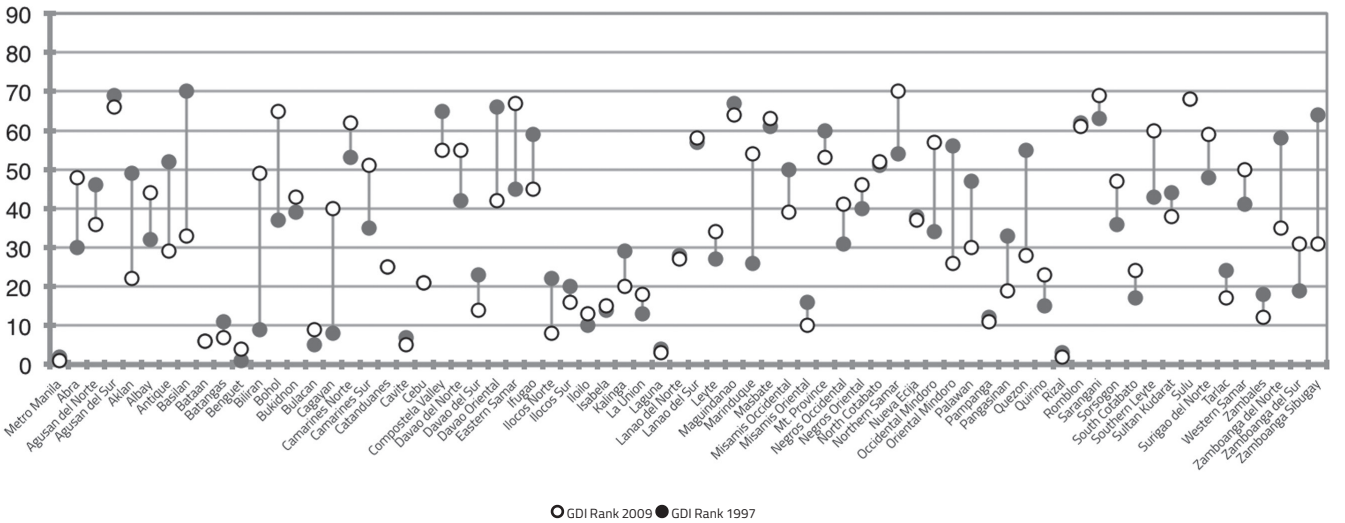
Sulu's achievements lie somewhere between Burundi's HDI of 0.282 and Niger's HDI of 0.261 in 2010. Burundi and Niger were ranked 166th and 167th in the HDI country rankings for 2010 out of 169 countries for which the HDI was computed.

Benguet's HDI lies between Austria's HDI of 0.851 and Singapore's HDI of 0.846 in 2010, both of which were classified as having very high human development and ranked 25th and 27th in the global HDI rankings. The Philippines as a whole was classified as having medium human development with its HDI of 0.638 in 2010 and was ranked 97th out of 169 countries.

How human development achievements of Philippine provinces change in the presence of inequalities can be measured by the GDI and the IHDI. These measures provide an indication of the distribution of human development achievements in a particular province. The GDI accounts for differences between males and females, recognizing that opportunities and outcomes can differ systematically between the two genders. The HDI value is discounted by the presence of gender-based inequalities. This is true for all provinces.

Females generally had an advantage over males for achievements in life expectancy and education. Males, on the other hand, had an advantage over females in achievements measured by their share of earned incomes. The GDI closely follows the progress and variability exhibited by the HDI because the components of both indicators are mirror images of each other. A new index, the GII, has been proposed that responds

Figure 2.15 GDI rank by province 1997 and 2009



to the limitations of the GDI, but its computation at the province level is hindered by the lack of data.

A new measure, the Inequality-adjusted HDI, has been proposed to account for the uneven distribution of human development achievements across a population regardless of the cause of inequality. This measure was computed for the Philippine provinces for 2009. All the provincial IHDIs were lower than their HDI values. Inequality may be so much worse in some provinces than others that their ranking in achievements would go down due to the discounting. The gap between the HDI and IHDI was considerably wider than the gap between HDI and GDI.

Even with new measures accounting for inequalities, it is still not possible to describe the combined effect of overall inequality and gender-based inequalities. Additional work needs to be done if other bases for discrimination, exclusion, and marginalization are taken into account in measuring achievements in human development.

Above all, these measures are a reminder that income growth as a measure of progress provides at best an incomplete picture of the possibilities for improving the well-being of people. Even when incomes are highly variable, increasing life expectancies are possible. This has been the case for almost all provinces, especially for females.

Improvements in educational achievements were also demonstrated although higher family incomes can contribute to even greater achievements. For example, Aklan, a province with low human development, saw a large decline in the income index between 1997 and 2009 but still managed modest growth in the education index for the same period. At a level of high human development, Metro Manila and some adjacent provinces saw large drops in income coinciding with growth in the education index for the same period. While there is much to celebrate in educational achievements, the losses to human development due to the unequal distribution of educational achievements remain a major concern.

Volatility of incomes and vulnerability to poverty

Variable progress in human development was heavily influenced by the volatile changes to household incomes in the Philippines over the period. The volatility of household incomes indicates how difficult it can be to sustain income increases over longer periods of time. This implies, in turn, a vulnerability of households and individuals to income poverty.

Esguerra [2010] discussed the increasing concern of workers about their employment security with seven out of 10 survey respondents in 2005 to the question about worrying over losing their jobs providing affirmative answers, a figure higher than the same survey conducted

Figure 2.16 Equally distributed life expectancy index (1997-2009)

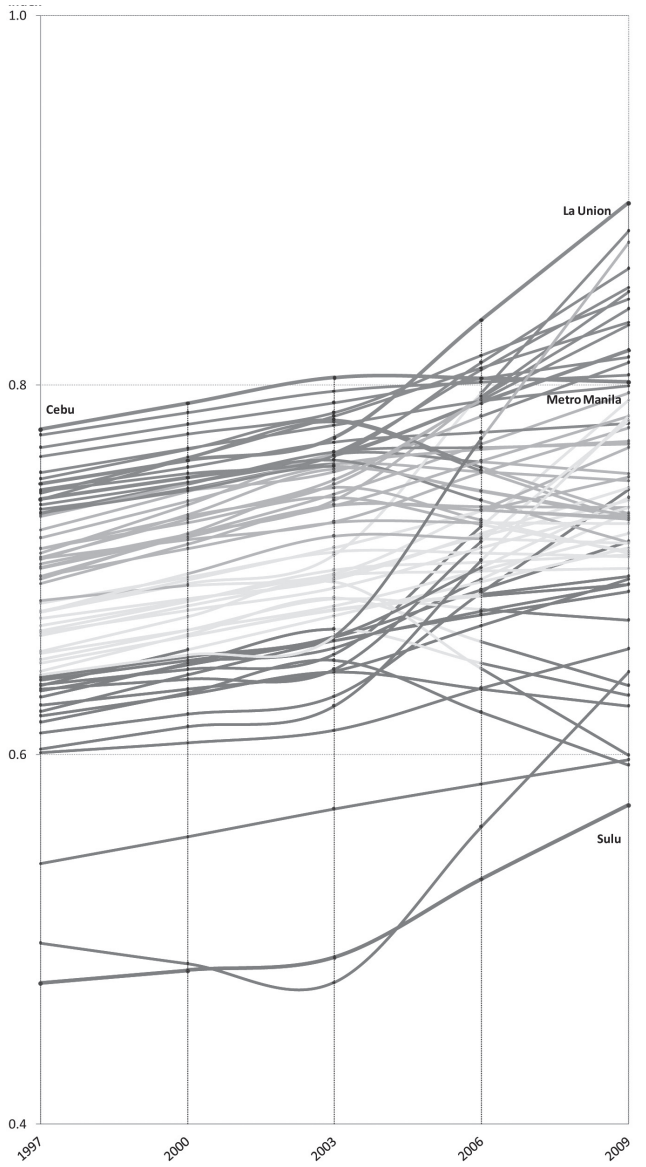


Table 2.12 Largest gainers and losers in equally distributed life expectancy index between 1997 and 2009

Equally distributed Life expectancy index	1997	2009	Gap improvement
Largest gainers			
Zamboanga del Norte	0.643	0.877	65.56
Cagayan	0.677	0.883	63.90
La Union	0.747	0.899	60.01
Isabela	0.701	0.850	49.95
Benguet	0.722	0.853	47.19
Ilocos Norte	0.742	0.863	46.79
Western Samar	0.603	0.783	45.33
Albay	0.711	0.841	44.95
Sorsogon	0.706	0.833	43.03
Abra	0.638	0.792	42.60
Largest losers			
Tarlac	0.731	0.730	-0.41
Quezon	0.711	0.710	-0.49
Agusan del Norte	0.645	0.637	-2.28
Davao del Sur	0.741	0.727	-5.60
Ifugao	0.617	0.594	-6.10
Nueva Ecija	0.749	0.730	-7.57
Pangasinan	0.735	0.715	-7.72
Palawan	0.656	0.599	-16.39

in 1997. The year 1997 was the year of the Asian financial crisis, and by 2005 most of the countries in Southeast Asia had recovered from that shock. Employment growth was erratic during this period [Esguerra 2010].

The long period under consideration calls attention to the differing vulnerability of provinces to external shocks, depending on their economies' degree of exposure to global markets. It is no accident many of the more urban, commercial, and industrial provinces—including those with already high levels of human development—experienced larger income setbacks than their poorer counterparts as world conditions deteriorated. The challenge, however, is how to ride out such volatilities without sacrificing hard-won gains in human development. This points to the importance of social protection and public safety nets, which the more affluent areas can certainly afford.

Another lesson to be gleaned from the record is the need to account for mobility and migration. The theme chapter points out that people do move in response to opportunities and should be encouraged to do so. This also means, however, that their provinces of destination may confront new challenges in sustaining standards of health, education, and employment for a growing population.

This is another reason that areas that have previously

Figure 2.17 Equally distributed education index (1997-2009)

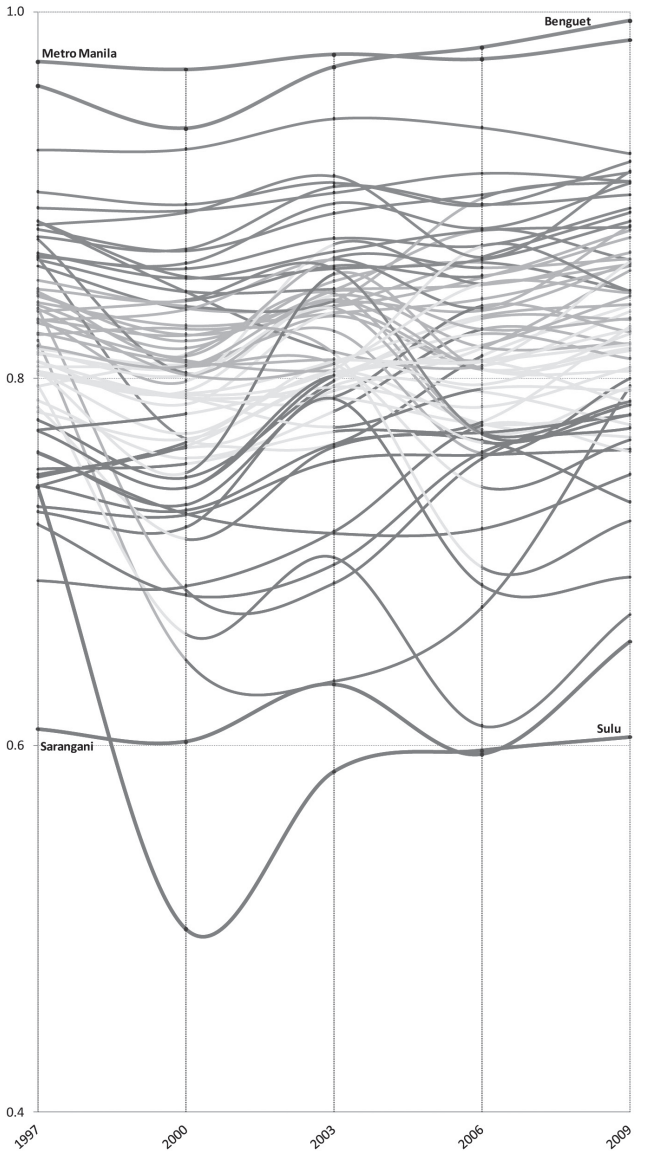


Table 2.13 Largest gainers and losers in equally distributed education index between 1997 and 2009

Equally distributed Life expectancy index	1997	2009	Gap improvement
Largest gainers			
Benguet	0.960	0.995	87.66
Bohol	0.741	0.840	38.18
La Union	0.854	0.908	36.86
Eastern Samar	0.742	0.828	33.46
Lanao del Norte	0.832	0.883	30.58
Bataan	0.866	0.906	30.17
Bulacan	0.845	0.890	29.43
Marinduque	0.809	0.864	28.48
Iloilo	0.881	0.912	26.08
Zambales	0.884	0.913	25.00
Largest losers			
Quezon	0.814	0.787	-14.30
North Cotabato	0.806	0.767	-20.49
Ifugao	0.784	0.732	-23.88
Sultan Kudarat	0.836	0.786	-30.96
Lanao del Sur	0.838	0.786	-31.81
Mt. Province	0.876	0.833	-34.97
Catanduanes	0.886	0.837	-42.80
Sulu	0.741	0.605	-52.60
Zamboanga del Norte	0.824	0.722	-57.58
Maguindanao	0.796	0.671	-61.30

achieved notable levels human development cannot afford to be complacent but must continuously adjust their priorities to changing circumstances. Sustaining or maintaining threshold levels of income and social services requires a policy package that reduces the occurrence of income shocks, provides a cushion when these occur, stabilizes sources of income, and induces income recovery and the return to growth.

At the province level, there are fewer policy options available to reduce income shocks and provide stability. These are either generally macroeconomic concerns whose formulation and implementation are centralized in national institutions. Nor can such policies be sensitive to provincial concerns as well as to those over inequality, especially when policy instruments involve the management of aggregate demand and the components of the gross domestic product and national income.

Further complicating the picture is the fragmentation of real authority at the provincial level (as pointed out by the theme chapter), where province-level decisionmaking is hollowed out by the concentration of resources and power among highly urbanized cities. The theme chapter suggests, however, that province-level planning and responsibility may prove more adept in responding to specific conditions, as well as

Figure 2.18 Equally distributed income index (1997-2009)

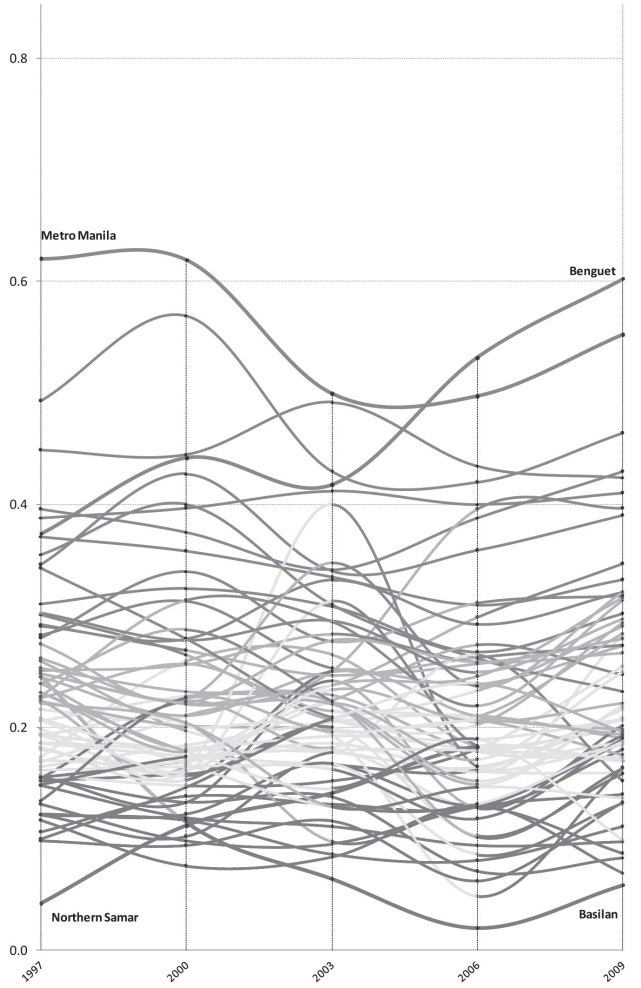


Table 2.14 Largest gainers and losers in equally distributed income index between 1997 and 2009

Equally distributed Life expectancy index	1997	2009	Gap improvement
Largest gainers			
Benguet	0.374	0.603	36.54%
Biliran	0.169	0.397	27.38%
Cagayan	0.205	0.347	17.81%
Northern Samar	0.042	0.170	13.36%
Marinduque	0.157	0.254	11.55%
South Cotabato	0.228	0.314	11.10%
Zamboanga del Sur	0.231	0.317	11.08%
Occidental Mindoro	0.170	0.250	9.60%
Bohol	0.106	0.186	8.93%
Eastern Samar	0.100	0.175	8.39%
Largest losers			
Batangas	0.371	0.332	-6.13%
Quezon	0.223	0.164	-7.67%
Misamis Oriental	0.342	0.285	-8.81%
Antique	0.253	0.173	-10.68%
Zamboanga del Norte	0.222	0.137	-10.88%
Oriental Mindoro	0.248	0.163	-11.31%
Davao Oriental	0.194	0.087	-13.24%
Aklan	0.259	0.159	-13.51%
Ilocos Norte	0.355	0.232	-19.00%
Basilan	0.245	0.059	-24.69%

Box 2.2 The Inequality-adjusted Human Development Index

RECOGNIZING that human development is not distributed evenly across a population, a new measure was introduced to capture the disparities in achievements. This is the Inequality-adjusted Human Development Index or IHDI.

The HDI is an average and the IHDI summarizes the inequality in each of the HDI dimensions. The IHDI's method of construction, however, is unable to capture the experience of overlapping inequalities when people experience multiple inequalities.

To measure the IHDI, the inequality across each dimension is first computed based on the Atkinson measure of inequality that takes the ratio of the geometric mean of the indicator to its arithmetic mean (also known as the arithmetic-geometric inequality) placing an emphasis on the lower end of the distribution. The result is then applied to the mean value of the indicator giving the inequality-adjusted values of each of the dimensions.

The IHDI is then computed as the geometric mean of these inequality-adjusted dimensions. The geometric mean is useful for comparisons that involve normalization of indicators with varying scales because it accounts for the impact of scale differences on normalization procedures unlike the arithmetic mean [See Technical notes].

Table 2.15 Top 10 provinces with the largest losses in HDI due to inequalities

Province	HDI 2009	IHDI 2009	Overall loss (%)
Sulu	0.266	0.059	-77.8
Maguindanao	0.300	0.077	-74.4
Tawi-Tawi	0.310	0.082	-73.5
Zamboanga Sibugay	0.353	0.105	-70.4
Agusan del Sur	0.354	0.107	-69.8
Davao Oriental	0.356	0.110	-69.0
Sarangani	0.371	0.116	-68.7
Zamboanga del Norte	0.384	0.120	-68.6
Lanao del Sur	0.416	0.139	-66.5
Masbate	0.406	0.140	-65.6

Table 2.16 Top 10 provinces with the smallest losses in HDI due to inequalities

Province	HDI 2009	IHDI 2009	Overall loss (%)
Benguet	0.849	0.621	-26.9
Batanes	0.789	0.556	-29.4
Rizal	0.734	0.472	-35.8
Cavite	0.709	0.449	-36.7
Bulacan	0.699	0.434	-37.9
Laguna	0.695	0.428	-38.4
Bataan	0.698	0.423	-39.4
Nueva Vizcaya	0.678	0.397	-41.5
Pampanga	0.634	0.361	-43.0
Ilocos Norte	0.641	0.361	-43.7

in mobilizing resources on a sufficiently large scale to create an impact.

Among the policy challenges, therefore, is for national institutions to incorporate analytical as well as policy approaches that take into account the unequal effects of macroeconomic policies at the subnational levels. A further need is for better delineation of authority among local units themselves, to facilitate effective decisionmaking with a larger scope that takes externalities and cross-boundary problems into account. The nature of economic governance at the local level and its responsiveness to changes in macroeconomic signals needs to be better understood if volatility of incomes is to be minimized and income insecurity is reduced.

Figure 2.19 HDI and inequality-adjusted HDI (2009)

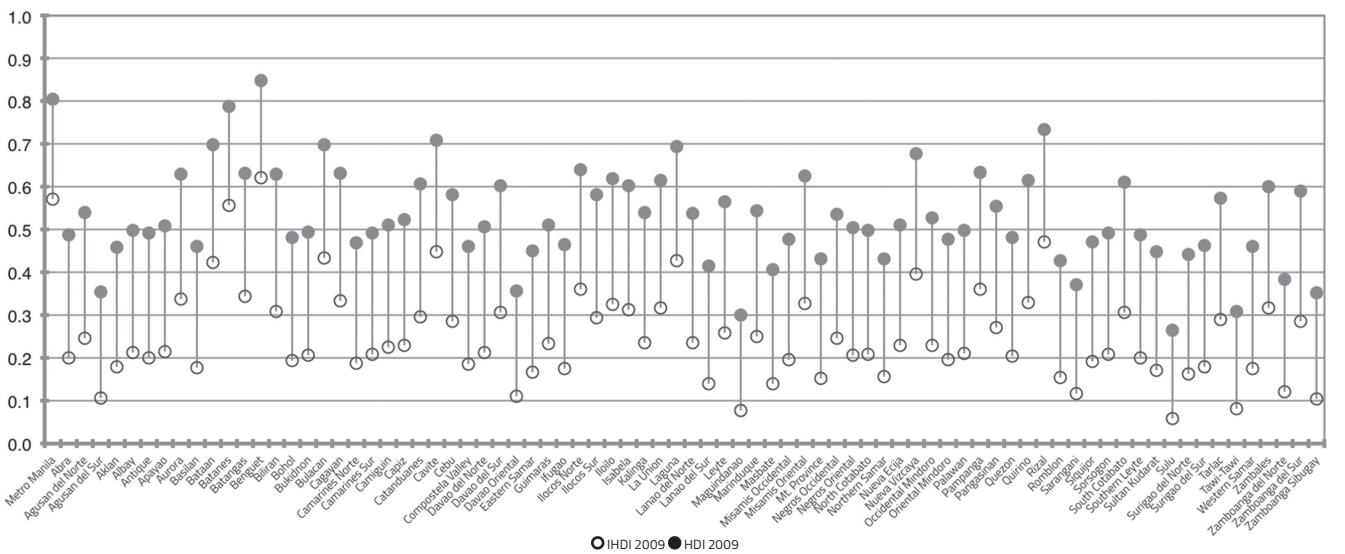


Table 2.17 Top 10 provinces with rank improvements in the presence of inequalities

Province	HDI 2009	IHDI 2009	Overall loss (%)	HDI 2009 rank	IHDI rank	Change in rank
Zambales	0.600	0.317	-47.1	23	18	5
Sorsogon	0.492	0.209	-57.6	48	44	4
Aklan	0.460	0.179	-61.0	63	60	3
Compostela Valley	0.461	0.185	-59.7	61	58	3
Camarines Sur	0.491	0.208	-57.6	49	46	3
Quezon	0.482	0.205	-57.5	52	49	3
Negros Occidental	0.537	0.246	-54.2	34	31	3
Quirino	0.616	0.329	-46.5	17	14	3
Palawan	0.498	0.210	-57.7	45	43	2
Albay	0.498	0.214	-57.1	43	41	2

Table 2.18 Top 10 provinces with rank declines in the presence of inequalities

Province	HDI 2009	IHDI 2009	Overall loss (%)	HDI 2009 rank	IHDI 2009 rank	Change in rank
Bukidnon	0.494	0.206	-58.3	46	48	-2
Bohol	0.482	0.194	-59.8	53	55	-2
Western Samar	0.461	0.176	-61.8	60	62	-2
Mt. Province	0.432	0.152	-64.9	67	69	-2
South Cotabato	0.612	0.307	-49.9	19	22	-3
Catanduanes	0.606	0.297	-51.0	20	23	-3
Negros Oriental	0.504	0.207	-59.0	42	47	-5
Antique	0.493	0.200	-59.4	47	52	-5
Ifugao	0.465	0.176	-62.2	58	63	-5
Biliran	0.630	0.309	-51.0	13	20	-7

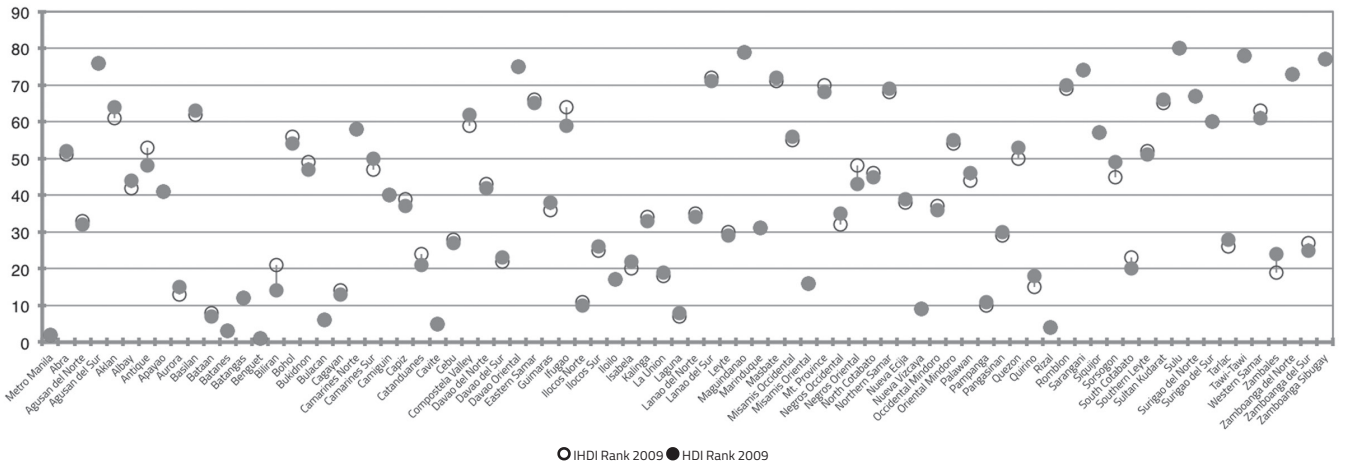
Increased life expectancy and burdens of care

Progress as evidenced by increased life expectancy is to be celebrated, but this quality of life indicator brings new challenges to sustaining human development outcomes. This significant increase in life expectancy will be reflected in a change to the demographic profile in the Philippines involving a larger share of the elderly although this has been a slow process for the country [Ogena 2006].

Though the demographic shift has not yet occurred, it is helpful even now to take a longer view of the effects of this shift on the burdens of care for the elderly in addition to caring for the youth (considering the slow decline in fertility rates of the country). Extended kinship systems have thus far been helpful in providing care for household members. Public provisioning through institutionalized care, social welfare, health insurance, and pension systems is not yet robust enough to respond to the needs of an aging population.

Cruz et al. [2007], using panel data from the 1996 Philippine Elderly Survey and the 2000 Philippine Follow-Up Survey on the Elderly, found that "(f)emales are more likely to outlive males but can expect to live a greater part of that remaining life in a state of functional

Figure 2.20 Provincial ranking by HDI and IHDI (2009)



impairment" [p. 41]. These researchers also found that living in urban areas shortens life expectancy and increases the likelihood of poorer health status for both sexes. These estimates show the likely disability burdens that can come with a demographic shift.

Ogena [2006] already raises some of the potential issues if the country continues to rely on household members, especially daughters, to provide care. Each province will enter this shift at different points in time given the current diversity of health outcomes across provinces. Local governments that are able to anticipate these needs will be in a better position to sustain progress in human development.

Qualitative achievements in education and female advantages

Access to education in the Philippines is high although there is much room for improvement. Estimates of out-of-school youth are high, and dropout rates are a source of concern for both public primary and secondary school levels [Albert et al. 2012; and Alba 2010].

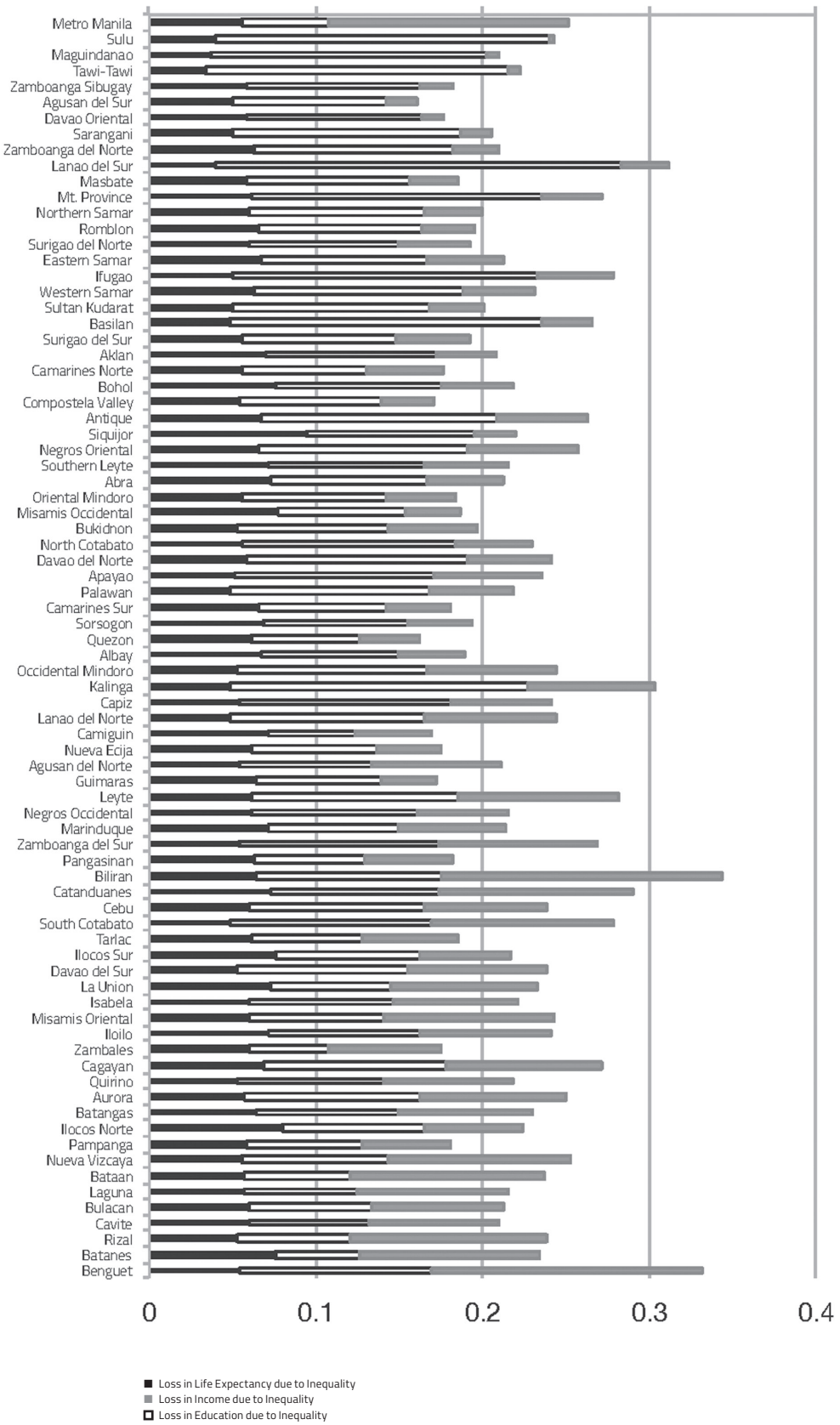
Alba [2010] also raises concerns over the outcomes of basic education with the inability of the public school system to close the education deficits. Children lag behind the expected years of schooling for their age by 0.5 to 1.5 years. These educational deficits increase as children reach the working age of 15 years, a shift believed to be related to the pressure for children to contribute to household income. The HDI and related measures need to be adjusted at some point to accommodate the interest in capturing qualitative aspects of educational achievement, particularly since more than 50 provinces have educational indices that are very high (0.8 and above).

On many types of educational indicators such as school participation rates, years of schooling, literacy and functional literacy rates, and scores in achievement tests, girls outperform boys [Albert et al. 2012]. This is consistent with the GDI data discussed above with females typically having higher expected mean years of schooling than boys.

As far as the labor market is concerned, however, as well as the ability to earn incomes, higher educational investments in females or by females do not translate into any other advantage over boys in activities subsequent to schooling. Female labor force participation rates are usually lower than for males.

The GDI data above show that males have higher shares of earned income. Others have pointed to the presence of gender wage differentials and the concentration of females in low-earning occupations or in low-value added industries [Alba 2010], indicating that educational achievements are not enough to remove the labor market advantages of males over females. While many may praise the achievements of females in education, questions remain about what other human development outcomes are promoted by these educational achievements that fail to be reflected in the labor market or in political representation.

Figure 2.21 Losses in life expectancy, education, and income due to inequalities by province (2009)



Statistical systems in a democratic society

Besides monitoring progress in the provinces, improvements to existing measures and the addition of new measures contribute to the ongoing democratization process of the Philippines. Democratization also entails political expression. The opportunities and achievements for human development also need to be democratized or more evenly distributed across provinces and within provinces.

Human development and its associated measures of progress can become the substantive content of the democratic institutions that are continually being strengthened in the Philippines. The decentralization of finances, devolution of government functions, and strengthening of local governance can be supported by these statistical measures because these measures essentially describe the quality of the lives that people lead in each of the provinces.

The information provided by the measures of human development is evidence of the effectiveness of development policies, or the lack of it. It can help decisionmakers, policymakers, and citizens identify the areas where resources need to be directed. Tracking progress over time enhances monitoring and evaluation processes. Most importantly, public officials are made more accountable. The measures are themselves transparent and open to criticism and yet flexible enough to accommodate improvement and adaptation to local circumstances and specific needs.

Enhancing the information system of a democratic society requires a reliable and accessible statistical system. The Philippine statistical system must match the political decentralization and devolution processes of the nation if it wishes to fulfill this role in Philippine society.

Inequality and movements for justice

Deprivation and injustice "lie at the heart of armed conflict" in the Philippines, the *2005 Philippine Human Development Report* wrote. This statement refers in particular to the "communist and Moro insurgencies" that have succeeded in mobilizing people toward an armed struggle to establish an alternative state system.

Kirkvliet [2010], in agreement, wrote that insurgencies in the Philippines are more about "injustice, deprivation, exploitation, and repression than they are about communism and Moro nationalism" and argues that these should be called "insurgencies for justice." This is the same reason there may be a broader base of support for the peace process.

Mobilization in pursuit of justice is broader than the insurgencies just discussed. These include social movements supported by labor unions, nongovernmental organizations, church-based groups, and other civil society organizations engaged in struggles involving mass demonstrations and rallies in protest against various aspects of inequality and injustice. Many of these organizations have also pursued a legislative agenda. These processes have been a slow (sometimes very slow) whittling away of the political and economic privileges of the elite that in time is expected to serve justice.

In identifying instances of injustice, there is a need to evaluate specific features and characteristics beyond a recognition of differences and into an admission that an inequality exists. Confronted by that inequality, a further assessment must be made whether that inequality is, in fact, an injustice that therefore warrants social attention and public action.

In the discussions of HDI, the GDI, and the IHDI, the poorest provinces of the Philippines are also among the most unequal. The linkages between inequality and injustice in the context of decentralization and devolution of governance structures, however, still need to be analyzed more deeply.

Successful political mobilization, both armed and unarmed, has relied upon the people's immediate experiences of injustice to persuade them to actively engage with institutions that perpetrate injustices in hopes of eventually transforming the very same institutions. It is the same pursuit of justice that ultimately undergirds the democratic ideals of the Filipino nation and which motivates its people's thirst for human development. ■

Notes

1 Paz [2008].

2 For example, Article II, Section 23, Article XIII, Sections 15 and 16, 1987 Constitution of the Republic of the Philippines.

3 Zambales' life expectancy at birth was 57 years in 1990 and 65.4 years in 1995.

4 Life expectancy at birth for Surigao del Norte was 63.8 years in 1995.

5 Ranis et al. [2000:204] find that an important mechanism through which the ratio of social expenditures to total public expenditures affects human development (represented in the econometric exercise by improvements in life expectancy) is the female primary enrollment rate, which in turn the authors attribute to "the impact on household behavior of female income, knowledge, and control within the household."

6 There was a change in sampling methodology for the FIES in 2003. Splitting into two periods allows for comparison of data within the same sampling frame. The challenge lies in distinguishing between the effects of the change in sampling frame on the movement between quadrants. This issue is also relevant to a comparison between the 1997 figures that belong to the older sampling frame and the 2009 figures that belong to the new sampling frame.

7 These are Abra, Camiguin, Catanduanes, Davao del Norte, Eastern Samar, Ifugao, Laguna, Lanao del Sur, Negros Occidental, Nueva Vizcaya, and Tarlac.