PHILIPPINE HUMAN DEVELOPMENT REPORT 2020/21

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Foreword

THIS issue of the Philippine Human Development Report explores a new perspective on the advancement of living standards, one that not only documents achieved human development outcomes but that also inquires into the processes that allow people and families to improve their condition through time and sustain such improvements across generations. It views welfare changes not only through the usual dichotomy of poor and nonpoor but through a prism that recognizes the increasing social and economic differentiation of families and individuals in the country.

Part 1 of the Report shows that Filipino households have been moving across different welfare trajectories over time and across generations. At least until the breakout of the COVID- 19 pandemic, the proportion of households who were extremely poor was declining while the nonpoor, composed of the vulnerable, the economically secure, and the upper middle class had increased. The global pandemic and its effects on the country have momentarily interrupted this trend and exposed the vulnerability of the improvements in the situation of socio-economic mobility. It has increased the probability of more frequent and abrupt swings in welfare in the future. But future research is only bound to show that people have adjusted to the crisis in better or worse ways, reflecting the pre-existing social heterogeneity.

While upward and downward movements in income itself are nothing new, the emergence of increasingly distinct socio-economic classes poses new questions and challenges. The Report tries to identify the different factors that cause individuals and households to be promoted or relegated on the welfare ladder—these include both nonhuman wealth, such as land, physical property and financial assets, and human capital transfers, such as parents' investments in their children's education and health, as well as parental efforts in the formation of life skills and their influence on marriage matches and reproductive decisions. The Report tries to quantify empirically the effect of these various factors, using a specially constructed dataset, and from other studies.

Differences in education and health status of families across classes affect the direction and degree of welfare change over time and across generations. The persistence of these inequalities creates unequal human capital development that puts households in lower classes at a disadvantage. It also shows how people belonging to the upper classes are afforded greater choice and are able harness networks to optimize the use of their human capital.

Given changing social circumstances, however—particularly the gradual reduction of the statutorily poor to a minority in society—there is a greater need for integrated programs that explicitly envision the upward mobility of different categories of individuals and families over time and across generations. Such a strategy must recognize that different households confront different life obstacles and that there are different pathways for them to move up the socioeconomic ladder.

The implication is that long-standing blanket policies targeting only the poor—especially in terms of subsistence—although still necessary, may no longer suffice. Policies are required that take into account the differentiated capacities and needs of households and individuals in the entire process of upward social mobility. As the Report notes, "government need not implement a single type of benefit scheme for these different categories—*one size does not fit all.*" This requires the government to design programs that are differentiated in both provision and financing depending on the socioeconomic groups

they intend to benefit. While the extremely poor should continue to benefit from direct provision and transfers, this is less true for the middle classes, who may benefit more from mutual insurance or access to forms of credit. Governance structures and financing systems must move beyond the customary sectoral approach (e.g., undifferentiated crop programs or blanket subsidies and discounts) and instead provide assistance that is differentiated according to the requirements of individuals and households. The intergenerational nature of mobility also implies more focus should be given to policies and programs that improve opportunities and secure the future of children of the poorest households.

Part 2 analyzes the progress of human development of different provinces in the country, including Metro Manila, in the 1997 to 2015 period. Global economic crises, such as those which engulfed the country in the 1997-2008 and 2008-2009 periods, have affected changes in the human development trends, although the record also illustrates how improvements in outcomes have been recorded especially in the 2010s when the country's economic performance has improved.

While some progress during the period has been noted, there is no clear upward path for all provinces. Rather, there is high variability in provincial performance over the period covered, which also seems to mirror the upward and downward movements in welfare among the different households in Part 1 of the Report. The path to progress varies and not all succeed in sustaining their levels of human development.

While there seems to be some convergence in terms of income—with the growth of per capita income of the lowest quartile of provinces being higher than that of the highest quartile—the changes in terms of education and health components of the Human Development Index are less clear. In fact, tracking six-year period changes within the timeframe examined (i.e., 1997 to 2003, 2003 to 2009, 2009 to 2015) a few provinces display what the late economist Gustav Ranis called a "vicious" cycle of development in which the degree of advancement in non-income indicators of development fall compared to improvements in income.

The high levels of inequality across health and education indicators in many of the provinces in the country has not also helped. The human development values of all provinces must be discounted by at least 10 percent if inequality is taken into account, and at least nine provinces lose more than double this figure.

These indicators point to the truth that much remains to be achieved by way of progress of human development and all sectors of society should stand guard, especially given the situation of expectedly poorer outcomes in coming years following the outbreak of the global pandemic and its effects on the country. We hope this Report serves to further persuade the government and other stakeholders that socio-economic mobility and progress in human development outcomes should be at the forefront of the national agenda.

Emmanuel S. de Dios
President
Human Development Network

Foreword

THE Philippines entered 2020 with significant improvements in our economic and social indicators. The sustained average GDP growth of 6 percent over the past decade would have elevated us to upper middle-income country status this year before COVID-19 hit. Our revenue and debt-to-GDP ratio were at its best in decades. We have achieved the highest credit rating and our infrastructure budget has exceeded five percent of GDP.

All of these gains have translated to record-low unemployment, underemployment, and poverty rates. We were also able to lift six million people out of poverty in 2018, four years ahead of the 2022 target.

But much more can be achieved. The 8th Philippine Human Development Report's findings on the various factors that enable people to improve their income and living conditions, as well as those that hold them back, reinforce our decision to support the enactment and implementation of laws and reforms such as the Pantawid Pamilyang Pilipino Program (4Ps) Act, Enhanced Basic Education Act of 2013 (K to 12 Basic Education Program), Rice Tariffication Law (RTL), and the Universal Health Care (UHC) Law.

For instance, the RTL brought down the price of rice and improved food security among households. The implementation of the K-12 program is important in improving educational outcomes that will empower individuals to realize their potentials. On the other hand, the passage of the UHC law, which is funded by increased taxes on alcohol, tobacco, and e-cigarette products, among others, benefits vulnerable and indigent populations needing access to quality healthcare.

We also supported programs for greater financial inclusion and highlighted the importance of infrastructure development and the adoption of Philippine Identification System (PhilSys) or the national ID system. As of December 1, 2020, we have completed the first step of PhilSys registration among some seven million Filipinos from low-income households, where we can better target beneficiaries for our social protection programs.

While these successes are significant, translating these into tangible human development outcomes may take more time. After all, these are structural reforms that address longstanding and decades-old deficiencies that we are just starting to fix.

This year, the country faced multiple unexpected shocks that have posed new challenges for us. The health crisis caused by COVID-19, in particular, has pulled back our human capital gains. Fortunately, the economic, social, and institutional reforms that we have previously put in place and recently implemented cushioned the blow and allowed us to generate resources to fund our response to the pandemic.

The government initially responded with one of the biggest social protection programs. The Bayanihan to Heal as One Act was swiftly passed and helped families cope with the most severe impact of the crisis through the social amelioration program and support to health care. We have also provided small business wage subsidy and public guidance for safer and quicker recovery. These have prevented deeper and protracted deterioration of the economy, jobs, and human welfare. The Philippine Institute for Development Studies (PIDS) noted that through these interventions, we have prevented four million Filipinos from slipping back into poverty.

We also saw in the first three quarters of 2020 that the economy's performance responds to the level of quarantine. As we relax quarantine restrictions and gradually reopen the economy, we are already seeing signs of economic recovery. Recent figures show that

our economy is resilient and it can recover if we enable it to do so. It also motivates us to push for more reforms— some of which may be unpopular, complex, and difficult but are necessary and will benefit our people in the long run.

As we recover and plan for a more resilient future, we need to understand the pandemic's impact on Filipinos' socioeconomic conditions over time to determine whether and to what extent our responses have been effective and which strategies we should pursue or revise. To this end, the Philippine Development Plan (PDP) 2017-2022 has been updated to refocus on health and resilience.

We remain mindful to carefully balance and manage the risks by striving to restore livelihoods and increase incomes while safeguarding the health and well-being of Filipinos. We are now pursuing programs that are necessary for safely reopening the economy to help bring back jobs, restore consumer confidence, and allow people to recover their sources of income. Doing so will help us get back on track to our development objectives.

Our collective vision of a *matatag, maginhawa, at panatag na buhay para sa lahat* should remain steadfast and this pandemic has motivated us more to rise above these challenges. Together, we will emerge from this crisis as a stronger, more inclusive, and resilient nation. This publication and its subsequent editions can guide us in our development journey to ensure that our country will continue moving towards the achievement of *Ambisyon Natin 2040*.

Karl Kendrick T. Chua
Acting Secretary
National Economic and Development Authority

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The initial concept note for the Report was subject to painstaking review by the HDN's Executive Committee (Execom) during several meetings in February, May, and July 2015, while various background papers and drafts of the Report were evaluated and assessed in additional meetings held in November 2016, April and September 2017, and February 2020. The contributions and advice given by Execom members Romulo Virola, Karina Constantino-David†, Gelia Castillo†, Fernando Aldaba, Winfred Villamil, and Erlinda Capones are gratefully acknowledged. The participation of HDN founding president Solita Monsod proved especially helpful in sharpening the ideas in the report.

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Finally, we dedicate this Report to our executive committee members, Gelia T. Castillo, and Karina R. Constantino-David, who were lost to us during the years this Report was being prepared. May this Report inspire future academics and activists to aspire for greater economic and social opportunities for all Filipinos, which we believe has been the lifelong work of Gelia and Karina.

HDN Executive Committee

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Abbreviations

4Ps ..... Programang Pantawid Pamilyang Pilipino
APIS..... Annual Poverty Indicators Survey
ARMM..... Autonomous Region in Muslim Mindanao
BARMM ..... Bangsamoro Autonomous Region in Muslim Mindanao
BPO ..... Business process outsourcing
CARP ..... Comprehensive Agrarian Reform Program
CHED..... Commission on Higher Education
CLHNS ..... Cebu Longitudinal Health and Nutrition Survey
CLIFF ..... Community-Led Infrastructure Financing Facility
CRP ..... C-reactive proteins
DENR..... Department of Environment and Natural Resources
DepEd ..... Department of Education
DSWD ..... Department of Social Welfare and Development
FIES..... Family Income and Expenditure Survey
FNRI ..... Food and Nutrition Research Institute
GSIS..... Government Service Insurance System
HDN..... Human Development Network
IGE ..... Intergenerational income elasticity
LFS..... Labor Force Survey
MDG ..... Millennium Development Goal
MPSD ..... Middle-to-poor share difference
NCAED..... National Career Assessment Examination
NDHS ..... National Demographic and Health Survey
OFW ..... Overseas Filipinos workers
OOP ..... Out-of-pocket payments
PHDR..... Philippine Human Development Report
PhilHealth..... Philippine Health Insurance Corporation
PSA ..... Philippine Statistics Authority
PSHAI..... Payatas Scavengers Homeowners Association Inc.
RA ..... Republic Act
SSS..... Social Security System
StuFAPs ..... Student Financial Assistance Programs
SUCs..... State universities and colleges
TESDA ..... Technical Education and Skills Development Authority
TRAIN..... Tax Reform for Acceleration and Inclusion
TVET ..... Technical-vocational education
UNDP ..... United Nations Development Program
UniFAST ..... Unified Student Financial Assistance System for Tertiary Education
VMSDFI ..... Vincentian Missionaries Social Development Foundation Inc.
WVS ..... World Values Survey
YAFS..... Young Adult Fertility Survey

Glossary of Key Terms

Economic mobility

Movement of the incomes or expenditures, or components of incomes, including wages or nonwage income, of individuals, families, or groups over time (mobility as movement), in terms of the final position over the welfare distribution (mobility as origin independence) and changes in "permanent" income (mobility as equalizer in long-term income).

Geographical mobility

Movement from one geographical location to another.

Growth elasticity of poverty incidence

A measure used to assess the percentage change in reduction in poverty incidence, given an increase per capita income.

Income mobility

Usually related to two terms of **temporal analysis of welfare** which imply a different set of appropriate policies, including *transient poverty* or poverty that can be attributed to intertemporal variability in income or consumption, and *chronic poverty*, or poverty based instead on average income or consumption over time.

Inequality

Generally defined as the distance between different subgroups.

Middle class

Both an economic and sociological concept that encompasses the positions in the society in terms of not only income, but also status or lifestyle and power.

Mobility

The ability to move between different levels in society or employment.

Social mobility

Movement of individuals, families, or groups through a system of social hierarchy or stratification. *Horizontal movement* connotes movement within the same occupational or employment types and/or social status. *Vertical movement* connotes movement across different occupations or types of employment and/ or social states.

Socioeconomic mobility

Movement in different social and economic characteristics, including income, employment/ occupation and social status. Different from geographical mobility.

Transition matrix

An illustrative figure showing directional welfare mobility and the proportion of households across different income, wage, employment or other socioeconomic variables (i.e., education, health) at the origin (usually in the y-axis) and then at the destination.

Vulnerability

A concept closely related to risk in which an event affects individuals, families, or groups adversely.

Socioeconomic mobility and human development in the Philippines

Upang magkaroon ng buhay na marangal
At mahawakan na ang kasagutan ng mga dasal
Na makatapos sa eskwela, hanggang kolehiyo
Makapagpagamot ng di pribilehiyo
Hindi hiningi, hindi binigay
Dahil dinadaanan ko'y ang kanyang nilakbay
Sa kahirapan ng buhay, lagi mong kaakbay
Tungo sa kaunlaran, tatawid sa tulay
Sabay nating iangat, kahit ga'no kabigat
Ang pagkatao'y di nasusukat sa kulay ng balat
Dahil dinig ko ang lahat ng inyong hinaing
Hawakan mo'ng aking kamay dahil ako'y ikaw rin

"Pareho tayo" by GLOC-9

FOR over a decade and a half—and until the trend was interrupted by the current COVID-19 pandemic—per capita income in the Philippines grew more or less steadily with no major breaks. But while the steady rise in per capita income is welcome, advances in human development have been uneven at best.

Between 1991 and 2019, GDP per capita grew from ₱82,530 to ₱179,444 in constant 2018 terms, or an increase of 2.9 percent per year, a respectable growth record compared to other developing countries. This would have put the Philippines on track in 2020 to make the transition to an "upper middle-income" country,[1] a broad classification that includes countries as diverse as Malaysia, China, Thailand, Jordan, and Guatemala. On the other hand, the country's human development index (HDI) only increased by 0.61 percent per year, or roughly half of the growth rate of similar medium-HDI countries in the period. As a result, the country has fallen behind its neighbors such as Thailand (which overtook the Philippines in the early 1990s) and Indonesia (which overtook the Philippines in the early 2000s) [United Nations Development Program, 2019].

Until fairly recently, the reduction of poverty in the country was also painfully slow. A trend towards improvement became evident only between 2012 and 2015, when the poverty headcount index fell by almost 4 percentage points. This trend continued into 2018, when poverty incidence among individuals fell by a further 6.7 percentage points (from 22.64 million to 21.93 million to 17.6 million between 2006 and 2018).

Even this hopeful development, however, pales in comparison with the rapid rate of poverty reduction in neighboring countries such as Thailand and Vietnam, which had roughly similar poverty headcount ratios in the early 2000s but whose ratios are now half of that of the Philippines. Even on its own terms, the country failed to meet its Millennium Development Goal (MDG) of halving the incidence of poverty.[2] In the meantime, the level of income inequality has also barely changed, with the Gini ratio for incomes falling only marginally from 0.46 in 2006 to 0.44 in 2015, significantly higher than Thailand's and Vietnam's 0.35 in the same year.

The COVID-19 pandemic and the associated effects of the community quarantine imposed in different areas of the country, however, have put a grinding halt to this progress and likely reversed it in the meantime. Economists are already projecting an increase in poverty incidence from 2018 level of 16 percent to around 24 percent, or even more in the face of the worst recession the country has experienced in four decades. [Albert, Abrigo, Quimba and Vizmanos, 2020 and Ducanes, 2020].

The immediate deterioration in welfare may be seen in employment disruption and destruction. The April 2020 Labor Force Survey (LFS) showed unemployment rising to a record high of 17.7 percent, compared to 5.1 percent in the same period last year. This is equivalent to seven million unemployed persons—five million more than the number registered in the same period last year. Nor does this include another five million who left the labor force due either to the quarantine or fear of exposure to the virus [Ducanes 2020].

Depending on how long a recovery will take, events in 2020 will have at least temporarily reversed recent trends where the proportion of the poor has fallen, albeit slowly in the past two decades, while the number of those who have climbed the income ladder has increased. The spell of uninterrupted growth in the past three decades created a significant number who belong to the "middle class," or at least the economically secure—by some measures close to nine million or almost 40 percent of all families—people no longer on the brink of survival in terms of food and nonfood needs and who are able to acquire physical or financial assets in varying degrees. This phenomenon was reflected, among others, in the growing sales of consumer durables, fast food, automobiles, residential housing due in no small part to the

rise of overseas employment, business process outsourcing (BPO) and their consequent repercussions.

While much of this Report was completed before the onset of the current pandemic and economic crisis, many of its findings carry implications for future developments, even as it sheds some light on why the impact of the pandemic has been so severe and uneven. The COVID-19 pandemic has exposed the fragility of the improvements in the situation of socioeconomic mobility in the country, as well as the shortcomings of the social protection and social insurance systems underpinning that mobility. Even the many middle-class households whose situation improved in the past now suddenly find themselves in a more precarious situation. This includes families reliant on overseas remittances (as thousands of overseas Filipino workers or OFWs have returned home and remittances have fallen significantly) and those in the BPO industry, which have been hit by the recession, which is now global. The many ancillary industries spawned by these drivers of past growth have also been greatly affected by the recession (e.g., the food and accommodations, retail trade, arts and entertainment), undermining what were once thought to be secure jobs and incomes.

Meanwhile, the coverage and resiliency of the health and education systems have been sorely tested. The pandemic obviously cuts across all classes, and tertiary care capacity has been stretched by the rising number of COVID-19 cases, even as it remains inaccessible to most of the vulnerable and poor. The education system has also struggled to find its bearings as millions of students have had to forego their education either out of fear for their safety or owing to the lack of financial means to support their schooling.

Although middle-class households have grown in number in recent years, many others have not quite managed to make the transition. Among those in limbo are the "vulnerable," i.e., households whose incomes and expenditures exceed the poverty line but are inadequate to provide secure levels of living over time. It is such households that lack resilience in the face of natural and economic shocks such as the current pandemic; they are unable to save to build larger asset bases [World Bank 2018], have limited education, lack access to quality health care services and public infrastructure, and fail to achieve that level of existence that defines middle-class living standards around the world. This phenomenon is partly captured by studies[3] that observe how a large number of individuals and households actually move up and down the income ladder, transiting at different times into and out of the official poverty reckoning. This social version of Brownian motion is among the reasons that overall poverty incidence has remained elevated, disguising the up-and-down trajectories of individual households as these deal with specific life challenges.

For the same reasons, the significance of income inequality for public policy must be reassessed. Neither high nor low inequality by itself says anything about how easy or difficult it is for individuals and households to improve their lot. While many now-affluent societies have rid themselves of the most glaring inequities by opening up great opportunities, other societies with fairly equal distribution are stagnant. Meanwhile, inequality in others, notably the rapidly growing or emerging economies, has actually been the result of great social mobility. What is clear is that the state of income and wealth distribution is as much the result as it is a cause of the opportunities open to households.

What emerges is a more complex picture of welfare and human development, one of both change and nonchange, of advance for some and retreat for others, of both victories and defeats in the struggle for development. The convenient dichotomy between rich and poor—easily made until two decades ago—now needs to be qualified. The developing situation validates neither the notion of unremitting immiserization nor the facile metaphor of a rising tide of growth that lifts all boats.

Clearly needed, first of all, is a recognition that *Filipino households are becoming increasingly differentiated*. Second, that increasing *heterogeneity means households confront different obstacles and opportunities that lead them to different welfare trajectories through time*. Static and dichotomous analyses have only limited explanatory power and conceal processes that allow differently situated people to improve—or fail to improve—their situation.

Indeed, the importance of recognizing this differentiation is pointed up in the government's struggle to implement a social amelioration program during the present pandemic. While the government had a fairly comprehensive census of poor households owing to the

existing conditional cash transfer program, it could not even begin to distinguish households that were nonpoor but vulnerable from the stricken middle classes or from the well-off. The result has been undercoverage in some, overprovision and leaky buckets in others—exacerbated by a good amount of corruption in many cases.

The country's changing socioeconomic structure calls for a new framework to accommodate the growing heterogeneity of challenges people confront. For this new framework, an important dimension is *socioeconomic mobility*, or more specifically *positive socioeconomic mobility*, i.e., the ability or opportunity afforded to persons and households to move to better socioeconomic positions.

This new perspective raises difficult but urgent questions for both social science and public policy. How and why are some households able to improve their position over time and across generations while others are left behind? What are the differences, if any, between the obstacles faced by vulnerable versus chronically poor households? Do those who have just barely made the ranks of "middle class" deserve attention and, if so, which types of public interventions will specifically improve their lot? Are there—and should there have to be—trade-offs between interventions in behalf of the poor versus those that favor the middle class, and even beyond this, those that benefit the rich? What is the likely bias of political decisions and the pull on public resources in a society with a growing middle class but with still a sizable poor population? What should be the content of "pro-people" or "pro-poor" measures in such a context?

This Report examines what we know about socioeconomic mobility in the country thus far—what it looks like and what factors help or hinder it—and the implications for human development aspirations and policy that it presents.

WHY SOCIOECONOMIC MOBILITY?

Heterogeneity and movement

Numerous studies have reiterated what is by now a well-known observation, namely, that poverty in the Philippines has indeed fallen—albeit slowly.[4] The relative stagnation of poverty reduction can be seen in the official poverty figures. For almost a quarter of a century, from 1991 to 2015, the proportion of the population that is poor fell by an average of only four-tenths of 1 percent annually—from 34 percent in 1991 to 21 percent in 2015.

Even that assessment is too kind. For poverty incidence barely changed between 2006 and 2015. Only since 2015 and further in 2018 did poverty incidence drop significantly [**Box 1.1**]. In terms of scale, moreover, human deprivation has hardly abated. Even official figures show only a slow decline in the number of poor Filipinos today compared to roughly three decades ago: 21.7 million in 1991 and 17.6 million in 2018 [PSA 2019],[5] a mere 4.1 million fewer poorer Filipinos over 27 years.

Many studies[6] have also established what are by now the stylized features of poverty, among others: that the poor consist disproportionately of farmers and fisherfolk, that they are more prevalent among the employed than among the unemployed that poverty correlates with having large families and lower educational attainment of family heads, and that poverty is less prevalent among households with members working overseas.

Geography also seems to matter: certain spatial factors are linked to human development through their effects on health and agricultural productivity, distance, and institutions [Human Development Network 2013]. For example, neglected tropical diseases are site-specific and associated with chronic disabilities which hamper development of children and productivity and incomes of adults.

Box 1.1 Why did poverty decline between 2012 and 2018?

For much of the 2000s, there was very little decline in the poverty incidence and a slight increase in the number of absolute poor. Official figures show that the proportion of poor Filipinos reduced marginally from 26.6 percent in 2006 to 25.2 percent in 2012, while the number of those below the poverty line increased by more than a million.

In the 2012-2015 period, however, there was a modest improvement in poverty data. Poverty incidence declined by 3.6 percentage points among individuals and by 3.2 points among families, a significant improvement compared to the previous two three-year periods. The number of poor decreased by almost two million individuals and by half a million families. The proportion of those who are poor declined in all 16 politico-administrative regions in the country, even if the number of individuals and households in Metro Manila, CARAGA, and the Autonomous Region of Muslim Mindanao (ARMM) had slightly increased. The regions where poverty dropped significantly (more than 5 percentage points in incidence by individuals and by families) include Davao, Zamboanga Peninsula, Western and Eastern Visayas, MIMAROPA, and Cagayan Valley.

The reduction in poverty incidence between 2015 and 2018 has been much more significant; the PSA estimates that more than six million individuals or around 1.1 million families moved up the poverty line. The reductions were high (more than 10 percentage points in terms of families and individuals) in Northern Mindan-

Box Table 1 Change in poverty incidence and magnitude

(2012-2015 and 2015-2018, by individuals and families)

Region	2012- 2015				2015- 2018			
	By individuals		By families		By individuals		By families	
	Incidence	Magnitude	Incidence	Magnitude	Incidence	Magnitude	Incidence	Magnitude
PHILIPPINES	-3.6	-1,818.89	-3.2	-468.41	-6.7	-5,919.26	-5.8	-1,124.8
NCR	0.0	33.80	0.0	3.72	-1.8	-214.26	-1.3	-37.7
CAR	-3.1	-22.15	-2.6	-5.76	-10.4	-172.93	-8.4	-30.8
Ilocos	-5.4	-205.56	-4.4	-42.48	-9.1	-440.37	-7.1	-77.0
Cagayan Valley	-6.3	-163.14	-5.3	-35.60	-1.5	-31.18	-0.6	0.7
Central Luzon	-1.8	-98.29	-1.1	-16.40	-3.5	-340.23	-3.1	-69.9
CALABARZON	-1.8	-137.81	-1.7	-40.38	-5.2	-668.05	-4.0	-118.9
MIMAROPA	-6.6	-122.02	-6.2	-29.20	-9.6	-265.02	-7.3	-43.8
Bicol	-5.0	-104.43	-4.8	-29.01	-12.7	-678.06	-10.9	-120.3
Western Visayas	-6.7	-360.07	-6.2	-83.21	-8.0	-567.17	-6.4	-96.6
Central Visayas	-2.6	-37.43	-2.1	-11.36	-11.6	-795.31	-11.6	-177.9
Eastern Visayas	-6.5	-126.19	-6.6	-37.32	-10.4	-402.35	-9.0	-70.9
Zamboanga Peninsula	-6.2	-135.16	-7.7	-45.74	-4.8	-142.66	-4.3	-24.1
Northern Mindanao	-2.9	-39.10	-2.5	-8.56	-15.4	-673.57	-14.7	-140.1
Davao	-8.7	-318.86	-8.3	-76.51	-4.6	-177.94	-4.2	-35.1
SOCCSKSARGEN	-7.4	-179.17	-6.6	-44.88	-10.0	-385.21	-8.9	-76.1
Caraga	-1.2	60.39	-1.1	8.64	-9.0	-203.46	-6.8	-28.4
ARMM	-2.1	136.32	-0.5	25.64	2.4	238.50	0.4	22.0

Source: PSA [2016, 2019]

Box Table 2 Change in nominal and real income over three-year periods (2003- 2018)

Year	Nominal levels (000s)		Average annual nominal change		Average annual Inflation rate	Average annual real change (three-year periods)	
	Income	Expenditure	Income	Expenditure		Income	Expenditure
2003	148	124					
2006	173	147	5.3%	5.8%	6.6%	-1.3%	-0.8%
2009	206	176	6.0%	6.2%	5.1%	0.9%	1.1%
2012	235	193	4.5%	3.1%	3.9%	0.6%	-0.7%
2015	267	215	4.3%	3.7%	2.8%	1.5%	0.8%
2018	313	239	5.4%	3.5%	3.1%	2.3%	0.4%

Source: PSA [2016, 2019]

ao, Bicol, and Central Visayas, which comprised more than a third of the decrease in the number of those who are poor. Only the ARMM showed a slight increase in both poverty incidence and magnitude among individuals and families.

There are initial indications that the quality of growth and price stability have helped in improving welfare of the Filipinos throughout the country. Relatively high levels of GDP growth and slow price increases brought about by the better macroeconomic environment in the 2010s have raised real incomes in general. **Box Table 2** shows the increase in average real incomes at its highest in the 2012-2015 period among all three-year periods since 2003. Between 2003 and 2006, even if the nominal figures were quite high, the high levels of inflation eroded annual real income and expenditure.

The improvement in the macroeconomy has also helped in enlarging the proportion of those who are employed and the quality of employment. Unemployment rates, or the proportion of the labor force that is not working, declined in 13 regions, while underemployment rates, or the proportion of those already employed but still wanting more work, stepped back in 10 regions during the 2012-2015 and 2015-2018 periods **[Box Table 3]**. Wage improvements in both three-year periods were partly due to a shift in the sectoral composition of the labor force; that is, a decline in the share of low-wage agricultural employment and a shift towards higher-wage employment in the industry and services sector. Domestic remittances and the very modest growth of the agriculture sector also helped [World Bank 2018]. All these may have contributed to the significant rise in average annual incomes over the 2012 to 2018, especially in the last three years of the period.

At the same time, the conditional cash transfer program, the Pantawid Pamilyang Pilipino Program or 4Ps, has helped reduce the proportion of those living below the poverty line. Impact studies by the World Bank [2016] show that the program, which was piloted in 2007 and scaled up for implementation in 2010, has reduced the poverty gap by 8 to 9 percentage points and food poverty incidence by 1.4 percent, making it at par with the world's largest conditional cash transfer programs —the Oportunidades Program in Mexico and the Bolsa Familia in Brazil.

The 4Ps has also contributed to the increase in school enrollment rates, improvements in the long-term nutritional status of children below three years old, and increased incentives for poor women to utilize maternal and child care services.

In conclusion, the reduction in poverty incidence in the 2012-15 and 2015-2018 periods has been the result of a combination of higher wages and incomes and low inflation. The wider and sustained implementation of the government's cash transfer program also helped in this regard.

Box Table 3 Change in unemployment and underemployment rates over three-year periods (2006-18)

Region	Change in unemployment rate				Change in underemployment rate			
	2006- 2009	2009- 2012	2012- 15	2015- 18	2006- 2009	2009- 2012	2012- 15	2015- 18
Philippines	-0.5	-0.5	-0.7	-0.3	-3.5	0.9	-1.5	-1.3
NCR	-1.6	-2.2	-2.1	-0.6	-4.1	2.0	-4.4	-5.7
CAR	-0.7	0.9	-0.6	0.0	-3.4	-2.2	5.3	-3.0
Ilocos	-0.5	0.0	0.2	-1.7	-4.4	2.7	-2.6	8.2
Cagayan Valley	-0.2	0.0	0.4	0.0	-8.9	-2.6	-1.5	8.3
Central Luzon	-1.4	-0.2	-1.2	-0.3	-6.0	5.2	0.5	-1.0
CALABARZON	0.4	-1.5	-0.9	-1.2	-1.6	1.4	0.3	-4.4
MIMAROPA	-0.4	-0.2	-0.9	2.1	2.5	-3.4	-1.8	1.9
Bicol	0.2	0.3	-0.5	-0.6	-1.7	-1.8	-2.8	-5.6
Western Visayas	0.6	-0.4	-1.2	1.1	-0.1	-3.7	-0.6	0.2
Central Visayas	0.0	-0.4	-1.2	-0.1	-5.0	5.9	-2.3	1.0
Eastern Visayas	0.6	-0.2	0.2	-1.1	-4.4	-1.4	6.8	-4.6
Zamboanga Peninsula	0.1	0.2	-0.3	0.5	-2.9	4.0	-9.2	4.0
Northern Mindanao	-0.7	-0.2	0.9	-1.7	-5.2	1.1	-3.7	-1.8
Davao	-1.2	0.1	-0.2	-1.2	-3.8	-2.5	1.1	0.6
SOCCSKSARGEN	-1.4	0.1	-0.7	1.5	-6.6	2.2	0.0	-1.0
Caraga	0.3	-0.1	0.0	-1.0	2.1	-2.9	2.1	-0.7
ARMM	-2.0	1.1	0.1	0.2	4.6	-3.3	-1.6	-2.3

Source: PSA [2016]

Actual and proposed interventions are informed by or have responded to those well-known characteristics and conditions. The mostly rural character of poverty, for example, is the basis for the policy concern for agriculture, the demand for rural infrastructure (e.g., farm-to-market roads), and for public subsidies to agricultural inputs such as seed, fertilizer, and irrigation. The large size of poor families is a major impetus for the (alas, still slow-moving) program for reproductive health and family planning. The vigorously debated free tuition for state tertiary education is a response to the finding that poorer households have more difficult access to education.

A major shortcoming in almost all these initiatives, however, has been the *blanket application of solutions across locations and socioeconomic classes* with scant regard for differences in the actual challenges that confront families. A recent example is the initiative to extend free college tuition across the board in all state universities. While many poor families could undoubtedly use assistance to facilitate their access to higher education, not all poor households necessarily regard such help as the most salient form of public intervention, or even college education as an urgent priority. After all, only 20 percent of poor household heads (and 11 percent of the very poor household heads) even complete high school.

The same may be said for blanket national subsidies to such agricultural inputs as seeds, fertilizer, and irrigation, which benefit poor and nonpoor farmers alike, even as they are irrelevant to many sections of the poor (e.g., the urban poor). Public programs in housing and health insurance suffer more or less from the same malaise—namely, the "leaky bucket" syndrome, where resources are preempted only to benefit groups other than their intended target beneficiaries. In a number of cases, they have also unfortunately served as channels of corruption. As a previous issue of this Report has pointed out, many government programs—those in public health and agricultural exten-

sion being examples—are oblivious even to the particular needs of the populations in different geographies, partly because the national assignment of responsibilities encourages national sector approaches based on the notion that one (average) size fits all.

Thus far the only large-scale public program that at least attempts globally to identify specific households for assistance has been the targeted conditional cash transfer program (the "4Ps," or Programang Pantawid Pamilyang Pilipino). It is not by chance that this program has been credited with a role in the recent reduction in poverty incidence.

Aside from heterogeneity, a second blind spot in both science and policy has been *the inadequate tracking of movement and transition among households*. Work undertaken since after the Asian financial crisis in the late 1990s [Chaudhuri and Datt 2001; Reyes 2002a and 200b; and Balisacan and Fuwa 2007] has documented what should long have been self-evident, namely, that "the poor" themselves are not a static category. More recently, Reyes and her co-workers [2011] showed that a large number of those classified as "poor" actually move in and out of a technical status of poverty over time, with some managing to escape poverty, others falling back (the "transient poor") into it, and still others simply remaining poor throughout the period (the "chronic poor").

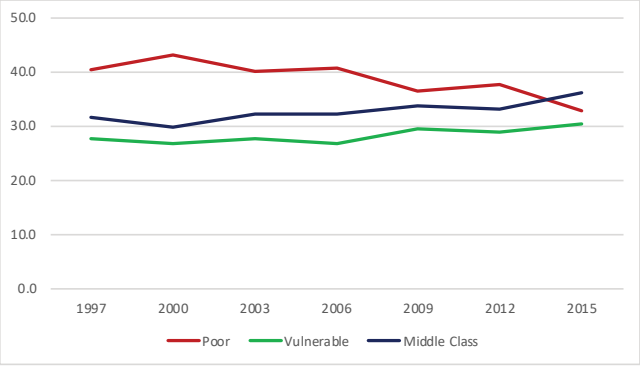
Similar "movements" are to be observed among the nonpoor. Between 2003 and 2009, 12 percent of the erstwhile nonpoor had fallen into poverty, while 42 percent of the originally poor had become classified as nonpoor. Another study showed that 16 percent of the sample households had incomes consistently below the poverty line over the 2003-2008 period, while others moved back and forth [Bayudan-Dacuycuy and Lim 2013].

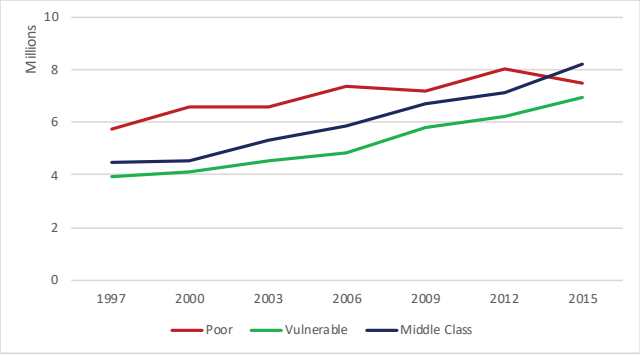
Differential mobility, defined as the *ability to move between different levels in society or employment*, suggests heterogeneity, and vice versa. This movement of individuals, families, or groups through a system of social hierarchy or stratification can refer to both *horizontal movement*, which connotes movement within the same occupational/employment types and/or social status, and *vertical movement*, which connotes movement across different occupations/types of employment and/or social states. The foregoing suggests that "the poor" are by no means homogeneous and therefore cannot be treated as mere averages. Rather, what matters in principle are the life histories and trajectories of families and individuals.

Movement among households underscores the need to go beyond the simple dichotomy of poor versus nonpoor and instead examine the entire social distribution of income or expenditure. This is done in **Table 1.1**, which shows the changing proportion of households in different expenditure classes from 1997 to 2015. Households are classified here by expenditure classes instead of income, since expenditure or consumption better reflects the standard of living, being less variable than incomes.[7] Expenditure also captures a household's ability to mobilize financial resources other than income such as savings, borrowing, remittances, and support from relatives. We therefore define classes based on daily per capita expenditure corresponding to the very poor, the poor, the vulnerable, the economically secure, the upper

Figure 1.1 The growing middle classes

Number and shares of poor, vulnerable, and middle-class households (1997-2015)





Source of basic data: Report estimates from FIES, various years

Table 1.1 A growing differentiation

Households by expenditure class (1997-2015, as percent of all households)

Expenditure class*	1997	2000	2003	2006	2009	2012	2015
Very poor	16.39	18.41	16.84	16.45	11.98	13.11	9.61
Poor	23.92	24.67	23.17	24.22	24.47	24.50	23.34
Vulnerable	27.63	26.8	27.60	26.84	29.42	28.96	30.59
Economically secure	26.82	25.1	27.14	27.07	28.27	27.88	30.83
Upper middle	4.84	4.67	5.06	5.23	5.65	5.35	5.42
Top	0.40	0.35	0.20	0.20	0.21	0.20	0.21

**Daily per capita expenditure of(a) extremely poor: $1.9 or less; (b) poor: between $1.9 and $3.1; (c) vulnerable: between $3.1 and $5.5; (d) economically secure: between $5.5 and $15; (e) upper middle: between $15 and $50; and (f) top: $50 or more.*

Note: Figures may not add up to 100 percent due to rounding. The World Bank has however updated its poverty line to $3.2 per person per day.

Source of data: Report estimates from FIES, various years

middle class, and the topmost class.[8]

How have the sizes of these various classes or groups changed through time? We define the movement here as the change in one's class based on per capita expenditure.[9] As a share of all households, the "very poor" class first increased as a share then began to decline from about 2000 onwards, with significant reductions in 2006–2009 and again in 2012–2015 **[Table 1.1]**. Households in the "poor" category take up a somewhat constant share at 23-24 percent of all families throughout the period. On the other hand, there was an increasing proportion of the vulnerable and economically secure categories, while the upper middle class each also increased slightly. The proportion of households in the top expenditure category, however, was halved from 0.40 percent to 0.21 percent during the entire 1997–2015 period.

A more distinct trend emerges if the two lowest expenditure groups are combined into a broad "poor" category and the economically secure and upper middle categories are grouped into a broad "middle class." Then what is clear is a decline in the former and an increase in the latter, whether in terms of shares or total number of families. The proportion of the poor as broadly defined fell from 40.3 percent of families in 1997 to 32.9 percent in 2015, with the significant decline occurring from 2012. This reflects the same trends, if not magnitudes, seen in official poverty measures. Meanwhile, the broad middle class increased from 31.6 percent to 36.2 percent. It is significant, however, that the proportion of the vulnerable has remained high and even increased marginally from 27.6 to 30.6 percent also between 1997 and 2015 **[Left Panel, Figure 1.1]**.

In short, by 2015, a notable milestone had been passed: a broadly defined middle class constituted a larger share of all families than the those classified as broadly poor. In this sense—and if past trends continue—the Philippines is increasingly becoming a predominantly middle-class society. It is estimated that number of middle-class families increased significantly from 4.5 million families in 1997 to some 8.2 million in 2015; on the other hand, the number of vulnerable families rose from 3.9 million to 7 million **[Right Panel, Figure 1.1]**.

The growing share and number of the vulnerable and the broad middle class—especially the fact that these now outnumber those regarded as poor—is a trend not typically underscored in Philippine social and development literature, although it has been broadly confirmed by other studies despite differing definitions of "middle class" **[Box 1.2]**. Using Family Income and Expenditure Survey (FIES) data, Virola, Encarnacion, Balamban, Addawe, and Viernes [2013] show that the size of the "middle class," as they define it, has been increasing both as a proportion and in absolute numbers in the 2003–2009 period.[10] More recently, Albert and Raymundo [2015] also found a moderate increase in the share of families belonging to the middle-income category.

The growth of the middle class is an observation supported by other trends. Consumption demand in the country, spurred by the growth of services employment in the BPO industry and strong overseas foreign worker

remittances, has shown a strong resilience over the past two decades. Middle-class consumption trends—if not always middle-class incomes—have also taken hold, as seen in the growth of midmarket condos and residential real estate, private vehicle purchases, fast-food and casual dining, the diffusion of cellular and smart phones, and time spent on social media, among others. A growing number of Filipinos are joining their neighbors in Asia to become the next set of global consumers, assuming more of the role hitherto played by citizens in the more developed countries.

These emerging trends raise a number of questions for public policy and the social contract. When a family "graduates" from the category of poor and moves into the vulnerable, the economically secure, or the upper middle class, does this mean sustained progress in welfare and human development? If not, what are the threats to continued progress or security? How are some families able to move up the income and social ladder while others are left behind?

In policy terms, should social programs stop at the level of providing the most basic existential requirements? Or should social programs also be designed for the vulnerable and the middle classes? And if so, what types of new programs or modifications of existing ones are relevant to sustaining progress in human well-being for these other categories beyond securing a minimum existence? Exactly what policies are entailed in the social contract with the latter? Such questions have been especially pointed up by the current pandemic, where government has been compelled to cobble together programs that cater not only for the poor but also the vulnerable and the middle classes.

Socioeconomic mobility: What is it?

Interpreted positively, socioeconomic mobility[11] is a natural outgrowth and concomitant of human development. For the latter denotes the expansion of people's choices, freedoms, and opportunities—both as a means to well-being and as ends in themselves. Socioeconomic mobility, on the other hand, is *the opportunity to move across social classes or categories on the basis of merit, capacity, or effort*. This implies movement in different social and economic characteristics, including income, employment/occupation, and social status. This is different from geographical mobility, or movement from one geographical location to another.

As with human development, social mobility as a value eschews structural or institutional barriers to accessing such opportunities. Ethnicity, gender, religion, political belief, social pedigree, and inherited wealth, among others, should play no role as bases for career choice, professional advance, asset acquisition, access to social services, and opportunities for personal fulfillment. In turn, the human development advocacies—for universal access to health, education, an irreducible minimum command over material resources, and basic civil liberties—must be viewed as an imperative to remove such structural constraints and lay the ground for a fair start in life.

Analyzing differences in opportunities through a static framework has limited explanatory power and may conceal processes that are central to understanding how different people can take advantage of better prospects to improve their situation [Addison, Hulme, and Kanbur 2009]. This therefore requires a dynamic analysis of welfare and an understanding of welfare trajectories. It is not enough simply to assess changes in welfare as a single trajectory, but different trajectories of standard of living for different individuals and households at different starting points, i.e., why some households decline in welfare continuously over time, why others improve, and why still others fall then move up the social ladder.

The demand for socioeconomic mobility is not a demand for equality of incomes and outcomes. This bears emphasizing given the recent concern for inequities caused by markets and capitalism in general.[12] Rather, like human development itself, the principle implicitly asserted in socioeconomic mobility is *equality of basic capabilities* [Sen 1979]. Certain levels of access to health, education, material means, and civil liberties lay the foundations for career, citizenship, and personal fulfillment. These make it possible for people to attain—if they so desire and strive for them—the social standings, professions, levels of income and wealth they aspire to. Hence, the measure of the problem is not whether inequality itself exists—for it almost invariably does and, in the Philippines, remains high—but rather whether inequality is due to institutional barriers that reduce or limit people's

Box 1.2 Who is the 'middle class'?

Social stratification can be traced back to as early as the Greco-Roman civilization. Classes at the time were established to identify how much each family should contribute to the empire [Ferreira, Messina, Rigolini, Lopez-Calva, Lugo, and Vakis 2013]. The concept has since evolved as social scientists like Karl Marx and Max Weber view classes as a function ownership of the factors of production and thus defined not only by income but also by the power they hold. These relative powers in turn dictate which classes are at an advantage or disadvantage [Bautista, Rivera, Tabuna, and Arguillas 1998].

The seeming dichotomy in the power relations induced most researchers in the Philippines to study the extreme ends of the social scale, leaving the middle class with little scholarly attention. In addition, the middle class only accounted for 10 percent of the population in the late 1990s and even less in the 1980s [Bautista et al. ~~2000~~ 1998]. The middle class, however, has grown and is significantly bigger today than it was 20 years ago.

Traditionally, the middle class has played a critical part in society's development. In his seminal treatise on political structures, *Politics*, Greek philosopher Aristotle observed that people with different levels of wealth tended to have different political preferences and interests, which could result in conflict of interests between the poor and the rich. This conflict, he said, might be alleviated by the existence of a large group of people "in the middle," particularly if such people were "equal and alike."

In the Philippines, the middle class has played an important role in political and economic development, including the growth of the urban-based manufacturing and service sectors in the 1950s and 1960s, the management of the national economy through state-sponsored technocracy in the 1970s, and the struggle against elite rule in the 1980s. As entrepreneurs, the middle class is critical to the growth of employment and of consumption and investment. It can demand better public services and therefore contributes to the improvement of state governance.

Measuring the middle class

Economists often measure classes in terms of income as it provides a definitive approach in grouping portions of the population. There are two general approaches.

The relative income-based approach identifies a class' position in a scale in relation to others. An example would be getting the distribution of income of a population and applying a range from point to point to know who belong to which class [Blackbird and Bloom 1985; Davis and Huston 1992; and Birdsall, Graham, and Pettinato 2001]. Another example would be generating quintiles or deciles and picking one or several clusters on each division and labelling it as one class [Alesina and Perotti 1996; Partridge 1997; Barro 2000; Easterly 2001; and Solimano 2008]. The resulting classes from this approach vary from country to country and study to study.

Using cluster analysis, Virola et al. [2013] classify individual samples into a small number of mutually exclusive groups based on the similarities among the entities, so that each sample is similar to others with respect to a predetermined selection criterion. A five-cluster option is used, with the middle-income class identified as those with per capita incomes of P65,787 to P805,582 per year. This translates to around 24 percent of total families in 2003, 2006, and 2009.

The other way, the absolute income-based approach, uses a specific range of income or consumption adjusted for purchasing power parity to determine who belong to the middle class. A study of Latin American countries pegs the range at $10 to $50 per day per person adjusted for purchasing power parity [Ferreira et al. 2013]. Albert, Gaspar, and Raymundo [2012], meanwhile, divide households in the Philippines by the poverty line in 2012, the middle-income class comprising households whose incomes are four to 10 times the poverty line.

On the other hand, sociologists measure the middle class using the Weberian and Marxist notions of occupation, employment status, and the "level of autonomy or authority at work."

Box Table 4 Income-based definitions of the middle class

Relative definition of the middle class (percentiles of income distribution), i_ϵ middle class	
Birdsall, Graham and Pettinato [2001]	$0.75\, y(p_{50}) \leq y_i \leq 1.25\, y(p_{50})$
Blackburn and Bloom [1985]	$0.60\, y(p_{50}) \leq y_i \leq 2.25\, y(p_{50})$
Davis and Huston [1992]	$0.50\, y(p_{50}) \leq y_i \leq 1.50\, y(p_{50})$
Alesina and Perroti [1996]	$P_{40} \leq p(y_i) \leq p_{80}$
Barro [2000], Easterly [2001]	$P_{20} \leq p(y_i) \leq p_{80}$
Partridge [1997]	$P_{40} \leq p(y_i) \leq p_{60}$
Solimano [2008]	$P_{20} \leq p(y_i) \leq p_{90}$
Absolute definition of the middle class (percentiles of income distribution), i_ϵ middle class	
Banerjee and Duflo [2003]	US$ 2 ≤ yi ≤ US$ 10 a day
Kharas [2010]	US$ 10 ≤ yi ≤ US$ 100 a day
Lustig, Lopez-Calva and Ortiz-Juarez [2011]	US$ 10 ≤ yi ≤ US$ 50 a day
MIlanovic and Yitzhaki [2002]	US$ 12 ≤ yi ≤ US$ 50 a day
Ravallion [2010]	US$ 2 ≤ yi ≤ US$ 13 a day

Source: Ferreira et al. [2013]

A study conducted in the Philippines in 2000 [Bautista et al. 2000] subdivides the middle class into three categories: "new middle class," which includes professionals, administrators, and managers in industrial establishments; "old middle class," which comprises small proprietors and employers with less than 10 workers; and the "marginal middle class," which consists of blue-collar workers and self-employed in the marginal informal sector.

Characteristics

In terms of education, household heads from the middle classes have more years of schooling than those that are poor and vulnerable but fewer than those that are rich. They have fewer children, an average of four, compared to poorer classes, and their children are typically in school. Geographically, they are more likely to live in urban areas [Ferreira et al. 2013; and Virola et al. 2013], especially in Metro Manila and nearby regions, a significant portion of which are urbanized [Albert et al. 2012].

Middle-class workers are typically employed rather than self-employed, unemployed, or an employer and are frequently found in the services sector. It is common for middle-class families to have members who are government employees or supervisors; a growing number have members working overseas. Middle- class employees are also more common in manufacturing than the poor and the rich. Middle-class women also participate more in the labor market [Ferreira et al. 2013; and Virola et al. 2013].

The middle class in the Philippines also enjoys near universal access to housing and household amenities [Virola et al. 2013]. Through time, more families own single detached housing and own or have owner-type possession of house and lot; more than nine in 10 have housing made of strong roofs and walls, and access to sanitary toilet.

In Metro Manila, a significant proportion of the middle class are second-generation migrants, have more years in schooling compared to their parents, and have moved up the occupational ladder [Bautista et al. 2000]. They enjoy many of the amenities of modern living, their needs having expanded to include material possessions outside of their realm. They are generally well-informed, watching public affairs shows and reading newspapers, taking a special interest in the editorial or the opinion page. They also seem to have developed a greater appreciation of contemporary Filipino music. They are generally oriented towards their families, consider their children's education as a top priority, and are more conservative on the issue of divorce and cohabitation.

Differences between the middle class and the poor and vulnerable

This Report utilizes the 1997 and 2015 rounds of the Family Income and Expenditure Survey (FIES) to assess the characteristics of the middle class vis-à-vis the poor and vulnerable. As shown in **Box Table 5**, three-fourths of middle-income and economically secure households in 2015 are single family units; the average family size is four members for the middle class and 3.4 for the economically secure. Around 54 percent of middle-class households and 69 percent of the economically secure reside in urban areas, while 93 percent and 98 percent, respectively, engage in nonagricultural activities. Around 74 percent of middle-class households and 83 percent of those that are economically secure have ownership and owner-like possession of housing.

Household heads are generally in their early 50s (52 for the middle income and 54 years for the economical-

ly secure). Majority of households in both expenditure groups have finished high school; more so, majority of those who are in the economically secure class are also college graduates. One in 20 household heads is an overseas worker.

The proportion of those with a college degree increased significantly among the economically secure in the 1997-2015 period **[Box Table 6]**, while the share of those with secondary education slightly increased in the middle class. However, the proportion of self-employed increased in both expenditure categories during that period, from 40 percent to 44 percent for the middle class and from 35 to 37 percent for the economically secure. This was accompanied by a significant decline in the number of household members and a significant increase in the proportion of household members who are employed.

On the other hand, a greater proportion of households belonging to the *poor and extremely poor* expenditure categories (83 percent and 89 percent, respectively, compared to two-thirds or less of other categories) reside in a rural area and undertake primarily agricultural activities (55 percent and 39 percent). They have on average six household members. Only a third of family members are working. While around two-thirds of households in these categories have ownership or ownership-like possession of their housing and lot, a significant proportion (around more than 20 percent) have housing ownership but lease the land rent-free which provides an indication of informal housing.

The heads of poor and extremely poor households are mainly male, self-employed, and in their late 40s. There are very few overseas contract workers in these two lowest expenditure categories compared to the vulnerable, middle class, and economically secure expenditure groups.

Throughout the 1997-2015 period, education levels did not change significantly among the household heads in these categories, but the proportion of household heads that have become wage workers had increased (and consequently, the proportion that were self-employed declined significantly). Household sizes remain the same over the period despite the increasing proportion of household members who are employed.

Box Table 5 Characteristics of households in different expenditure categories (2015)

Characteristics	Extremely poor	Poor	Vulnerable	Middle class	Economically secure	Rich
Proportion of households (%):						
> Reside in rural areas	88.81	82.68	67.06	46.14	31.16	23.66
> Undertake primarily agriculture	54.51	38.62	20.46	6.57	2.30	0.00
> Have ownership of house and lot	63.16	67.14	70.06	74.42	82.74	88.55
> Have household ownership but lease lot rent-free	27.30	22.27	16.13	7.73	2.74	0.00
> Average number of household members	6.59	5.42	4.58	3.99	3.23	2.43
> Proportion of household members working	35.07	42.65	49.59	53.18	59.26	62.75
Proportion of household heads (%):						
> Are male	87.93	84.58	79.86	72.24	65.54	65.65
> Are married	86.78	82.19	75.86	69.80	64.48	54.20
> Not single nor married	12.16	16.39	20.35	23.08	23.41	28.24
> Primarily undertake wage employment	38.43	44.02	49.76	52.41	60.26	50.52
> Primarily are self-employed	59.57	53.22	46.52	43.96	37.44	44.33
> Have finished only secondary school	11.52	20.91	34.13	47.75	34.77	18.12
> Have finished tertiary school	0.38	1.18	3.71	18.00	53.85	76.51
Mean age of household head (years)	47.36	49.70	51.68	52.64	54.53	56.56
Proportion of household heads are OFWs (%)	0.39	1.11	2.18	4.70	5.73	2.68

Source of basic data: FIES, various years

Box Table 6 Characteristics of households in different expenditure categories (1997)

Characteristics	Extremely poor	Poor	Vulnerable	Middle class	Economically secure	Rich
Proportion of households (%):						
> Reside in rural areas (2000)	70.75	59.35	42.82	21.10	9.63	5.39
> Undertake primarily agriculture (2006)	63.68	44.69	22.21	5.78	1.92	0.00
> Have ownership of house and lot	63.24	63.90	64.31	67.70	75.03	85.03
> Have household ownership but lease lot rent-free	24.53	21.80	16.98	9.07	2.99	0.00
> Average number of household members	6.50	5.62	5.06	4.62	3.88	3.51
> Proportion of household members working	26.54	31.96	37.13	40.45	47.70	49.86
Proportion of household heads (%):						
> Are male	91.00	89.85	86.23	80.07	73.48	70.06
> Are married	88.15	86.72	82.73	78.79	74.29	66.47
> Not single nor married	10.70	11.77	14.84	16.03	15.53	20.36
> Primarily undertake wage employment	24.14	31.96	44.05	57.09	62.84	63.85
> Primarily are self-employed	71.74	64.02	51.66	39.70	35.09	34.62
> Have finished only secondary school	11.68	19.33	30.55	45.18	36.50	17.96
> Have finished tertiary school	0.51	1.23	4.11	16.78	48.19	76.05
Average of household head (years)	44.58	45.66	47.60	47.74	48.94	53.74
Proportion of household heads are OFWs	0.29	0.76	1.65	3.38	5.58	3.63

Source of basic data: FIES, various years

While majority of households among the *vulnerable* consist of single families, households have a marginally higher proportion that also includes extended family members. The average number of household members in 2015 is 4.5, down from around five in 1997. Around two-thirds of the households reside in the rural areas, although only one-fifth work in agriculture. Around seven in 10 have land and housing tenure. Roughly half of family members are working.

Households are headed mainly by males whose average age is 50. Around a third of these household heads have completed primary education, while a third have completed secondary education; less than 4 percent have finished tertiary education. Roughly 2 percent are overseas workers.

Like the poor and extremely poor categories, education levels overall significantly did not change among the household heads in the 1997-2015 period, although there was a slight increase in those that finished secondary schooling. The number of wage and salary workers among household heads slightly increased, while the proportion of working members increased significantly from 37 percent 51percent in the same period. Ownership of house and lot also significantly increased in this period.

Political attitudes

In terms of political attitudes, middle-class Filipinos view their political leanings as "moderate" or "close to the center," and are ambivalent towards more socially progressive causes. They share with other social groups a strong consensus on the issues of environmental pollution, public safety, and crime and prostitution, but they are not averse to accepting any form of government, democratic or not, as long as it implements programs they perceive as good for the country. While the middle class has played an instrumental role in two historical democratization episodes in the country–the "People Power revolution" in 1986 and the fall of the Estrada administration in 2001--and has organized many institutions that have helped shape social reforms and citizenship building programs, their ability to be mobilized for long-term action remains a challenge.

Table 1.2 Transition matrix: Around half of households stayed in the same category in 2009 as in 2003

Proportion of households that moved/stayed in different expenditure classes (2003 and 2009)

2003 category		2009 category					
	Starting share (%)	Extremely poor	Poor	Vulnerable	Secure	Upper middle	Top
Extremely poor	13.9	0.4079	0.4672	0.1179	0.0066	0.0000	0.0000
Poor	24.4	0.1497	0.4495	0.3343	0.0656	0.0011	0.0000
Vulnerable	29.8	0.0268	0.2072	0.5024	0.2574	0.0062	0.0000
Secure	26.8	0.0018	0.0306	0.2231	0.6372	0.1056	0.0017
Upper middle	5.0	0.0000	0.0000	0.0133	0.4579	0.5113	0.0197
Top	0.2	0.0000	0.0000	0.0000	0.0608	0.5167	0.4083
Ending share (%)		8.8	23.8	31.1	29.8	6.4	0.3

Note: Income categories are divided into extremely poor (daily per capita expenditure of $1.9 or less), poor (between $1.9 and $3.1), vulnerable (between $3.1 and $5.5), economically secure (between $5.5 and $15), upper middle (between $15 and $50), and top ($50 or more).

Source of data: Martinez [2016]; reproduced with the author's permission

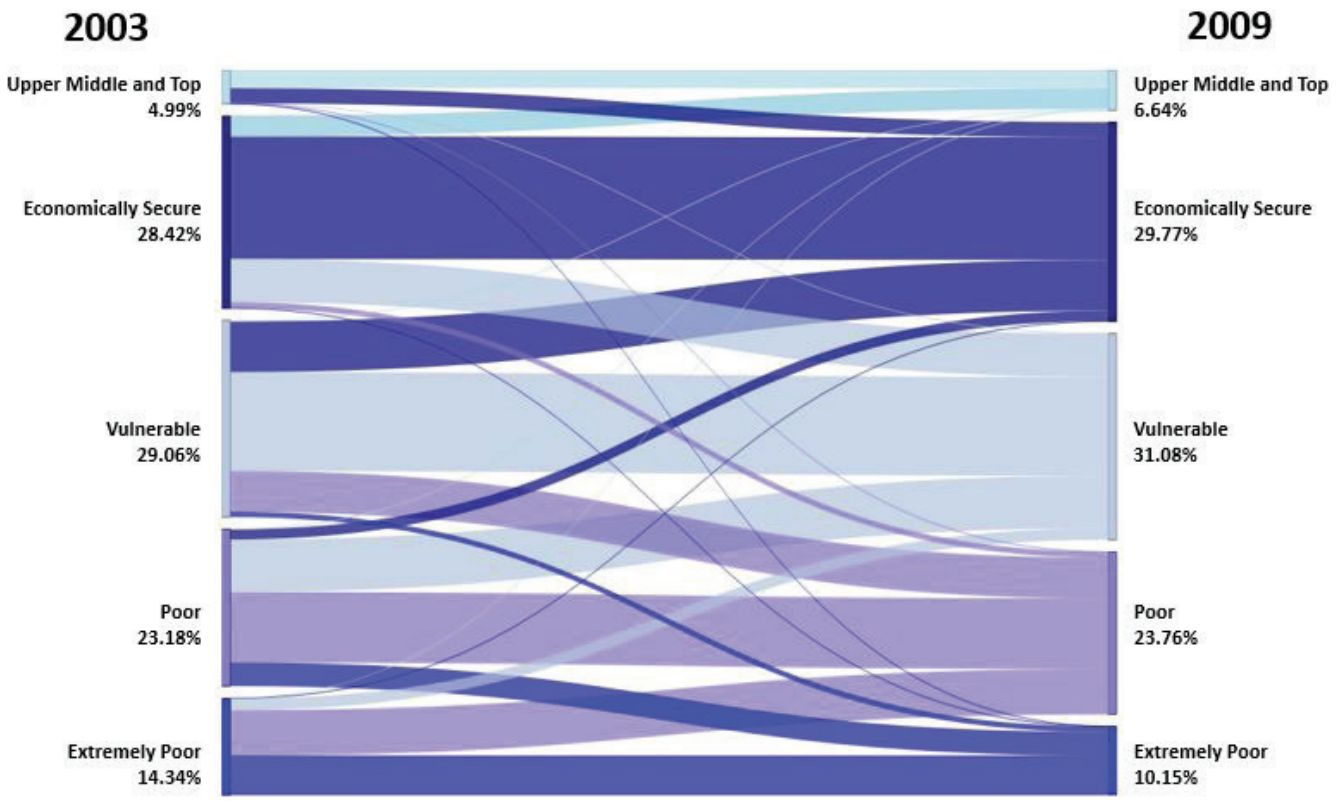


Figure 1.2. Socioeconomic mobility between 2003 and 2009

capabilities and prevent them from seizing opportunities and attaining their goals.

A compact way to describe mobility is by means of a *transition table* or *matrix*, which shows directional welfare mobility and the proportion of households across different income, wage, occupation, or other socioeconomic variables (e.g., education and health) at the origin and then at the destination. Such a table is formed by first defining welfare categories then showing the proportion of the population that

Table 1.3 A greater proportion of poor and extremely poor have moved up vis-à-vis other classes

Movement of households across expenditure classes (2003-2009, in percent shares)

	Initial share	Moved up	Remained	Moved down	Final share
Extremely poor	13.9	63.5	40.8	n.a.	8.8
Poor	24.4	44.0	45.0	12.0	23.8
Vulnerable	29.8	29.6	50.2	21.0	31.1
Secure	26.8	12.3	63.7	2.9	29.8
Upper middle	5.0	2.8	51.1	42.3	6.4
Top	1.5	n.a.	40.8	60.0	0.3
All households	100.0	38.5	50.2	18.0	100.0

Source of basic data: PSA; Martinez [2016]

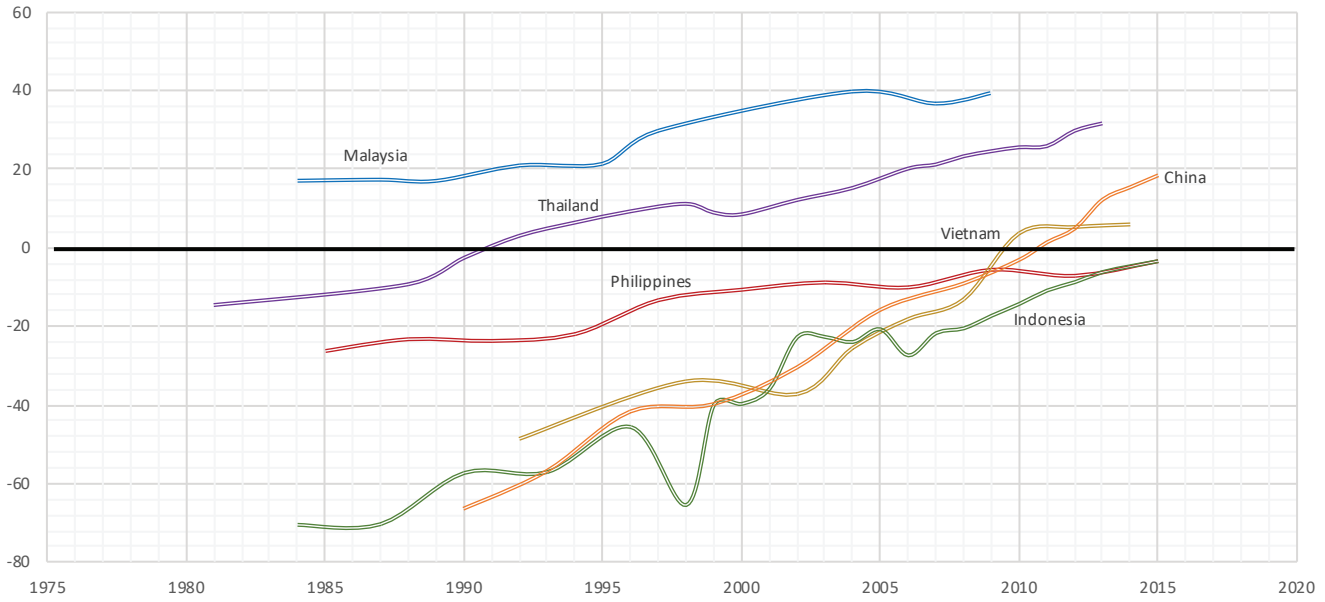
either remains in the same category or crosses from one category to another. Both positive and negative changes in welfare are then captured by such movements. Observing the proportion of those who are able to move up ("climbers") and those who move down ("sliders") across categories allows one to see by how much a person or a household's "origins" permit or hinder them from moving up or down.[13] Obviously, a society where there are more gainers than sliders, and where the likelihood of gain depends little if at all on one's starting point is conducive to positive mobility.

It is important to note that the diagonal of the matrix or those entries corresponding to the same row and column number represents the probability of remaining in the same state during the next period. Transition matrices need not be a square matrix (as the initial period categories may be different from the final period categories) although it is often the case and the categories are similar in both beginning and end periods.

A transition matrix is shown in **Table 1.2** and visually represented in **Figure 1.2**. It shows how a representative set of Philippine households moved across various expenditure categories or classes between 2003 and 2009. The figures are based on panel data in the 2003, 2006, and 2009 rounds of the FIES,[14] still the only available data set where such valid comparisons are possible. Expenditure categories and thresholds are defined identically to those established earlier, i.e., extremely poor, poor, vulnerable, economically secure, upper middle, and top classes. The six-year coverage is less than ideal, since mobility is more definitively established by tracing movements spanning entire generations. Nonetheless, the pattern established is sufficiently illustrative.

Figure 1.3 The Philippine middle classes now outnumber the poor—albeit barely

Share of total middle class minus share of total poor as percent of all households (selected Asian countries, 1980-2015)

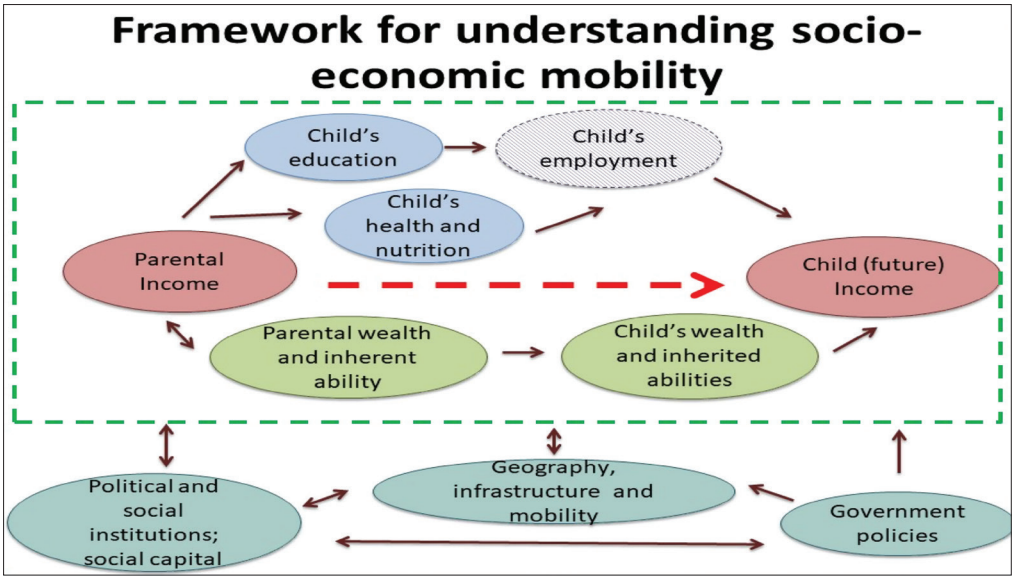


Note: Total middle class includes the economically secure and upper middle class. Total poor includes poor plus extremely poor, as defined in the main text

Source: Report estimates using data from World Bank PovCalNet

Figure 1.4 The transmission of assets across generations is what matters for socioeconomic mobility

Framework for understanding socioeconomic mobility



Source: Adapted from Bevis and Barrett [2015]

Over the six-year period, we may first of all judge the relative "stickiness" of initial conditions,[15] i.e., the extent to which a household's final state depends on its initial state, essentially asking whether those who are already rich remain rich and the poor remain poor. The entries to note are the shaded ones on the diagonal. If conditions really were "sticky" and everyone had stayed in place—i.e., all the poor remained poor and the rich remained rich—then all the shaded entries should be "1.0" and all the nonshaded cells would be zero.

But this was obviously not the case. Hence, for example, 41 percent of the very poor in 2003 were in the same state in 2009, but the rest of them moved upward—in this case the only possible movement. Similarly, 45 percent of the poor, 50 percent of the vulnerable, 64 percent of the economically secure, and 51 percent of upper middle-class households remained in the same status. (The large part of the top class that appears to have slipped down should be interpreted with caution; the small sample of households in that category makes statistically valid conclusions precarious.)

The upward and downward movements are summarized in **Table 1.3**, which shows the shares of gainers and losers for each expenditure category. Half of all households found themselves in the same expenditure category as they were in six years ago, making for an "immobility ratio" of 50.2 percent (last row, third figure-column). On the other hand, 38.5 percent of all households managed to move upward in varying degrees after six years, while the rest, 18 percent, lost ground.

It may be a hopeful sign **[Table 1.2]** that almost half (47 percent) of all households regarded as "extremely poor" in 2003 had moved upward one category to being "poor" by 2009, while 12 percent had attained the still tenuous but improved status of "vulnerable." The chances of moving up were actually highest among the extremely poor, followed by the poor, the vulnerable, and the secure, with decreasing likelihood **[Table 1.3**, second figure-column].

On the other hand, hardly any household that was extremely poor in 2003 managed to become economically secure by 2009, not to mention join the upper middle class. Very few of even those in the upper middle class were able to enter the top bracket. Most movements involved one to two expenditure categories upward or downward; very few moved up or down by three categories, and practically no households moved four categories below or above their original starting point. Some

of this is doubtless due to the relatively short period covered by the data. What it does illustrate, however, is that the further a household rises in the expenditure ladder, the smaller is its chance of falling into extremely precarious circumstances. Although downward movements are actually more frequent among the top and the upper middle classes, hardly any are so severe as to result in such households falling into the vulnerable category, and never into poverty.

Viewed against the progress other Asian countries have achieved, however, the record of socioeconomic mobility in the Philippines over the past 30 years is modest at best. A summary index that illustrates this trend can be called the "middle-to-poor share difference" (MPSD), i.e., the difference between the size of the total middle class and the total poor stratum, both measured as shares of total households. "Total middle class" here pertains to the economically secure plus the upper middle class, while "total poor" refers to the combined shares of the poor and the extremely poor categories defined earlier.

MPSD summarizes two of the most obvious mobility goals of any society: the growth of a prospering middle class and the elimination of poverty. A negative value means poor households outnumber middle-class households, while a positive number indicates having passed an important threshold where the middle class outnumbers the poor. Adopting uniform expenditure thresholds adjusted for price changes permits comparisons through time and across different countries.[16]

Figure 1.3 shows the trend of MPSD for the Philippines and some selected countries from 1981 to 2015. For the Philippines, the size of the middle class came to exceed that of the poor (and barely) only in 2015. By contrast, the middle class was more numerous than the poor in Thailand as early as 1990. For China, that was true in 2008 and for Vietnam, by 2010.

The Philippines' MPSD of 3.82 should be compared with Thailand's score of 85.4 (2013), Malaysia's 76.7 (2009), China's 65.8 (2015), and Vietnam's 52.8 (2014). Only Indonesia turned in a slightly worse performance—0.31 (2015)—although that country has shown a steeper improvement relative to its original position in 1984. By comparison, as seen in its flatter trajectory, the Philippines' progress is decidedly moderate. For the latest years available, the middle class comprised 63 percent of all households in Vietnam, 72 percent in China, 79 percent in Malaysia, and 86 percent in Thailand.[17] It was 36 percent in the Philippines and 32 percent in Indonesia.

The World Bank [2018] classifies Malaysia's and Thailand's trajectories as *progressive prosperity* because they have eliminated extreme poverty. China's and Vietnam's trajectories are described as *out of poverty into prosperity* because they have sustained poverty reduction and have crossed the zero threshold. The Philippines' and Indonesia's pathways are called *out of extreme poverty,* since they have reduced extreme poverty to low levels, although the share of the middle class is still limited and the share of the vulnerable remains large.

Trends in the past 20 years dispel the notion that only a few Filipino households have been able to improve their initial conditions; there are a significant number of families whose welfare has improved over time and this trend may be expected to continue. But as with the country's human development indicators, the numbers are not nearly as impressive as those of its Asian neighbors, and significant efforts will be needed to achieve the progress other countries have reached.

Understanding socioeconomic mobility

Fully understanding socioeconomic mobility requires a framework that explains welfare improvements over time. It is not enough simply to assess changes in welfare as a single trajectory for society as a whole. Rather, one must trace different trajectories of living standards for different sets of individuals and households, i.e., we must understand why one set of households declines or stagnates in welfare continuously over time while another set improves, and why some climb the ladder faster or more slowly than others.

We draw on a framework first discussed by Becker and Tomes [1979] and later elaborated by Heckman and Mosso [2014], Bevis and Barrett [2015], and others, which explains changes in socioeconomic opportunity over time as the result of parents' investment in their child's human capital, physical capital, as well as the child's own effort and choices. This of course presumes a basic altruism of parents towards their children, in the sense that they care not only about their own well-being but also that of their children.

Following this lead, many studies examine the relationship between income (or expenditures) of parents and their children. The *intergenerational income elasticity* (or IGE) measures the degree of correlation between parental and child adult incomes.[18] In more socially progressive countries, the IGE is typically low, meaning there is little correlation between parents' and their children's adult incomes. The fact that your future earnings depend little on what your parents earned in their time indicates a high degree of social mobility. In Canada and the Nordic countries, for example, IGEs of 0.1-0.2 have been estimated, which means having a parent with a 10 percent higher income adds only 1 or 2 percent to a child's future income. Estimated IGEs of developing countries are generally higher, e.g., 0.4 in Malaysia and 0.43-0.6 in China.[19]

There are no nationally representative estimates for the Philippines, although for a sample of rural families in Bukidnon, standard IGEs of 0.434 and 0.537 for sons and daughters, respectively, have been estimated [Bevis and Barrett 2015]. Meanwhile, an estimate of 0.23 has been obtained among farming families in Central and Southern Luzon, suggesting higher mobility in what is a more developed area [Takahashi 2013].

The deeper question raised by this same framework, however, concerns the *transmission mechanisms* of parental investment. How children fare in the future relative to their parents—which is what socioeconomic mobility is about—is determined by the transmission of two types of assets: physical assets and human capital. Physical asset transfers refer to bequests of land, physical property, and financial wealth. Human capital transfers, on the other hand, include parents' investments in their children's education and health, as well as parental efforts in the formation of life skills and their influence on marriage matches and reproductive decisions ("marital capital"). An illustration of this framework is shown in **Figure 1.4.**

All these are conditioned by the genetic inheritance parents pass on to their children, as well as the child's personal efforts and motivation that go beyond either parental investments or genetics. The role played by genetic endowments and inherent ability has been contentious in other contexts because it has sometimes been invoked to justify the supposed irreducible inequalities in outcomes and used as an excuse for despair, inaction, or in some cases, racism and prejudice.

In a developing country with wide disparities in opportunities, however, institutional and policy failures are likely to be a prior cause of disadvantage both temporally and in principle, even before genetic abilities come into play. Indeed, in many contexts, elements of the social and institutional environment perpetuate and exaggerate small inborn disadvantages. As Heckman and Mosso [2014] state, "Genes are important, but skills are not solely genetically determined." From a broader perspective, the environment—natural, social, and institutional—can affect whether and how productively these assets can be used. And indeed, the field of epigenetics has established that some influences of the environment can even become heritable.

These broad observations apply to *education*, a major transmission mechanism highlighted in virtually all the literature on social mobility. Education provides much of the technical knowledge and social skills that children and young adults require in their future lives and careers. Employment and careers in turn directly feed into future incomes. Upon equal or average treatment, a child's inherent genetic abilities will typically show up in differing school performance and achievement gaps. In more responsive homes and schools, however, these can be partly offset by personalized nurture and instructional support of pupils who risk being left behind.

It is when access to quality education and to responsive home care is not equally available to families that social origins and milieu begin to matter for mobility. Parents' income or wealth is an obvious factor for education success when there are large quality differences in education and access to it, such as that between the typical public schools and the better-endowed private schools. The achievement gaps resulting from such institutional and social disparities will amplify those due to inherent abilities and effort alone and become reflected in earnings.

The nonschool environment and the milieu of parental and social support also matter greatly for education. A standard finding in many studies is that parents who are more educated are better able to help their offspring acquire better noncognitive skills, including critical thinking, problem solving, emotional health, social skills, work ethic, and community responsibility. The dif-

ference can manifest itself even at the earliest ages.

Young children from poorer families are exposed to a more limited vocabulary and can speak fewer words at a young age than their more privileged peers. Complicating the situation is the fact that parents in poor households themselves have inferior knowledge of parenting, particularly as this relates to encouraging children's learning, as well as less time for child care.[20] Deprivation in these aspects, even before formal schooling begins, poses a handicap to children's progressing with their education and ultimately succeeding in their careers and employment.

The obverse of this coin is the demand side, where employers place a premium on such noncognitive skills as "worker's personality, attitude, and mindset." Employed workers are found to be more resolute and skilled at decision-making and also more agreeable and extroverted than workers who are unemployed.[21] This intergenerational mechanism can cause children of less endowed and less educated families to become less equipped both technically and socially to succeed at both education and employment.

Parents' investment in *health* is another important transmission channel affecting social mobility. Health is passed on from parent to child first through genetic inheritance. But this is enhanced or diminished by subsequent parental care, especially during early childhood, and by parents' investments in preventive or curative care. One's health and physical development as a child are strongly linked to one's later adult physical growth and labor productivity. Health can affect the next generation's earnings and wealth either directly, such as when illness limits labor market participation or restricts job choice, or indirectly, such as when childhood health affects cognition or educational attainment.

A recurring theme in many studies is the importance of health interventions during pregnancy and in early childhood. Across generations, the health status of children is closely linked to their mother's nutritional status, particularly from pregnancy up to the early years. Interventions to increase mothers' intake of micronutrients, animal protein, and fruit and vegetables are likely to synergistically enhance child growth, including height and weight, especially in the first two to 24 months of life. Indicators related to mother's height and weight, education, and food intake are also important in affecting children's anthropometric measurements.

Better nutrition also favors schooling outcomes and improves the child's chances of finishing more years of education. Statistically, this is seen in the finding that weight gain among children under two years old followed by birth weight have the strongest association with years of schooling and decreased failure rates in several developing countries, including the Philippines. Thus, *cross-capital transmissions* between education and health are important, suggesting that achieving universal basic education will be facilitated by improving nutritional outcomes.

The obvious problem arises when low incomes among parents constrain the provision of improved education and health interventions among the young, impeding the upward mobility of individuals and leading to a cycle of chronic poverty among marginalized families. Impoverished or deprived socioeconomic and institutional circumstances have been recognized as significantly affecting early physical growth and cognitive development. Even across countries, for example, a strong correlation exists between income per capita and average individual heights, the latter being a measure of health status.[22]

At the level of individuals, an unsettling finding in recent years has been the possibility that environmental conditions have genetic effects, a topic explored in the growing field of epigenetics. Children who live in stressful situations, for example, have been found to have shorter telomeres (i.e., the caps at the end of each strand of DNA that protect a person's chromosomes), a fact related to shorter lifespans.[23] This is due to the fact that without the caps (akin to those attached to shoe laces), cellular function becomes impaired and a person's physical development can be affected. Individuals with shorter telomeres generally exhibit a rapid decline in their immune functions, resulting in increased incidence of age-specific diseases, including cancer, heart disease, diabetes, and osteoporosis.

Poor health outcomes then also affect employment and income. A significant literature shows how poor health in adult life affects the number of hours worked, even more than it affects the wage.[24] Adults with chronic conditions in childhood are also significantly less likely to

join the labor force. Chronic health conditions in childhood, on the other hand, are closely linked with lower socioeconomic status in adulthood. Childhood health may have a large effect on adult economic success; eliminating income-related disparities in health problems in childhood could produce better health outcomes in the future.

Early public interventions to overcome the limitations among specifically identified families therefore become an important area of policy. Recent research on intergenerational mobility, summarized by Heckman and Mosso [2014], establishes the importance of "early-life conditions" in shaping both cognitive and noncognitive skills, which in turn crucially affect employment prospects, health outcomes, and family formation. Experiments in the United States and other developed countries show that "child-centric" early learning programs increase the IQ of at-risk children from low-income families. Research on the long-term impacts of provision of nutritional supplements in a Central American country[25] shows these affect welfare outcomes in the form of a significant increase in future hourly wages, while a similar study across developing countries shows that the cost-benefit ratios of addressing stunting in poor nations are significantly high.

Another important transmission mechanism affecting socioeconomic mobility is *parental wealth* and *inherent ability*. Escape from poverty and progress into and beyond security entail a combination of increased returns to endowments, asset accumulation, and "good fortune." While the main reason for moving out of poverty is people finding employment or creating new businesses, financial assets also play and important role in intergenerational mobility. Studies in developed countries [Butler, Beach, and Winfree 2008] show differences in wealth being accounted for by transfers in income and savings across generations (up to around a fifth of the difference). Land transfer may also play a role in creating intergenerational income correlations in much of the developing world. Around the world, children in rural areas receive a significant portion of their parents' land upon marriage or a parent's death, although this practice declines as land becomes scarcer, as is also true in the Philippines.

In this country, the presence of specific types of financial assets (i.e., assets that earn investment income, pensions, and dividends) is highly correlated with higher income levels.[26] The poor own very few financial assets, leading to missed opportunity in terms of saving and also investment for the economy. If more households had access to financial assets, they might be able to increase their saving and incomes. Households with better access to financial assets and wealth also adjust better to shocks and can therefore avoid downward social sliding or relegation—a capacity many Filipino households do not possess.

At the same time, inherent ability has an impact on the earning ability of the household and therefore the children as future adults. Parents affect children through heredity of genetic endowments, which in turn affects children's schooling and income, discussed Becker and Tomes [1979]. In addition, parental ability influences their own educational attainment and thus their income.

Other important factors are found to affect mobility, but these have an indirect effect, since they work through the primary mechanisms of asset accumulation and income generation. *Household composition* affects upward mobility, with many studies showing that the gender of the offspring may have an impact on their ability to be able to obtain employment and assets, and therefore impacts on income and welfare.

For example, Bevis and Barrett [2015], in the case of selected households in Bukidnon, found that the pathways of intergenerational income transmission are different for boys and girls; for sons, it is through parental education, health, and landholdings, but for daughters, it is parental income and spousal education. This suggests that policies that reduce income inequality have a greater impact on the mobility of women rather than men.

On the other hand, Estudillo, Quisumbing, and Otsuka [2001] found that sons are preferred in the inheritance of parental landholdings, while daughters are preferred in terms of schooling; this implies that, as returns to land decline in the rural areas, parental choice of type of inherited asset has an impact on future intergenerational outcomes.

The number of dependents affects the household's ability to invest in the human development of children; the greater the number of dependents, the smaller is the likely amount of investments allocated to the education and health of children.

Geographic location and *institutions* have an impact on the upward and downward movements of incomes. The greater or lesser ability of certain geographies and landscapes to support high levels of agricultural productivity can affect long-term welfare of households, particularly those lacking the means to relocate or change occupations.

The presence or absence of institutions that facilitate access to different types of assets and capital may also have a bearing on a household's long-term income trajectory. Neighborhoods and social environments are critical in shaping aspirations, investment in human capital, and outcomes. Studies have found, for example, that people aspire to higher incomes as the average income of the communities they live in increases; this may in turn push children in such areas to pursue more schooling.

The provision of stable employment opportunities for the poor provides them with better incomes and reduces the risk of staying below the poverty line over an extended period of time. Empirical evidence in these studies shows that formal, nonagricultural employment correlates with less income poverty. Thus, the presence of stable *labor markets as institutions* would increase the probability that new entrants would accept jobs that pay them higher wages, which affects the lifetime stream of earnings that these workers receive. High rates of unemployment or underemployment also affect these earnings through their negative impact on the accumulation of experience, through skills depreciation, psychological discouragement, and psychological scarring on workers [World Bank 2018].

Social capital, or more generally, the norms and networks that enable people to act collectively [Woolcock and Narayan 2000], has also been closely linked to socioeconomic mobility. Trust is often cited in the literature as a crucial variable in shared values, norms, and reciprocity inherent in social networks along with group cooperation and organizing for collective action capable of producing outcomes benefiting a broader community. In closely knit and many traditional communities, much social capital is essentially "free" and does not require the use of scarce resources. There is substantial evidence that shows that movements up and down the social ladder are strongly linked with the horizontal and vertical ties that individuals and households are able to make within and across different local communities and in the larger society [Narayan and Pritchett 1997].

Geographical factors play an important role in changes in welfare. Location and climate have large effects on income levels and income growth through their effects on transport costs, disease burdens, and agricultural productivity, among other channels. The previous volume of the *Philippine Human Development Report* showed that the agro-climatic patterns across different provinces in the country may have affected the patterns of economic development. The movement of individuals to high productivity areas—including overseas migration—allows for better economic prospects for families. Also crucial is the presence of transport infrastructure that allows physical mobility of goods and persons across areas and markets.

From a broader perspective, other factors may affect this intergenerational transmission, including the quality of growth, other macroeconomic factors, and chosen socioeconomic policies. Fiscal policy can affect mobility by allowing governments to make different choices on how many resources to spend on equalizing opportunities among children and how to allocate these.

In particular, fiscal policy—the government's taxation and spending decisions—affects mobility through the government's choices on whether and how to spend on equalizing opportunities. Taxes preempt part of a family's income that could have been used to invest in their own children; but it also allows governments to spend more on social services and collective goods that improve incomes or directly afford education and health care to children. A good example is the continuing implementation of the conditional cash transfer program, which is conducive to both increases in parent financial means and the further acquisition of human capital by children.

Policies to improve connectivity across different regions in the country by investing in infrastructure, ranging from transport to telecommunication, and reducing the explicit or implicit costs of internal migration are likely to favor socioeconomic mobility as well. Of course, whether more or less social good results from greater taxation and spending will ultimately depend on the government's defined priorities and its quality of governance.

Figure 1.5a Education raises the chances of climbing…

Probability of climbing by educational attainment of household head (in percent)

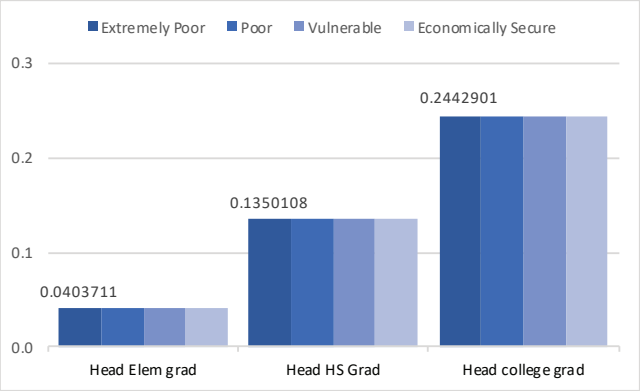
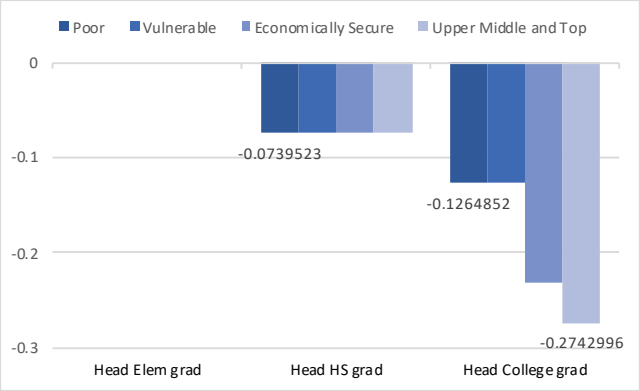


Figure 1.5b … and makes sliding less likely

Probability of sliding by educational attainment of household head (in percent)



Note: The numbers show the change in the probability that a household moves to a higher socioeconomic category if it is headed by someone who has finished, respectively, an elementary ("Elem"), high school ("HS"), or tertiary ("College") education.

All comparisons are made relative to a vulnerable household headed by someone who has not completed elementary education.

Source: Report estimates based on an FIES panel from 2003 to 2009

FACTORS IN SOCIOECONOMIC MOBILITY AMONG FILIPINOS

What major factors affect Filipino households' chances of climbing or slipping down the socioeconomic ladder? To what extent do these factors depend on a household's starting point? How has public policy helped or hindered social mobility? These are some questions this Report seeks to answer. Apart from references to findings by other researchers in the Philippines and other countries, commissioned and otherwise, this Report draws conclusions from its own quantitative exercises (described in more detail in Appendix 1) using merged panel data from the Labor Force Surveys and Family Income and Expenditure Surveys of 2003 to 2009.

Education

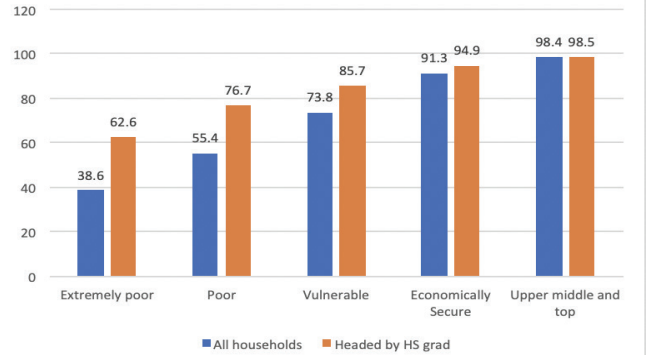
Education has been the focus of many studies of poverty and social advance, with general agreement that better educated people are less likely to experience being poor. Individuals with higher educational attainment earn more because the skills and knowledge they attain make them more economically productive. Education also increases one's information regarding earning opportunities, enhances the efficiency of one's decision-making in almost all aspects of life, enriches one's social relations, and makes one suitable for a variety of occupations. A given level of education qualifies one to pursue the next higher level of schooling, hastens on-the-job training, and facilitates skill acquisition for new jobs.

The more general question, however, is whether and how education propels or hinders socioeconomic movements not just into and out of poverty but among households of all socioeconomic classes. The results of this Report's own research using a panel of households over the period 2003-2009 is seen in **Figures 1.5a** and **1.5b,** which show a household's chances of climbing or sliding given the household head's educational attainment and the household's starting point.

Across socioeconomic classes, a household head's having completed a higher level of schooling not only increases the probability of upward mobility, it also reduces the chances of a household being relegated to a lower spending class.[27] The effect is also progressive: compared to not completing elementary education, a household headed by a grade school finisher has a slightly high-

Figure 1.6 High school completion is very low among the poor but parents' education matters

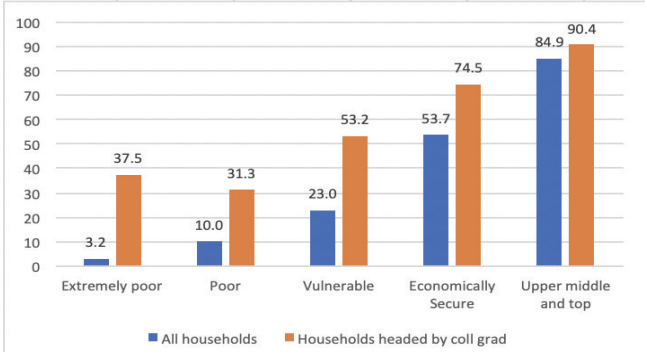
Children completing high school* by social class (2015, in percent)



*Household members 18 years old and above

Figure 1.7 College completion is rare except among the secure and well-to-do but again parents' education matters a lot

Children completing college* by social class (2015, in percent)



*Household members 25 years old and above

Source: Report estimates from merged data from FIES 2015 and Labor Force Survey 2015

er (4.04 percent) chance of climbing socioeconomically. This probability more than triples (13.5 percent) if the household head has finished high school. Finally, households headed by college graduates have as much as 24.43 percent better chances of climbing.

Significantly, the results do not vary with a household's origins, i.e., the effect of the head's education on upward mobility is *the same* whether the household starts out rich or poor. This lack of bias is an encouraging sign that suggests what is being observed is likely the direct effect of education on job market prospects and employment opportunities.

The most obvious and immediate channel for this effect is incomes. Even blue-collar industrial jobs typically require at least a high school education, while college degrees are required for many professional, academic, and administrative jobs. High school completion significantly increases the person's income (and therefore also that of her family), while getting a college diploma more than doubles the increase [Ducanes and Tan 2014].

Besides employment, other channels for education to affect mobility may involve a more general capability to mobilize resources for the household and to cross-invest in other forms of human capital. A better-educated household head may also encourage better health, nutrition, and childrearing practices, all of which may improve a household's standing over a longer period of time and across generations.

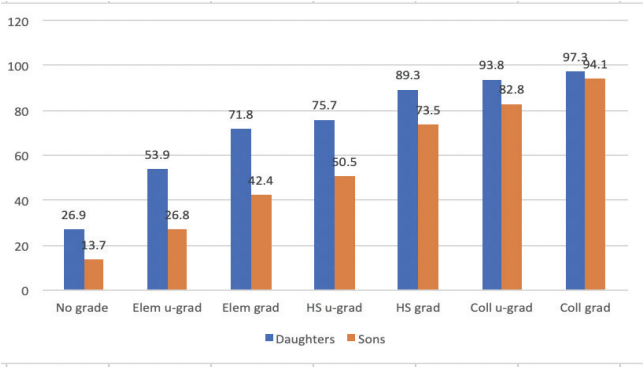
The effect of the household head's educational attainment on sliding is more nuanced. **Figure 1.5b** shows that households headed by high school and college graduates are also less likely to slide socioeconomically. It is telling, however, that households headed by elementary graduates were just as likely to slide as those headed by grade school dropouts or those with no education at all. This indicates that a critical minimum level of education of household heads—in practical terms, completion of high school—is needed if the risks of downward movement are to be significantly reduced.

In addition, unlike the case of upward mobility, the effect of additional education is not uniform across social classes. The middle class (which includes the economically secure) and the richest households seem to derive more social insurance from completing college. Among households headed by college graduates, the probability of relegation is less by 12.6 percent for the poor and vulnerable. But the risk of sliding is reduced by 23 percent for economically secure households and by as much as 28 percent for the upper middle and top classes. This resilience suggests a greater ability on the part of the better-off to parlay education to their maximum benefit in the face of adverse circumstances.

Some of these mechanisms can be documented. When laid off, for example, people in the better-off class-

Figure 1.8 Parents' education matters for that of their children

Rate of high school completion among daughters and sons according to fathers' highest educational attainment (average 2003-2009, in percent)



Source: Report estimates from Dacuycuy [2018: Tables 2 and 7]

es will often have the resources (e.g., savings or other wealth) to undertake a longer job search, foregoing employment opportunities that are not the right fit or represent a social demotion. By contrast, those from poorer households can ill afford a long search, since they have limited means to cushion unemployment. This raises the opportunity cost of unemployment for those on the lower steps of the socioeconomic ladder. College graduates with lower socioeconomic status, for example, are more likely to settle for noncollege jobs. In the same vein, college graduates from higher economic classes have not only the resources but also the social connections that point them to jobs that better match their skills. By contrast, the poor have more limited networks to rely on for information on opportunities that can avert downside risks [Epetia 2018].

Intergenerational transmission of education attainment

The previous section suggested that the chances at mobility are largely independent of social origins, given one has attained a certain level of education. Education's potential as a great equalizer is, however, diluted by the fact that parental education itself has a great influence on a child's educational achievements. Dacuycuy [2018] notes that parental education is closely linked to "wage persistence" across generations and a lack of intergenerational mobility. This means better-educated parents who earn more are likely to have children who are also better educated—and likely earning more in the future. Sons and daughters are more likely to finish college if their fathers have a college degree, with the proportion of college finishers being higher among daughters. Significant proportions of sons with at most a high school diploma are observed among fathers who themselves failed to complete high school.

There is also generational stickiness in terms of occupations. Occupations of parent and offspring are quite similar for fathers categorized as low-skilled and manual workers.

The intergenerational transmission of educational attainment for various classes can be inferred from **Figure 1.6,** which shows the proportion of offspring over 18 years old who finish high school according to the type of household they come from. As might be expected, children's educational attainment rises with social class—only 39 percent of children in extremely poor households have finished high school, but this rises to almost universal completion (98 percent) among the upper middle and top households.

More revealing, however, are the numbers in the darker bars, which show the proportion of children that finish high school if the household head is also a high school graduate. The proportions rise significantly, but especially so for the extremely poor up to the vulnerable classes. While only 39 percent of children from extremely poor households finish high school on average, this proportion rises to 63 percent among extremely poor households headed by high school graduates.

The same is true for college completion **[Figure 1.7].** Only 3 percent of children in extremely poor households complete college, compared to 85 percent among the well-off. Again, the effect of parents' education on their children's educational attainment can be seen: college completion among children of extremely poor households rises to 38 percent if the parents are themselves college degree holders. It likewise rises from 10 percent to 31 percent among the poor, and from 23 percent to 53 percent among the vulnerable if the parents are college finishers.

The effect of parents' education on that of their children has also been tracked more closely in earlier data [Dacuycuy 2018]. Based on the 2003-2009 panel

Table 1.4 Young males drop out of school due mainly to lack of personal interest while females drop out due to marriage

Reasons among out-of-school children and youth for not attending school by sex and age group (2017, in percent)

Reason for not attending school	Male				Female			
	Total	6 -11	12-15	16-24	Total	6 -11	12 -15	16 -24
Inaccessibility of school	2.0	14.0	-	0.7	0.3	-	-	0.3
Illness/disability	11.9	27.0	9.2	10.4	5.4	32.5	17.9	3.8
Marriage/family matters	2.5	-	1.1	3.4	57.0	-	3.0	61.9
High cost of education/financial concern	24.0	13.7	14.7	28.6	14.3	6.4	18.6	14.4
Employment/looking for work	12.2	-	0.5	17.8	6.2	2.6	2.9	6.5
Finished schooling or finished post-secondary or college	0.1	-	-	0.1	0.1	-	-	0.1
Lack of personal interest	43.8	31.4	71.3	37.0	13.6	27.8	51.5	11.0
Problem with school record/birth certificate	1.2	4.2	0.3	1.0	0.6	9.8	-	0.3
Too young to go to school	0.7	6.9	-	-	0.5	18.3	-	-
Others	1.6	2.8	3.0	0.9	2.1	2.6	6.1	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memo: Number of out-of-school children and youth ('000)	1,311	140	281	890	2,262	65	117	2,080

Source: David, Albert, and Vizmanos [2018] from PSA, APIS 2017

data, 97 percent of daughters and 94 percent of sons of college-graduate fathers finished high school at a minimum. Indeed, 76 percent of daughters and 59 percent of sons of such fathers also graduated college. In comparison, among fathers who completed only elementary school, only 72 percent of daughters and 42 percent of sons finished high school. The proportions are even lower for fathers with no grade completed or who failed to complete grade school [Dacuycuy 2018]. The discrepancy between males and females—which comes up again in occupational outcomes—is an important but distinct issue that needs special attention.

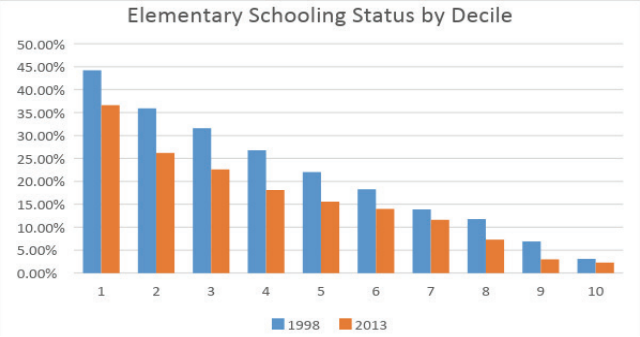
There are many reasons for such "stickiness" in education outcomes, especially among those in low-status households. More obviously, factors such as saving and financial assets, extended family and social support networks, the family's own subjective efforts, and even assortative matching in the marriage market (i.e., like "marrying like" or "marrying up") may allow better-off households to overcome any deficiencies in their own initial education and promote that of their children.

Dacuycuy [2018] argues that through higher investments in a child's human capital and provision of optimal parental inputs, richer households can enhance the access to quality educational outcomes, which translate into better labor market outcomes. Many of these favorable influences due to better means are enhanced when parents themselves have successfully completed their own education. In contrast, poorer households may make less strategic or less informed decisions regarding their children's education, as well as provide suboptimal parental inputs (such as less guidance or involvement) during a child's formative years. Such circumstances will limit a child's educational readiness and later economic chances.

Broadly speaking, therefore, the likelihood that children will attain a level of education at least as good as their parents' is greater for those in the higher social brackets. The child of a very poor household is 63 percent likely to be a high school graduate even if the household head has also finished high school. But the association is almost perfect (98 percent) among the upper middle and top classes. Children in well-off households are 85 percent likely to be college graduates, regardless of their household head's education. In contrast, even if the head of a poor household possesses a college degree, the next generation is still only 31 percent likely to finish the same level of education, although even that is already a great improvement over the chances of children in households headed by the less educated.

Figure 1.9 School dropouts and delinquency are most prevalent among the poorest

Percentage of out-of-school children of elementary age by income decile

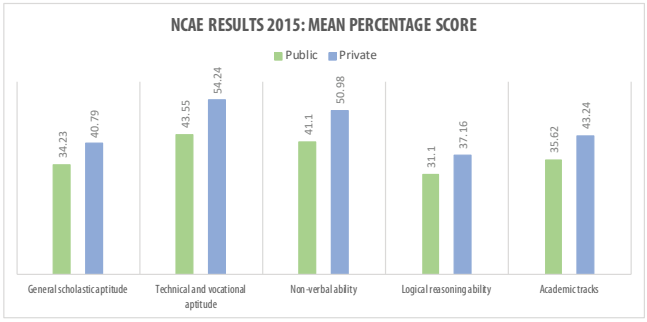


Note: The first income decile (1) consists of the poorest households while the tenth income decile (10) consists of the richest households.

Source: Report estimates, Tan and Siriban [2016] from the 1998 and 2013 APIS

Figure 1.10 NCAE scores are higher among those attending private schools

2015 National Career Assessment Examination results by mean percentage score



Source: National Education Testing and Research Center, DepEd

The positive impact of a parent's own educational achievement upon that of the child—especially among the poor and vulnerable—cuts both ways: it explains why low education levels among the less well-off will be "sticky" across generations, but it also shows how the nexus of poverty or vulnerability and low education might be broken if only better education opportunities were afforded to the next generation regardless of their origins.

Education and reproductive choice

Education is important not only in itself but also because it enhances or complements other factors affecting mobility. Its effects on fertility and reproductive choices are an important example of the "cross-capital effects" mentioned earlier. As will be seen in another section, fertility and family size contribute to downward mobility.

The most recent Young Adult Fertility Survey (YAFS) from the University of the Philippines Population Institute [2013], meanwhile, reports that childbearing among teenage females has been rising quickly: in 2013, 13.6 percent of females aged 15-19 years were already mothers or pregnant with their first child. This is a disconcerting increase over the 6.3 percent teenage fertility recorded in 2002. Over one-fourth (26 percent) of teenagers with only elementary education become mothers or experience their first pregnancy. The number is only slightly lower (23 percent) for high school graduates. A significant drop in fertility is observed only among those with college education (7 percent).

Such figures are significant because "marriage and family matters," including pregnancy, are reasons cited by almost two-thirds (62 percent) of females aged 16-24 years for not attending school [**Table 1.4**]. (Note that this age group overlaps with ages for junior and senior high school under the new K-12 system.) Females of this age group make up almost all (92 percent) of the more than two million female out-of-school youth. Unlike the case for males, lack of interest and high schooling costs do not figure as major reasons for female nonattendance, which points to the real schooling opportunities foregone owing to early marriage and pregnancy.

A two-way causation may also be involved: early pregnancy and marriage are important reasons for interrupted or uncompleted schooling. As young mothers reallocate time and resources to childrearing, a burden is placed especially on poor families, adding a drag to social mobility. But quitting school and receiving only weak support from their families to resume their education also predisposes children to choose early marital unions.[28]

Moreover, early pregnancy perpetuates a vicious cycle: daughters of teen mothers are themselves more likely to get pregnant at a young age. Studies in other countries [Liu, Vigod, Farrugia, Urquia, and Ray 2018] estimate that the risk of early pregnancy among daughters of teen mothers may be 1.5 to two times the risk of those who have older mothers. Mothers' lack of investment in their daughters'

education also influences how early pregnancy is passed on [Sedgh, Finer, Bankole, Eilers, and Singh 2015].

Access: a continuing challenge

Despite the universal recognition of its importance for social mobility, access to education remains a major challenge. As of 2015, admission among the poor has been virtually limited to elementary and high school [Tan and Siriban, 2016]. The high enrollment rates in elementary and high school education are obviously due to the extensive state subsidy to primary and secondary education. Nonetheless, it is evident that poorer families may still be burdened by out-of-pocket costs for transportation and other distance-related costs such as board and lodging, depending on the geographic distribution of the schools.

Figure 1.9 shows the primary schooling status of elementary school-age children for the years 1998 and 2013. Although the percentage of out-of-school children has declined, it is still prevalent among the poorest in society. In the poorest income decile, more than one-third of elementary school children are out of school; the figure is one-fourth in the next poorest. The proportion of out-of-school children is less than 10 percent only for the richest 30 percent of society.

The causes of failure to pursue and complete even a basic education are enumerated in **Table 1.4.** Pay attention to the ages 6-11 and 12-15, which cover the elementary and high school years. Teenage fertility was already discussed as one factor. The dominant reason given for dropping out at younger ages—"lack of personal interest" (especially among boys)—may disguise reasons pertaining to either or both the demand and supply sides of education.

Problems may lie in a nonconducive home environment or difficult family relationship, but it may also simply refer to a poor quality of delivered education, one which fails to sustain the child's interest. Health issues and out-of-pocket costs also seem to be important considerations in some cases.

From a broader perspective, on the demand side, the quality of available jobs and the state of the labor market may also be factors: if the average jobs available are low-paying, uncertain, or make few skill demands, then the time and resources involved in completing additional years of schooling may not seem worthwhile, hence contributing to a not unreasonable "lack of personal interest."

The consequences for intergenerational mobility are obvious. Failure to complete even a high school education severely limits one's future options both in terms of subsequent work and further schooling. It therefore represents a drag on the family's ability to move upward. This argument does not even venture into the debate whether college should be an option offered to everyone. (It should be, for those who qualify for and want it.) What it does illustrate, however, is how even well-intentioned programs such as offering free college tuition may fall short of their mark of helping the poor—free college tuition is irrelevant to those who fail to complete grade school and high school in the first place.

Apart from access, the quality of education poses a problem for mobility. Poor quality may actually be a reason for large numbers of pupils failing to complete schooling and the uneven chances across socioeconomic groups. Novel experiments[29] show how better pedagogy can spark and sustain student interest and motivate them to succeed.

To this day, however, wide gaps exist in the quality of education available to the most well-off versus what the majority must content themselves with. This quality difference is already evident in the difference between budgets per pupil in public schools and school fees in the better-quality private schools. But direct evidence can be found in the results of common tests.

The results of the National Career Assessment Examination (NCAE) reveal low test marks for almost all areas [**Figure 1.10**]. Both private and public schools perform poorly, with all scores averaging less than two-thirds in all tests. Logical reasoning is especially poorly developed. While private schools on average are hardly stellar performers themselves, scoring 40-50 percent in various tests of skills and abilities, a greater source of concern is that public schools perform even worse than mediocre private schools, with scores of 31-43 percent. Even technical and vocational aptitudes are barely developed among high school leavers.

The inferior quality especially of public basic education is one of the reasons the poor have very limited

access to quality colleges and universities, whether public or private. Tuition and other fees at the better private institutions obviously represent a barrier. But even with free tuition at better public institutions, living expenses are still an obstacle. Nor is money the only or even the main issue: access to better colleges and universities will always work *de facto* against the poor as long as they are ill prepared for higher education [Tan and Siriban, 2016].

The current pandemic has, if anything, thrown the problem of access to quality education into stark relief. Health and safety demands have completely disrupted the accustomed model of face-to-face instruction with no viable tried-and-tested alternative in sight. The various initiatives to shift to "blended" or distance learning (whether synchronous or asynchronous) are bound to affect socioeconomic groups differently.

The most promising if still imperfect alternative, synchronous online learning, is inaccessible to the great majority of students, particularly those in public schools, who lack either or both the proper electronic devices and reliable broadband connections. Other modes, such as asynchronous distance education with printed learning materials supplemented by occasional radio or TV, which may be viable among mature and self-motivated learners, are far less effective when applied to younger students who need encouragement and supervision. It is almost feckless, however, among the youngest children, particularly in home environments that are less than ideal.

These considerations are apart from the steep pedagogical and logistical challenges posed to an education bureaucracy unaccustomed to adjusting to rapidly changed circumstances. The result will be to widen the already existing disparities in the quality of education as experienced by various groups.

Some of the better-quality (mostly private) schools are doubtless in a better position to adapt to the difficult situation. But even such modified school experiences will be accessible only to the better-off or to those whose financial means remain intact despite the crisis. The difficulties suffered even by those in the middle classes is evident in recent statistics showing the large diversion of enrollment from private to public schools, likely owing to financial problems. Indeed, overall total K-12 enrollment for 2020, rather than increasing, was only 73 percent of the level in the previous year,[30] which means 27 percent or at least seven million students will fail to attend school in 2020-2021, either for lack of financial means to do so or for fear of falling ill.

Education—which for the vast majority means public education— has been a major, and perhaps the most important, channel of social mobility in our times. The interruption or dilution of schooling for extended periods has been shown in other contexts[31] to lead to future learning difficulties and lasting loss of interest among affected students. If left unresolved, these impending problems are bound to have far-reaching consequences on social mobility for generations to come.

Health

Good health among household members is a second major factor in socioeconomic mobility. Aside from health problems that may plague present generations, important aspects of health status can be passed on from one generation to the next. This occurs through genetic, environmental, and socioeconomic channels, so that parents with better health are more likely to give birth to and raise healthy children.

The channels for this cross-generational transmission are varied and complex. There are, first of all, heritable genetic mechanisms that increase the incidence of or predispositions to some types of disease. The predisposition to some important cancers (e.g., breast and bowel cancers) is now known to be inherited from parents, and some genetic factors have been identified that make some people susceptible to TB. In cardiovascular disease (ischemic heart disease being the number one killer in the Philippines) some genetic predispositions for certain lifestyle choices and unhealthy behavior may also be involved (e.g., diet, smoking, alcoholism, lack of exercise). And more recently, it has been found that a person's immune response to COVID may be triggered by genetic influences; a small proportion of the population who develop severe COVID-19 carry a specific kind of genetic mutation that impacts immunity [Zhang, et. al, 2020].

A second pathway, however, is the reproduction of the socioeconomic environment in which a family lives. A nurturing and disease-free environment, enriched by parental nurture, income, and education, affects the

Table 1.5 Half of young children among the poorest wealth quintile are stunted and a third are underweight

Selected indicators* of child nutrition by wealth quintile (2013 and 2015, percent of children aged 0-5 years)

Wealth quintile	Stunted		Severely stunted		Underweight		Severely underweight		Wasted		Severely wasted	
	2015	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015	2013
Poorest	49.7	44.8	20.2	17.2	31.9	29.8	8.0	8.0	8.1	9.5	1.9	3.5
Second	38.9	35.9	11.5	10.9	25.5	23.4	5.8	4.6	7.8	7.3	2.2	2.5
Third	31.7	28.5	9.3	8.0	21.3	19.0	4.5	4.2	7.3	8.3	1.9	2.8
Fourth	22.0	20.4	5.1	4.9	13.5	12.8	2.4	2.6	5.9	7.8	1.7	2.5
Richest	14.7	13.3	3.1	3.7	8.6	8.6	1.0	1.8	5.7	5.4	1.7	2.1
Average	33.4	30.3	7.3	9.7	21.5	20.0	7.4	4.6	7.1	8.0	1.5	2.8

Note: Underweight and severely underweight are classifications for standard weight-for-height; stunted and severely stunted are for height-for-age, while wasted and severely wasted are classifications based on body mass index for age, all for children aged 0-5 years, using World Health Organization norms. Severe outcomes are defined as three standard deviations away from norm.

Source: FNRI, 2015 Updating Survey on National Nutrition and 2013 National Nutritional Survey

growth of children. A vicious health-poverty cycle can therefore ensue if a family's socioeconomic conditions undermine its members' health and—vice versa—if poor health limits the future opportunities of the family's next generation.

Health shocks such as catastrophic illnesses impose a significant financial burden on families and deter mobility. This cannot be better illustrated than by the current pandemic, where the threat of illness or its actual occurrence has forced the shutdown of the economy and thrown millions out of work. By affecting work status and productivity, these events can affect wealth or employment prospects and therefore future streams of family income.

But the issue goes even further. It used to be thought that genetic factors were given and out of reach, so that only environmental, socioeconomic, and behavioral modifications were within the range of social policy. More recent findings on epigenetics,[32] however, suggest that certain genetic changes may actually be triggered by external environments—some of which are bound up with socioeconomic conditions—and that some of these are subsequently passed on to later generations. The diets of one's parents and grandparents before they reached puberty, for example, have been found to influence a person's later health, particularly their cardiovascular mortality.[33] The presence of such "transgenerational responses" raises the urgency of health and nutrition interventions and of improving socioeconomic conditions, since these affect not only the present generation's prospects for advance but also those of their descendants.

An observable but little noticed manifestation of such interactions between external circumstances and genetic changes is simply physical height. The Nobel Prize-winning economist Angus Deaton [2007] argues that height is result of the balance between nutrition and the challenges of disease ("scarring"), making it an indicator of health. Across countries, changes in in the average native-born population's height have been associated with long-term trends in development and well-being. It should provoke concern in this regard that Filipinos—particularly Filipino women—are among the shortest in Asia, indeed the only ones still below 150 cm. in average height.[34]

While one's height is heritable, external factors do affect it, including the mother's nutritional status even prior to childbirth, feeding practices, personal hygiene and sanitation, the disease environment, and access to health care. In turn, of course, these are also driven by the family's employment and income status, and therefore influence the child's growth, especially in the first 1,000 days of life [Prendergast and Humphrey 2014].

A panel-data study of Bukidnon households shows the heights of daughters being positively and significantly associated with the heights of mothers, with both parents' heights also having a positive impact on sons'

Table 1.6 Infant mortality is still very high among the poorest wealth quintile...

Selected mortality indicators by wealth quintile (2003 and 2017)

Wealth quintile	2003					2017				
	Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-5 mortality	Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-5 mortality
Lowest	21	21	42	25	66	18	13	31	12	42
Second	19	13	32	15	47	17	6	23	7	29
Third	15	10	26	6	32	15	12	26	5	31
Fourth	15	7	22	4	26	6	5	11	2	12
Highest	13	6	19	1	21	8	2	9	2	11
Average	17	13	30	12	42	14	7	21	6	27

Note: Mortality rates are deaths per 1,000 babies/children. Neonatal deaths are deaths at the first 28 days of life, while postneonatal are deaths from the second month to the first year of life; the sum of both is the infant mortality rates. Child mortality is defined as deaths from one year to five years of life; under-five mortality rates are the sum of infant and child mortality rates.

Source: NDHS 2003 and 2017

Table 1.7 ... likely due to the lack of postnatal checks and vitamin supplementation

Postnatal checks and supplements for children and women by wealth quintile (2017)

Wealth quintile	Births with no postnatal checks (per 1,000 births)		Children 6-59 months given supplements (per 1,000 children)		Women given supplements (per 1,000 women)	
	For mother	For child	Iron	Vitamin A	Iron	Iron with folic acid
Poorest	19.8	22.9	25.1	73.2	85.7	72.5
Second	9.9	11.2	27.2	80.8	92.3	77.4
Middle	4.0	6.9	31.8	76.0	93.5	80.6
Fourth	3.5	4.6	29.3	73.3	96.6	89.3
Richest	2.9	3.5	29.9	73.5	93.9	88.7

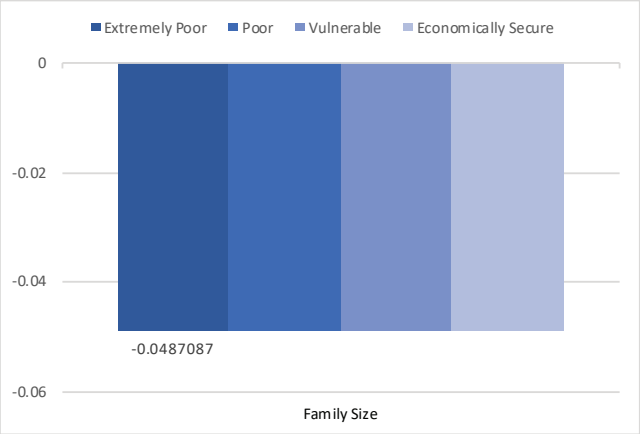
Source: NDHS 2017

heights [Bevis and Barrett 2015]. Another study [Addo et al. 2013] used data sets in different developing countries, including the Cebu Longitudinal Health and Nutritional Survey (CLHNS), to show that maternal height is associated with birth weight and height of their children at each age examined: a 1-cm. difference in maternal height predicts a 0.037, 0.025, and 0.044 standard deviation increase in child heights at 0-2 years old, mid-childhood, and early adulthood, respectively. Short maternal height is therefore associated with low offspring birth size, childhood stunting, and reduced human capital. Shorter women may have reduced protein and energy stores (and therefore can store more limited quantities of breast milk), smaller reproductive organ sizes, and therefore limited room for fetal growth.

A crucial indicator is *stunting*, which measures a child's height relative to his or her age. Growth in height has been called "the best overall indicator of children's well-being and provides an accurate market of inequalities in human development" [de Onis and Branca 2016].

On this basis, recent nutrition surveys present a troubling picture: stunting is most prevalent among the poorest households in terms of wealth [**Table 1.5**]. Half (49.7 percent) of all children 0-5 years of age in the poorest one-fifth of the population in 2015 were stunted, with 20.2 percent of showing severe stunting. Significant-

Figure 1.11 Larger families make climbing less likely



Note: The numbers show the increase in likelihood that a household with an additional family member moves up by at least one socioeconomic category. Differently shaded bars represent the effects for socioeconomic categories.

Source: Report estimates

Figure 1.12 ... and increase the chances of sliding

Note: The numbers show the change in likelihood that a household with one more additional family member moves down by at least one socioeconomic category. Differently shaded bars represent the effects for socioeconomic categories.

Source: Report estimates

ly, however, even children in the next two quintiles do not fare much better: 32-39 percent of children in those quintiles were stunted. Fully one-third of the country's children are stunted, pointing to a problem that runs through virtually all strata of society.

Global comparisons highlight the scale of the problem: the 49.7 percent stunting prevalence among the bottom one-fifth of Filipinos exceeds even the stunting rate for East Africa, the worst-performing region of the world (45.3 percent prevalence in 2010). In Southeast Asia, the prevalence of stunting was estimated at 22.6 percent in 2010, which means only the two richest quintiles of Filipinos were doing at least as well as the regional average.[35] It comes as no surprise that the country as a whole—where one-third of all children aged 0-5 years are stunted—fares significantly worse relative to the 14.2 percent (2015) global average of stunting prevalence.[36]

The emerging picture of malnutrition and disease-scarring is supported by other indicators of health, which likewise bode ill for future mobility among the poorest. Large gaps exist in the incidence of severe child malnutrition between those in the highest and those in the lowest wealth quintiles. Almost one-third (32 percent) of children in the poorest fifth of the population were underweight compared to less than 9 percent in the richest bracket. Little progress has been registered and indeed some setbacks have occurred since the previous survey in 2013.

Mortality rates for infants and children have improved slightly during the past 15 years, but death rates are still significantly higher for those in the poorest quintiles. Neonatal and post-neonatal mortality rates on the average have declined from 16 and 13 to 14 and 7 per 1,000 births, respectively, from 2003 to 2017 **[Table 1.6].** Child mortality rates, on the other hand, declined from 12 to 6 per 1,000 children during the same period. As with the nutrition data, however, death rates are higher for households in the lower wealth quintiles. Under-five mortality is 11 per 1,000 children for the wealthiest quintile, while it is almost four times at 42 per 1,000 children for the poorest, according to the 2017 round of the National Demographic and Health Survey (NDHS).

If traced back to prior causes, stunting, underweight, and child mortality can be linked to nutrition and medical care, especially in the prenatal and early childhood periods. Inequities in outcomes reflect the inequities in inputs. **Table 1.7** shows that in the lowest wealth quintile, 19.8 women per 1,000 births have no postnatal checks, compared to just 2.9 for those in the highest wealth quintile. This translates into 22.9 and 3.5 per 1,000 children for the respective quintiles that have no postnatal checks. Women in the richest quintiles also have the highest availability of iron and iron with folic acid supplements essential for bone and brain development of the child.

Child deaths are discrete, irreversible, and traumatic for families—events that cannot be ignored. Underweight

and wasting are also conditions that at least attract relatively more public attention because these are easily observed and can be addressed in a relatively short period (e.g., through massive feeding programs). Stunting by contrast is the insidious result of a long-term process whose effects may be difficult to reverse, if at all. Yet the effects are significant and well known,[37] affecting later health and life expectancy, cognitive development, school achievement, productivity, and incomes. Stunting is a public health problem that has escaped attention, especially since short statures have become the norm. In terms of social mobility, stunting—especially as it prevails across socioeconomic classes— should be regarded as a primary indicator of success or failure.

Family size

What a household spends is also driven by the number of its members. Households with more dependents must stretch their resources further, which is one reason that larger households experience longer poverty spells [Martinez 2016]. In terms of mobility, larger households face higher risks of sliding and smaller chances of climbing.

Across expenditure classes, the addition of another family member reduces the chances of climbing by 4.87 percent and increases the chance of sliding by 3.66 percent **[Figures 1.11** and **1.12]**. This is consistent with findings of Chetty, Hendren, Kline, and Saez [2014] that show family structure being strongly related to mobility. Adair, Guile, Disprove, and Galliano [2002] also show that the presence of more dependents in the family is associated with greater amounts of time spent by women on childrearing, which limits their ability to engage in paid employment and to augment family income.

Family size also affects intergenerational mobility because it affects investment in human capital, including the amounts spent on health. Family size is a negative and significant predictor of total healthcare expenditures [Molla, Chi, and Mondaca 2017]. Orbeta [2005] finds that health expenditure per capita declines as family size increases, which suggests health care may suffer as family size increases. This has detrimental effects on human capital outcomes.

Especially robust is the relationship between early childhood health, on the one hand, and cognitive skills, schooling achievement, and eventually labor productivity and wages on the other. Studies in the Philippines also show that children's health status is highly dependent on maternal nutritional status.

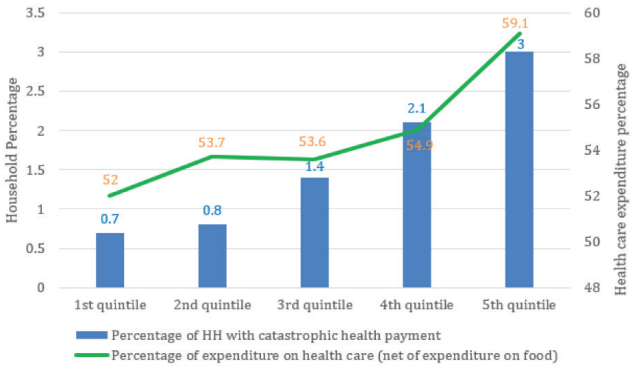
From the CLHNS, Bhargava [2016] observes that the mother's nutritional status is an important determinant of an infant's physical attributes. The same study finds that nutritional interventions to increase the intakes of animal products and fruit and vegetables are likely to synergistically enhance child growth, including height and weight, especially in the first two to 24 months of life. Indicators related to the mother's height and weight, education, and food intake are important influences on her children's anthropometric measurements.

Better nutrition also improves schooling outcomes and the chances of completing more years of education. Martorell, Melgar, Maluccio, Stein, and Rivera [2009] show that improvements in weight gain among children below two years old, followed by birth weight, have the greatest association with years of schooling and decreased failure rates in several developing countries, including the Philippines.

Also using the Cebu survey, Glewwe, Jacoby, and King [2001] considered height-for-age from two years

Figure 1.13 Faced with catastrophic events, the rich draw down their wealth; the poor draw down their health

Incidence and intensity of catastrophic health payments by income quintile



Note: The poorest in terms of household income belong to the first quintile while the richest belong to the fifth quintile.

The line figure shows the percentage of expenditures on health care (net of food) of the average household belonging to each quintile; the bars shows the percentage of households in the quintile allotting a significant amount of their expenditures to health care.

Source: APIS 2008

old up to the year prior to schooling as the measure of a child's nutritional history and found that an increase in height during that period significantly reduces the probability of repeating the first grade. Daniels and Adair [2004] used the same data set and extended the scope of the investigation to children's high school achievement. They found that children who have higher height-for-age at two years (i.e., show less or no stunting) are younger at initial enrollment, have lower chance of grade repetition, and are less likely to drop out of grade school and high school even after adjusting for IQ.

Carvalho [2012], using also seven survey rounds of the CLHNS between 1983- 84 and 2007, also found that between one-third and one-half of the intergenerational relationship of the socioeconomic status of parents and their children is accounted for by characteristics that are determined during latter's first few years, including health and nutrition, cognitive and noncognitive ability formation, and early schooling. The study also showed that channels that affect scores on the achievement test and cognitive test—presumably schooling and cognitive and noncognitive abilities—are more relevant to the intergenerational transmission than channels that affect nutrition and health, implying the cross-capital importance of education and health in intergenerational outcomes.

Again, cross-capital transmissions between education and health are important, since universal primary education can be better achieved with improved nutritional outcomes. Bevis and Barrett [2015] also showed that a daughter's height (a proxy for health outcomes) and mother's education (though not father's education) are positively associated. This can be understood in the context of the greater responsibility for child care socially assigned to mothers, so that better maternal education becomes reflected in better knowledge of child care and child health practices.

Deprived family and social environments have an impact on intergenerational health outcomes. The length of telomeres, the caps at the end of each strand of DNA that protect a person's chromosomes, is regarded as a biological marker of emotional stress. Recent studies elsewhere have associated shorter telomere lengths with low income, poor maternal education, and unstable family structures; shorter telomere lengths are in turn associated with lower disease resistance.

In the Philippines, researchers have found an association between shorter telomere lengths among adults and the incidence of infectious diseases during early childhood (6-12 months), notably seen in diarrhea [Eisenberg, Borja, Hayes, and Kuzawa 2017]. The sanitary conditions of the local environment may also affect telomere length [Tennyson, Gettler, Kuzawa, Hayes, Agustin, and Eisenberg 2018].

For the Philippines, the hypothesis has also been tested that another biomarker, C-reactive proteins (CRP), which are associated with chronic inflammation, are a potentially important pathway through which psychosocial stressors increase risk for cardiovascular disease [McDade, Hoke, Borja, Adair, and Kuzawa 2013]. Using the Cebu panel data, parental absence in childhood was a significant predictor of CRP in adulthood in interaction with exposure to animal feces in infancy, a proxy for poor social environments.

Child health is of course closely associated with adult labor productivity. Many studies undertaken on the impacts of childhood health examine the impacts of early childhood stature on labor productivity as measured by improvements in educational outcomes. There is also some evidence that nutritional outcomes are greatly associated with type of employment. Carba, Tan, and Adair [2009] provide evidence that a one-unit increase in length for age (a proxy for nutritional outcomes) is associated with a 0.4-unit increase in probability of employment in the formal sector work. This is likely true because nutritional outcomes, as stated earlier, are known to be associated with cognitive development and school achievement as well as school attainment, which in turn strongly predicts formal sector work.

Another link between health and income works through out-of-pocket payments (OOP) for health care. The World Bank's "Voices of the Poor" study showed that health costs were the most important precursor to poverty after illiteracy and unemployment. Out-of-pocket expenditures for medical care can disrupt the material living standards of the household, and if large relative to the household's available resources, these can be "catastrophic." These payments often preempt present consumption of other goods and services and, to the extent that expenditures are financed through sale of assets,

Table 1.8 Among low- and semiskilled there is low occupational mobility among fathers and sons...

(Father and son occupational status, 2003-2009, in percent)

Father's Occupation / Son's Occupation	HGP	LGP	NMC	Skilled	Farmers	Semiskilled	Low-skilled
HGP	14.48	6.23	27.29	10.56	4.88	7.76	28.79
LGP	13.29	17.36	25.71	9.63	4.59	6.68	22.73
NMC	7.30	5.46	33.09	10.12	4.82	7.13	32.08
Skilled	3.46	3.64	20.21	23.59	4.41	8.26	36.43
Farmers	1.69	0.69	4.85	4.52	11.99	2.81	73.44
Semiskilled	2.62	2.29	15.66	8.35	5.57	23.63	41.88
Low-skilled	1.56	0.84	9.54	4.67	4.22	4.78	74.40

Note: Figures pertain to proportions, averaged over 2003 to 2009.
All estimates are computed using October rounds of the Labor Force Survey. HGP = high-grade professionals, LGP = low-grade professionals, NMC = nonmanual or clerical workers

Source: Dacuycuy [2018: 20, Table 10]

Table 1.9 ... and also for fathers and daughters (though somewhat more)

Father and daughter occupational status (2003-2009, in percent)

Father's Occupation / Daughter's Occupation	HGP	LGP	NMC	Skilled	Farmers	Semiskilled	Low-skilled
HGP	23.62	9.71	46.53	3.42	0.29	2.69	13.74
LGP	24.79	17.80	42.25	3.13	0.50	1.63	9.91
NMC	16.33	8.56	48.25	5.57	0.60	3.51	17.19
Skilled	12.80	6.30	52.37	6.63	0.43	3.77	17.71
Farmers	9.29	2.23	24.10	2.33	2.80	3.32	55.93
Semiskilled	10.71	6.35	44.97	6.31	0.93	7.80	23.03
Low-skilled	6.58	2.52	37.51	3.08	1.04	4.17	45.09

Note: Figures pertain to proportions, averaged over a period of seven years (2003–2009).
All estimates are computed using October rounds of the LFS. HGP = high-grade professionals

Source: Dacuycuy [2018: 22, Table 13].

debt, or drawdown on savings, they can preempt future consumption as well. Excessive OOP is one of the channels through which ill health may cause downward mobility of families.

An indicator of the extent of catastrophic health spending by households is the share of OOP health expenditures in their budgets. If this share is large or exceeds a certain threshold, then the household is said to incur catastrophic health payments [Wagstaff and van Doorslaer 2003; O'Donnell et al. 2008]. The incidence of catastrophic payments is then measured by the proportion of households that exceed those thresholds.

Kraft [2016] compares OOP health expenditures across households as a proportion of their nonfood expenditures.[38] A threshold of 40 percent of a household's nonfood budget is adopted as a threshold to mark off what are catastrophic health payments.[39] In what is on the surface a paradoxical result, the incidence of catastrophic health payments seems to be most prevalent among the richest classes. Three percent of households in the richest quintile spent 40 percent or more of their nonfood budgets on health, while only seven-tenths of 1 percent of households in the poorest quintile did so. The incidence of large health expenditures rises monotonically with income **[Figure 1.13].**

Using the 2008 Annual Poverty Indicators Survey (APIS), the figure also shows that the richest among the households that do experience catastrophic health payments spent the equivalent of 59 percent of their nonfood budgets on average. The poorest households, on the other hand, made catastrophic health payments that averaged 52 percent of their nonfood budgets.

The apparent paradox that fewer poor households spend on catastrophic health events and those that do spend relatively less would suggest that the preservation of life and well-being among the poor is preempted by more urgent everyday concerns, and that the consequence of health shocks among them is not necessarily a drawdown of wealth—which is already meager—but a drawdown on health itself.

On the positive side, health outcomes in general appear to have improved over time. Based on two sets of data—namely the 2004 to 2008 APIS and the 2011-2015 UPEcon Foundation panel study—the overall likelihood of having any illness or injury fell from about 17 percent to 13 percent between 2004 and 2008, while the proportion of those who got sick fell from 5.9 percent in 2011 to 0.41 percent in 2015 [Kraft 2016].

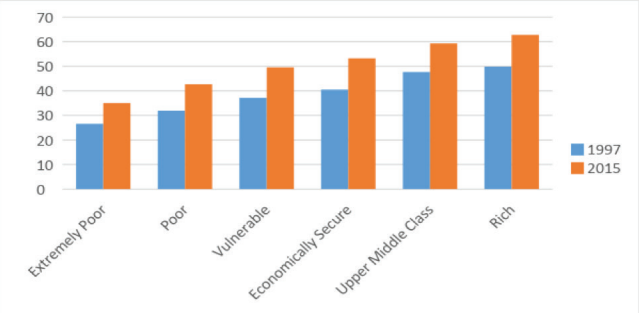
Even here, however, good outcomes are marred by inequalities: the factors that matter for good health tend to be concentrated among better-off households. Kraft [2016] notes this phenomenon in both the APIS and the UPEcon data sets. In the 2004-2008 data set, the likelihood of getting sick or being injured declines with increasing incomes, being a college graduate, and being in households with electricity or with own water supply. This is also found to be true in the more recent data for 2011-2015.

The presence of a hospital is also found to raise the probability of upward mobility, though only among the extremely poor. This indicates that better access to health facilities increases the chances of improved welfare among the poorest households.

The current pandemic, however, has taken a significant toll on the country's health and nutrition outcomes, which unfortunately will have deleterious effects on welfare in the coming years. More than 300,000 cases have been reported nationwide by late September 2020, with more than 5,000 deaths. This has taken a large impact on the health infrastructure. In many regions, institutions with hospital beds occupied by a big proportion of COVID-19 patients operate at a loss, leading to layoffs and, worse, closures among some large hospitals. At the same time, the Social Weather Stations has reported that the proportion of respondents in its self-rated hunger survey has risen sharply to more than 30 percent, translating to more than seven million families who have been affected by the crisis.

Figure 1.14 Employment is higher among higher socioeconomic categories

Proportion of household members working, across expenditure categories (1997 and 2015, in percent)



Source of basic data: FIES 1997 and 2015

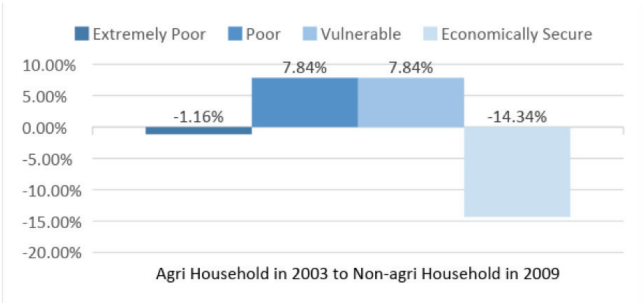
Employment and Labor

Employment and the labor market strongly affect welfare movements over time. Previous studies have already shown how changes in employment outcomes affect intertemporal poverty [Martinez 2015; Dacuycuy 2018; and World Bank 2018]. The connection is straightforward, since the capacity to work is one of the significant assets—indeed, frequently the main or only asset—that many low-income households possess. Stable employment opportunities provide better incomes and reduce the risk of stagnating or falling over time. In particular, empirical evidence shows formal employment in nonagricultural jobs to be correlated with lower income poverty.

But the market for labor is also one of the main channels that connect parents' background with the welfare of their children. Stagnant, inefficient, or biased labor markets that fail to recognize talent and reward education are obstacles to intergenerational income mobility, since fewer opportunities for work then become available to those aspiring for a better life. Conversely, the higher returns to schooling made possible by dynamic labor markets encourage parents to invest more in their children's human capital, thus strengthening the association between parents' and children's incomes. Well-functioning labor markets therefore increase the returns to education and promote intergenerational investments in human capital.

Figure 1.15 Moving out of agriculture brings mixed outcomes for different classes

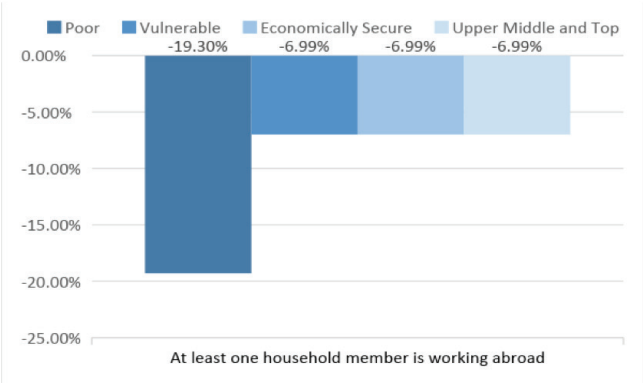
Probability of climbing with change from agriculture to nonagriculture



Note: The numbers show the change in the likelihood that an agriculture-based household transitioning to the nonagriculture sector would move down or up one socioeconomic category higher. A positive (resp. negative) number means the transition would increase (resp. reduce) the probability of moving up. Differently shaded bars represent figures for different socioeconomic categories.

Source: Report estimates

Figure 1.16 Sliding is less likely for households with an OFW as member



Note: The numbers show the change in likelihood that households with at least one member working overseas would move down one socioeconomic category lower. The negative numbers would show a decrease in the probability of moving down. The bars represent different socioeconomic categories. Bars with equal probabilities mean that the coefficients of the interaction variables of the dummy classes are insignificant relative to the base dummy variable (vulnerable).

Source: Report estimates

Another indicator of social mobility besides intergenerational incomes is the degree to which children's subsequent occupations are similar or different from those of their parents. **Table 1.8** [Dacuycuy 2018] illustrates this for sons and fathers, using data from the period 2003-2009. The closest match between father and son occupations are for those found in manual jobs, with low-skill job match at almost 75 percent. That is, almost three-fourths of fathers who were low-skilled workers had sons ending up in the same low-skilled category. This is closely followed by fathers who are farmers: 73 percent of them had sons who also ended up as farmers.

However, it is a revelation that only 14 percent of sons of fathers who were high-grade professionals ended up in the same category. The fact that 35 percent of the sons of high-grade professionals ended up in semi- or low-skilled occupations should be a cause for concern and may signal a gender and education problem when contrasted with the performance of daughters.

The occupations of daughters indicate somewhat greater chances of upward mobility **[Table 1.9]**. Among high-grade professional fathers, 24 percent of daughters also became high-grade professionals (compared with only 14 percent among sons). And in contrast to the high percentage for sons, only 16 percent of daughters of high-grade professionals ended up in semi- or low-skilled jobs. More importantly, a large proportion of the daughters of skilled, semiskilled, and low-skilled fathers ended up in nonmanual or professional occupations.

Whether for male or female children, however, a downward pull seems to exist for children of farmers and the low-skilled. The bulk of the children in these two categories ended up in low-skilled jobs themselves. The figures are 56 percent for daughters of farmers and 45 percent of daughters of low-skilled workers. The figures are more distressing for male children: 73 percent of the sons of farmers and 74 percent of sons of low-skilled fathers ended up in low-skilled occupations. To reiterate, the discrepancy between the occupational mobility of sons and daughters—with the former at a disadvantage—is a gender dimension that calls for closer examination.

Unfavorable labor market conditions such as chronically low wages associated with pervasive informal sector employment, periods of slow economic growth and extended recessions make it more likely that new entrants end up in low-paying jobs. This affects the lifetime stream of earnings that workers receive. High levels of unemployment and underemployment, including that in informal sector jobs, affect prospective earnings through their negative impact on the accumulation of experience, through skills depreciation, psychological discouragement, and the scarring effects on workers [World Bank 2018]. It also

affects the returns to human capital and makes it less worthwhile to invest in the education or training one's own training or that of the next generation.[40]

In both developed and developing countries, poorly functioning labor markets tend to increase the wedge between intergenerational mobility in education and intergenerational mobility in income. This is straightforward, since when labor conditions become adverse over long periods, the education and training passed on to the next generation may not pay off in terms of better employment and incomes.

Several factors show the association of these labor market conditions and socioeconomic mobility, but the association between employment and labor focuses more on the probability and duration of staying below the poverty line rather than the upward movement of income among different individuals and families.

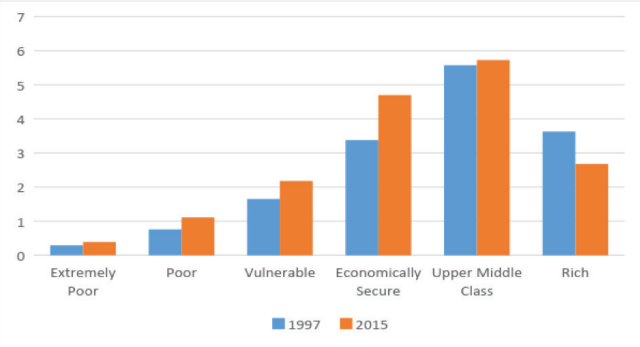
Previous work by Martinez [2015] showed that a greater proportion of household members at work decreases the risk of staying in poverty for longer periods of time. A greater number of household members working raises the household's earning capacity and allows them to diversify their sources of incomes. Data from the 1997 and 2015 FIES show that the proportion of family members working in households in the "rich" expenditure category is almost twice compared to those who are extremely poor, although the proportion of those who work increased across all socioeconomic categories between 1997 and 2015. While around 34 percent of family members in extremely poor households were working in 2015, the figure was 62 percent in the richest category in the same year **[Figure 1.14]**.

Intuitively, more employed family members reduce the chances of sliding among the poor. As more members contribute to household earnings, purchasing power increases and income sources become more diverse, reducing downward risk and volatility in welfare.

Second, the type or nature of occupation or employment also affects welfare. Households relying mostly on wages in nonagricultural sectors experience shorter poverty spells than those dependent on agricultural wage employment or on earnings from self-employment. Low productivity in the agriculture sector, frequent income fluctuations arising from crop loss (due to weather disturbances), and sudden changes in food prices also contribute to longer poverty durations for those who rely on the agricultural sector as their main source of income.

Figure 1.17 Larger percentage of overseas workers are those who are well-off

Proportion of households whose heads are working overseas (1997 and 2015)



Source of basic data: FIES 1997 and 2015

The World Bank [2018] estimates that the movement of workers out of agriculture contributed about two-thirds of the decline in poverty. A major factor is the increase of nonagricultural wages, which accounted for over 50 percent of the reduction in poverty (of a total of two-thirds for nonagricultural and agricultural income combined).

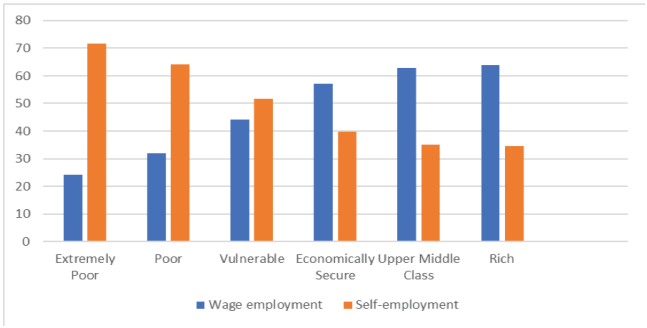
This Report's own findings[41] similarly reveal a higher probability of downward mobility (estimated at 6.65 percent) when nonagriculture households become agricultural households, while there is a smaller chance for upward mobility (-10.25 percent) when nonagricultural households transition to agriculture households. Poor households that move out of an agricultural classification improve their chances of moving up by an estimated 7.84 percent **[Figure 1.15].** However, this chance is reduced by 9 percent for extremely poor households (the difference between the probability of climbing between the poor and extreme poor groups) and by 22.19 percent for economically secure households (the difference between the probability of climbing between the poor and the economically secure groups).

Labor market outcomes themselves depend not only on workers' attributes and acquired skills but also their family background [Dacuycuy 2018]. These include such aspects as the choice of occupation or career, wage inequality, and returns to education.

As might be expected, overseas employment has

Figure 1.18 The poor are self-employed while rich enjoy wage and salaried employment in 1997...

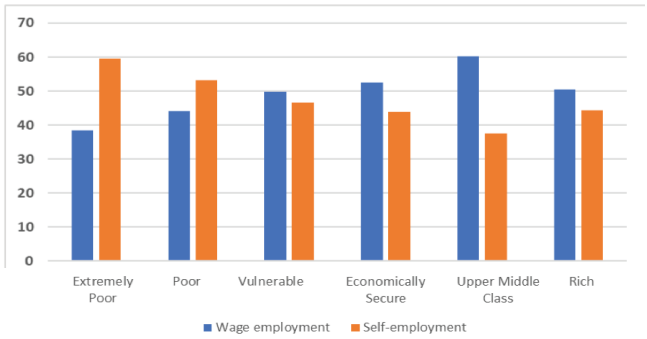
Wage and salaried employment vs. self-employment (1997, percent of household heads per category)



Source of basic data: FIES 1997

Figure 1.19 ... and in 2015

Wage and salaried employment vs. self-employment (2015, percent of household heads per category)



Source of basic data: FIES 2015

a particularly significant impact on household welfare. This corroborates findings elsewhere that if at last one member is working abroad, households tend to spend less time in poverty **[Figure 1.16]**. Remittances from a family member working abroad ease liquidity constraints for many low-income households and allow them to restructure their economic activities away from traditional subsistence activities and towards more remunerative economic ventures that provide them with increased incomes. In the Philippines, many former overseas workers have developed their own businesses.

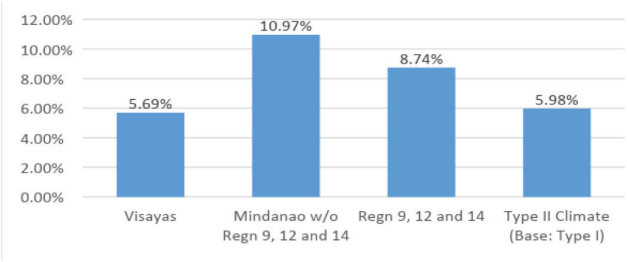
In addition, remittances from abroad have a positive impact on investment on productive assets which in turn could lead to lower risks of falling into poverty. Similarly, domestic remittances also contribute positively to minimizing poverty durations. Pernia [2008] shows that the impact of domestic remittances on the length of poverty spells could be stronger because it is low-income families who are more likely to receive remittances from internal migration.

Indeed, the data in **Figure 1.17** show that there is a higher proportion of household heads who are working overseas among households that are better-off. Only 1 percent or less of households that were poor and extremely poor in 1997 were headed by overseas workers. These figures had not changed much by 2015. On the other hand, more than 5 percent of household heads in the upper middle class were working overseas both in 1997 and 2015. The proportion generally rises with socioeconomic brackets before falling among the rich.

This Report's own findings are that a household with at least one member working abroad is less likely to be relegated to a lower category (by around -6.9 percent) in the next time period; the chances of sliding for those belonging to poor households are even less (by around -19.3 percent) compared to the average. This means overseas employment could help those below the poverty line the most by constraining their further downward movement. Unfortunately, however, the poor are themselves constrained in seizing this advantage owing to their deficiency in the education and skills required by most overseas jobs—a fact that then explains the low prevalence of overseas workers among the poorest households.

Internal migration and domestic remittances are also important. Using a panel data set for Bukidnon, Echavez, Montilla-Burton, McNiven, and Quisumbing [2007] found that remittances have a positive impact on housing and consumer durables, nonland assets, and total expenditures (per adult equivalent). The largest impact of remittances is on the total value of nonland assets (probably driven by increased acquisition of consumer durables) and on educational expenditures. Thus, despite the costs that parents may incur in sending migrants to other communities, the returns, in terms of remittances, play an important role in enabling investment in assets and human capital in sending communities. These effects go beyond consumption smoothing and have potentially long-term impacts, since they allow origin households to build up their stock of assets and invest in the human capital of the next generation.

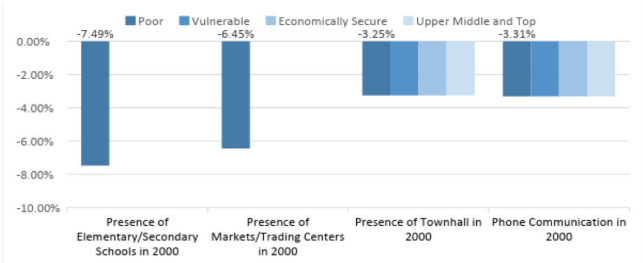
Figure 1.20 Sliding is more likely in Mindanao and the Visayas and on the eastern coast (Type II climate)



Note: The numbers show the change in likelihood of families residing in certain regions—in this case, Visayas and Mindanao, the latter with Regions IX (Zamboanga Peninsula), XXII (SOCCKSARGEN), and the Bangsamoro Autonomous Region of Muslim Mindanao—and having a Type II climate (dry climate with pronounced maximum rainfall) would move down up one socioeconomic category lower. The numbers are compared to an average household. The figures show the average across all socioeconomic categories.

Source: Report estimates

Figure 1.21 Public infrastructure reduces the likelihood of sliding



Note: The numbers show the change in likelihood that the presence of public infrastructure in the barangay where the family is residing would move down one socioeconomic category lower. The negative numbers show a decrease in the probability of moving up. The bars for the presence of schools and markets/ trading center only show for the poor group as these are the significant estimates. The bars with different shades represent different socioeconomic categories. Bars with equal probabilities mean that the coefficients of the interaction variables of the dummy classes are insignificant relative to the base dummy variable (vulnerable).

Source: Report estimates

Fourth, employment status affects welfare. A significant proportion of those who are self-employed or work on their own account earn significantly less than wage and salary workers. This is because many of them do not possess the skills and knowledge to undertake formal sector work; some may also be waiting for an opportunity to work in the formal sector where employment is associated with higher and more stable flows of incomes and social security coverage.

Formal employment among the extremely poor is still not quite pervasive. Only around 25 percent of the extremely poor relied on wage employment in 1997, although this had increased to nearly 40 percent by 2015. Even these ratios, however, are small compared to numbers for the upper middle class and the rich among whom more than 60 percent of households worked in wage or salaried employment in 1997, with the ratio seeming to have dropped for these two categories in 2015. Nevertheless, a majority of those who are poor and extremely poor are dependent on self-employment.

According to the World Bank [2016], over 90 percent of all low-paid jobs are informal, and as a result, informal workers are disproportionately represented among the poor. The high incidence of in-work poverty is thus just a mirror image of pervasive informality.

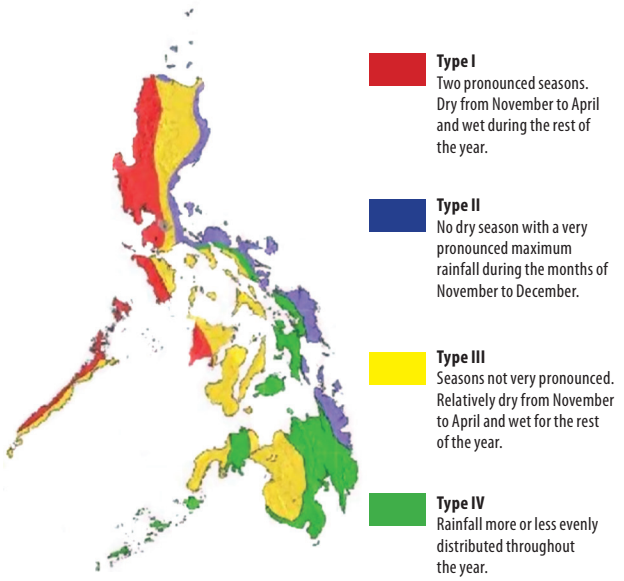
However, while the majority of the working poor are informal workers, informal employment does not necessarily lead to poverty. Many informal workers earn above the low-pay threshold and avoid poverty. This is slightly different from findings made by the World Bank [2018] with respect to poverty exits: having access to the formal work sector provides a small advantage over those in the informal sector in only a few of the countries, while for the rest there is no difference. By contrast, the same study shows that access to the formal sector is generally associated with slightly larger probabilities of upward mobility into the middle class.

Figure 1.18 and **1.19** show the proportion of household heads in 1997 and 2015 who rely on wage employment and self-employment. As the expenditure categories rise, household heads are more likely to rely on wage employment and less on self-employment. However, in 2015, the gap between wage employment and self-employment among the rich seems to have decreased, which may depict a rise in entrepreneurial activity.

Labor institutions also clearly affect how labor market conditions impact on mobility. An inefficient labor market that favors connections and nepotism rather than rewarding talent (e.g., in some parts of government) will hinder intergenerational income mobility. On the other hand, higher returns to schooling from well-functioning labor markets will encourage parents to invest more in the human capital of their children, thus increasing the association between parents and children's incomes [Solon 2004]. Among the different types of labor market factors are the following:

Labor rules and regulations. The World Bank [2016] notes that while informality limits the effective coverage

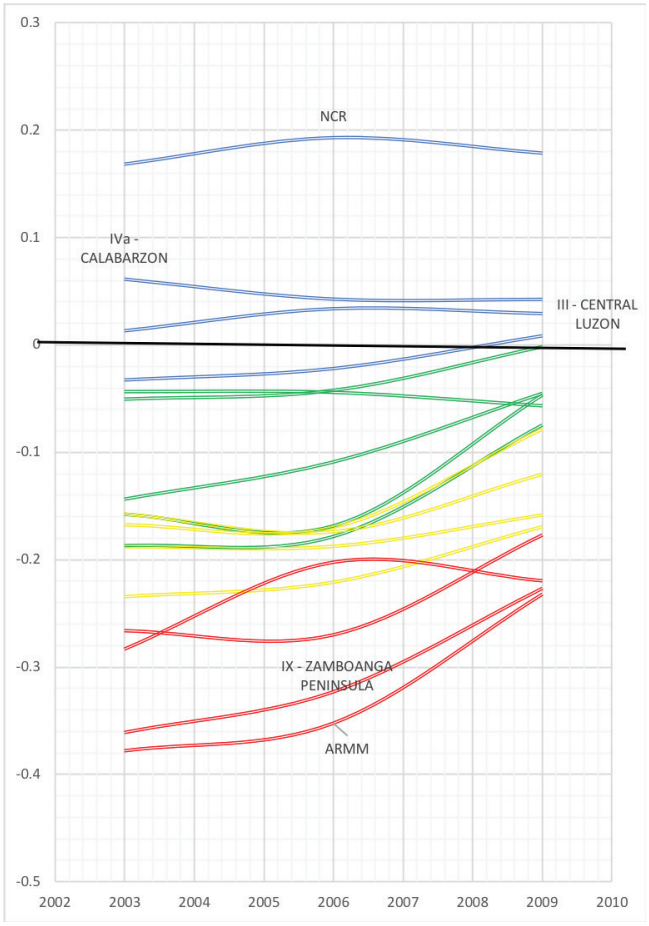
Figure 1.22 Climate map of the Philippines



Source: PAGASA

Figure 1.23 Well-off regions have the highest differences in proportion of middle class and the poor

Regional differences between proportion of middle class and poor (2003-2009)



Note: The figures calculate the difference between the ratio of families belonging to the middle class category and ratio of families belonging to the poor socioeconomic category in each of the politico-administrative regions of the country.

Source: Report estimates

of labor regulations, strict labor regulations themselves perversely contribute to informality. This is because strict or cumbersome regulations—such as those that govern hiring and firing—raise the cost of formal relative to informal labor and discourage employers from employing workers formally. This effect is particularly felt among low-productivity or low-skilled workers. A trade-off thus exists between the strictness of labor regulations and their actual coverage.

Income support policies: The influence of institutions on intergenerational wage mobility was written by the introduction of redistribution and income support policies and labor and product market institutions do have effects on mobility.[42]

Social networks: Social networks are important for obtaining information about jobs and in the referral process for available jobs. Friends and relatives are instrumental in the job search throughout the occupational spectrum and in a multitude of geographically defined labor markets. Informal job search methods appear to be more important for low-skill jobs and in markets or neighborhoods characterized by high poverty rates. Laurison and Friedman [2015] show how traditional professions are easily accessed by children of professionals and higher managers, professionals, and those with technical high status. Those who come from non-elite occupation backgrounds seem to experience slower wage growth or are disadvantaged relative to their counterparts who have elite occupational backgrounds. This evidence suggesting discrimination is important, and the authors speculate that low levels of social capital may be the reason.

Labor market discrimination (e.g., gender, caste- or race-based discrimination): Labor market discrimination can lead to labor market segregation, greater risk of unemployment, longer unemployment spells, and lower wages among individuals in groups that experience discrimination and thus tends to perpetuate inequalities

Table 1.10 The richest have the highest share in total saving...

Shares in total saving by expenditure decile (2015)

Expenditure decile	Share in total saving (%)
Poorest	1.18
2nd	2.63
3rd	3.27
4th	3.37
5th	4.88
6th	6.19
7th	9.72
8th	12.50
9th	18.33
Richest	37.93
MEMORANDUM:	
Total saving (₱ million)	136.024

Source: Report estimates from FIES 2015

Table 1.11 ... and also have highest rate of saving as proportion of average national saving

Share in total saving, share in total household population, and average saving per household in class as proportion of average household saving nationally, by socioeconomic category (2015)

Expenditure class	Share in total saving (%)	Share in total household population (%)	Average saving per household in class as proportion of average household saving nationally*
Extremely poor	2.33	9.61	0.24
Poor	7.31	23.34	0.31
Vulnerable	19.25	30.59	0.63
Economically secure	45.95	30.83	1.49
Upper middle and top classes	25.16	5.63	4.64

**Obtained as the quotient of columns 2 and 3*

Source: Report estimates from FIES 2015

across generations. In the Philippines, this may be manifested in gaps in the pay of men and women, or even differences in employment and incomes due to ethnicity, regionalism, or religious discrimination.

Earlier studies on gender differences in employment and income [Alba 1998] show that large gaps in men's and women's pay exist in favor of the former, and the relative lack of variation in women's income across industries (vis-à-vis men's wages) reflects some sort of discrimination (i.e., women are barred in occupying high-wage positions or are constrained in being employed in high-wage or high-growth industries) or preferences (i.e., women work in low-wage industries due to greater flexibility in working arrangements). A more recent analysis [Conchada, Sy, Tiongco, and Peloyo 2019] indicates that the wage differences across gender have been declining through time, but still indicate that these favor males, even if the women's education levels are generally higher.

Location and geography

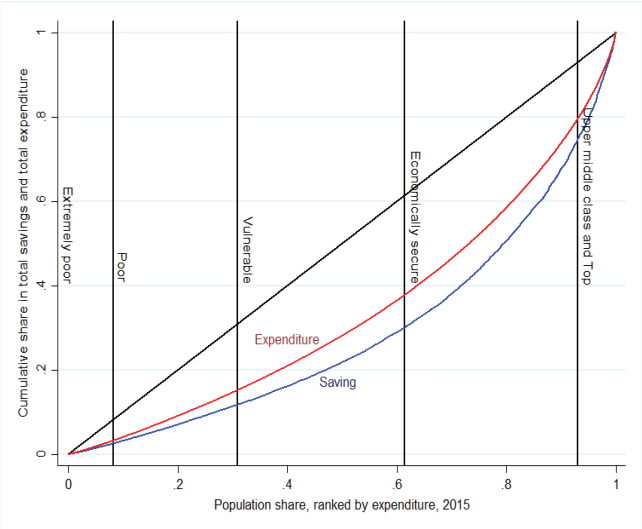
Geography in the Philippines is diverse, dispersed, and vulnerable to hazard. The previous PHDR explained how a significant portion of the disparities in human development might be due to geography. Provinces in the Philippines have distinct characteristics, resources, and climatic conditions that may affect socioeconomic mobility. It is well known, for example, that provinces with the highest poverty incidence are those with difficult geography and climatic conditions (e.g., provinces on the country's eastern coast) as well as those affected by conflict, especially provinces in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM).

Geography and access to basic services and infrastructure reduce poverty risk, which is why households in the Visayas and Mindanao are more likely to slide **[Figure 1.20]**. Households residing in Mindanao are also less likely to climb as compared with households in Metro Manila. As the country's capital region, Metro Manila has better access to goods, services, and the institutions required by human development. Even excepting Zamboanga Peninsula (Region IX), Soccsksargen (XII), and ARMM, households in Mindanao still have the highest probability of sliding.

Ferreira, Messina, Rigolini, López-Calva, Lugo, and Vakis [2013] associate residency in urban areas with households moving out of poverty or into the middle class. This Report finds evidence that living in the proximity of townhalls and the presence of phone connections in the area also decreases the probability of sliding; the chances that poor households slide are also reduced with access to markets/trading centers and elementary/secondary schools **[Figure 1.21]**.

Figure 1.24 Inequality in saving is higher than expenditure inequality

Lorenz curves for expenditure and saving (2015)



Source Report estimates from FIES 2015

In terms of climate, households living in provinces located mainly on the eastern coast—identified with a climate having no dry season and very pronounced maximum rainfall—are most likely to slide and less likely to climb (Type II climate). This includes provinces like Sorsogon, Catanduanes, Albay, and in the eastern parts of Mindanao. Also, less likely to climb are households in provinces where seasons are not very pronounced and are relatively dry from November to April and wet for the rest of the year (Type III climate). **Figure 1.22** shows the climate map of the Philippines.

An overall picture of the geographical distribution of socioeconomic mobility is gained by looking at the difference between the proportion of the upper middle and top and extremely poor classes **[Figure 1.23]**, four regions show positive results since 2003: National Capital Region (NCR), Cagayan Valley (II), Central Luzon (III), and CALABARZON (IV-A). Ilocos Region (I) in 2009 also joins the regions with positive difference. All these regions are from Luzon. ARMM and CARAGA (XIII) have the most negative difference in 2009. Both have the smallest proportion of upper middle and top classes and relatively high proportions of extremely poor. Both regions are in Mindanao.

Inherited wealth and other assets

Of all the advantages parents might bequeath their children, financial wealth and physical property are the most tangible, direct, and versatile. While the benefits of providing for a child's education are no less real, these depend on many intervening factors, including time, a child's innate ability, her degree of interest, the career chosen, and conditions in the labor market.

In contrast, the benefits from transferred wealth are immediate, nonspecific, and hinge only upon one thing: ownership or possession. Despite a Chinese saying that wealth does not typically last beyond three generations, the inheritance of financial and physical wealth is a major factor for greater or less social mobility. Depending on the amounts involved, the transfer of material wealth can secure a child's immediate status and—depending how she uses it—can give her command over goods, services, and social networks that could further improve her standing.

How much in financial and physical assets is accumulated by different socioeconomic classes is suggested by how much each class saves.[43] Saving lays the future basis for property. For the Philippines in a given year (here 2015), the poorest bracket accounted for only 1.2 percent of all saving, while the richest 10 percent was responsible for 38 percent [**Table 1.10**].[44] More than half of all saving among households is made by households in the richest 20 percent. **Table 1.10** (shaded rows) shows this in more organic terms: more than 70 percent of all household saving is accounted for by the top three deciles, corresponding roughly to the economically secure or better classes.

The discrepancy in saving rates is also seen in the last column of **Table 1.11.** Only the economically secure and upper classes are able to save at an above-average rate, the latter reaching 4.6 times the average. The two poorest categories save less than one-fourth to one-third of the average, while the vulnerable save less than two-thirds of a hypothetical national average. All this means, however, is that the bulk of income from financial and property assets and bequests of such assets will occur among the classes higher up the scale.

The same observation is also evident in **Figure 1.24**, which compares the Lorenz curves for expendi-

ture and for saving. Lorenz curves and their associated Gini coefficients are typical measures of inequality.[45] The fact that the curve for saving lies beneath that for expenditure shows a greater inequality in the former than in the latter. Correspondingly, the Gini coefficients are higher for saving than for expenditure (i.e., 0.466 versus 0.357 for 2015).

Because saving is unequal, it should come as no surprise that inequality in wealth will be greater than that in either incomes or spending.[46] While direct reporting on wealth in the Philippines is sorely deficient, the *Global Wealth Databook 2018* published by Credit Suisse provides an idea of holdings of wealth[47] across countries.

The publication estimates that 89 percent of all adults in the Philippines each owned less than $10,000 (about ₱526,000 in 2018 exchange rates) in assets. Only one-tenth of 1 percent of all adults (some 62,000 individuals) in the country were dollar-millionaires. Pushing further, there were only 154 persons with a net worth of at least $100 million and only 24 individuals owned more than $500 million. This results in a high wealth Gini coefficient of 0.834—higher than China's (0.819), Malaysia's (0.8), and Vietnam's (0.748), although somewhat lower than Thailand's (0.859) and Indonesia's (0.84).

Wealth concentration is near universal in private ownership economies. In principle, however, current wealth concentration need not mean ever greater future concentration. In the extremely unlikely situation, for example, where parents instead gave away most of their money to philanthropy, the next generation would not derive full advantage from their parents' wealth. After amassing his huge fortune, the U.S. multimillionaire Andrew Carnegie famously advocated giving it away through massive philanthropy. ("The man who dies thus rich dies disgraced.") More recent advocates of the practice have been such American billionaires like Warren Buffett and Bill Gates, whose children stand to inherit only a small proportion of their parents' wealth—though still substantial in absolute terms.

It must be said, however, that this practice is extremely rare in developing countries, although it is growing. Given evolved parental instincts, one will hardly ever encounter a case that wealthy parents will voluntarily deny their children any financial head start and make them start from square one.

The more widespread social recourse, however, has been taxes on wealth or inheritance. Inheritance or estate taxes effectively limit a person's ability to transfer wealth at the time one dies. In some countries estate taxes can be as high as 40-55 percent for large fortunes.[48] In the Philippines, the estate tax was recently lowered to 6 percent under the TRAIN law, mainly as a pragmatic response to tax evasion and avoidance.

A number of scholars in developed countries (notably Piketty [2014]), however, have advocated not just taxes on inheritance but annual taxes on the wealth of the super-rich in their countries,[49] somewhat akin to the annual real property taxes paid to local governments. Such drastic proposals are thought necessary to arrest the increasing inequality of wealth that threatens social cohesion even in relatively rich societies.

Wealth among the few would be far less of a social issue, however, if it did not systematically prevent the upward mobility of the many. The latter is likely to occur most obviously in societies where political power is captured or wielded by a wealthy few who fix the rules to aggrandize themselves and exclude others. This was the historical template for most colonial governments relative to their subject peoples, in societies built on racial, ethnic, or religious discrimination (e.g., apartheid regimes and theocracies), or in many autocracies and dictatorships.

Even outwardly free and democratic societies, however, can be swayed to favor the already privileged and powerful, to the detriment of the poor. This occurs, for example, when monopolies are allowed to exist; when taxes and spending are biased to favor the better off; when access to public services like education and health is limited or biased; or when racial, ethnic, or religious prejudice influences policy to exclude large sections of the population from wealth-creating activities.

A glaring example of bias in tax policy is the differential taxation of income from capital (notably financial assets) versus income from labor or human capital. The current tax rate on interest income from bank deposits and bonds is a flat 20 percent regardless of amount. On dividends from stocks the final tax is an even lower 10 percent. The tax on work or employment income, on the other hand, depends on its level—from zero to a high of 35 percent. At a certain income level, this results in an

inequity, where a person earning ₱1 million from work must pay ₱310,000 in income taxes, while a someone earning a similar ₱1 million from a corporate bond needs to pay only ₱200,000, and a person earning the same amount from dividends pays only ₱100,000.

The system thus favors owners of financial capital over those that rely only on their labor or human capital. As already seen, however, the distribution of financial capital is by no means uniform but rather favors the economically secure, the upper middle, and the topmost classes. This aspect of the tax system therefore promotes a further "stickiness" in terms of social mobility, since it facilitates accumulation by the already endowed versus that among the vulnerable and poor.

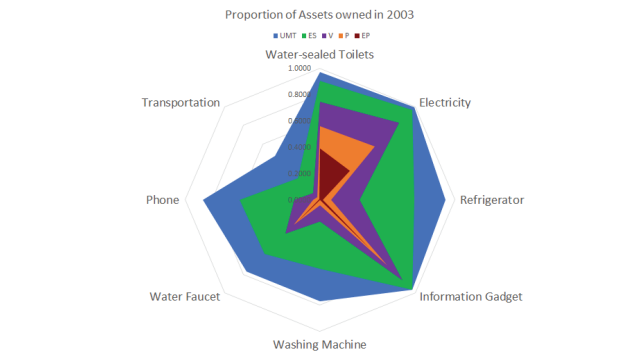
Even without the distortions introduced by tax policy, however, markets will often be biased against the poor and small. An important reason for this is the transaction costs of dealing with numerous small owners versus the economies of scale and scope reaped from dealing with a few large actors. The problem of scale and aggregation is pervasive and affects even land markets, where smallholders are unable to access capital or attract investment from large corporations owing to disperse or unclear ownership and scattered holdings.

In financial markets, however, the phenomenon is manifest in the common practice of offering better terms to larger clients. Few banks, for example, will pay any interest on deposits of less than ₱250,000; some will, however, pay one-half of 1 percent annually for a deposit of at least ₱1 million. Similarly, agent banks will sell government and corporate bonds—which can earn significantly higher interest of, say, 3-6 percent annually—for a minimum placement of ₱250,000.

While the government has acted to make some of its paper accessible to smaller savers, notably by issuing retail treasury bonds in denominations of as small as ₱5,000, these remain largely inaccessible to the poor and vulnerable who remain outside the formal financial system to begin with. The obvious approach to solving the problem is to collect small actors into larger organizations such as unions, cooperatives, associations, or corporations. The social preparation required to create social capital and to redirect it towards economic, financial, or entrepreneurial ends requires clear vision and significant resources.

Figure 1.25 Greater proportion of poor own information devices but less own refrigerators

Proportion of ownership of small assets per socioeconomic class (2003)



Note: The radar graph shows each spoke corresponding to a household durable good; the data values (represented by each color) show the percentage ownership of each durable good by each of the socioeconomic groups. 'Information gadget' include cellphones and landlines.

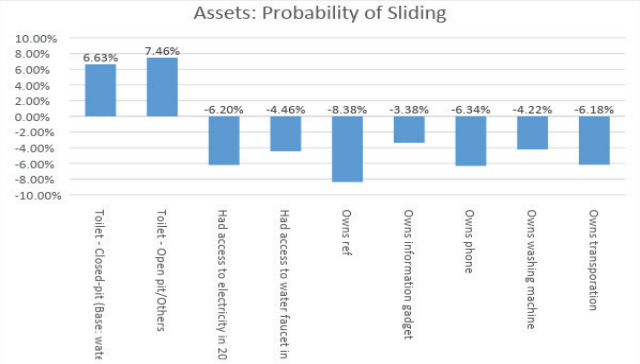
Source: Report estimates

Ownership of some types of financial assets (assets that earn investment income, pensions, and dividends) is strongly associated with higher incomes [Paderanga 2016]. Better access to financial assets and wealth also allows households to adjust to shocks and therefore sustain income mobility. Most Filipinos, however, are unable to capitalize on this. As already shown, the poor and the vulnerable save little and therefore own few financial assets, which leads to missed opportunities for saving and investment.

The inability to access the formal financial system, combined with weak financial information and literacy, compels the poor and middle classes alike to invest in what are at times inferior and less secure types of assets. Housing, real estate, and physical property such as owned vehicles and appliances are commonly among the first types of major assets acquired. Home ownership is almost 60 percent across all households and only somewhat less among the poorest.[50] In fact, more than half of the poorest 30 percent do own their house and lot, mostly in single detached housing.

These are not necessarily the best types of investment from the viewpoint of social mobility. Owner-occupied housing and real estate, for example, are illiquid investments and typically fail to add to current monetary incomes; indeed, if purchased through mortgages, such acquisitions could actually preempt other current

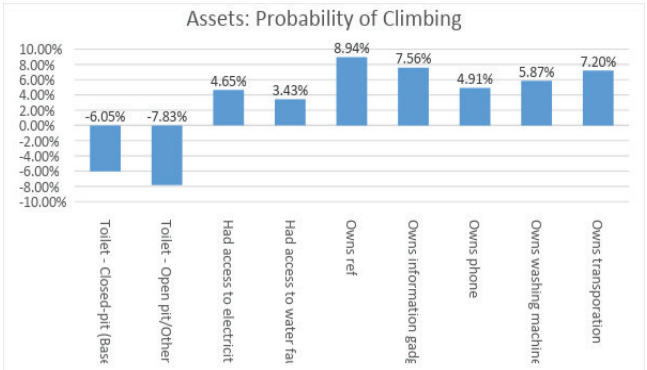
Figure 1.26 Sliding is less likely for households having certain assets and amenities



Note: The bars show the change in likelihood that the presence of durable goods would allow a household to move down one socioeconomic category lower. The positive numbers show an increase in the probability of moving down while negative numbers show a decrease in the probability of moving down.

Source: Report estimates

Figure 1.27 The same types of assets and amenities are associated with climbing



Note: The bars show the change in likelihood that the presence of durable goods would allow a household to move up one socioeconomic category higher. The positive numbers show an increase in the probability of moving up while negative numbers show a decrease in the probability of moving up.

Source: Report estimates

expenditures, such as those for health care and education. If residential renting or leasing were more competitive and economical, urban households might progress further intergenerationally by postponing the purchase of own housing.

Such suboptimal choices may nonetheless be understandable given the lack of access to higher-earning financial assets and other options. What is worse, however, are the cases, sporadically reported in media, where many are cheated of their hard-won savings by large-scale Ponzi schemes promising high returns to the uninformed and gullible.

Durable goods and basic services

Many studies also note the importance of access to basic services, such as electricity, clean water, and sanitary toilet facilities in reducing poverty and raising incomes across generations.

Figure 1.25 is a "radar chart" that shows the proportion each socioeconomic class that owns selected small assets or that has access to basic services in 2003, the initial period of the panel data. As expected, it shows that the proportion of asset ownership generally increases as households move up the socioeconomic ladder. The gaps between classes are widest in the proportions that own a refrigerator, a washing machine, and automotive transport, all of which are lumpy purchases. For example, only 4 percent of households owning a washing machine are from the poor and extremely poor socioeconomic categories, while only 8 percent of those who own a refrigerator also come from those two groups.

But more significant are the still wide gaps between the poor and extremely poor relative to all other classes with respect access to electricity and piped-in water and sanitary toilets. Martinez [2015] notes that having access to electricity contributes positively to higher household savings, since the unit cost of lighting with electricity is generally lower than using candles or oil lamp. Experts also agree that access to clean water and sanitation facilities (e.g., water faucets and sanitary toilets) has a multiplier effect on many socioeconomic indicators, particularly on movements into and out of poverty. Access to these facilities have a direct impact on health outcomes which also impact on the vulnerability of the households. This Report's findings bear out many of these previous studies. With the initial conditions depicted in **Figure 1.26** as starting point, this Report asks how these facilities and services affect the likelihood of sliding or of climbing.

As can be seen in **Figure 1.26,** ownership of or access to most of these services or small assets reduced the likelihood of sliding or relegation over the period covered. The mechanisms are not difficult to imagine and may be both implicit and direct. The implicit reason is that ownership of such assets and the ability to avail

Box 1.3 Linkages between land and income inequality

Land inequality has been widely viewed as a factor that has constrained the country from transitioning from an agricultural to an industrial state. However, recent studies seem to underplay the importance of land (vis-a-vis other durable assets and human capital) as a driving force in inequality [Martinez, Western, Tomaszewski, Haynes, Manalo, and Sebastian 2016]. This is rather surprising in light of the current agrarian reform program which focuses on reducing land inequality as a means of reducing poverty.

The redistributive outcome of agrarian reform then should be seen through the decrease in inequality measured in terms of land Gini, and then eventually a decrease in overall income inequality of the country through the income Gini. Box Figure 1 shows three estimated Gini coefficients:

> **Panel A:** Land Gini, measured in terms of the number of farm holdings in relation to the total area of the farm
>
> **Panel B:** Income Gini, measured in terms of the average household incomes in relation to the number of households
>
> **Panel C:** School Gini, measured in terms of the average years of schooling in relation to individuals aged 15 and above

A number of points can be seen from Box Figure 1. First, despite the fact that land Gini is slightly increasing, income Gini is relatively stable, and in certain years even presents signs of declining. This suggests that the overall view that land is the most central factor in distributing incomes is overrated. This also implies that much remains to be done if redistribution of land is seen as a main objective of the program.

Second, the declining income Gini from 1997 to 2009 seems to follow the pattern of the school Gini. Schooling or human capital may then be a more potent way of dealing with the distribution, relative to land distribution, suggesting that human capital may be underrated. In much of the debate on agrarian reform, the quality of human agents or the farmers themselves is not often seen, as discussion naturally is focused on the land. This seems ironic since the productivity of land is ultimately based on the quality of people or human capital of agents who are cultivating them.

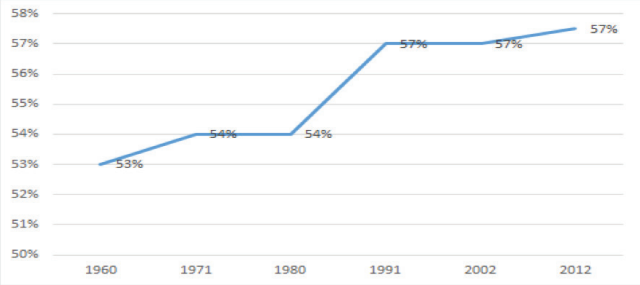
Third, while the declines in school Gini are associated with similar declines in income Gini, the latter remains relatively high. This implies that any significant decline in inequality should still be based on property redistribution, particularly land reform. It needs to be stressed, however, land reform may not be sufficient to decrease inequality since land by itself, no matter how fertile it is, will still require other inputs, especially human capital, to be more productive than its natural state. In that case, these factors, more significantly land distribution, must be combined to bring about some meaningful change in distribution.

In particular, despite the Comprehensive Agrarian Reform Program (CARP), large land ownerships were virtually untouched. Most of the land distributed to beneficiaries were voluntarily sold or transferred—and were small-sized. Also, a substantial amount of land distributed were either public land or Department of Environment and Natural Resources (DENR) land. In which case, the land devoted to agriculture slowly increased, but the owners of the large areas maintained their control over their possessions.

Hence, the agrarian reform program cannot itself explain the lagging agricultural productivity and continued income inequality. The problem must be seen in the context of the wider implications it may have for the country's institutions. Even if the schooling and other forms of human capital may be compressed, the Gini coefficient continues to be stable as the returns to such human capital investments are likely to be constrained by the inability of the economy to transition towards industry and greater productivity. Because labor productivity remains low and technology has not improved, land remains as a crucial input for production and a source of

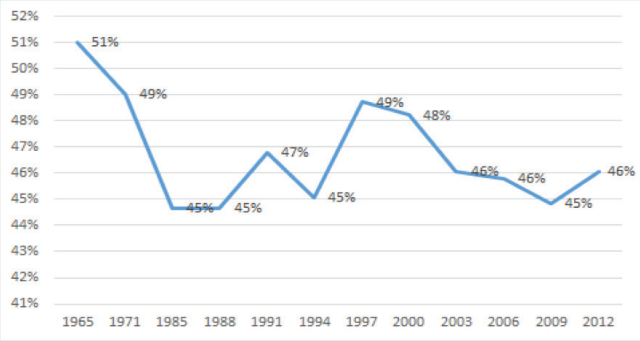
Box Figure 1 Land, income, and school Gini coefficients (selected years)

Panel A: Land Gini



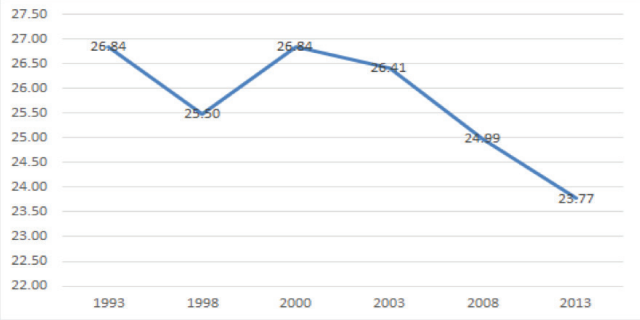
Source: Adapted from APPC [2007]. The 2012 figures are the Report's estimates from the PSA's Census of Agriculture and Fishery

Panel B: Income Gini



Source: PSA

Panel C. School Gini



Source: World Bank

political power that influences the type of institutions that prevail in the economy.

Certainly, the view that human capital and associated technological waves should have a major impact on labor market inequality makes a lot of sense. Nevertheless, this view is excessively naïve and deterministic. In reality, the impact of human capital, as well as access to basic services that provide such capital, on inequality depends on a large number of institutions which vary a great deal over time and across regions. Unless labor is sufficiently empowered, these institutions will continue to be dominated by the ruling elite.

To a large extent, the dynamics of labor market inequality are determined by the race between the demand for skills and the supply of skills. While the supply of human capital and associated skills may have increased, the demand for such skills and the expected increases in wage returns are not expected to rise if land is inappropriately allocated and seen as noncomplementary to human capital, thus limiting the demand for labor. In this view, further improvements in human capital and compression in schooling will not empower workers because the demand for skilled labor does not match the increased supply.

The analysis of income distribution by Martinez et al. [2016] highlights the need to improve further human capital outcomes. Given the way their employment index has been constructed, the insignificant effect of this index on poverty reduction suggests that the poor did not experience improvements in their chance to be employed in the nonagriculture and formal sectors. This displays a labor market segmentation wherein the poor workers continuously experience difficulty in moving to these sectors. The stagnant education levels, which can be used to proxy skills, indicate the significant transaction costs that poor workers face in moving away from less productive sectors.

These results can thus be traced to the absence of a well-functioning land market, leading to low industrialization as the political elite remains fixated with accumulating larger land areas and making it difficult for the majority to acquire and own land and to invest further in education. Galor et al. [2003] notes that human capital accumulation has not benefited all sectors of the economy.

Due to a low degree of complementarity between human capital and land, universal public education can increase the cost of labor beyond the increase in average labor productivity in the agricultural sector, reducing the return to human capital. With a lagging agricultural sector, large landowners have no economic incentives to give up their land as long as land continues to obtain the residual revenues from the yield, and their stake in the productivity of the industrial sector is unsubstantial.

Source: Lanzona [2017]

oneself of such services could simply represent a general level of financial and physical wealth that affords security against shocks and prevents relegation.

On the other hand, direct reasons may attach to the functions of such amenities themselves. For example, households that lack access to clean water and sanitation facilities face higher risks of contracting infectious diseases (e.g., cholera, typhoid, infectious hepatitis, and polio). Such health shocks may deplete the incomes of affected households and push them downward.

Similarly, the cost-savings enjoyed by households with access to electricity, clean water, and sanitation facilities could contribute to a household's ability to start income-generating (micro-) entrepreneurial activities in the face of shocks. The higher risk of relegation due to having closed- or open-pit toilets suggests there may be minimum standard (i.e., water-sealed toilets) that guarantees sanitation and which inferior substitutes fail to provide.

Owning durable assets like refrigerators, washing machines, radio and television sets, and transportation vehicles can also aid households in coping with vulnerabilities in other ways. Households may sell these assets during times of economic uncertainties, thereby providing them with an income buffer that can mitigate the adverse effects of shocks. These assets can also be used to increase the efficiency of conducting households' economic activities, as in the case of a radio or a television which allows households to adjust their activities in response to an impending typhoon or other natural disturbance. Lastly, some of these assets (such as phones[51] and vehicles) can be used to generate income [Martinez 2016].

The effects on the probability of promotion of having the same necessities such as electricity, water connection, and water-sealed toilets are almost a mirror image of the previous discussion **[Figure 1.27]**. Owning durable assets such as a refrigerator, washing machine, radio and television ("information devices"), telephones, and transport vehicles are positively related to moving up at least one expenditure class.

This Report finds that real estate ownership (i.e., owning a house or land, or both) increases the chance of climbing only for economically secure households. This may be because there is little variation in terms of ownership of housing among the extremely poor, the poor, the vulnerable, and economically secure classes. Housing ownership increases significantly, however, beginning with the economically secure to the upper middle class, a fact that may be due to the greater availability of financing those classes.

Several mobility studies at the community level in the Philippines, however, find land to be a source of economic mobility for many poor households. Echavez et al. [2007] and Fuwa [2007] provide evidence that in the rural areas, land ownership increases the probability of households climbing the income ladder. In other countries, ownership of land is found to minimize the risk of long poverty spells [Adam and He 1995], while households that lose land have a higher risk of relegation [Justino and Verwimp 2013]. It remains an empirical issue, however, that there is very little correlation between land inequality and income inequality **[Box 1.3]**.

Bevis and Barrett [2015] also note the strong intergenerational effect of land ownership, one that is stronger for sons than for daughters. The fact that the estimated land transmission rate from parent landholdings is significantly greater for sons than for daughters may stem from different land inheritance customs (sons are almost twice as likely as daughters to inherit land, and inherit an average value over twice that of daughters). But it could also simply reflect sons' greater propensity to farm, resulting in stronger intergenerational correlation in unobserved heterogeneity due to skill, market access, etc.

The impact of agricultural land ownership on mobility has declined over time, however. Partly to blame have been institutional obstacles that long prevented small landowners from deriving the full benefits of ownership. Examples include restrictions on the use, mortgage, and sale of lands covered by laws such as the agrarian reform law and (until recently) the agricultural land patent law. The practice of issuing collective certificates of land ownership in many areas under land reform is another imposition that restricts land use and production arrangements.[52] Inadequate or misplaced public support for smallholder agriculture in terms of technology, logistics, marketing, and social organization has also played a role in undermining the viability of smallholder agriculture.

These and other factors have the same effect of reducing the value of land as an asset, thus diminishing

Box 1.4 Social capital and welfare of the urban poor

Social capital can play a crucial role in providing public services to local communities, which in turn would provide them critical assets to be able to improve their livelihoods and generate incomes for their families. Two cases—the Payatas Scavengers Homeowners Association and the relocatees of the Southville 1 community—illustrate the contrasting impacts of the presence of social capital (or the lack thereof) in improving the lives of urban poor residents.

The Payatas Scavengers Homeowners Association Inc. (PSHAI) originally consisted of 150 saver-participants in Payatas, Quezon City. Residing in shacks constructed from recycled building materials scavenged from the dumpsite, they drew their income largely from the trash mountain. The scavengers group, organized initially as volunteers by a priest with the Vincentian Missionaries Social Development Foundation Inc. (VMSDFI), focused on savings schemes. These would generate the down payment for land purchase, capital for small businesses, loans for emergencies, and funds for general needs.

In 1998 an expanded PSHAI bought a three-hectare titled land in San Isidro in Rodriguez, Rizal for resettlement. The association used its three-year savings of P600,000 and obtained a P3.9 million low-interest loan from Domus-Mariae of the Diocese of Manila to raise the P4.5 million down payment. The Payatas trash slide in 2000, which buried hundreds of waste pickers, brought additional help from then President Joseph Estrada to construct row houses and a daycare center in San Isidro as incentives for moving there. Self-relocation took place after years of preparation featuring family and community improvement programs.

Social capital was lodged in the multiple networks built in Payatas that include VMSDFI, the Homeless People's Federation in the Philippines Inc., and the latter's NGO technical support arm, the Philippine Action for Community-Led Shelter Initiatives Inc. [Yu and Karaos 2004]. PSHAI also forms part of the powerful global south Shack/Slumdwellers International. Its effective organizing of ex-scavengers and informal settlers for legitimate housing settlement and community development attracted further support from another international program, the Community-Led Infrastructure Financing Facility (CLIFF).

The problem of managing a complex array of internal and external support networks generating large amounts of financial and social capital for PSHAI members may explain in part why although site development began in 2004 following the municipal approval of the development permit, only 66 houses have so far been built, with 44 families actually moving in.

Some member households explain that they cannot afford the monthly installments. Others have opted to maintain two residences—one in San Isidro inhabited by the family or rented out, and the other in Payatas where their main source of livelihood prevails. Family members commute back and forth. Their response to upward social mobility aspirations lies partly through maintaining both assets with their associated networks to leverage maximum benefits.

Downward mobility is a consequence when once thriving social capital is lost as urban poor informal settlers are pressured or forced to move from their incity locations to distant offcity sites. This has been the case of urban poor residents relocated to Southville 1 in Cabuyao, Laguna.

Left with a house and lot which most are unsure they can pay off, and given the consequences of unemployment, inadequate basic services (water, electricity, schools, communications, protection, and transport), and discrimination from the townspeople, relocatees suffer intensely the negative consequences of disrupted social networks. An anthropologist researcher recorded at least two suicides during the months he spent living in the settlement.

Having lived in their former urban informal settlements for decades, the residents of Southville 1 previously built up bonding, bridging, and even linking social capital ties that had enhanced survival and even fostered some upward mobility. All that was shattered by the eviction and offcity resettlement.

Thousands of households summarily transferred to Laguna faced the reality of disorganized lives and unpredictable futures. The social bonds that had sustained them internally in their former neighborhoods, along with the networking with people outside their neighborhoods for informal jobs or personal benefits, had disappeared in the move.

Demoralized, they found it difficult to work out some kind of household plan for the future in such disruptive and unpredictable surroundings. Only when their former community organizers returned to help revitalize their people's organization did they once again get the energy and courage to assert their interests and rights [Jung 2014].

Source: Racelis and Labastilla [2017]

its positive role in social mobility. The result has been the sharp movement out of agriculture especially in the 1984-2004 period and the consequent conversion of land into nonagricultural uses. As agriculture has declined in importance and more opportunities are created beyond rural areas, education and access to human capital then gain in prominence [Estudillo, Sawada, and Otsuka 2008]. Micro-level studies in rice-growing villages in Luzon and Panay[53] show nonagricultural growth to be the main driver of poverty reduction after the 1980s and 1990s, with an increase in the returns to education vis-à-vis returns to land.

The literature also highlights the role of social relationships that the poor may have in moving up the income ladder. Social capital—the norms and networks that enable people to act collectively [Woolcock and Narayan 2000]—has been closely linked to socioeconomic mobility. Trust is similarly cited frequently as a crucial variable in shared values, norms, and reciprocity inherent in social networks along with group cooperation and organizing for collective action that can produce outcomes benefiting a broader community.

In some well-defined cases—e.g., in some ethnic or tribal communities—social capital has been built up over a long period of interaction and collective problem solving and is in this sense almost "free" and does not require the use of limited resources. Such social capital is what underpinned the success of some communities in sustainably managing common-pool resources, notably the traditional irrigation system (*zanjeras*) of Ilocos[54] noted by Ostrom [1990].

Substantial evidence also exists to show that movements up and down the income ladder have been strongly linked with the horizontal and vertical ties that individuals and households are able to make within and across different local communities and in the larger society [Narayan and Pritchett 1997]. The challenge has been to develop social capital where it is thin, or to expand its scope where it already exists so it can be deployed to new and more dynamic collective projects.

Case studies show that organizing poor households can lead to better welfare outcomes. Racelis, Karaos, and Labastilla [2016] cite the importance of local organizations in handling public or club goods that are beyond the capabilities of individuals to access or that governments have been unable or unwilling to provide. These organizations also provide support in terms of providing basic needs of the poor generated and held in local groups, which helps them cope with difficulties in their everyday lives by means of realizing collective actions for their mutual benefits. They show the case of an urban poor organization partnering with an NGO involved in informal settlers, improving their welfare outcomes over time.

The same study distinguishes between three types of social capital that figure in in socioeconomic mobility. "Bonding social capital" includes close family and personal ties that allow for access to employment, durable goods, housing, and the like. "Bridging" social capital is characterized by formal and informal memberships, particularly horizontal relationships, in functional or loose organizations, and memberships in formal or semi-formal associations which advance common interests. Lastly, "linking" social capital describes more vertical relationships in order to access resources, information, and ideas. Movements across socioeconomic categories are usually connected with upward and downward movements in welfare given the importance of social cohesion and relationships with outside groups. See **Box 1.4** on a case on the role of social capital in supporting marginalized groups.

Other studies show also the positive relationship of social capital with welfare improvements. Moser [1998], for example, regards social capital as an "asset" especially for urban poor households as the establishment of trust-based networks reduces violence which impedes the flow of public goods in distressed communities. In developed countries, a growing number of studies, i.e., Chetty et al. [2014], show a close association between social capital and socioeconomic mobility. The mechanisms underlying the relationship, however, invites closer examination, especially in developing countries.

To recap, there are several factors that affect a person's ability advance in the socioeconomic ladder. Higher investments in human capital and optimal parental inputs ensure better education outcomes which lead to improved wage and employment prospects for sons and daughters. Good hereditary traits, and favorable home environments and macroeconomic factors, such as access to good medical care and adequate nutrition, ensure

that better health can be passed from one generation to the next. Labor market conditions and the nature of one's occupation affect the economic status of families and individuals through time. Geography, a theme in the previous PHDR, or more specifically, where one lives, inherited wealth and access to basic services and durable goods, and personal and community relationships can affect promotion or relegation.

These factors also mutually affect each other. Long spells of ill-health erode the capacity to work and the chance to access good jobs. Deficient schooling among parents affects the quality of maternal involvement in childcare, influencing health and nutrition outcomes of children. Clearly, no one single factor solely affects mobility. The conditions surrounding improvements or deterioration in socioeconomic success depend on the circumstances of the individual and the household and the community to which they belong.

IMPLICATIONS FOR POLICIES AND PROGRAMS

This Report's findings carry implications for the design and implementation of future policies and programs. In particular, it highlights the inadequacy of current approaches for improving welfare and promoting human development and points to the need for policies that recognize a more complex social reality where individuals and households move across social categories across generations.

At least until the onset of the present crisis, the decline in the numbers of the poor and extremely poor signaled a definite improvement in well-being—at first slowly over the previous decades and more rapidly in the last decade. Even then, however, the country still had much room to improve, especially when compared with other Southeast Asian countries. To ensure that the present crisis is surpassed and more people become sustainably well-off in the next two decades as stated in the government's own vision for the year 2040, the country needs to adopt strategies that allow individuals and households to continuously move upwards over time, protecting them from regressing or falling below critical income or welfare thresholds.

Past approaches have been justifiably dominated by programs focused on directly uplifting the poorest groups in society, particularly programs that extend access to basic education, nutrition, and primary health care, and that provide a degree of income supplementation. Direct assistance such as the conditional cash transfer program (i.e., the Pantawid Pamilyang Pilipino Program or 4Ps) has proven to be a major success in that direction.

Given changing social circumstances, however—particularly the gradual reduction of the statutorily poor to a minority in society—there is now a need for integrated programs that explicitly envision the upward mobility of different categories of individuals and families over time and across generations. Such a strategy must recognize that different households confront different life obstacles and that there are different pathways for them to move up the socioeconomic ladder. Differently situated socioeconomic groups require different interventions to improve their human capabilities and functionings across generations. This consideration is especially relevant for the emerging large class of the vulnerable, who are no longer poor in an immediate existential sense but who still struggle to maintain their social position in the face of various risks, and whose progress across generations is far from assured.

If society's vision and metric are narrowly confined to reducing statutory poverty, however, households and individuals such as these face the risk of falling between the cracks. As the recent coronavirus pandemic has shown, even the condition of many who are nonpoor (e.g., many of the formally employed and contractual employees) can suddenly become precarious in the face of natural or economic catastrophes. As the pandemic demonstrates, many of these households may then suddenly swell the ranks of the poor as they fall through the holes of social safety nets set up by government.

This Report also documents the emergence of a significant middle class—consisting of the economically secure and the upper middle class—both as a cause and an effect of economic growth. A growing middle class is associated in the literature with the consolidation of

Box 1.5 Political values of the Philippine middle class

A quite influential school of development thought in the 1950s and 1960s, modernization theory has long been discredited for its Eurocentrism and historically inaccurate claims. Yet one of its tenets that has seemingly survived its demise concerns the role of the middle class as a modernizing and democratizing force in hitherto underdeveloped societies. There are two elements in this argument concerning the middle class: first, its size; and second, the attitudes, values, and behavior of those considered to belong to it.

It is postulated that economic development is accompanied by a growth in the size of the middle class consisting of people with reasonably adequate education and income. Their level of education and their being employed in manufacturing and industry are said to predispose them to adopt "modern" attitudes and behavior such as openness to new experiences, independence from authority, belief in science, interest in public issues, and joining voluntary associations. Extending this argument further, it is believed that those belonging to the middle class possess values and engage in behavior that are consistent with and promote both economic growth and democracy.

As neat and elegant as the theory appears, historical evidence of the last 40 years points instead to widely divergent paths taken by formerly poor and agrarian societies in terms of their rates of economic growth and the types of political systems they have chosen to adopt. Still, the role of the middle class has not escaped attention insofar as its influence on both economic development and democratic governance is concerned.

This article explores the political values of the so-called Philippine middle class drawing on data from the Philippine segment of the World Values Survey (WVS) for the years 1996, 2002, and 2012. To do so, however, it first attempts to identify who belong to this group and what changes have occurred in its size between 1996 and 2012.

The WVS, periodically conducted in the Philippines by the Social Weather Stations, asks respondents to select the class status with which they identify from five class status categories, namely, lower class, working class, lower middle class, upper middle class and upper class. Hence, the results are subjectively determined since they are based on the self-identification or perception of the respondents. See **Box Table 7** on the savings status of the different households.

The data indicate a common pattern across income groups showing a decline in the percentage of respondents that had saved during the past year, where the decrease is highest for the upper and upper middle classes. Although the modal response for all status groups remained "just got by" ("*nakaraos lang*"), the percentage of respondents that "spent savings and borrowed money" ("*gumastos ng naipong pera at nangutang*") increased for all status groups except the upper middle class, with the increase highest for the working and lower classes. These results indicate that saving declined across all status groups and most significantly among the wealthier groups, while borrowing increased across all status groups except the upper middle class and especially among the lower status groups. These findings are indicative of an overall decline in economic well-being across all income groups between 2002 and 2012.

Having more or less delineated the middle classes and provided an indication of the direction of change of their economic well-being, what can be said about their political attitudes, beliefs, and practices and how they have changed, if they did change, between 2002 and 2012?

Interest in politics

Modernization theory holds that middle and upper classes would tend to have greater interest in public, including political, issues given their level of education and exposure to the industrial and urban way of life. Given their heightened interest in public affairs, they also tend to join voluntary associations and to engage in associational activities on public interest concerns.

Box Table 7 Family savings during the past year (2002 and 2012)

	2002				2012			
	Saved money	Just got by	Spent some savings	Spent savings and borrowed money	Saved money	Just got by	Spent some savings	Spent savings and borrowed money
Upper class	38.24	41.18	8.82	11.76	15.63	43.75	21.88	18.75
Upper middle class	33.94	44.85	12.73	7.88	22.46	56.78	13.98	6.78
Lower middle class	14.14	63.03	12.90	8.93	7.85	63.18	14.08	14.89
Working class	10.61	67.76	11.84	9.39	5.51	55.08	17.37	22.03
Lower class	3.49	66.86	13.08	16.28	2.54	58.88	11.17	27.41
Total number of responses	164	742	151	136	115	709	174	202

Source: WVS-Philippines

Combining the "very interested" and "somewhat interested" responses in the WVS into a general response of "interested" and the "not very interested" and "not at all interested" responses into a general response of "not interested," **Box Table 8** shows the percentage of respondents within each class status category giving an "interested" and "not interested" response to the question: "How interested would you say you are in politics?" The net interest rating was also computed for each class status category.

The percentage increase in the net interest rating from 2002 to 2012 is quite high for the lower middle, working, and lower classes, ranging from 15 to 19 percentage points and turning from negative to positive. The upper and upper middle classes also increased their net interest rating but to a much lower degree. Given that the lower middle class accounts for the biggest proportion of respondents of all the status groups, at 33 percent in 2002 and 41 percent in 2012, and registered the biggest percentage increase in size within that period, it can be said that the increased size of this status group and its increased level of political interest would have had the biggest impact on the changing political attitude of the middle classes within that period.

Forms of political action

To what extent has the increased interest in politics, particularly among the middle classes, translated into a change in actual behavior? Selecting two indicative forms of political action, signing a petition and attending peaceful demonstrations, **Box Table 9** presents the

Box Table 8 Interest in politics (2002 and 2012)

Indicator 1: Interest in politics		How interested would you say you are in politics? Very interested, somewhat interested, not very interested, not at all interested *Gaano ba kayo ka-interesado sa pulitika? Talagang interesado, medyo interesado, hindi gaanong interesado, talagang hindi interesado*						
		2002				2012		
Social class (subjective)	% of Total	Interested	Not interested	Net interest	% of Total	Interested	Not interested	Net interest
Upper class	2.83	61.66	38.23	23.43	2.67	62.5	37.51	24.99
Upper middle class	13.75	56.97	43.04	13.93	19.67	58.9	41.1	17.8
Lower middle class	33.58	49.13	50.37	-1.24	41.42	56.94	43.06	13.88
Working class	20.42	48.57	50.61	-2.04	19.67	58.05	41.95	16.1
Lower class	28.67	47.67	52.03	-4.36	16.42	57.36	42.64	14.72
Total	99.25				99.83			

Source: WVS-Philippines

Box Table 9 Forms of political action done in the past year (2002 and 2012)

Indicator 2: Signing a petition	For each form of political action, state whether you have done it, you might do it or would never under any circumstances do it – **Signing a petition** *Sa bawa't uri ng aksyong pampulitika, pakisabi ninyo kung nagawa na ninyo ito, maari ninyong gawin o hindi ninyo kahit kailan gagawin ito - **Pagpirma sa isang petisyon***							
Indicator 3: Attending peaceful demonstrations	For each form of political action, state whether you have done it, you might do it or would never under any circumstances do it – **Attending peaceful demonstrations** *Sa bawa't uri ng aksyong pampulitika, pakisabi ninyo kung nagawa na ninyo ito, maari ninyong gawin o hindi ninyo kahit kailan gagawin ito – **Pagdalo sa mga mapayapang demonstrasyon***							
	Signing a petition				**Attending peaceful demonstrations**			
Social class (subjective)	**2002**		**2012**		**2002**		**2012**	
	Have Done	No. of respondents	Have Done	No. of respondents	Have Done	No. of respondents	Have Done	No. of respondents
Upper class	11.76	4	21.88	7	8.82	3	12.50	4
Upper middle class	15.15	25	14.41	34	7.27	12	9.75	23
Lower middle class	11.66	47	9.26	46	8.68	35	6.24	31
Working class	14.29	35	6.78	16	8.98	22	6.36	15
Lower class	4.07	14	10.15	20	2.62	9	6.6	13
		125		123		81		86

Source: WVS-Philippines

number of respondents in each class status category that answered "have done" to the question, "For each form of political action, state whether you have done it, you might do it or would never under any circumstances do it." Note that the total number of "have done" responses for both forms of political action is small—125 in 2002 and 123 in 2012 for signing a petition, and 81 in 2002 and 86 in 2012 for attending peaceful demonstrations out of a total 1,200 respondents.

Box Table 9 also presents the percentage of respondents in each class status category that gave a "have done" response. On both types of political action, there appears to be a divergence in the direction of change between the upper, upper middle, and lower classes on the one hand and the lower middle and working classes on the other.

The upper, upper middle, and lower classes saw an upward movement from 2002 to 2012 in attending peaceful demonstrations. The upward change is also evident for the upper and lower classes in signing a petition, but the upper middle class experienced a slight decline in this form of political action. By contrast, the lower middle and working classes appear to have slackened in engaging in these forms of political action. The increased interest in politics apparently did not translate into increased political action, particularly among the lower middle and working classes which account for the majority of the WVS respondents at 54 percent in 2002 and 61 percent in 2012.

Political system

How do the Philippine middle classes view democracy as a system of governing the country? Certain types of political systems were presented, and the respondents were asked to say if a particular system is very good, fairly good, bad, or very bad as a system for governing the country. This article examines the responses to two political systems to answer this question; one roughly describes an authoritarian system and the other a democratic political system. The "very good" and "fairly good" responses were combined as a response of approval while the "bad" and "very bad" responses were added up as a response of disapproval. **Box Table 10** presents the net approval rating on the two political systems for 2002 and 2012.

There are a number of striking results. One is the noticeable decline in the respondents' net approval of democracy as a political system for governing the country across all the class status groups, with the biggest de-

Box Table 10 Net approval for having a strong leader and having a democratic political system (2002 and 2012)

Indicator 4: Having a democratic political system	For each type of political system, what do you think about it as a way of governing this country - **Having a democratic political system?** *Sa bawa't klase ng sistema ng pulitika, ano ang inyong opinion dito bilang paraan ng pagpapatakbo ng gobyerno sa bansang ito –**Pagkakaroon ng isang demokratikong sistema ng pulitika?***					
Indicator 5: Having a strong leader	For each type of political system, what do you think about it as a way of governing this country - **Having a strong leader who does not have to bother with Congress and elections?** *Sa bawa't klase ng sistema ng pulitika, ano ang inyong opinion dito bilang paraan ng pagpapatakbo ng gobyerno sa bansang ito –**Pagkakaroon ng isang malakas na lider na hindi kailangan ang Kongreso at eleksyon?***					
Social class (subjective)		**Having a democratic political system**			**Having a strong leader who does not have to bother with Congress and elections**	
Year	% of Total	2002	2012	% of Total	2002	2012
Upper class	2.83	41.17	37.51	2.67	35.29	56.25
Upper middle class	13.75	64.85	48.31	19.67	24.85	22.04
Lower middle class	33.58	65.52	48.69	41.42	27.06	11.07
Working class	20.42	68.58	54.65	19.67	13.05	17.38
Lower class	28.67	60.46	53.82	16.42	27.91	18.79

Source: WVS-Philippines

cline among the upper and lower middle classes of 16.54 and 16.83 percentage points, respectively. The question did not describe the democratic political system, and it is highly probable that the respondents have differing views on and appreciation of different elements of democracy. Nevertheless, the commonality in the direction of change across all income groups is striking.

A second noteworthy finding is that the working and lower classes appear to have a higher net approval of a democratic political system as a way of governing the country compared to the middle and upper classes, with the latter seeming to have the least approval of this political system.

Third, across all the social classes, there is a positive net approval of "having a strong leader who does not have to bother with Congress and elections" as a political system for governing the country. Interestingly, although the respondents have a high regard for having a democratic political system, they also take a somewhat positive view of a political system where a strong leader rules without accountability to parliament or to the electorate. This sentiment is strongest among the upper and upper middle classes which comprised 23 percent of the respondents in 2012 and weakest among the lower middle class which comprised 41percent of the respondents. What this result possibly reveals is that high approval of democracy is not to be interpreted as an absolute commitment to this political system; it does not necessarily exclude support for authoritarian rule.

To summarize, the WVS results seem to provide evidence for a noticeable growth in the size of the middle classes from the mid-1990s in terms of perceived class status. Despite indications of a decline in the perceived economic well-being of all class status groups, including the middle classes, between 2002 and 2012, the size of the self-perceived middle classes has remained stable between 1996 and 2012 at roughly 60 percent of the population.

Within that same period, interest in politics increased particularly among the lower middle, working, and lower classes, but this did not translate into more active engagement in public issues through actions such as signing petitions or attending peaceful demonstrations. There is also high regard for democracy as a political system for governing the country across all class status groups, but at the same time there is some support expressed for nondemocratic or autocratic types of rule, a sentiment strongest among the upper and upper middle classes and weakest among the lower middle class.

Source: Karaos [2017]

Table 1.12 Differing socioeconomic groups and critical government programs

	Direct provision	Subsidies	Group insurance/preneed	Credit/loans	Investment opportunities
Extremely poor	Very important	Important	Less important		
Poor	Important	Very important	Less important		
Vulnerable		Less important	Very important	Important	Less important
Economically secure		`	Important	Very important	Important
Upper middle class			Important	Important	Very important
Top stratum				Important	Very important

Source: HDN

democratic systems and political participation and even possibly the development of institutions that allow for wider distribution of public goods. Thus, public policies to assure the expansion of middle-class households are important in a vibrant and growing democracy.

On the other hand, the numerical increase and political weight of the middle classes can also result in policy making that is narrowly focused on their needs and opinions and that is increasingly oblivious to the condition of poor and vulnerable. Both history and recent experience have also shown that the middle classes are not immune to the appeal of authoritarianism and may support the suppression of minority rights when their own comfort and security seem under threat **[Box 1.5].**

These complex and changing realities imply that public policy should move away from sector-based strategies to programs that are based on the differentiated social and economic needs of each social grouping.

There are of course some common factors that promote upward mobility of all social groups—not surprisingly also falling along the dimensions of human development—hence education and training, health, and improved participation in labor markets. All social classes, for example, would definitely benefit from early intervention in children's cognitive development, which includes prenatal care, childrearing, and nutrition. Similarly, overall conditions of sanitation and the general disease environment affect the state of health of all classes with possible epigenetic effects transmitted across generations. Evidence of deficiencies and shortfalls that cut across socioeconomic classes are most evident in league tables across countries.

Notwithstanding discrepancies between classes, it will be seen that in some dimensions, *all* classes of Filipinos fare poorly relative to the average in comparator countries. In the case of stunting, for example, even children of the richest quintile in the Philippines fare no better than the global average (with of course the poorest doing far worse). In education, the latest OECD [2019] results show that the performance gap between rich and poor Grade 6 Filipino pupils is no different from that which prevails in developed countries—yet the country's sixth-grade students as whole rank last in reading comprehension and second to the last in mathematics and science achievement. These examples suggest that failure in these aspects of human development are so pervasive that it affects all groups alike.

The main message from this Report, however, remains the need for a strategy that is *differentiated, one that takes into account the differential requirements of households and individuals in the entire process of upward social mobility.* This means recognizing that *different socioeconomic classes confront distinctive obstacles to their advance.*

What holds back the very poor are not the same things that cause vulnerable families to fall back into poverty across generations. For the extremely poor, for example, providing for daily nutrition or the very

means of transport may be the key element for children to remain in school long enough to complete a high school education—the key step for their families to progress across generations. The major threat to a vulnerable household's mobility, on the other hand, may be the death or catastrophic illness of its principal earner, or the threat of unstable employment. More than access to formal employment, the economically secure may need access to better financial or physical assets to protect their current status, grow their savings, and prepare for old age.

This shows the clear limits to existing approaches that address only one or a few dimensions of welfare. Applying a uniform approach or solution across all categories of households may fail to address the needs of an increasing differentiated society. A more effective approach would address the diverse issues faced by heterogeneous households and design nuanced interventions that ensure the upward movement of the different socioeconomic classes.

Social heterogeneity means various groups in society not only have different needs but also differing means—notably in the form of incomes and wealth—to satisfy these needs. The rich-poor dichotomy that has guided public policy in the past, however, focused unduly on direct public provision and neglected other means of social protection that may be more relevant and suited to the less or nonpoor. In particular, programs that entail mutual insurance or preneed provisioning, or forms of credit and lending are underutilized in catering to the vulnerable and the middle classes, while these are at times confounded with programs to assist the extreme poor.

The lack of targeting and paucity of options is what has led to both underprovision and woolly coverage. In the case of financing college education, for example, various forms of student loans or preneed plans—whether from the private sector, the government, or both—are practical options for the vulnerable and middle classes although obviously these are not accessible to the poor. For the latter, of course, direct scholarships and grants-in-aid are more relevant. Confounding the two is likely to lead not only to waste but injustice. The same principle may be applied to health care—where comprehensive health insurance may be a real help to the vulnerable and middle classes in cities and towns but is likely to mean little to, say, far-flung indigenous communities.

A framework that can be utilized to identify and address the different needs of socioeconomic groups is illustrated in **Table 1.12.** For extremely poor groups, direct provision of basic education and health services is very important; since the poor generate very little savings, insurance for catastrophic economic and natural disasters are less important for them. The poor would find subsidies for education and health programs important as compared to the extremely poor, since they have better access to organizations providing these services.

In contrast, the vulnerable, who are perennially affected by health, economic, and environmental risks, would find group insurance or preneed programs very useful. Since many of the economically secure have access to regular incomes, credit and loans would be useful for them to gain access to the more expensive, quality assets and services that they can pay for over time. And lastly, the upper middle class and top stratum are better placed to take advantage of financial or real investment opportunities that can earn them decent returns on their savings. Government need not implement a single type of benefit scheme for these different categories—one size does *not* fit all.

In forming a policy framework to address the different needs of the population, the administrative structure should be able to *go beyond a sectoral approach in addressing the needs of individuals and households* and should respond to the more complex social and economic environment. This requires a government bureaucracy that can overcome narrow technical and functional specialization and that is able to undertake planning, implementation, and evaluation of programs across different areas and to address the differing needs of various socioeconomic groups. This has always been a key governance advocacy of the HDN—greater interagency coordination and the development of a more comprehensive response to the public sector needs, while decentralizing the organization of responses to local government units that have better information on the needs of these households.

The upshot is that subnational levels of governance—optimally at the province level—must take the lead in creating specific solutions adapted to their particular populations and communities. But this also means

they must increase their technical and budgetary capacities to a level that allows them to address developmental challenges.

A second consequence of recognizing social heterogeneity and mobility is the need to *modify the provision and financing of public services and social interventions*. Proceeding from a rich-poor dichotomy, public policy has historically swung widely between the extremes of failing to provide essential public services and providing these at universally free or heavily subsidized rates. Tax and expenditure policies failed to distribute their burdens and benefits fairly and effectively across groups in society. Monetary and financial policies rarely moved beyond stabilizing prices and failed to consider an expansion in credit to support entrepreneurial activities among the vulnerable, secure, and middle classes.

Part of this task entails the minimization of leakages and undercoverage mentioned earlier by designing the proper types of direct social provision, social insurance, and credit programs for groups that are respectively most likely to benefit from these. This can be done through improved geographical and indicator targeting or even by designing the program that includes the beneficiaries and excludes the nonbeneficiaries. At the same time, the potential for tax policy to promote mobility has been underestimated by governments that would preserve the welfare gains of the middle class; these include thinking about how the tax reforms, especially among current proposals in Congress, which would be able to ensure the continued upward trajectory of households can be maintained.

During the years of fiscal crisis in the late 1980s as well as after the Asian Financial Crisis of the late 1990s and early 2000s, the lack of public resources squeezed the availability of social services and resulted in the slow or insignificant improvement in human development vis-à-vis our Southeast Asian neighbors. As budgetary resources have become more available over the past decade or so, however, the pendulum has swung to the other side. Recent years have seen a large expansion in publicly subsidized social programs that have been universally provided across the different socioeconomic groups.

While certainly helpful in improving the welfare of some groups, however, it is not clear whether the provision is efficient or even effective from a targeting standpoint. Among the glaring "leaky bucket" pieces of legislation passed in recent years are the free college tuition under the Universal Access to Quality Tertiary Education Act (despite the fact that the upper middle class and rich groups are already able to achieve tertiary schooling through their own means) and the provision of free irrigation services in agricultural lands (despite many studies showing how fee-paying systems are better maintained and supported and therefore provide better supply of water to poor farmers).[55]

Other programs that seem poorly targeted include the senior citizens' discounts (which among others allow even upper-income households to benefit from discounted restaurant meals even if they can easily afford these), free rides for students on the Metro Manila light rail system (which do not benefit poor students in the provinces who walk or take public transportation to get to their schools); indeed, some of these should more properly be provided by local authorities rather than by national government.

Studies have also shown that higher income groups disproportionately utilize resources from the Philippine Health Insurance Corporation (PhilHealth), the Department of Health, and the local government units for their health care. The effect is to crowd out larger public subsidies that could have gone to the poor and vulnerable, although it is hoped the new universal health care program might be able to address this issue.

It is important to ensure that programs of direct provision are efficiently targeted, which implies the relevant good or service is exclusively and comprehensively provided to the intended beneficiaries of the program, typically those who lack physical access to these or the financial means to purchase them. Fortunately, a number of well-targeted programs being undertaken by both national and local governments in the country provide positive examples. The Pantawid Pamilyang Pilipino Program, the country's national conditional cash transfer program, which has been instituted under a law passed in February 2019, benefits only the poorest households through its use of the National Household Targeting System for Poverty Reduction, by which it identifies beneficiaries through specific welfare indicators such as employment, housing, and other amenities. This program has shown its resiliency and focus throughout the cur-

rent pandemic, although it obviously could not have foreseen that even the vulnerable and economically secure would need emergency social amelioration.

Another law passed relatively recently also mandates free lunches to undernourished children in public daycare, kindergarten, and elementary schools to combat hunger and undernutrition among Filipino children. While an initial assessment of the program in the mid-2000s showed both leakages (i.e., the distribution of program benefits reaching some besides its intended beneficiaries) and undercoverage (i.e., the benefits of the program not reaching all of its intended beneficiaries), subsequent improvements to the program—specifically focusing the benefits not on all school children but only the undernourished—have improved its targeting efficiency [Tabunda, Albert, and Angeles-Agdeppa 2016].

At the same time, in assessing the impact of fiscal policies such as the recent tax reform program, the Tax Reform for Acceleration and Inclusion (TRAIN), the government must recognize the fact that fiscal policies have differing impacts on different socioeconomic categories; a gain for some may mean negative consequences for others. While the TRAIN 1 package has benefited the upper middle class and to some degree the economically secure because it lowered personal income taxes, studies have shown that the poor and vulnerable are negatively affected by the excise tax increases meant to make up the lost revenue.[56]

Similarly, while the increase in salaries of the police and the military bodes well for the growth of a middle class, it may have negative consequences on the poor and vulnerable if these increases are funded by higher commodity taxes. Government also needs to be mindful of intergenerational issues in tax design if it is to reduce inequality across generations; some ideas that have been broached include a gradual increase in the marginal rates for inheritance taxes and a windfall tax on commercial and real estate companies that experience a large rise in land values due to the construction of public infrastructure in their areas.

Other public policies that could provide an environment where the middle class can gain better access to public goods, including implementation of financial support to tertiary education, and to "care systems" for children and the elderly would be important. Clearly, with increased fiscal space of the government, it may be able to support a differentiated program of intervention of the different socioeconomic groups, including social protection programs to protect the vulnerable from relegation, while preserving the gains that the middle class has made through, say, access to more transport options (through the improvement of infrastructure) and the provision of financial services.

Third, this Report stresses the *importance of policies and programs that improve intergenerational mobility especially among the poorest households*. The further families can move up the welfare ladder, the less likely they are to slide down or remain trapped at lower welfare categories. Thus, programs that aim to improve childhood education, health and nutrition, parenting skills and mentoring, and the acquisition of financial assets and savings are important interventions that deserve a greater allotment of public resources.

Programs that reduce the susceptibility of some groups to downward mobility are just as important. These programs include social protection and welfare programs directed at the vulnerable and marginalized sectors. Family- or community-based initiatives that allow women from the poorest households to seek regular work are important, which also implies provisions to be made for the care for the most vulnerable members of the family such as children and the elderly—a task usually that typically falls on women regardless of their income potential.

Finally, more civic and political space should be provided to allow citizens and their organizations to have a legitimate voice in contributing to the development of programs and projects. This is especially important for ensuring that public programs directly address the needs of these different groups. It is very important to consider that the process of economic growth and political development takes into account the needs, strengths, and capacities of the households and social groups in the country.

Greater **political inclusion** of marginalized groups and the middle classes is important. Policies promoting inclusion ensure that different groups can take advantage of social and economic opportunities, thereby closing gaps in the access to publicly provided goods. The social

capital that can be built among the poor and vulnerable can sometimes compensate for their lack of physical and financial assets in their own households. But a politically inclusive environment is needed for such social capital to form. In developed countries, better neighborhoods and social environments are seen to strengthen individual aspirations and improve human development outcomes. Here at home, Racelis et al. [2016] show that socioeconomic mobility among urban poor households is associated with "vertical" social links (for example, links between poor households and marginalized communities with the local government units) as well as "horizontal" links (for example, ties between household members or families within a community).

The presence of organizations that strengthen economic and financial inclusion of marginalized groups may also assist in strengthening socioeconomic mobility of households. Organizations such as cooperatives, microfinance and microinsurance groups, rotating savings and credit associations, and funeral groups allow poor households to pool their financial surplus and gain a higher return on their income. In agricultural contexts, strong producers' cooperatives and farmers' associations allow smallholders to pool land and other assets so they can participate more equitably in formal supply chains requiring scale, quality, and timely delivery.[57] These and similar organizations allow for better management of financial and other types of assets that enable households to better invest in their family members. At the same time, these organizations provide insurance against certain type of idiosyncratic shocks, including illness and loss of employment.

As this Report and the *Philippine Human Development Report 2012-2013* point out, more decentralized strategies for human development and economic mobility are necessary, given the different trajectories for improved economic outcomes by different types of communities and households. The identification of the specific needs of households may imply the need for an identification system and a database that can pinpoint the different needs of individual households in order for the government and other institutions to address them in a disaggregated and nuanced manner. At the same time, while considerable progress has been made in developing monitoring systems that allow the government and the general public to measure aspects of multidimensional poverty, more regular surveys that can compare movements in incomes and expenditures among individuals and households across different time periods should be undertaken.

Institutional interventions are necessary for governments to go beyond "business as usual" interventions by better identifying the needs of those in the different economic categories, and then also better understanding the needs of the population. An area in which the government could more greatly focus on is the **better identification** of the needs of different households, individuals, and sectors.

A successful example cited by the UNDP Latin America and Caribbean Bureau [2016] is Brazil's *Catastro Único* (Single Registry), developed on the basis of information related to the country's conditional cash transfer program. This tool enables social services to be better designed according to the needs of the population and better focused; benefits are unified and compliance with criteria for joining or leaving the programs verified.

The National Household Targeting System of the Department of Social Welfare and Development (DSWD) actually contains similar information but is limited only to households defined as poor. This could be expanded to include other socioeconomic groups with corresponding adjustments of the social amelioration received by each.

The inadequacy of the present system was exposed by the recent COVID-19 pandemic, which cut off the means of livelihood of large numbers of people, including many who were formerly employed and not considered to have any special needs but who now desperately needed assistance. A system focused only the poor-nonpoor dichotomy was bound to be inadequate. The lockdown highlighted the need for a mechanism that could identify and effectively deliver food and cash assistance not only to the poor but also to vulnerable and even some economically secure households. Social assistance would have been facilitated and waste and corruption minimized if individuals and households had been registered in a comprehensive database and if a secure means existed to extend financial assistance to them, e.g., through electronic cash or bank transfers.

A system such as this could easily be tied into the soon-to-be-implemented national identification system,

where the documentation of the social and economic needs of individuals could be better stored and addressed. As with all efforts at assembling large databases on citizens in a democratic society, of course, the proper privacy safeguards must be observed, including restricting access of the information only to concerned frontline service agencies. This system could be further strengthened with a predictive ability to anticipate the human development and social protection needs of individuals and households.

A **statistical system that betters monitors households across time is needed.** The data utilized in this Report mainly came from a panel data of families over a longer period that allows for a better assessment of the income and expenditure trajectory of families. This panel data is unfortunately available only for the short period 2003 to 2009 and owing to its datedness has served here more as an illustration of what could be accomplished rather than a picture of the prevailing situation.

More continuous assessment of welfare movements through time of a representative set of households would greatly help the design of interventions. Aside from keeping track of household expenditures and income, information on wealth, educational achievement, occupation, and illness and health status—all measured across several generations—is a necessary component if the true state of social mobility in the country is to be described.

In what follows, the implications of the abovementioned recommendations, given the data and research available, are tackled in each area of human development—education, health and nutrition, wealth and financial assets, labor and employment, and targeted transfers and social protection programs.

Education. Access to schooling is vital in the upward mobility of households. There is almost universal evidence showing how investments in education, by deepening the skills and knowledge of children, determine their capacity for work and improve their labor productivity.[58] A recent World Bank [2018] report shows that public spending on education as a share of GDP—an imperfect but useful proxy for investments to equalize opportunities—rises with per capita GDP and is associated with higher relative intergenerational mobility in incomes and lower poverty outcomes.

Education plays a key role in securing employment. This Report confirms other evidence by showing that completing elementary and high school education increases the probability of upward mobility and reduces the chances of downward mobility. In the country's transition towards a K-12 education system, the most acute shortages in basic education need to be addressed. Albert and David [2012] identify the most critical needs in primary schooling which affect school completion: the lack of nearby schools, classrooms, and school facilities; shortages of teachers and teacher training to address gaps in teaching competencies; lack of learning materials. Administrative systems, including providing resources to local school leaders to address maintenance and operating issues, and to strengthen accountability to address poor performance, are therefore important.

While some evidence shows that these gaps have been substantially reduced in the past few years,[59] the needs of a substantial proportion of those in basic education still need to be addressed; the underperformance among boys in basic education is also an issue that should be recognized and tackled explicitly. The significant costs (i.e., besides just tuition fees) that households face in seeing their children complete their schooling are also an issue the government must address.

Recent initiatives such as the Kindergarten Education Act of 2011 and the expansion of basic education through the Enhanced Basic Education Act of 2013 may provide greater opportunities for education among the very young. Evidence exists that investments in education in younger children improve student performance at later stages in the primary education level. Yamauchi and Liu [2012] show that the returns to early childhood education are quite high on condition that such schools are provided with adequate textbooks, instructional materials, and classroom facilities.

At the college level, the data show a very unequal distribution of access to higher education levels across income classes. Both enrollment rates and completed education are low among the poorest families and their children. College education today is attained largely by the upper income groups. Education inequality is principally due to the lack of equity across family income and implicitly by the relative cost of the three levels of education (elementary, high school, and college).

The fact that those who are able to access college

education consist disproportionately of those with sufficient financial means suggests that the government should take a second look at the Universal Access to Quality Tertiary Education Act (Republic Act 10931) passed in 2017. That law provides for free tuition and fees in state universities and colleges to all students regardless of economic standing. But out-of-pocket costs for higher education rather than fees are a greater obstacle to education for the poor and vulnerable, so it is towards such needs that more public resources should be redirected, while means-tests can be applied to charge tuition and other fees for the financially able. Allowing state institutions to collect tuition and fees from its middle-class students according to their means would improve a college's financial standing and improve the quality of teaching and instruction,[60] which in turn would increase the ability of students to improve their skills and employability. Resources can then be redirected to credit and loans which some of students may need in order to pay for the initial expenses of schooling, and which can be recouped once they are earning.

One program that would allow government to focus the assistance to deserving students is to fully implement the legislation that was passed several years before the free higher education tuition law, the Unified Student Financial Assistance System for Tertiary Education or UniFAST (Republic Act 10687). This law was designed to unify all modalities of publicly funded Student Financial Assistance Programs (StuFAPs)—scholarships, grants-in-aid, and student loans—at the tertiary education, and was founded on the principle that any student financing should always be a full-financing program, covering tuition, living allowance, and instructional materials.

Orbeta and Paqueo [2017] have argued that fully funding the UniFAST law may be a better way to implement the constitutional mandate of democratizing access, since resources can then be flexibly allocated to the components which the government wishes to prioritize (i.e., grants-in-aid for poor but intellectually capable students, scholarships for capable students, student loans for nonpoor but college-ready students). As illustration, the authors note that the ₱20,000 tuition subsidy the government spends nonselectively on every student in a state institution under the free tuition law benefits only around 200,000 poor students. Spending the same budget instead as ₱60,000 targeted at exclusively at poor students would benefit 550,000 poor students under UniFAST.

Table 1.13 Enrollment and graduates in TESDA programs

Delivery mode	2005	2010	2014
	Percent	Percent	Percent
Enrolled	100.0	100.0	100.0
a) Institution-based	28.9	54.9	50.6
b) Enterprise-based	3.5	5.5	3.4
c) Community-based	67.6	39.6	46.0
Graduates	100.0	100.0	100.0
a) Institution-based	29.0	49.9	46.7
b) Enterprise-based	8.8	5.5	3.2
c) Community-based	62.2	44.6	50.1

Note: The total number of enrolled students in 2005 is 1,683,382, in 2010 is 1,568,617, and in 2014 is 2,003,41

The total number of graduates in 2005 is 1,154,333, in 2010 is 1,344,371, and in 2014 is 1,785,679

Source: TESDA as cited in Orbeta and Esguerra [2016]

Under UniFAST, students enrolled in accredited colleges and universities[61] may also avail themselves of loans if they face liquidity problems. An initial maximum loanable amount of ₱60,000 may be used for tuition and other school fees, books, tools, equipment, stipend, and/or review payment for licensure examination. This promising initiative is in line with the framework in **Table 1.12,** since it addresses the needs of the vulnerable and economically secure without conflating this with support for the poor. Experience in other countries shows such programs can be effective, with a caveat that these should not be burdened by too many administrative requirements.

Access to schooling for the vulnerable may be further improved through the avenue of technical training. The government has already poured a significant amount of resources into three types of technical-vocational education (TVET) distinguished by type of provider: schools and TESDA (Technical Education and Skills Development Authority) centers deliver either formal programs of one to three years or short-term courses; firms and industries offer enterprise-based programs including apprenticeships; and communities deliver programs specifically designed to teach skills leading to self-employment. The proportion of those trained in schools and TESDA

centers has been increasing, compared to programs undertaken in communities.

While technical education programs perform well in terms of high graduation rates **[Table 1.13]**, they perform less well in terms of placement, as can be seen in the low employment rate of their finishers [Orbeta and Abrigo 2012]. This underperformance in terms of employment indicates the need to improve the relevance of training to actual job market requirements [Orbeta and Esguerra 2016]. Part of this is seen in how enterprise-based training results in higher employment rates; yet this type of training currently accounts for only a small and even declining proportion of enrollment and graduation (3.4 and 3.2 percent, respectively). Greater support for enterprise-based training and making the content of delivery modes more relevant could improve the wages of vocational program graduates, given recent evidence that the effect of vocational education on wages in the Philippines is at best still inconclusive [Olfindo 2018].

Another area that deserves the increasing attention paid to it is the development of noncognitive socioemotional skills, particularly at an early age. The results of a recent study show that these skills are valued more highly in the labor market than cognitive skills, measured by years of schooling, and that the former are more difficult to find among young people [World Bank 2017]. There is also increasing evidence that the development of noncognitive skills, especially in five areas—openness to experience (also called intellect or culture), conscientiousness, extraversion, agreeableness, and emotional stability (also called "neuroticism")—plays an important role in educational outcomes and labor market success. This implies that parenting and the quality of family environments, where these skills are initially acquired, are very important in improving education outcomes.

Programs that support the deepening of these noncognitive skills include providing activities that strengthen the level of linguistic and cognitive stimulation provided at home and undertaking training programs for early childhood teachers in instructional methods that widen interactive instruction, group learning, and collaborative problem solving. According to recent assessments of early childhood development programs in the country, teachers should be better equipped to develop programs that are attuned to different learning styles and patterns of learning by children, especially during their younger years; the possible use of technology to enhance this area should also be explored in the middle school.

Health and nutrition, especially at the maternal and early childhood level. Improvements in socioeconomic mobility are greatly influenced by much earlier factors affecting child development, including cognitive development while babies are in the wombs of their mothers to their early childhood years. Hence the importance of government programs that ease the access of expectant mothers to health care and improve nutrition among children to reduce stunting and ensure physical and intellectual growth. Studies have shown that such early interventions in a child's life, reinforced by home visits to disadvantaged children who are likely to drop out of school, can lead to better employment outcomes and a lower incidence of societal problems including criminality.

The lack of a coordinated infrastructure for the delivery of primary care is one of the issues affecting the public health system; besides this, the lack of research on major health issues and the lack of managers that can address the broad systemic issues in the health system are major concerns.

The fragmented system is illustrated by the uncoordinated system of financing health care which especially hurts the poor and vulnerable sectors. On the average, PhilHealth, the country's health insurance program, covers less than a fifth of total expenditures. Racelis, Dy-Liacco, Herrin, David, Nievera, and Mendoza [2016] estimate that the poor and the vulnerable continue to pay a fifth to a half of out-of-pocket health expenses—as subsidies from the national government and the health insurance program are still captured by the upper middle class and the rich.

It has been estimated that close to half of the poor still incur out-of-pocket expenses especially for medication despite the no-billing policy followed by PhilHealth, while less than 1 percent of the poor are covered by the benefit packages subsidizing catastrophic illnesses [Cabalfin 2016]. Thus, Solon and Herrin [2016] urge a greater effort to remove inequalities in health financing by introducing socialized pricing in public health facilities, raising premium ceilings (while lowering contribu-

tion rates to raise the contributions paid by higher income groups) and higher national subsidies in the health insurance program, even while increasing the payments for health programs needed by the poor. Similar to the recommendations in tertiary education above, by focusing subsidies on those with the lowest incomes while allowing higher income groups to pay their way for optional higher-quality services, the overall level of services delivered could improve over time.

The same holds true for nutrition programs. While past interventions were focused on feeding programs for older children in daycare centers and elementary schools, there has been increasing and welcome interest in providing direct nutritional interventions in the first few months before and since birth, especially for the poor [Herrin, Abrigo, Tam, and Ortiz 2018]. Recognizing this, Congress in 2018 passed RA 11148, the Kalusugan at Nutrisyon ng Mag-Nanay or First 1,000 Days Law, which ensures that mothers are given proper nutrition and health care before, during, and after giving birth; it also provides health and nutrition services for children from conception up to two years old or known as the "window of opportunity" for every child. The law strengthens training for barangay health workers and support and training for mothers to ensure their health and that of their children.

At the same time, however, it is imperative to strengthen health systems at the local government level and provide nutrition-specific interventions at the local government level for the law to be effective. Better nutritional information on health care and nutrition could be provided for the middle class.

The focus on early childhood nutrition may address some problems found in school-based nutrition programs. Tabunda, Albert, and Angeles-Agdeppa [2016] find that a significant proportion of beneficiaries of nutrition programs in schools may regress to wasted or severely wasted status owing to severe illness or growth spurts, since the intervention may come too late in the development period of the beneficiaries. About seven in 10 of "wasted" beneficiaries attain normal nutritional status at the end of the program, which is still lower than the program's 80 percent target. A more sustained program is needed by poor and vulnerable groups; on the other hand, providing improved access to information on nutrition by the middle and upper-income classes can lead to better intergenerational health outcomes overall.

Improving access to wealth, including land, durable goods, and financial assets. Even as the numbers of the extremely poor have diminished over time (from 1997 to 2018), the proportion living in rural areas has actually increased. This indicates a deep structural problem for those who appear to be tied down to a low-productivity economy while others have managed to escape or otherwise raise their standard of living. This is due to the highly inequitable access to physical assets, including land, and the nature of economic activities in the rural areas, including mining and plantation agriculture.

The paradox is deepened by the fact that land inequality in the rural areas continues to be high notwithstanding the government's announcement that its agrarian reform program is now in its final stage of implementation.

Second- and even third-generation land problems have caught up with what is likely the world's most protracted agrarian reform. Among these are the post-reform rise of a new class of rural workers owing to rural population growth; the further subdivision of reformed lands due to succession, which in turn leads to uneconomic farm sizes; the mobility and lack of farming interest among the younger generation and the aging of the remnant farming population; the pressure on agricultural land from growing urbanization—all these in addition to the carryover problems of unsettled property rights and absent or misdirected government support for many aspects of smallholder farming.[62] In most old land reform areas, i.e., much of Luzon and the Visayas, the problem has shifted away from land distribution per se to the viability of smallholder agriculture itself.

To some extent, rural folk have avoided some of these problems by simply voting with their feet, i.e., by walking away from agriculture, which is also seen in studies showing how social mobility in rural areas has been mediated more by access to education than by prosperity through farming.[63] Such social mobility may and should be facilitated by freeing up agricultural land markets to allow land consolidation and new agricultural investments in mature areas of agrarian reform.

In other areas, however, ownership issues continue to loom large as obstacles to mobility, and policies to address these must be enforced. Foremost among these are the redistributive programs for marginalized groups, many related to laws passed more than 20 years ago, including those related to land rights in the rural areas, especially ancestral domains among indigenous peoples and those protecting the rights of small fisherfolk to fisheries and aquatic resources.

At the same time, marginal and upland farmers who already have access to land due to the government's agrarian reform programs need support in terms of social preparation, credit, extension, infrastructure in order to better gain access to programs that would improve their rural productivity. It is typically these cases in which one finds extremely poor groups left behind with few options in low-productivity primary rural activities.

To the extent it can be achieved, higher productivity in agriculture will still represent an augmentation of incomes and wealth among smallholders that could support the further occupational diversification and social mobility of future generations. In all cases, significant investment in research is needed in order to increase the value added and climate resiliency of agricultural products. Land markets must also be restructured in order to increase the efficiency of small land ownership through a progressive land tax and/or the imposition of higher taxes on abandoned and idle lands.

For the middle classes (i.e., the economically secure and upper middle class), access to physical and financial assets is a growing concern. As the country's growth trajectory improves, rising land and housing values in the country make it more difficult for those in the lower- and middle-income classes to purchase housing, typically the most valuable asset they will acquire in their lifetime.

Government's role in this respect is to provide more opportunities for banks and other financial stakeholders to engage in innovative housing finance, including housing microfinance, in order to provide adequate and affordable housing for all, and strengthen land and property market institutions as well as the hastening the provision of domestic connective infrastructure [Monsod 2015]. Government should be able to assess regulations for unintended or unforeseen bottlenecks that hinder scaling of financial strategies for access to housing finance, and to engage financial institutions and other providers to test and assess behaviorally informed innovation ideas.

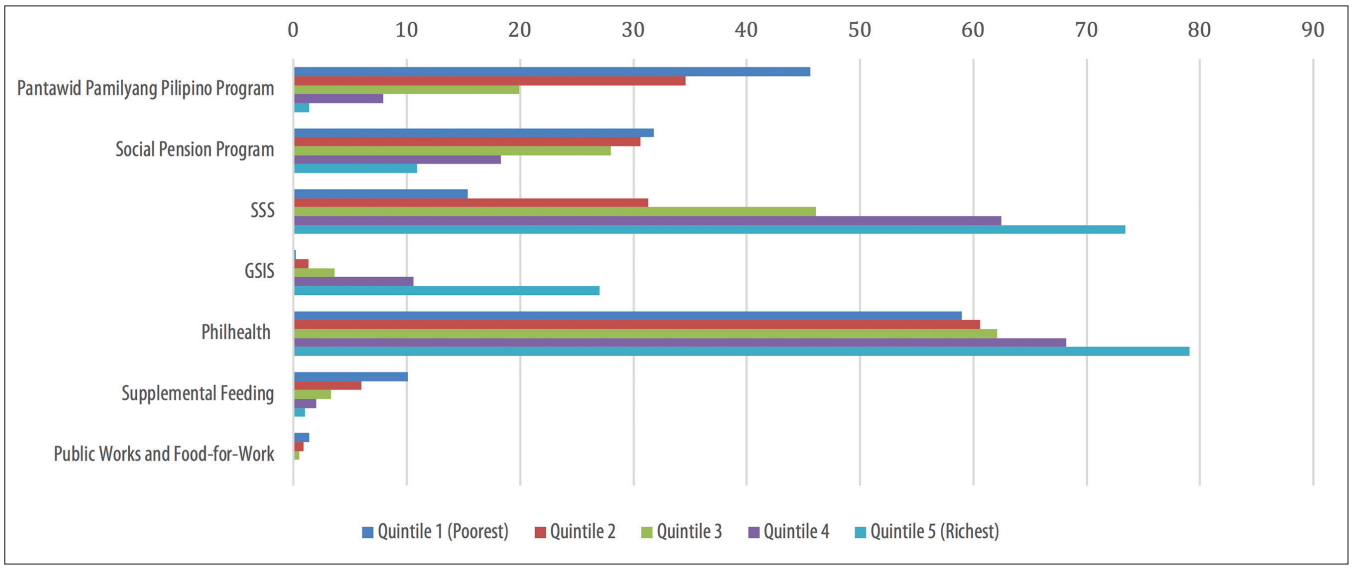
The government's consumer finance surveys between 2009 and 2013 show a relative increase in income during the period among the middle- and upper-income categories, but the proportion of those with deposit accounts in the financial sector, including banks and savings cooperatives, is less than one in seven [BSP 2014]. The middle class remains relatively unserved in financial institutions, and residential and other real estate properties are normally acquired through cash rather than bank loans; less than 1 percent of families have access to investments, including stocks and bonds.

This points to a need for greater financial education, including information about risks, returns and financial investment opportunities, and for better mechanisms for financial inclusion and access to credit. More recently, the Securities and Exchange Commission has denounced schemes that were run by quasi-religious organization based on the lack of information on how these investments earned their incomes. More simplified and targeted financial education programs may be more successful in increasing access to financial instruments, especially if they are integrated in a package which includes personalized goal setting and individualized counseling [Monsod 2015]. At the same time, large banks should be encouraged to be more innovative in dealing with co-ops and microfinance institutions, which can serve as conduits to the vulnerable, e.g., farmers.

Employment and labor market interventions. Policies should aim to increase not only opportunities for employment but also its quality. The lack of income mobility has been shown to be an effect of poor employment prospects, especially among those who are less skilled. At the same time, it is necessary to raise the standards and working conditions among those who hold precarious types of employment. Martinez [2015], for example, points out that those who hold multiple jobs are not the ones who are upwardly mobile but are those who undertake several economic activities in order to make ends meet. This is consistent with earlier findings that "most of the poor are not unemployed, and most of the unemployed are not poor."[64]

Figure 1.28 PhilHealth covers the largest proportion of the population, but its coverage is regressive

Coverage of transfer and social protection programs by income quintile (Various years)



Source: World Bank [2018]

A report by the World Bank [2016] already pointed to the importance of undertaking improvements in the labor market, including the expansion of employment protection policies by encouraging formalization of enterprises, strengthening coordination of training programs undertaken by different government agencies, expanding coverage to less educated youth, and expanding the scope of public works programs in areas with high levels of underemployment. At the same time, there is a need to integrate the different employment programs with the social protection programs, and to expand the programs that deepen skills of workers and improve their long-term employment prospects.

Minimum wage laws and strengthened employment security have been touted as direct policy levers that have the potential to increase absolute mobility. Minimum wages are important especially in terms of addressing youth participation in the labor force as well as on mobility if investments in children's education suffer because of low earnings.

Among the poor and vulnerable, especially those who are low-skilled, many workers hired under contractual arrangements generally have shorter job tenures and do not enjoy the nonwage benefits granted to regular employees and suffer from weak security of tenure arrangements. The results in this Report show that those formally employed among the extreme poor and poor categories have less probability to move up the welfare ladder supporting the view in Martinez [2015] which suggested that multiple job holding among the poor is indicative of socioeconomic constraints and vulnerabilities.

Given the trend towards increased flexibility in labor markets worldwide, rather than proposals to legislate the abolition of temporary employment contracts, Esguerra [2016] suggests that mechanisms for risk sharing, including unemployment insurance, unemployment assistance, severance pay, unemployment-insurance savings accounts, and public works be examined by the government as proposals to support the vulnerable sector. A recent World Bank review [2018] of social protection programs finds there is still much that needs to be done to improve the quantity and quality of wage-based employment and to align social insurance design and delivery system to cover the needs of informal workers.

Again, these shortcomings were laid bare in the recent COVID-19 pandemic. The shutdown of production left contractual and informal sector workers without any insurance, subjecting them to extreme hardship. On the other hand, the burden of emergency income support to regularly employed workers suddenly idled during the

Table 1.14 More senior citizens are found in higher socioeconomic classes

Percentage of senior citizens and of households with one senior citizen by socioeconomic category (2015)

	Extremely poor	Poor	Vulnerable	Economically secure	Upper middle	Top
Seniors in class as proportion of total seniors (%)	4.9	7.4	10.4	12.3	16.8	20.5
Households with at least one senior member (%)	25.4	30.5	34.6	37.2	43.6	49.6

Source: Report estimates from merged 2015 FIES-LFS

lockdown was passed on the private firms themselves. This effectively assigned the provision of unemployment insurance to the private sector, an unreasonable burden particularly to small and medium-scale industries. If, on the contrary, a universal unemployment insurance system had been in place, coverage would have been more comprehensive (i.e., including contractual and informal sector workers) and business decisions to adjust the scale of activity and costs would not be confounded with the need to provide emergency income support.

As the country's workforce ages in the coming decades, an increasing number of workers will come from the elderly population. It has been sensibly suggested that by extending the mandatory retirement age to increase elderly participation in the formal sector, wage work can continue to be a source of financing for senior citizen consumption in the coming years [Abrigo, Racelis, and Salas 2012]. Existing laws covering senior citizens allow government to finance their health and well-being, but these should be strengthened. The Labor Code can be extended to protect the elderly in the workplace, given how Congress has recently passed an anti-age discrimination law.

Conditional cash transfers and other direct subsidies. Besides education and health programs, important are transfers and subsidies that assist the poor to improve their human capital over time. The Pantawid Pamilyang Pilipino Program or the 4Ps, the government's conditional cash transfer program undertaken by the DSWD, widens the access of expectant mothers to proper counseling, improves nutrition balance among mothers to prevent child stunting, and ensures continuous health monitoring of women. The program also supports schooling, especially among poor children by providing incentives for children's school attendance.

As noted above, the 4Ps has been recognized as a well-targeted program, although its effects on intergenerational mobility may be felt significantly and measured only after some time. **Figure 1.28** shows the coverage of the Pantawid program and other social protection programs by income decile. More than 45 percent of the poorest income quintile[65] (or about 9 percent of the population) are covered by the cash transfer program. Whether this indicates undercoverage, however, can only be determined by periodically reexamining whether the criteria for inclusion in the program reflect society's judgment of minimal acceptable levels of well-being.

There is already some evidence of 4Ps' beneficial impact, particularly because it encourages more households spending on education and health.[66] This suggests that beneficiary households become more engaged in their children's intellectual and physical welfare, which has clear intergenerational outcomes.

Access to public social service programs, such as in education and health, has improved as envisioned. Among beneficiary families, the proportion of elementary school-age children attending school is higher, and the proportion of those suffering from severe stunting has declined significantly. The latter result has been attributed to key changes in nutritional practices observed among parents of beneficiary families [Kandpal, Alderman, Friedman, Filmer, Onishi, and Avalos 2016]. This is a hopeful development given the previously discussed severity of child malnutrition at the national level.

Other favorable effects of the program include the decreased time children spend on paid work (even if the incidence of child labor itself seems unchanged) and increased access by the poor to public health services. The program has also affected local governance, as seen in a reduced incidence of armed conflict and improved

community participation in project decision-making [Hayakawa, van den Brink, and Posarac 2015].

The further success of the program depends on whether supply bottlenecks in its utilization can be reduced and the scope of the provision of these services widened and provided with long-term support. Some of the important considerations have to do with improving program results by raising the quality of service in both education and health. This can be achieved by awarding incentives to local governments to improve and adapt their services and strengthening the links with the private sector for income generation and better integration of school leavers into the labor market. The institutionalization of the Pantawid program under RA 11310 removes any further excuse why many poor households still have no access to it. A World Bank [2018] study on social protection programs in the country estimates that less than half of households in the poorest quintile in 2017 benefited from the program **[Figure 1.28]**.

Social pensions are another subsidy program that assists poor senior citizens to cope with their expenses. Under the program, individuals who are above 60 years old and identified by the government's targeting scheme receive around ₱500 per month. The grant of noncontributory or social pensions to poor senior citizens has been estimated to reduce poverty incidence by 1 percentage point and may have a greater impact than providing discounts on food and medicines [Coalition for the Services for the Elderly and Help Age International 2017]. Such pensions provide a measure of support to poor families, since around 25 to 35 percent of poor and vulnerable households include a senior member **[Table 1.14].** In the Philippines, there is still a significant number of households whose working age members care for the elderly, which is made more difficult in households with reduced earnings capacity.

Still, as **Figure 1.28** shows, the better part of the social pension program may be mistargeted, with almost half of the benefits being received by households in the better-off 60 percent for whom such assistance is likely less urgent and necessary, while the bottom 20 percent receive only some 26 percent of program benefits.[67] Social pension programs also suffer from the problem of delivery of benefits; one analysis shows that there is a significant cost accessing these benefits [Coalition for the Services for the Elderly and Help Age International 2017].

Leakages are the larger issue with nontargeted direct subsidy programs, and this is well illustrated by the senior citizen pension and discount programs. **Table 1.14** shows that the proportion of households with elderly members is much greater in the higher socioeconomic categories, which is unsurprising given the rough correlation between wealth, incomes, health, and longevity. Half of the richest households have senior citizens, but only 25 percent of the extremely poorest households do. The implication is that programs that are not means-tested but that select their beneficiaries based on an arbitrary crosscutting category are bound to underprovide to the neediest and overprovide to the better-off. This is indeed the case with the senior discount and senior social pension schemes.

The sharper focus of noncontribution based social protection programs like 4Ps and social pensions should ideally compensate for the inherently exclusive character of contribution-based group programs like the Government Service Insurance System (GSIS) and Social Security System (SSS), whose benefits are restricted to their members. As the formal sector of the economy expands, of course, the coverage of the latter should include a growing, and ultimately the greater, part of the population. As things stand, however, less than half of workers in the poorest eight income deciles have access to formal social security (i.e., are members in either the SSS or GSIS). For workers in the four poorest income deciles, that figure is not even 10 percent.

The level of benefits is also an issue. In 2016, the average monthly pension received by an SSS retiree was around ₱3,658, which is about half of the family food threshold set by government two years later; government retirees are better provided for, with GSIS pension at ₱12,560 per month [Reyes, Tabuga, and Asis 2018]. But while the level of support needed to improve social pensions remains an issue, it is just as important that these should be better targeted.

Protecting the vulnerable and safeguarding against the risk of relegation. On the other hand, programs that will reduce households' downward mobility are necessary. This means expanding social protection systems, particularly strengthening social insurance, to mini-

mize the impacts of the various of risks that households face. Recent studies by the International Labor Organization [2015], among others, show that social protection plays an important role in reducing vulnerability improving productivity.

The coverage of formal institutions that provide social insurance mechanisms needs to be expanded and the costs of administering them reduced [Orbeta 2011]. Social insurance is one of the important mechanisms to reduce some of the uncertain aspects of welfare and to protect the vulnerable.

Unfortunately, while the share of spending social protection to total GDP has increased, it has remained low.[68] David, Albert, and Vizmanos [2018] observe that this reflects how past efforts to address welfare issues have focused on "one-size-fits-all" and curative programs (i.e., focusing on reducing poverty among certain segments of society), and not "preventive" (i.e., programs that protect the poor from being relegated). Failure to allow for risks and to anticipate the possibility that some currently nonpoor households may fall into poverty is an important reason for underinvestment in social insurance.

Programs to expand the health insurance program to greatly reduce out-of-pocket payments by those below or close to the poverty line are important to reduce their vulnerability to being in debt and further slide down the income ladder. The data in this Report suggest that even the physical presence or proximity of a hospital may increase the mobility prospects of those in the extremely poor group, showing that health vulnerabilities are more present in this expenditure category compared to other groups.

Unfortunately, the World Bank [2018] study previously mentioned finds only around 60 percent of those in the second- and third-income quintiles (i.e., the poor and vulnerable) have access to health insurance. This is a far cry from the universal coverage of health insurance that government claims as its target. Even the recent passage of the Universal Health Care law (RA 11223), which addresses gaps in coverage, is still unable to hurdle the problem of insufficient financing.

A guaranteed minimum level of pension can also ensure that the vulnerable are provided relief in their old age. While the average 38 percent "replacement rate"[69] of the SSS and the GSIS programs conform with ILO standards and are even higher than for other low- and middle-income countries [World Bank [2016: 20], benefits have failed to keep up with inflation and are inequitably distributed. Almost half (48 percent) of total benefits from the SSS, for example, accrue to those in the richest income decile.

As earlier mentioned, the coverage of these mandatory social pension schemes is also among some of the lowest in the region [OECD 2018]. Especially for the private sector, the informality or irregularity of many work arrangements (e.g., contractual work, self-employment, and undocumented informal sector jobs) is undoubtedly part of the problem of low coverage. Such arrangements inherently make it difficult to enforce even a mandatory formal pension system, although some progress has been attempted on this front, either through legislation or schemes specially targeted at specific sectors.[70] A structural aspect of the problem, however, is the relative unattractiveness of the package of future benefits as a pure financial proposition, especially for the lower-income classes for whom current consumption is the priority, as well as the burden of complying with bureaucratic procedural requirements of joining.

A necessary area to consider in social protection systems is a guarantee against the risk from adverse natural and economic events. Climate shocks are found to have significant influence on the price levels in the short run. El Niño and La Niña, characterized by warming and cooling of areas in the central and eastern tropical Pacific, are associated with inflation in regions they affect. The temporary increase in price level is attributed to change in food prices because of higher irrigation costs during extreme dryness and the destruction of crops during excessive rain [Arcenas 2018].

Ravago and Mapa [2015], on the other hand, confirm the vulnerability of poor households to similar shocks and other natural disasters. When the probability of disasters increases, wealthier households invest less in farm capital and are able to place a greater proportion of their savings into off-farm investments. Poorer households, however, are less able to do so. The coping strategies most employed by the poor include drawing down savings, borrowing, and selling harvest they would have otherwise consumed. The poorest households have the

fewest tools for coping, and this undoubtedly affects their economic mobility.

The types of new programs needed should allow the poor, the vulnerable, and to an extent even the economically secure to cope with the setbacks caused by severe economic events and natural disasters and allow them to return to a situation where they can again take advantage of socioeconomic opportunities. Therefore, increasing access to emergency food programs and community-based workfare and social fund projects is important. The coverage of some of the social insurance programs such as the Food for Work, which provides temporary employment to those affected by natural disaster for example, is currently very low.

That such risks are no exaggeration is most clearly seen in the 2020 COVID-19 pandemic, which laid bare all the wide gaps in the country's current system of safety nets. The pandemic not only increased the health risks of individuals but also has affected employment and incomes, especially of marginalized communities. Therefore, work-related support schemes including unemployment compensation even for informal workers, who seem to bear the brunt of the crisis, are urgently needed.

Additional support during the pandemic should include direct food assistance in kind, and health insurance, as well as interventions for the effective function of local governments. In-kind transfers were welcome in the recent situation when supply constraints dominated, and it was difficult for households to access financial institutions that can provide the transfer payments to them [Monsod et al. 2020]. The pandemic also showed the necessity of flexibly addressing the needs of the vulnerable during extreme crisis situations by not focusing too much on too fine targeting of interventions, by not worrying too much of the adverse incentive effects of welfare programs, and requiring the vulnerable to undertake so-called "workfare" requirements in exchange for government assistance [Ravallion 2020].

Policies guided by a social mobility perspective will be mindful of the **key periods of life-cycle transitions,** so that working people experience minimal sacrifices in their careers from having to care for vulnerable members in their family. Without suitable policy interventions to address child care and given the high child dependency ratios among the poor and vulnerable, child care will preempt women's time and prevent their wider participation in the labor market. This has serious implications for incomes and the future welfare trajectories of those families. As this Report has shown, large family sizes and high dependency ratios raise the likelihood off falling and lower the chances of climbing the welfare ladder.

The problem is not limited to the poor, however, since lower- and middle-class mothers can also be disadvantaged in terms of the time they must allocate to household activities. For such families, foregone opportunities for paid work may be larger in view of the higher educational qualifications among women generally and those in that social class in particular. Poor transport infrastructure and other workplace issues that increase parents' time outside their homes and reduce the interaction among family members can weigh unduly on the already delicate balance between market work and home production [Bayudan-Dacuycuy and Dacuycuy 2017].

A related final institution is parental leaves and restructuring of work hours. A significant step was already taken when RA 11210 (enacted in 2017) provided at least 15 weeks of paid maternity leave with four additional weeks for solo mothers.[71] Similarly, flexible work hours and work-from-home arrangements, for which legislation also already exists, can ease the decision to work and allow the earning of extra income for persons who would otherwise be time-constrained.

All these may be assisted by family-based initiatives including the establishment of day care centers and the establishment of programs that help improve the quality of parental inputs towards young children, especially in poor households. In addition, institution-based centers may be set up that specialize in child care and services assisting dependent older persons, as well as training staff who are specialized and certified in such care. Once more, as part of lessons learned, a balance must be struck between the provision of such services at a minimal fee to people of lesser means and commercial provision that delivers different quality-cost combinations to those better able and willing to pay for them.

CONCLUSION

This Report has provided evidence of the increasingly differentiated socioeconomic structure of the Philippines, notwithstanding that the pace of social mobility in the country has generally been slower than in its East and Southeast Asian neighbors. The proportion of families below the poverty threshold has declined, while those in the middle class (both economically secure and upper middle class) have increased. Improvements have been driven by wage and employment growth, strides in access to education and health services, and the creation of new social protection programs that have not only lifted millions of Filipinos above the poverty line but even allowed some of them to move to a higher income category.

At the same time, as recent economic and social events have shown, such modest improvements in income and social mobility are still fragile. With the sharp rise in domestic unemployment and the increase in the number of returning overseas Filipinos, it should be expected that the vulnerable will continue to increase, while progress towards increasing the size of the middle class could be halted. This shows that responding to the concerns on up- or downward movement of households, whose trend may shift abruptly, remains a lingering policy concern.

Notwithstanding any recent progress in socioeconomic amelioration, much remains to be done. Programs to better secure intergenerational equity over the long run need to be designed and implemented. This Report highlights the major components of a strategic response, including the early interventions for children, improving people's ability to qualify for and access high-productivity jobs, strengthening social insurance and social protection systems to ward off shocks and to assist recovery, and reforming the country's fiscal system to remove the burdens imposed on the poor and vulnerable. Government can live up to its role by targeting interventions to individuals and families to equalize opportunities; the state should not only do more but also do things better and smarter.

Notes

[1] The GDP per capita figures are from the World Bank. The World Bank for 2017-2018 defined an upper middle-income country as one with a GNI per capita of $3,895-$12,055 (current dollars, Atlas method). The Philippines had a GNI per capita of $3,660 in 2017.

[2] Meeting this particular MDG would have entailed reducing the poverty incidence for individuals from 34 percent in 1991 to at most 17 percent in 2012.

[3] See, for example, Reyes, Tabuga, Mina, Asis, and Datu [2011], Bayudan-Dacuycuy and Lim [2013], and Martinez [2015].

[4] For more recent treatments, see Martinez [2015] and Albert, Dumagan, and Martinez [2015].

[5] The Philippine Statistics Authority has released its 2018 full year estimates but has not released the back computed figures for the years previous to 2015. The poverty estimates for 1991 are based on the results released in 2016, while the estimates in 2018 are based on the figures released in 2019.

[6] See especially the work of Reyes [2002a, 2002b] and Reyes et al. [2011, 2012].

[7] A long discussion can ensue over whether the thresholds adopted here are too stringent or too generous. In particular, an argument can be made over whether the poverty threshold used is not "too high" in relation to official poverty lines, tending therefore to exaggerate poverty incidence and paint a more negative picture. On the other hand, adopting a lower threshold would result in a larger vulnerable and middle class segment (perhaps creating an unwarrantedly positive picture). The argument in this chapter—that the middle class has expanded—is one that can be made a fortiori, even allowing for a large poor population.

[8] These categories are consistent with the definitions of expenditure categories used in several studies on income mobility. See, for example, Ferreira et al[2013] for the case of Latin America and World Bank [2018] for the case of East Asia.

[9] In other studies, movements are also defined by incomes or components of incomes, including wages, or nonwage income, of individuals, families, or groups over time (mobility as movement), in terms of the final position over the welfare distribution (mobility as origin independence) and in terms of changes in "permanent" income (mobility as equalizer in long-term income). See Ferreira et al. [2013].

[10] This modifies their earlier findings [Virola et al. 2010], which showed a declining middle class, according to their definition, despite the growth in income from 1997 to 2006.

[11] "Social mobility" will hereafter be understood to mean favorable or upward social mobility.

[12] Piketty's [2014] work on the record of advanced capitalist economies is well documented. Concerns have also been raised on growing inequality amidst rapid growth in some emerging economies, e.g., Majumdar [2010] and OECD [2011].

[13] This is termed "origin dependence" by Ferreira et al. [2013].

[14] The panel unfortunately no longer exists in the 2012 and 2015 rounds.

[15] Known as "positive time dependence" in the literature.

[16] An implicit omission, of course, is a consideration of the vulnerable. It is nonetheless true, however, that a continuously rising and high MPSD ultimately implies a reduction of the vulnerable class as well.

Notes

[17] These figures pertain to the year 2015 for the Philippines, China, and Indonesia; 2014 for Vietnam; 2013 for Thailand; and 2009 for Malaysia.

[18] Typically, an equation of the form ln y = a + b ln Y is estimated, where y and Y are the incomes or consumption expenditures of the child and the parent, respectively. The estimated b is then the intergenerational income elasticity.

[19] Figures for other countries are from other studies reported in Bevis and Barrett [2015].

[20] Much of the literature is cited by Heckman and Mosso [2014].

[21] See Acosta, Igarashi, Olfindo, and Rutkowski[2016].

[22] See, for example, Akachi and Channing [2010].

[23] On stress and telomere length, see, for example, Mitchell, Hobcraft, McLanahan, Siegel, Berg, and Brooks-Gunn [2014]; on telomeres and longevity, see Steenstrup et al. [2017].

[24] See for example, Pelkowski and Berger [2004].

[25] See Hoddinott, Malucio, Behrman, Flores, and Martorell [2008].

[26] See, for example, the special paper by Paderanga [2016].

[27] This extends and improves upon the earlier work by Martinez [2015].

[28] The YAFS 2013 reports that a larger proportion of marital unions (62 percent) are live-in arrangements rather than formal marriages. See Philippine Population Institute [2013].

[29] A notable example is the CVIF Dynamic Learning Program developed by M.V. Carpio-Bernido and C.C. Bernido.

[30] As reported in the press: https://newsinfo.inquirer.net/1307451/enrollment-drops-more-than-25.

[31] Known examples are the Cultural Revolution in China and the 8-8-88 Uprising in Myanmar.

[32] Epigenetics refers to genetic changes controlled by factors other than a person's DNA sequence.

[33] See, for example, Kaati, Byrgen, and Edvinsson [2002] and Bygren [2013].

[34] That is, females born in 1996 (who were therefore 18 years old in 2014) averaged 149.608 cm. in height, or 4 feet 10.9 inches. This deficiency, however, is part of a long-term trend retrogression that began in the postwar era. For data, see NCD-RISC [2016].

[35] Figures are from de Onis, Blössner, and Borghi [2012].

[36] This figure comes from the World Bank. As of 2017 the global figure had gone down even further to 13.5 percent.

[37] See Dewey and Begum [2011] for a review of global findings.

[38] Using nonfood expenditures as a basis recognizes that the share of health spending to total expenditures may be low for poorer households simply because food takes up a large share of budgets and may lead to ignoring households that cannot afford to meet catastrophic payments.

[39] While there are no hard and fast thresholds for discerning whether health expenditures are catastrophic or not, the most common threshold used in the literature has been 40 percent relative to nonfood expenditures and 10 percent relative to total expenditure [Xu, Evans, Kawabata, Zeramdini, Klavus, and Murray 2003].

[40] These effects are mitigated to a degree by the prospects of better-paying overseas employment. The demand for education in certain fields, e.g., nursing and physical therapy, is driven primarily by opportunities to work overseas.

[41] The classification into agriculture and nonagriculture households pertains to a comparison their status in the years 2003 and 2009.

[42] See, for example, Causa, Dantan, and Johansson [2009].

[43] Of course, saving is not the sole source of wealth accumulation. Direct transfers of wealth such as bequests and inheritance from other households, or transfers from government, legitimate or not, can increase household property without being related to a household's own saving.

[44] These and all succeeding figures based on household surveys will likely underestimate the income, saving, and expenditures of the top classes, which are typically inadequately covered.

[45] The Gini coefficient associated with the graph of a Lorenz curve is a ratio, the numerator of which is the area between the uniform distribution line (i.e., the diagonal line in Figure 1.23) and the Lorenz curve; and the denominator of which is the whole area under the uniform distribution line, which is always 0.5.

[46] In terms of income, the Gini coefficient in 2015 was 0.4439, according to the Philippine Statistics Authority.

[47] Note this includes only financial wealth (corporate shares, bonds, and bank deposits) and not real property.

[48] Japan has the highest top excise tax rate of 55 percent, followed by South Korea at 50 percent. The top rate for estate taxes in the U.S. is 40 percent.

[49] Proposals made by some U.S. presidential candidates, for example, would levy an annual tax of 2 percent on fortunes above $50 million, rising to 3 percent for wealth in excess of $1 billion.

[50] Fifty-two percent of the poorest 30 percent own their house and lot. This is lower but not much less than the average of 59.6 percent home ownership overall [PSA 2017: 10].

[51] Internet-enabled smartphones were still not widely available during the period covered by the data (2003-2009). The item "phones" enumerated in the data at the time therefore will have referred mostly to landlines or at best mobile feature phones. The current wider prevalence of smartphones, which are an important and inexpensive channel of information and communication, represents a concrete step in favor of social mobility among the poor and vulnerable.

[52] See, for example, Asia Pacific Policy Center [2007].

[53] See, for example, Hayami and Kikuchi [2000] and Balisacan and Fuwa [2004].

[54] Ostrom [1990] relied on the original research on the zanjeras performed by Siy [1982].

[55] See, for example, Inocencio et al. [2016].

[56] See, for example, Beronilla [2017], and Castillo, Clarete, Muyrong, Tuaño, and Banaag [2018].

Notes

[57] The notable experience of the Jollibee Group in dealing with small farmer cooperatives to establish a supply chain is documented and analyzed in Capacio, de Dios, and van Tulder [2018].

[58] See Heckman and Mosso [2014] for a recent review of literature on the link between human development and economic mobility.

[59] See Albert and David [2015], and David, Albert, and Vizmanos [2018].

[60] A socialized tuition-and-subsidy scheme in its various versions was implemented at the University of the Philippines since 1989 until it was discontinued owing to the passage of RA 10931.

[61] Aside from state colleges and universities, the Commission on Higher Education (CHED) recognizes local universities and colleges and private higher education institutions listed in the UniFAST Registry of Institutions and Programs. The amount of ₱1 billion was allotted to this loan program for the 2019- 2020 school year, with a loan repayment term of 12 months.

[62] In particular, government support has typically focused on the provision of inputs and neglected assistance to marketing and the linking of farmers to modern supply chains.

[63] See, for example, Estudillo, Sawada, and Otsuka [2004].

[64] See, for example, de Dios and Dinglasan [2015].

[65] The discrepancy between the two does not necessarily reflect undercoverage. Quantile measures of poverty (e.g., poorest 10 or 20 percent) reflect relative poverty. The 4Ps, on the other hand, selects its beneficiaries based on an absolute poverty threshold, so the two will not always coincide.

[66] On this, see Chaudhuri, Friedman, and Onishi [2013], Tutor [2014], and Orbeta and Paqueo [2017].

[67] These rough figures are obtained by multiplying the program's coverage of each quintile by 20 percent to get the total households covered in each quintile, then taking the share of the quintile households in the total number of households covered. This under- (resp., over-) estimates the quintile coverage to the extent that there are more (resp., less) elderly members than average in the typical household of that particular quintile.

[68] See, for example, Diokno-Sicat and Mariano [2018] and ADB [2019].

[69] i.e., the ratio of pension benefit to worker's pay.

[70] The Kasambahay Law (RA 10361) passed in 2013, for example, opens the option for domestic helpers to pay into the SSS and become its members. The SSS has also instituted special limited schemes that target specific sectors, such as AklanSSSya, a voluntary saving scheme for tricycle drivers, farmers., vendors, and other informal sector workers.

[71] A similar proposal for fathers will encourage shared parenting responsibilities as well as lead to more gender-equity in hiring and workplace treatment more generally.

References

Abrigo, M., R. Racelis, and J. Salas [2012]. "Philippines 2007 National Transfer Accounts (NTA): Consumption, Income and Intergenerational Reallocation of Resources." Discussion Paper Series No. 2012-29. Philippine Institute for Development Studies.

Acosta, P., T. Igarashi, R. Olfindo, and J. Rutkowski [2016]. *Developing Socioemotional Skills for the Philippines' Labor Market. Directions in Development*. Washington, D.C.: World Bank. doi:10.1596/978-1-464801191-3

Adair, L., D. Guile, E. Disprove, and S. Galliano [2002]. "Effect of Childbearing on Filipino Women's Work Hours and Earnings." *Journal of Population Economics*, 15 (4), 625-645.

Addison, T., D. Hulme, D., and S. M. R. Kanbur [2009]. *Poverty Dynamics: Interdisciplinary Perspectives*. Oxford: Oxford University Press.

Addo, O. Y., A. D. Stein, C. H. Fall, D. P. Gigante, A. M. Guntupalli, B. L. Horta…Consortium on Health Oriented Research in Transitional Societies [2013]. "Maternal Height and Child Growth Patterns." *The Journal of Pediatrics*, 163 (2), 549-554. doi:10.1016/j.jpeds.2013.02.002

Adam, R. H. and J. J. He [1995]. "Sources of Income Inequality and Poverty in Rural Pakistan." Research Report No. 102. International Food Policy Research Institute.

Akachi, Y. and D. Channing [2010]. "Health Trends in Sub-Saharan Africa: Conflicting Evidence from Infant Mortality Rates and Adult Heights." *Economics and Human Biology*, 8 (2), 273–288. doi:10.1016/j.ehb.2010.05.015

Alba, M. [1998]. "Measuring the Extent and Components of the Gender Wage Differential in the Philippines." Discussion Paper No. 9801. University of the Philippines School of Economics.

Albert, J. R. and C. David [2012]. "Primary Education: Barriers to Entry and Bottlenecks to Completion." Discussion Paper Series No. 2012-07. Philippine Institute of Development Studies.

Albert, J. R. and C. David [2015]. "Recent Trends in Out-of-School Children in the Philippines. Discussion Paper Series No. 2015-51. Philippine Institute of Development Studies.

Albert, J. R., J. Dumagan, and A. Martinez [2015]. "Inequalities in Income, Labor, and Education: The Challenge of Inclusive Growth." Discussion Paper Series No. 2015-01. Philippine Institute of Development Studies.

Albert, J. R. and M. J. Raymundo [2015]. "Why Inequality Matters in Poverty Reduction and Why the Middle Class Needs Policy Attention." Discussion Paper Series No. 2015-55. Philippine Institute of Development Studies.

Albert, J. R., Gaspar, R. E., and M. J. Raymundo [2015]. "Why We Should Pay Attention to the Middle Class." Policy Notes 2015-13. Philippine Institute for Development Studies

Alesina, A. and R. Perotti [1996]. "Income Distribution, Political Instability, and Investment." *European Economic Review,* 40 (6), 1203–1228. doi:10.1016/0014-2921(95)00030-5

Amoranto, G., Chun, N., and A. B. Deolalikar [2010]. *Who are the Middle Class and What Values do They Hold?: Evidence from the World Values Survey*. Manila: Asian Development Bank.

Arcenas, A. [2018]. "Determining the Inflationary Effects of El Niño and La Niña in the Philippines." Discussion Paper, No. 2018-02. School of Economics, University of the Philippines.

Asia Pacific Policy Center (APPC) [2007]. "Comprehensive Agrarian Reform Impact Assessment: Study on the Impact of CARP on Poverty Reduction and Prospects for Long-Term Growth." Typescript.

Asian Development Bank (ADB) [2019]. *Social Protection Indicator for Asia: Assessing Progress*. Manila. doi:10.22617/TCS190257-2

Balisacan, A. and N. Fuwa [2004]. "Changes in Spatial Income Inequality in the Philippines: An Exploratory Analysis." WIDER Working Paper Series RP2004-34. World Institute for Development Economic Research (UNU-WIDER).

References

Balisacan, A. and N. Fuwa [2007]. "Poverty and Vulnerability." In *Reasserting the Rural Development Agenda: Lessons Learned and Emerging Challenges in Asia*, pp. 121–158. Institute of Southeast Asian Studies.

Banerjee, A. V. and E. Duflo [2003]. "Inequality and Growth: What Can the Data Say?" Journal of Economic Growth 8 (3), pp. 267- 299.

Bangko Sentral ng Pilipinas (BSP) [2014]. *Consumer Finance Survey*. Manila. Retrieved from http://www.bsp.gov.ph/downloads/Publications/2014/CFS_2014.pdf

Barro, R. J. [2000]. "Inequality and Growth in a Panel of Countries." *Journal of Economic Growth*, 5 (1), 5–32.

Baulch, B. and J. Hoddinott [2000]. "Economic Mobility and Poverty Dynamics in Developing Countries." *Journal of Development Studies* 36 (6), 1–24.

Bautista, C., T. Rivera, A.M. Tabunda & J.B. Arguillas [1998]. "Exploring the Middle Classes in Metro Manila," Paper Presented at the Taipei meeting of the ISA Research Committee on Social Stratification, January.

Bayudan-Dacuycuy, C. and L. Dacuycuy [2017]. "Analyzing Housework through Family and Gender Perspectives." Policy Notes 2017-13. Philippine Institute of Development Studies.

Bayudan-Dacuycuy, C. and J. A. Lim [2013]. "Family Size, Household Shocks and Chronic and Transient Poverty in the Philippines." *Journal of Asian Economics* 29, 101–112.

Becker, G. and N. Tomes [1979]. "An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility." *Journal of Political Economy*, 87 (6), 1153–1189. doi:10.1086/260831

Beronilla, N. [2017]. "Impact of Tax Reform: A Simulation." Paper presented at the 55th Philippine Economic Society Conference, 7 November. Quezon City, Philippines.

Bevis, L. and C. Barrett [2015]. "Decomposing Intergenerational Income Elasticity: The Gender-differentiated Contribution of Capital Transmission in Rural Philippines." *World Development*, 74 (1), 233–252. http://dx.doi.org/10.1016/j.worlddev.2015.04.010

Bhargava, A. [2016]. "Protein and Micronutrient Intakes are Associated with Child Growth and Morbidity from Infancy to Adulthood in the Philippines." *The Journal of Nutrition*, 146 (1), 133–141. doi:10.3945/jn.115.222869

Birdsall, N., Graham, C. N., and S. Pettinato [2001]. "Stuck in Tunnel: Is Globalization Muddling the Middle?" *SSRN Electronic Journal*. doi:10.2139/ssrn.277162

Blackburn, M. and D. Bloom [1985]. "What is Happening to the Middle Class?" *American Demographics*, January, 18–25.

Butler, S. M., W. W. Beach, and P. L.Winfree [2008]. *Pathways to Economic Mobility: Key Indicators*. Washington D.C.: Economic Mobility Project.

Bygren, L. [2013]. "Intergenerational Health Responses to Adverse and Enriched Environments." *Annual Review of Public Health*, 34 (1), 49–60. doi:10.1146/annurev-publhealth-031912-114419

Cabalfin, M. [2016]. "Health Financing for the Poor in the Philippines: Final Report." Discussion Paper Series No. 2016-37. Philippine Institute of Development Studies.

Capacio, J. L. D., E. S. de Dios and R. Van Tulder [2018]. "Breaking barriers in agriculture financing: Enhancing the resilience of agriculture value chains through interlinked inclusive financing models," Discussion Paper 18- 007. University of the Philippines Center for Integrative Studies.

Carba, D. B., V. L. Tan, and L. S. Adair [2009]. "Early Childhood Length-for-Age is Associated with the Work Status of Filipino Young Adults." *Economics and Human Biology*, 7 (1), 7–17. doi:10.1016/j.ehb.2009.01.010

Carvalho, L. [2012]. "Childhood Circumstances and the Intergenerational Transmission of Socioeconomic Status." *Demography*, 49 (3), 913–938. doi:10.1007/s13524-012-0120-1

Castillo, C., R. Clarete, M. Muyrong, P. Tuaño, and M. Banaag [2018]. "Assessment of TRAIN's Coal and Petroleum Excise Taxes: Environmental Benefits and Impacts on Sectoral Employment and Household Welfare." Discussion Paper Series No. 2018-41. Philippine Institute for Development Studies.

Causa, O., S. Dantan, and A. Johansson [2009]. "Intergenerational Social Mobility in European OECD Countries." Economics Department Working Paper No. 709. Organization of Economic Cooperation and Development.

Chambers, R. [1989]. "Editorial Introduction: Vulnerability, Coping and Policy." *IDS Bulletin*, 20 (2), 1–7.

Chaudhuri, S. and G. Datt [2001]. "Assessing Household Vulnerability to Poverty: A Methodology and Estimates for the Philippines." World Bank draft paper. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.202.3980&rep=rep1&type=pdf

Chaudhuri, J., J. Friedman, and N. Onishi [2013]. *Philippines Conditional Cash Transfer Program: Impact Evaluation 2012*. Washington, D. C.: World Bank.

Chetty, R., N. Hendren, P. Kline, and E. Saez [2014]. "Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States." *The Quarterly Journal of Economics*, 129 (4), 1553–1623. doi:10.3386/w19843

Coalition of Services of the Elderly and Help Age International [2017]. *The Feasibility of a Universal Social Pension in the Philippines*. Quezon City. Retrieved from http://cose.org.ph/uploads/files/4a03ff6ec1f67086b191894558b8471b.pdf

Conchada, M. I., D. H. Sy, M. Tiongco and A. Paloyo [2019]. "Recent Trends in the Gender Gap in the Labor Market in the Philippines." *Philippine Review of Economics* LVI (1-2), 173–186.

Credit Suisse Research Institute [2018]. *Global Wealth Databook 2018*. Retrieved from https://www.credit-suisse.com/media/assets/corporate/docs/about-s/research/publications/global-wealth-databook-2018.pdf

Daniels, M. C. and L. S. Adair [2004]. "Growth in Young Filipino Children Predicts Schooling Trajectories through High School." *The Journal of Nutrition*, 134 (6), 1439–1446. doi:10.1093/jn/134.6.1439

Dacuycuy, L. [2018]. "Social Mobility in the Philippine Labor Market." *Philippine Review of Economics,* LV (1-2), 1-40.

David, C., J. R. Albert, and J. F. Vizmanos [2018]. "Out-of-School Children: Changing Landscape of School Attendance and Barriers to Completion." Discussion Paper Series No. 2018-25. Philippine Institute of Development Studies.

Davis, J. C. and J. H. Huston [1992]. The shrinking middle-income class: A multivariate analysis. *Eastern Economic Journal*, 18 (3), 277-285.

de Dios, E. and K. Dinglasan [2015]. "Just How Good is Unemployment As A measure of Welfare?" *Philippine Review of Economics* 52(2): 243-254.

De Onis, M., M. Blössner, and E. Borghi [2012]. "Prevalence and Trends of Stunting Among Pre-school Children, 1990–2020." *Public Health Nutrition*, 15 (1), 142–148. doi:10.1017/s1368980011001315

De Onis, M. and F. Branca [2016]. "Childhood Stunting: A Global Perspective." *Maternal and Child Nutrition*, 12, 12–26. doi:10.1111/mcn.12231

Deaton, A. [2007]. "Height, Health, and Development." *Proceedings of The National Academy of Sciences*, 104 (33), 13232–13237. doi:10.1073/pnas.0611500104

Dewey, K. and K. Begum [2011]. "Long-term Consequences of Stunting in Early Life." *Maternal and Child Nutrition*, 7, 5–18. doi:10.1111/j.1740-8709.2011.00349

References

Diokno-Sicat, C. and M. Mariano [2018]. "A Public Expenditure Review of Social Protection Programs in the Philippines." Discussion Paper Series. 2018-31. Philippine Institute for Development Studies.

Ducanes, G. [2020]. "A Closer Look at the Impact of COVID-19 and the Lockdown on Employment and Poverty." Policy Brief 2020-20. Ateneo de Manila University Economics Department.

Ducanes, G. and E. Tan [2014]. "Who Are Poor and Do They Remain Poor?" Discussion Paper No. 2014-08, University of the Philippines School of Economics.

Easterly, W. [2001]. "The Middle Class Consensus and Economic Development." *Journal of Economic Growth*, 6 (4): 317–35.

Echavez, C., E. Montilla-Burton, S. McNiven, and A. Quisumbing [2007]. Moving out of Poverty in Bukidnon, Philippines. Country Research Study for the *Moving Out of Poverty: Understanding Freedom, Democracy and Growth from The Bottom-Up Project*. Washington, D.C.: World Bank.

Epetia, M.C. [2018]. College Graduates in Non-college jobs: Measuring Overeducation in the Philippine Job Market. Unpublished dissertation. University of the Philippines School of Economics.

Eisenberg, D. T., J. B. Borja, M. G. Hayes, and C. W. Kuzawa [2017]. "Early Life Infection, but not Breastfeeding, Predicts Adult Blood Telomere Lengths in the Philippines." *American Journal of Human Biology*, 29 (4), e22962. doi:10.1002/ajhb.22962

Estudillo, J., A. Quisumbing, and K. Otsuka [2001]. "Gender Differences in Land Inheritance, Schooling and Lifetime Income: Evidence from the Rural Philippines." *Journal of Development Studies*, 37 (4), 23–48. doi:10.1080/00220380412331322031

Estudillo, J., Y. Sawada, and K. Otsuka [2004]. "The Determinants of Schooling Investments of Rural Filipino Households, 1985-2002." *Philippine Review of Economics*, 41 (1), 1–29.

Estudillo, J., Y. Sawada, and K. Otsuka [2008]. "Income Dynamics, Schooling Investment, and Poverty Reduction in Philippine Villages, 1985-2004." In *Rural Poverty and Income Dynamics in Asia and Africa*, pp. 22–46. London: Routledge. doi:10.4324/9780203885055.ch2

Esguerra, E. [2016]. "Ending 'Endo'— Larger issues." 26 November. Retrieved from https://www.econ.upd.edu.ph/perse/?p=5734

Ferreira, F., Messina, J., Rigolini, J., López-Calva, L., Lugo, M. A., and R. Vakis [2013]. *Economic Mobility and the Rise of the Latin American Middle Class*. Washington, D.C: World Bank.

Food and Nutrition Research Institute (FNRI) [2013]. *8th National Nutrition Survey*. Retrieved from https://www.fnri.dost.gov.ph/index.php/nutrition-statistic/19-nutrition-statistic/118-8th-national-nutrition-survey

Food and Nutrition Research Institute (FNRI) [2015]. *2015 Updating Survey on National Nutrition*. Retrieved from https://www.fnri.dost.gov.ph/index.php/19-nutrition-statistic/175-national-nutrition-survey

Fuwa, N. [2007]. "Pathways out of Rural Poverty: A Case Study in Socio-economic Mobility in the Rural Philippines." *Cambridge Journal of Economics*, 31 (1), 123–144

Galor, O., Moav, O., and D. Vollrath [2004]. "Land Inequality and the Origin of Divergence and Overtaking in the Growth Process: Theory and Evidence." *SSRN Electronic Journal*. doi: 10.2139/ssrn.317934

Glewwe, P., H. G. Jacoby, and E. M. King [2001]. Early Childhood Nutrition and Academic Achievement: A Longitudinal Analysis. *Journal of Public Economics*, 81 (3), 345–368. doi:10.1016/s0047-2727(00)00118-3

Hayakawa, M., R. van den Brink, and A. Posarac [2015]. "Why Does the Conditional Cash Transfer Program Matter in the Philippines? A Governance Perspective." Philippine Social Protection Note No. 7. World Bank and the Australian Aid Agency, Manila.

Hayami, Y. and M. Kikuchi [2000]. "The Emergence of Rural-based Industries," In *A Rice Village Saga*, pp. 207–225. London: Palgrave Macmillan.

Heckman, J. and S. Mosso [2014]. "The Economics of Human Development and Social Mobility." *Annual Review of Economics, Annual Reviews*, 6 (1), 689–733. doi:10.3386/w19925

Herrin, A., M. Abrigo, Z. Tam, and T. Ortiz [2018]. "Child Stunting Prevention: The Challenge of Mobilizing Local Governments for National Impact." Discussion Paper Series No. 2018-45. Philippine Institute of Development Studies.

Hoddinott, J., J. A. Maluccio, J. R., Behrman, R. Flores, and R. Martorell [2008]. "Effect of a Nutrition Intervention During Early Childhood on Economic Productivity in Guatemalan Adults." *The Lancet*, 371 (9610), 411–416. doi:10.1016/s0140-6736(08)60205-6

Human Development Network (HDN) [2013]. *Philippine Human Development Report 2012/2013*. Quezon City.

Inocencio, A., C. Ureta, A. Baulita, A. Baulita, R. Clemente, R. Luyun, and D. Elazegui [2016]. "Technical and Institutional Evaluation of Selected National and Communal Irrigation Systems and Characterization of Irrigation Sector Governance Structure: Integrative Chapter. Final Report." Discussion Paper Series No. 2016-12. Philippine Institute for Development Studies.

International Labor Organization (ILO) [2015]. *World Employment and Social Outlook 2015: The Changing Nature of Jobs*. Geneva: ILO.

Jung, B. M. [2014]. "Social Capital and the Effects of Off-city for Metro Manila Informal Settlers." Unpublished paper submitted to Prof. Mary Racelis for a graduate degree class requirement in Ateneo de Manila University.

Justino, P. and P. Verwimp [2013]. "Poverty Dynamics, Violent Conflict and Convergence in Rwanda." *Review of Income and Wealth*, 59 (1), 66–90. doi:10.1111 /j.1475-4991.2012.00528

Kaati, G., L. O. Byrgen and S. Edvinsson [2002]. "Cardiovascular and Diabetes Mortality Determined by Nutrition during Parents' and Grandparents' Slow Growth Period." *European Journal of Human Genetics* 10, 682–688.

Kandpal, E., H. Alderman, J. Friedman, D. Filmer, J. Onishi, and J. Avalos [2016]. "A Conditional Cash Transfer Program in the Philippines Reduces Severe Stunting." *The Journal of Nutrition*, 146 (9), 1793–1800. doi:10.3945/jn.116.233684

Karaos, A. M. [2017]. "Political Values of the Philippine Middle Class," Background Paper. Human Development Network.

Kharas, H. [2010]. "The Emerging Middle Class in Developing Countries," Working Paper 285, Development Center, Organization for Economic Cooperation and Development, Paris.

Kraft, A. [2016]. "Health and Mobility." Background Paper for the 8th Philippine Human Development Report.

Lanzona, L. [2017]. "Linkages Between Land and Income Inequality," Background Paper, Human Development Network.

Laurison D. and S. Friedman [2015]. "The Class Pay Gap in Higher Professional and Managerial Occupations." *American Sociological Review*, 81 (4), 668–695.

Liu, N., S. N. Vigod, M. M. Farraguia, M. L. Urquia, and J. G. Ray [2018]. "Intergenerational Teen Pregnancy: a Population-based Cohort Study." *BJOG: An International Journal of Obstetrics & Gynaecology*, 125 (13), 1766–1774.

Lustig, N. L. Lopez-Calva and E. Ortiz- Suarez [2011]. "The Decline in Inequality in Latin America: How Much, Since When and Why?," ECINEQ Working Paper 2011–211, Society for the Study of Economic Inequality (ECINEQ), Palma de Mallorca, Spain.

Majumdar, S. [2010]. *Essays on Inequality and Development*. Unpublished dissertation. The Ohio State University. Retrieved from https://etd.ohiolink.edu/!etd.send_ file?accession=osu1291054538anddisposition=inline

References

Martinez, A. [2015]. *A Longitudinal Approach to Measuring Income Mobility among Filipino Households*. Unpublished dissertation. University of Queensland.

Martinez, A. [2016]. "Provincial Estimates of Economic Mobility in the Philippines: Trends, Determinants, and Outcomes." Background Paper. Human Development Network.

Martinez, A., Western, M., Tomaszewski, W., Haynes, M., Manalo, M. K., and I. Sebastian [2016]. "Drivers of Household Income Distribution Dynamics in the Philippines." *The Philippine Statistician*, 65 (1), 53–84.

Martorell, R., P. Melgar, J. A., Maluccio, A. D. Stein, and J. A. Rivera [2009]. "The Nutrition Intervention Improved Adult Human Capital and Economic Productivity." *The Journal of Nutrition*,140 (2), 411–414. doi:10.3945/jn.109.114504

Mcdade, T., M. Hoke, J. Borja, L. Adair, and C. Kuzawa [2013]. "Do Environments in Infancy Moderate the Association Between Stress and Inflammation in Adulthood? Initial Evidence from a Birth Cohort in the Philippines." *Brain, Behavior, and Immunity*, 31, 23–30. doi:10.1016/j.bbi.2012.08.010

Milanovic, B. and S. Yitzhaki [2002]. "Decomposing World Income Distribution: Does the World Have a Middle Class?," Policy Research Working Paper 2562, World Bank, Washington, D. C.

Mitchell, C., J. Hobcraft, S. McLanahan, S. Siegel, A. Berg, and J. Brooks-Gunn [2014]. "Social Disadvantage, Genetic Sensitivity, and Children's Telomere Length." *Proceedings of The National Academy of Sciences*, 111(16), 5944–5949. doi:10.1073/pnas.1404293111

Molla, A. A., C. Chi, A. L. and Mondaca [2017]. "Predictors of High Out-of-Pocket Healthcare Expenditure: An Analysis Using Bangladesh Household Income and Expenditure Survey, 2010." *BMC Health Services Research*, 17 (1), 94. doi:10.1186/s12913-017-2047-0

Monsod, T. [2015]. "Political Intervention in the Philippine Bureaucracy, 1987 to 2010: How, Where and to What Effect." Discussion Paper 2015-17. University of the Philippines School of Economics.

Monsod, T., O. Solon, M. Gochoco-Bautista, E. de Dios, J. Capuno, M. Abrenica…R. Reside [2020]. "Surviving the Lockdown and Beyond." Discussion Paper No. 2020-04. University of the Philippines School of Economics.

Moser, C. O. [1998]. "The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies." *World Development*, 26 (1), 1–19. doi:10.1016/s0305-750x(97)10015-8

Narayan, D. and L. Pritchett [1997]. "Cents and Sociability: Household Income and Social Capital in Rural Tanzania." Washington, D.C.: World Bank.

NCD-Risk Factor Collaboration (RiSC) [2016]. "A Century of Trends in Adult Human Height." Retrieved from https://elifesciences.org/articles/13410.

O'Donnell, O., E. Van Doorslaer, R. P. Rannan-Eliya, A. Somanathan, S. R., Adhikari, B. Akkazieva…Y. Zhao [2008]. "Who Pays for Health Care in Asia?" *Journal of Health Economics*, 27 (2), 460–475.

Orbeta, A. [2011]. "Social Protection in the Philippines: Current State and Challenges." Discussion Paper Series No. 2011-02. Philippine Institute for Development Studies.

Orbeta, A. [2005]. "Poverty, Vulnerability and Family Size: Evidence from the Philippines." Discussion Paper No. 2005-19. Philippine Institute for Development Studies.

Orbeta, A. and M. Abrigo [2012]. "An Assessment of TESDA Scholarship Programs." Discussion Paper Series No. 2012-25. Philippine Institute of Development Studies.

Orbeta, A. and M. Abrigo [2012]. "An Assessment of TESDA Scholarship Programs." Research Paper Assessment Series No. 2013-01. Philippine Institute for Development Studies.

Orbeta, A. and E. Esguerra [2016]. "The National System of Technical Vocational Education and Training in the Philippines: Review and Reform Ideas." Discussion Paper Series No. 2016-07. Philippine Institute of Development Studies.

Orbeta, A. and V. Paqueo [2017]. "Who Benefits and Loses from An Untargeted Tuition Subsidy for Students in SUCs?" Policy Notes 2017-03. Philippine Institute of Development Studies.

Olfindo, R. [2018]. "Diploma as Signal? Estimating Sheepskin Effects in the Philippines." *International Journal of Educational Development*, 60, 113–119. doi:10.1016/j.ijedudev.2017.11.001

Organization for Economic Cooperation and Development (OECD) [2011]. *Divided We Stand: Why Inequality Keeps Rising?* Paris: OECD Publishing. Retrieved from http://www.oecd.org/els/soc/49499779.pdf

Organization for Economic Cooperation and Development (OECD) [2018]. *OECD Pensions Outlook 2018*. Paris: OECD Publishing. Retrieved from http://www.oecd.org/daf/fin/private-pensions/OECD-Pensions-Outlook-2018-Highlights.pdf

Organization for Economic Cooperative and Development (OECD) [2019]. "Programme for International Student Assessment: Results from PISA 2018 [Philippines]." Retrieved from https://www.oecd.org/pisa/publications/PISA2018_CN_PHL.pdf.

Ostrom, E. [1990]. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.

Paderanga, M. [2016]. "Financial Assets and Income Mobility." Background Paper for the 8th Philippine Human Development Report.

Partridge, M. D. [1997]. Is Inequality Harmful for Growth? Comment. *The American Economic Review*, 87 (5), 1019–1032.

Pelkowski, J. M. and M. C. Berger [2004]. "The Impact of Health on Employment, Wages, and Hours Worked over the Life Cycle." *The Quarterly Review of Economics and Finance*, 44 (1), 102–121. doi:10.1016/j.qref.2003.08.002

Philippine Population Institute [2013]. *2013 Young Adults Fertility and Sexuality Survey*. Quezon City.

Philippine Statistics Authority [1998]. *1998 Annual Poverty Indicators Survey*. Quezon City.

Philippine Statistics Authority [2003]. *2003 National Demographic and Health Survey*. Quezon City.

Philippine Statistics Authority [2008]. *2008 Annual Poverty Indicators Survey*. Quezon City.

Philippine Statistics Authority [2013]. *2013 Annual Poverty Indicators Survey*. Quezon City.

Philippine Statistics Authority [2015]. *2015 Family Income and Expenditure Survey*. Quezon City.

Philippine Statistics Authority [2017]. *2017 Annual Poverty Indicators Survey*. Quezon City.

Philippine Statistics Authority [2017]. *2017 National Demographic and Health Survey*. Quezon City.

Philippine Statistics Authority [2019]. *2019 Family Income and Expenditure Survey*. Quezon City.

Piketty, T. [2014]. *Capital in the 21st Century*. Boston: Harvard University Press.

Ravallion, M. [2016]. *The Economics of Poverty: History, Measurement and Policy*. Oxford: Oxford University Press.

Ravallion, M. [2020]. "On the Virus and Poor People in the World" [Blog post]. Retrieved from https://economicsandpoverty.com/2020/04/02/on-the-virus-and-poor-people-in-the-world.

Prendergast, A. J. and J. H. Humphrey [2014]). "The Stunting Syndrome in Developing Countries." *Paediatrics and International Child Health*, 34 (4), 250–265. doi:10.1179/2046905514y.0000000158

Pernia, E. [2008]. "Migration, Remittances, Poverty, and Inequality in the Philippines." Discussion Paper No. 2008-01. University of the Philippines School of Economics.

Racelis, M., A. Karaos, and S. Labastilla [2016]. *Identifying Options for an Urban Community-Driven Development Program in the Philippines*. Manila: Department of Social Welfare and Development.

References

Racelis, R., F. V. Dy-Liacco, A. Herrin, L. David, L. Nievera, and L. Mendoza [2016]. *Philippine Health Accounts Based on the 2011 System of Health Accounts for CY 2012 (Revised), 2013 and 2014 (Provisional): Tables, Estimates and Analysis*. Manila: Department of Health Central ELibrary. Retrieved from http://elibrary.doh.gov.ph/InmagicGenie/DocumentFolder/e000243.pdf

Ravago, R. and S. Mapa [2015]. "Household Coping and Recovery from Nature's Wrath:

Rising from the Ruins of Yolanda." Discussion Paper No. 2015-16. University of the Philippines N.

Racelis, M. and S. Labastilla [2016]. "Social Capital and Welfare of the Urban Poor," Background Paper, Human Development Network

Reyes, C. [2002a]. "The Poverty Fight: Have We Made an Impact?" Discussion Paper Series No. 2002-20. Philippine Institute of Development Studies.

Reyes, C. [2002b]. "Movements in and out of Poverty in the Philippines." Research Paper Series No. 53, Micro Impacts of Macro Adjustment Policies. International Development Resource Center.

Reyes, C., A. Tabuga, C. Mina, R. Asis, and M. B. Datu [2011]. "Dynamics of Poverty in the Philippines: Distinguishing the Chronic from the Transient Poor." Discussion Paper Series No. 2011-13. Philippine Institute of Development Studies.

Reyes, C., A. Tabuga, R. Asis and M. B. Datu, [2012] "Poverty and Agriculture in the Philippines: Trends in Income Poverty and distribution. Discussion Paper Series No. 2012-09. Philippine Institute of Development Studies.

Reyes, C., A. Tabuga, and R. Asis, [2018]. "Social Protection for Men and Women in the Philippines: Some insights for Improving Program Design of Social Insurance Schemes," Discussion Paper Series, No. 2018-35. Philippine Institute for Development Studies.

Sedgh, G., L. B. Finer, A. Bankole, M. A. Eilers, and S. Singh [2015]. "Adolescent Pregnancy, Birth, and Abortion Rates Across Countries: Levels and Recent Trends." *Journal of Adolescent Health*, 56 (2), 223–230. doi:10.1016/j.jadohealth.2014.09.007

Sen, A. [1979]. "Utilitarianism and Welfarism." *The Journal of Philosophy*, 76 (9), 463–489. doi:10.2307/2025934

Siy, R. [1982]. *Community Resource Management: Lessons from the Zanjera*. Quezon City: University of the Philippines Press.

Solimano, A. [2008]. "The Middle Class and the Development Process." *Macroeconómica del Desarrollo*, 65 (LC/L. 2892-P). Santiago, Chile: Naciones Unidas Comision Economica Para America Latina y el Caribe (CEPAL).

Solon, G. [2004]. "A Model of Intergenerational Mobility Variation over Time and Place." In M. Corak (Ed.), *Generational Income Mobility in North America and Europe*, pp. 38–47. Cambridge: Cambridge University Press.

Solon, O. and A. Herrin [2016]. "The Challenge of Reaching the Poor with a Continuum of Care: A 25-Year Assessment of Health Sector Performance." In S. Siar, M. V. Aranas, J. Alcantara, C. San Diego, and R. Valencia [Eds.], *Risk, Shocks, Building Resilience: Proceedings of the Second Annual Public Policy Conference*. Quezon City: Philippine Institute of Development Studies and Bangko Sentral ng Pilipinas.

Steenstrup, T., J. D. Kark, S. Verhulst, M. Thinggaard, J. V. B. Hjelmborg, C. Dalgard…A. Aviv [2017]. "Telomeres and The Natural Lifespan Limit in Humans." *Aging*, 9 (40), 1130–1142.

Tabunda, A., J. R. Albert, and I. Angeles-Agdeppa [2016]. "Results of an Impact Evaluation Study on DepED's School-based Feeding Program." Discussion Paper Series No. 2016-05. Philippine Institute of Development Studies.

Takahashi, K. [2013]. "Pro Poor Growth or Poverty Trap?: Estimating Intergenerational Income Mobility in Rural Philippines." Discussion Paper No. 382. Institute of Developing Economies, Tokyo.

Tan, E. and C. Siriban [2016]. "How Well has Education Helped Families Escape Poverty." Background Paper for the 8th Philippine Human Development Report. Human Development Network.

Tennyson, R. L., L. T. Gettler, C. W., Kuzawa, M. G. Hayes, S. S. Agustin, and D. T. Eisenberg [2018]. "Lifetime Socioeconomic Status and Early Life Microbial Environments Predict Adult Blood Telomere Length in the Philippines." *American Journal of Human Biology*, 30 (5). doi:10.1002/ajhb.23145

Tutor, M. [2014]. "The Impact of Philippines' Conditional Cash Transfer Program on Consumption." Discussion Paper No. 2014-05. University of the Philippines School of Economics.

UPEcon Health Policy Development Program [2017]. *The Challenge of Reaching the Poor with a Continuum of Care: A 25-Year Assessment of the Philippine Health Sector Performance.* Quezon City.

United Nations Development Program (UNDP) [2010]. *2010 Human Development Report*. New York.

United Nations Development Program [2019]. *UNDP Human Development Report 2019. Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in the 21st Century*. New York. Retrieved from http://hdr.undp.org/en/2019-report.

Virola, R. A., J. O. Encarnacion, B. B. Balamban, M. B. Addawe, M. Viernes and M. Pascasio [2010]. "The Pinoy Middle-Income Class is Shrinking: Its Impact on Income and Expenditure Patterns." Paper presented at the 11th National Convention on Statistics, October. Mandaluyong City. Philippines.

Virola, R. A., J. O. Encarnacion, B. B. Balamban, M. B. Addawe, and M. Viernes [2013]. "Will the Recent Robust Economic Growth Create a Burgeoning Middle Class in the Philippines?" Paper presented at the 12th National Convention on Statistics, October. Mandaluyong City, Philippines.

Wagstaff, A. and E. van Doorslaer [2003]. "Catastrophe and Impoverishment in Paying for Health Care: With Applications to Vietnam 1993-1998." *Health Economics*, 12 (11), 921–933.

Woolcock, M. and D. Narayan [2000]. "Social Capital: Implications for Development Theory, Research, and Policy." *World Bank Research Observer*, 15 (2), 225–249.

World Bank [n.d.]. PovCalNet. Retrieved from http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx

World Bank [2016]. *Poverty and Shared Prosperity 2016: Taking on Inequality*. Washington, D.C.: World Bank.

World Bank [2018]. *Riding the Wave: An East Asian Miracle for the 21st Century. World Bank East Asia and Pacific Regional Report*. Washington, D.C.: World Bank. doi:10.1596/978-1-4648-1145-6

Xu, K., D. B. Evans, K. Kawabata, R. Zeramdini, J. Klavus, and C. J. Murray [2003]. "Household Catastrophic Health Expenditure: A Multicountry Analysis." *The Lancet*, 362(9378), 111–117. doi:10.1016/s0140-6736(03)13861-5

Yamauchi, F. and Y. Liu [2012]. "Impacts of an Early Stage Education Intervention on Students' Learning Achievement: Evidence from the Philippines." *Journal of Development Studies*, 49 (2), 208-222. doi:10.1080/00220388.2012.700395

Yu, S. and A. Karaos [2004]. "Establishing the Role of Communities in Governance: The Experience of the Homeless People's Federation Philippines." *Environment and Urbanization*, 16 (1) (April), 107–119.

Human development in Philippine provinces over the long term

Income growth and human development

IN this chapter, the human development indices (HDIs) of 80 provinces of the Philippines, as well as Metro Manila, were computed for 1997 to 2015 using the most recent variant of the HDI as described in the 2015 *Human Development Report*. A previous report (2012/2013 Philippine Human Development Report) already showed how provinces progressed from 1997 to 2009. This Report extends that thread using statistics from 2009 to 2015.

We begin with a review of the distinct usefulness of HDI as an alternative measure for the well-being of nations as compared with per capita income.

Per capita income itself is one component of the HDI. As a result, a strong correlation exists between per capita income plotted on the horizontal axis and HDI plotted on the vertical axis for all the provinces from 1997 to 2015 [**Figure 2.1**].

To highlight the added information gained, we remove income from the HDI to produce a non-income HDI. This too is positively related to per capita income,[1] although there is now greater variation in the relationship [**Figure 2.2**]. However, once we compare the change in per capita income with that of non-income HDI, practically no correlation can be found as shown by the scatter plot in **Figure 2.3**.

These results reinforce those already obtained in the previous Philippine Human Development Report (PHDR) using 1997 and 2009 provincial per capita income and HDI figures (see 2012/2013 PHDR, Chapter 2). The previous report already noted the weak association between non-income components of HDI and per capita income. This implies that there are differences between the processes that drive the dynamics of income and non-income, including health and education, dimensions of human development. This was attributed to non-income drivers of health and education achievements, which include technological innovations for health, expansion of the public school system in many countries, and changes in parents' aspirations for their children in the case of education. Changes in income do not automatically lead to changes in health and education [UNDP 2010, as cited in HDN 2013].

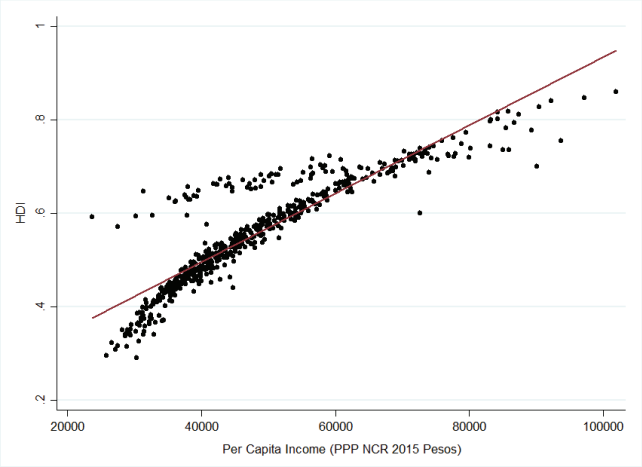


Figure 2.1 Relationship between per capita income and HDI (1997-2015)

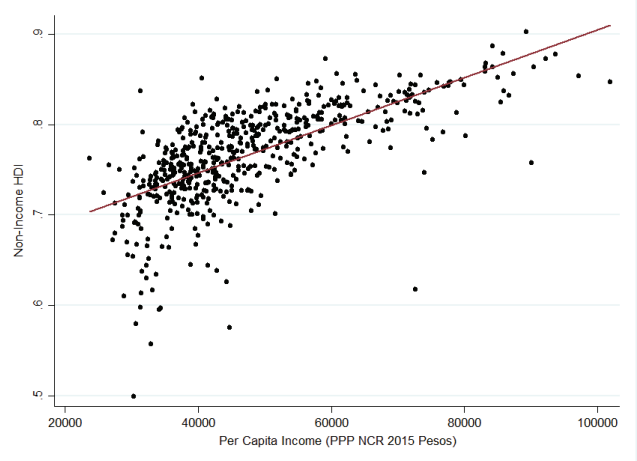


Figure 2.2 Relationship between per capita income and non-income HDI (1997-2015)

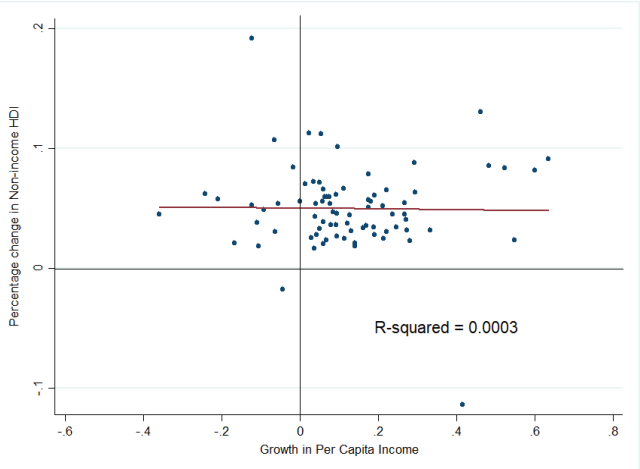


Figure 2.3 Relationship between per capita income growth and percentage change in non-income HDI (1997-2015)

Progress and variability in provincial HDIs

Figure 2.4 shows a line graph of all 80 provinces with HDIs computed at three-year intervals between 1997 and 2015. While some progress will be noted, there is no clear upward path for all provinces. Rather, there is high variability in provincial performance over this period. The path to progress varies, and not all succeed in sustaining their levels of human development.

Thirteen provinces actually saw their HDI levels in 2015 fall below their 2009 levels. A decrease of more than 5 percent in HDI levels is shown for Lanao del Sur (down 35.5 percent), Catanduanes (19.4 percent), Siquijor (15.1 percent), Quirino (8.5 percent), Sorsogon (6.5 percent), and North Cotabato (5.5 percent). One of these provinces saw a decline in its education index, while the income indices of all the seven provinces in 2015 are lower than their corresponding values in 2009 [**Table 2.1**].

All other provinces showed gains, with the following showing the largest improvements: Davao Oriental (59.4 percent), Palawan (37.2 percent), Guimaras (36.2 percent), Romblon (35.9 percent), Antique (32.9 percent), Aklan (32.7 percent), and Zamboanga del Norte (26.8 percent). All except Aklan experienced improvements in the values of all component indices, with remarkable increases in their income indices and some more than doubling their income indices over the period 2009 to 2015 [**Table 2.1**].

Further information is given in **Table 2.2**. Provinces are grouped into quartiles (i.e., classified into the highest and lowest 25 percent) for each of the years when there are available data.[2] Brown cells represent the top 25 percent (quartile 1) of provinces with the highest HDI for that year. Light green cells represent the second highest 25 percent or quartile 2. Dark green cells represent quartile 3. Yellow cells represent quartile 4 or the lowest 25 percent.

The color codes show changes in the provincial composition of the quartiles over the years. They also indicate how each of the provinces changed quartiles. The codes make it easier to see the variability in performance and the divergent paths taken by Philippine provinces. Variability is demonstrated by the number of times a province changes quartiles over the period.

The first quartile tends to be stable over the period,

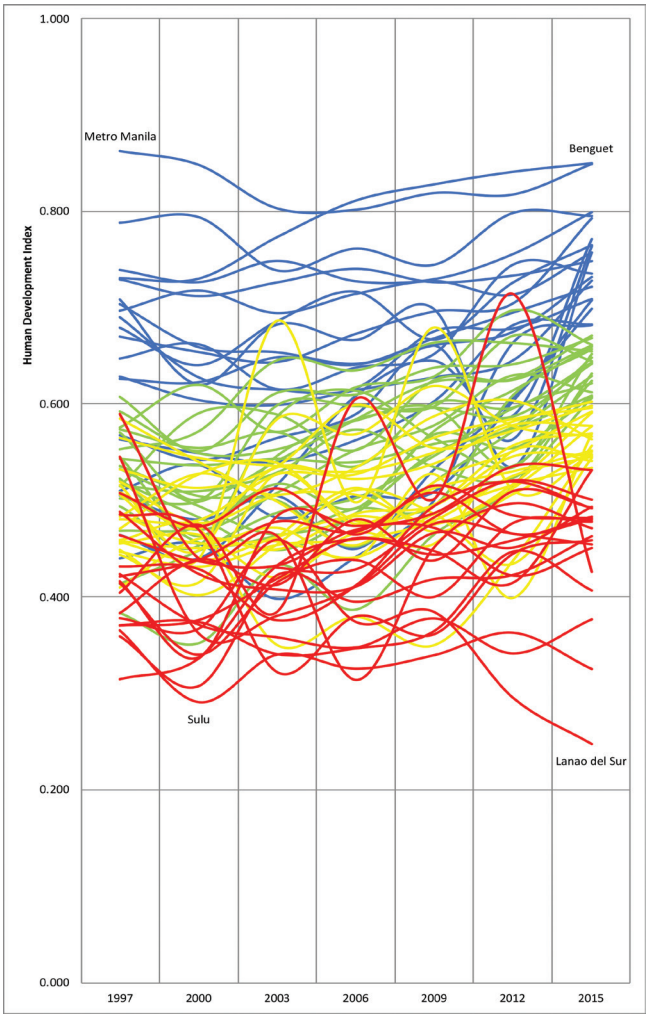


Figure 2.4 Human development index by province (1997-2015)

particularly the top 10 provinces. Only few provinces that began in the first quartile in 1997 moved down to the lower quartiles in the subsequent years.

In 1997, the top 10 provinces (including Metro Manila with an HDI of 0.86) were Rizal (0.783), Laguna (0.738), Benguet (0.722), Cavite (0.721), Batanes (0.715), Batangas (0.698), Bulacan (0.691), Misamis Oriental (0.686), and Pampanga (0.676). For 2015, the top 10 provinces are almost the same except for Cavite, Batangas, and Misamis Oriental (which nonetheless continued to be in the first quartile).

Benguet, with an HDI of 0.85, overtook Metro Manila as the top-ranked province in 2015 due to the high years of schooling and average per capita income of the province. Metro Manila (with an HDI of 0.849) is followed by Laguna (0.799), Rizal (0.795), Bataan (0.793), Biliran

Table 2.1 HDI gainers and losers between 2009 and 2015 (percent change)

Province	HDI	Life expectancy	Education	Income
Metro Manila	4.0	3.7	2.9	5.5
Davao Oriental	59.4	2.3	16.4	240.2
Palawan	37.2	7.3	9.1	120.6
Guimaras	36.2	3.1	23.9	97.8
Romblon	35.9	4.5	12.7	113.0
Antique	32.9	6.8	9.9	99.8
Aklan	32.7	5.8	-1.0	123.0
Zamboanga del Norte	26.8	3.0	10.2	79.6
Misamis Occidental	23.9	0.1	6.4	78.8
Surigao del Norte	21.5	2.8	8.1	61.2
Oriental Mindoro	21.2	4.9	7.7	57.7
Biliran	19.6	5.7	12.0	44.7
Agusan del Sur	19.5	4.9	6.3	53.1
Surigao del Sur	18.9	4.6	5.8	52.0
Eastern Samar	18.7	6.4	5.8	48.6
Zamboanga Sibugay	17.7	2.2	13.8	40.2
Isabela	16.0	0.5	8.7	43.0
Davao del Sur	15.9	1.6	6.6	43.6
Aurora	15.5	4.6	4.4	41.0
Marinduque	15.3	1.7	5.2	43.3
Abra	14.8	4.9	1.9	41.6
Pampanga	14.8	-0.2	6.8	42.0
Quezon	14.1	3.8	6.3	34.6
Bataan	13.9	1.9	2.7	41.3
Bohol	13.8	-0.3	5.3	40.4
Camarines Norte	13.8	6.2	14.1	21.5
Albay	13.4	0.5	5.2	38.0
Ilocos Sur	13.2	3.6	7.8	30.0
Ilocos Norte	12.7	-0.3	6.4	34.8
Mt. Province	12.6	9.4	-1.6	32.5
Western Samar	12.0	6.4	6.9	23.6
Sarangani	11.4	1.9	10.1	23.3
Kalinga	10.8	8.7	13.8	9.9
Batangas	10.6	-0.3	7.6	26.1
Masbate	10.6	4.5	7.5	20.4
Camiguin	10.5	6.0	2.9	23.8
Southern Leyte	10.4	3.7	8.6	19.6
Camarines Sur	9.8	-1.7	11.3	21.2
Nueva Ecija	9.7	1.3	2.9	26.7
Laguna	9.5	3.1	3.7	22.9
Zambales	9.4	3.1	3.1	23.0
Ifugao	9.1	10.3	12.2	5.0
Northern Samar	8.9	4.8	9.6	12.6
Batanes	8.5	6.5	-26.3	62.6
Apayao	8.0	7.4	4.6	12.3
La Union	8.0	-2.0	5.8	21.5
Lanao del Norte	7.9	5.8	1.4	17.2
Tarlac	7.8	2.7	6.7	14.3
Zamboanga del Sur	7.7	3.8	9.5	9.8
Cagayan	7.6	2.5	8.3	12.3
Davao del Norte	7.6	4.9	6.2	11.8
Negros Occidental	7.3	0.5	6.8	15.0
Pangasinan	6.9	1.0	4.3	16.0
Occidental Mindoro	6.8	4.6	10.0	6.0
Rizal	6.8	0.9	4.1	15.9
Capiz	5.9	6.1	1.6	10.1
Sultan Kudarat	5.8	5.8	2.8	8.9
South Cotabato	5.7	2.9	7.9	6.4
Agusan del Norte	5.5	7.4	6.8	2.3
Iloilo	5.2	1.1	3.7	11.1
Misamis Oriental	4.9	1.8	3.0	10.3
Cebu	4.8	-1.9	8.8	7.8
Tawi-Tawi	4.3	11.9	5.1	-3.5
Bulacan	4.1	-0.2	4.3	8.3
Compostela Valley	3.8	4.2	7.0	0.2
Cavite	3.0	0.1	5.0	4.1
Benguet	2.6	0.9	2.4	4.7
Maguindanao	-0.3	12.3	9.2	-19.1
Negros Oriental	-0.5	3.7	7.1	-11.3
Nueva Vizcaya	-1.4	5.2	0.9	-9.6
Leyte	-4.1	3.1	7.4	-20.4
Sulu	-4.3	10.5	28.6	-38.2
Bukidnon	-4.3	1.4	8.5	-20.4
Basilan	-4.5	5.7	-8.7	-9.8
North Cotabato	-5.5	2.8	4.8	-21.7
Sorsogon	-6.5	-0.5	4.3	-21.3
Quirino	-8.5	5.1	-0.8	-26.5
Siquijor	-15.1	4.7	6.9	-45.3
Catanduanes	-19.4	3.4	5.7	-52.0
Lanao del Sur	-35.5	10.4	2.1	-76.2

Table 2.2 HDI by province by quartile (1997-2015)

Province	1997	2000	2003	2006	2009	2012	2015
Benguet	0.722	0.730	0.773	0.811	0.828	0.841	0.850
Metro Manila	0.860	0.848	0.802	0.801	0.818	0.817	0.849
Laguna	0.738	0.726	0.748	0.727	0.729	0.755	0.799
Rizal	0.783	0.794	0.738	0.761	0.744	0.798	0.795
Bataan	0.668	0.654	0.644	0.673	0.696	0.705	0.793
Biliran	0.466	0.440	0.516	0.609	0.645	0.588	0.772
Pampanga	0.676	0.640	0.686	0.716	0.667	0.726	0.765
Aurora	0.566	0.543	0.565	0.590	0.661	0.564	0.763
Batanes	0.715	0.620	0.683	0.667	0.698	0.535	0.758
Bulacan	0.691	0.718	0.694	0.714	0.728	0.713	0.757
Cavite	0.721	0.712	0.726	0.740	0.726	0.733	0.748
Ilocos Norte	0.641	0.662	0.616	0.638	0.653	0.745	0.735
Batangas	0.698	0.659	0.654	0.642	0.661	0.675	0.731
Davao del Sur	0.627	0.605	0.600	0.615	0.628	0.646	0.728
La Union	0.617	0.623	0.649	0.641	0.669	0.695	0.722
Misamis Oriental	0.686	0.628	0.615	0.616	0.675	0.678	0.708
Antique	0.509	0.481	0.505	0.450	0.533	0.606	0.708
Palawan	0.515	0.537	0.482	0.505	0.509	0.603	0.699
Ilocos Sur	0.564	0.549	0.540	0.562	0.603	0.682	0.683
Guimaras	0.439	0.455	0.398	0.441	0.501	0.664	0.682
Cagayan	0.497	0.499	0.541	0.584	0.623	0.627	0.671
Cebu	0.602	0.551	0.612	0.610	0.638	0.641	0.668
South Cotabato	0.515	0.591	0.590	0.553	0.625	0.626	0.661
Iloilo	0.572	0.620	0.571	0.617	0.628	0.697	0.661
Marinduque	0.519	0.456	0.463	0.486	0.573	0.615	0.660
Aklan	0.535	0.495	0.465	0.492	0.496	0.610	0.657
Nueva Vizcaya	0.555	0.572	0.646	0.635	0.664	0.663	0.655
Zambales	0.593	0.549	0.553	0.583	0.596	0.534	0.652
Isabela	0.537	0.536	0.543	0.539	0.558	0.576	0.648
Tarlac	0.571	0.501	0.599	0.598	0.598	0.671	0.644
Pangasinan	0.574	0.555	0.571	0.535	0.601	0.596	0.643
Zamboanga del Sur	0.544	0.463	0.546	0.584	0.596	0.587	0.642
Romblon	0.384	0.352	0.433	0.387	0.465	0.515	0.632
Oriental Mindoro	0.537	0.504	0.500	0.452	0.519	0.572	0.630
Camiguin	0.496	0.453	0.587	0.614	0.564	0.536	0.624
Bohol	0.409	0.448	0.487	0.502	0.546	0.596	0.622
Capiz	0.510	0.469	0.507	0.552	0.578	0.629	0.612
Kalinga	0.526	0.483	0.448	0.487	0.550	0.574	0.609
Occidental Mindoro	0.470	0.473	0.517	0.492	0.568	0.554	0.607
Albay	0.510	0.510	0.529	0.573	0.534	0.523	0.606
Nueva Ecija	0.564	0.544	0.535	0.530	0.550	0.582	0.603
Lanao del Norte	0.534	0.513	0.536	0.600	0.555	0.573	0.599
Agusan del Norte	0.485	0.480	0.527	0.528	0.566	0.585	0.597
Quezon	0.585	0.540	0.498	0.453	0.519	0.551	0.592
Misamis Occidental	0.511	0.477	0.505	0.506	0.477	0.517	0.591
Negros Occidental	0.505	0.472	0.535	0.523	0.539	0.579	0.578
Surigao del Norte	0.458	0.437	0.462	0.483	0.475	0.513	0.577
Apayao	0.490	0.455	0.472	0.440	0.527	0.399	0.570
Abra	0.469	0.527	0.539	0.479	0.496	0.557	0.569
Quirino	0.505	0.448	0.584	0.569	0.619	0.577	0.566
Leyte	0.483	0.528	0.506	0.534	0.588	0.604	0.564
Davao Oriental	0.456	0.471	0.350	0.379	0.350	0.438	0.557
Davao del Norte	0.444	0.415	0.528	0.476	0.513	0.530	0.552
Zamboanga Sibugay			0.462	0.513	0.468	0.507	0.551
Catanduanes	0.515	0.440	0.687	0.499	0.680	0.511	0.548
Southern Leyte	0.410	0.460	0.449	0.486	0.495	0.546	0.547
Camarines Norte	0.449	0.431	0.454	0.460	0.480	0.526	0.546
Western Samar	0.448	0.402	0.455	0.511	0.486	0.434	0.545
Surigao del Sur	0.455	0.464	0.420	0.466	0.455	0.552	0.541
Camarines Sur	0.452	0.450	0.458	0.441	0.486	0.516	0.534
Ifugao	0.424	0.338	0.484	0.474	0.487	0.536	0.532
Eastern Samar	0.316	0.336	0.433	0.460	0.448	0.415	0.531
Compostela Valley			0.431	0.429	0.483	0.520	0.501
Sultan Kudarat	0.490	0.424	0.407	0.410	0.467	0.451	0.494
Mt. Province	0.387	0.439	0.412	0.481	0.438	0.510	0.493
Negros Oriental	0.432	0.429	0.376	0.412	0.495	0.520	0.492
Northern Samar	0.370	0.376	0.419	0.461	0.444	0.459	0.484
Sorsogon	0.500	0.473	0.512	0.465	0.515	0.484	0.481
North Cotabato	0.419	0.438	0.478	0.468	0.508	0.466	0.480
Agusan del Sur	0.413	0.340	0.415	0.438	0.400	0.476	0.478
Tawi-Tawi	0.600	0.440	0.463	0.314	0.452	0.497	0.471
Masbate	0.359	0.308	0.422	0.395	0.418	0.422	0.462
Zamboanga del Norte	0.479	0.470	0.322	0.380	0.362	0.445	0.459
Basilan	0.547	0.362	0.380	0.411	0.475	0.465	0.454
Bukidnon	0.458	0.437	0.433	0.469	0.471	0.422	0.451
Siquijor	0.405	0.475	0.385	0.605	0.502	0.714	0.426
Sarangani	0.368	0.374	0.341	0.347	0.365	0.447	0.407
Maguindanao	0.432	0.371	0.358	0.347	0.378	0.341	0.377
Sulu	0.369	0.291	0.341	0.326	0.340	0.363	0.325
Lanao del Sur	0.382	0.367	0.459	0.374	0.384	0.296	0.248

quartile 1
quartile 2
quartile 3
quartile 4

(0.772), Pampanga (0.765), Aurora (0.763), Batanes (0.758), and Bulacan (0.757). Biliran, which was in the third quartile in 1997, was able to sustain its growth through the years, and has climbed to the first quartile for 2015. While Ilocos Norte, Davao del Sur, and La Union were not part of the top 10 in 1997 and 2015, they have been in the top quartile since 1997.

As for the bottom or fourth quartile, the bottom 10 provinces also tended to remain in the same quartile throughout the period with only a few exceptions. Some provinces in the bottom quartile in 1997, however, registered better performance in the subsequent years.

In 1997, the bottom 10 provinces had HDIs comparable to countries with low human development. These are Bohol (0.408), Siquijor (0.406), Mt. Province (0.384), Romblon (0.379), Lanao del Sur (0.375), Northern Samar (0.367), Sarangani (0.365), Sulu (0.358), Masbate (0.357), and Eastern Samar (0.313). In 2015, the bottom provinces are Tawi-Tawi (0.471), Masbate (0.462), Zamboanga del Norte (0.459), Basilan (0.454), Bukidon (0.451), Siquijor (0.426), Sarangani (0.407), Maguindanao (0.377), Sulu (0.325), and Lanao del Sur (0.248).

Provinces in the second and third quartiles showed greater variability, so no clear pattern cannot be established. Almost half, 19 of the 40 provinces included in the second and third quartiles in 1997, changed quartiles at least three times between 1997 and 2015.

Some provinces in the second quartile in 1997 have moved to the top quartile in 2015. Such was the case for Aurora, Antique, and Ilocos Sur, whose 2015 HDI values are significantly higher than their HDIs in 1997. Cagayan, a second-quartile province in 1997, has also joined the first quartile as of 2015.

Biliran, which was included in the third quartile in 1997, made a similar upward movement.

Guimaras, a province in the fourth quartile in 1997, has also moved to the top quartile since 2012. This is due to improvements in all the component indicators of its HDI, its income index registering a very significant improvement over the period [**Table 2.1**]. Davao del Norte and Southern Leyte have also moved out of the bottom 20 provinces in 1997 to a quartile higher in 2015.

Some provinces in the second and third quartiles (even in the first quartile), however, have been relegated to lower quartiles despite improvements in their HDIs. Such was the case for Basilan, Sorsogon, Sultan Kudarat, Zamboanga del Norte, and Bukidnon. This is because their HDI improvements were modest as compared to those made by other provinces during the same period.

A simple ordinary least squares (OLS) regression was made to analyze the impact of the income component on the growth of HDI per quartile.[3] Relative to the third quartile, the impact of the growth in per capita income on the percentage change in HDI is greater for the lowest quartile and less for the highest quartile from 1997 to 2015. This suggests a path of convergence in human development associated with income growth.

Turning now to the components of the HDI, namely life expectancy, education, and income, the respective values of life expectancy index of the provinces generally exhibit very variable trends from 1997 to 2015 [**Figure 2.5**]. Some provinces show upward trajectories while others show downward trends.

Nine out of the 79 provinces recorded a decline in their life expectancy index from 2009 to 2015. These provinces are Bulacan (down 0.21 percent), Pampanga (0.24 percent), Ilocos Norte (0.25 percent), Batangas (0.32 percent), Bohol (0.33 percent), Sorsogon (0.55 percent) Camarines Sur (1.71 percent), Cebu (1.88 percent), and La Union (2.01 percent). The fact that this list includes some provinces with fairly high HDIs is a matter that deserves greater interest.

The top gainers in life expectancy index between 2009 and 2015, on the other hand, include some of those with the lowest initial starting points, such as Maguindanao (12.27 percent), Tawi-Tawi (11.95 percent), Sulu (10.48 percent), and Lanao del Sur (10.37 percent). Others are Ifugao (10.33 percent), Mt. Province (9.35 percent), Kalinga (8.66 percent), Apayao (7.38 percent), Agusan del Norte (7.36 percent), and Palawan (7.26 percent) [**Table 2.3**].

The performance across provinces of the education index shows improvements for most provinces, but with greater variability compared with the life expectancy index [**Figure 2.6**]. Few provinces fared poorly in 2015 compared to their 2009 levels.

The provinces that saw declines in their education indices over the period are Quirino (down 0.8 percent), Aklan (0.99 percent), Mt. Province (1.58 percent), Basilan (8.74 percent), and Batanes (26.32 percent) [**Table 2.4**].

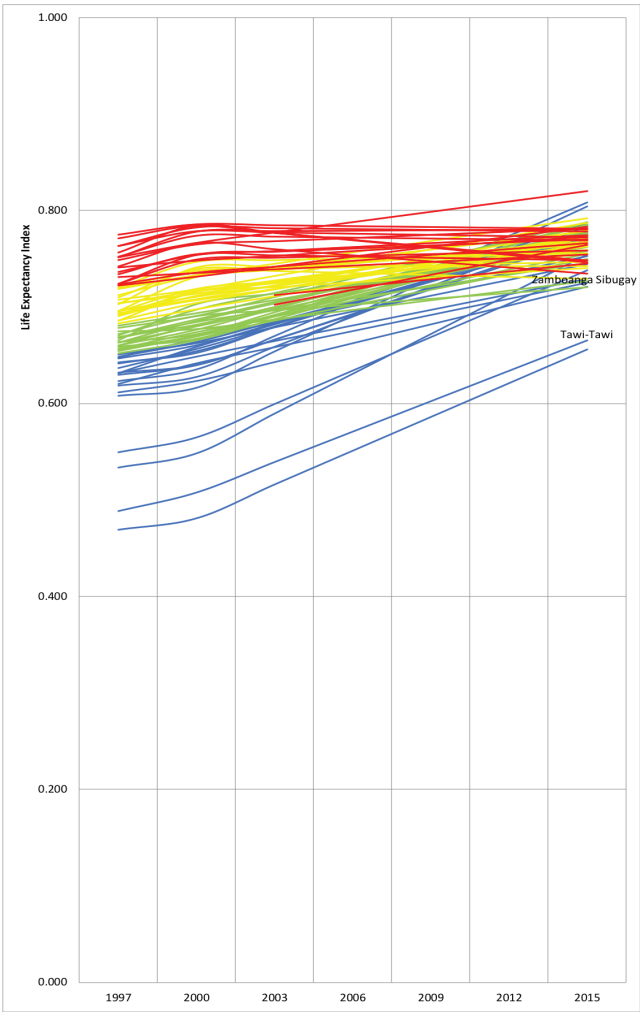


Figure 2.5 Life expectancy index by province (1997-2015)

Table 2.3 Gainers and losers in life expectancy index between 2009 and 2015

Province	2009	2015	Gap improvement (%)
Largest gainers			
Maguindanao	0.672	0.754	12.27
Tawi-Tawi	0.586	0.656	11.95
Sulu	0.602	0.666	10.48
Lanao del Sur	0.669	0.738	10.37
Ifugao	0.729	0.804	10.33
Mt. Province	0.739	0.808	9.35
Kalinga	0.721	0.783	8.66
Apayao	0.720	0.773	7.38
Agusan del Norte	0.733	0.787	7.36
Palawan	0.718	0.770	7.26
Largest losers			
Misamis Occidental	0.742	0.742	0.07
Bulacan	0.780	0.778	-0.21
Pampanga	0.783	0.781	-0.24
Ilocos Norte	0.771	0.769	-0.25
Batangas	0.775	0.772	-0.32
Bohol	0.751	0.749	-0.33
Sorsogon	0.733	0.729	-0.55
Camarines Sur	0.747	0.734	-1.71
Cebu	0.762	0.748	-1.88
La Union	0.762	0.746	-2.01

The drastic decrease in the education index for Batanes should be interpreted cautiously because only 57 observations were captured in the computation, giving the indicator a large margin of error.

At the other end of the performance scale, the top gainers are Sulu (28.56 percent), Guimaras (23.94 percent), Davao Oriental (16.4 percent), Camarines Norte (14.15 percent), Kalinga (13.82 percent), Zamboanga Sibugay (13.77 percent), Romblon (12.75 percent), Ifugao (12.2 percent), Biliran (12.04 percent), and Camarines Sur (11.26 percent). Note that Benguet obtained the highest possible education index of 1 in 2015. It was second to Batanes in the education index in 2009, and its index has seen a steady rise since 1997.

Figure 2.7, on the other hand, shows the trends across provinces of the income index. As compared to the first two component indices of the HDI, greater variability can be observed in the trajectory of the income index of Philippine provinces.

Fourteen provinces saw their income indices decline between 2009 and 2015. The largest drops were recorded in Lanao del Sur (down 76.16 percent), Catanduanes (52.03 percent), Siquijor (45.26 percent), Sulu (38.24 percent), Quirino (26.45 percent), North Cotabato (21.72 percent), Sorsogon (21.34 percent), Leyte (20.44 percent), Bukidnon (20.43 percent), and Maguindanao (19.08 percent). It is important to note that Sulu and Lanao del Sur have had very low per capita incomes since 1997, and both provinces continue to be mostly in the bottom quartile of income index distribution.

The largest gainers are Davao Oriental (240.21 percent), Aklan (122.99 percent), Palawan (120.65 percent),

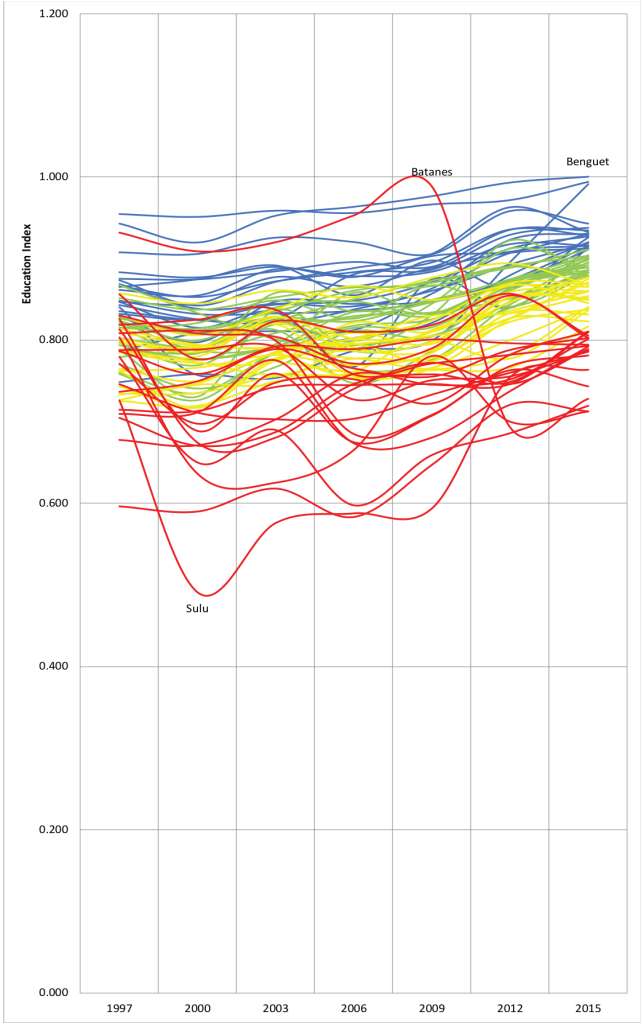


Figure 2.6 Education index by province (1997-2015)

Romblon (112.98 percent), Antique (99.8 percent), Guimaras (97.83 percent), Zamboanga del Norte (79.59 percent), Misamis Occidental (78.82 percent), Batanes (62.62 percent), and Surigao del Norte (61.19 percent). Most of the top performing provinces were part of the bottom two quartiles of income index distribution in 1997. Many of them have moved to higher quartiles (in some cases to the top quartile) in 2015. **Table 2.5** shows the gainers and losers by income index.

Finally, the trends of HDI and per capita income between 1997 and 2015 can be analyzed and compared. The data here provide a picture of trends of HDIs over almost two decades. Using Ranis et al. [2000] and the *PHDR 2012/2013* as reference, provinces can be classified into four types, depending on the relationship between their HDI growth and per capita income growth.

Table 2.4 Gainers and losers in education index between 2009 and 2015

Province	2009	2015	Gap improvement (%)
Largest gainers			
Sulu	0.594	0.763	28.56
Guimaras	0.800	0.991	23.94
Davao Oriental	0.681	0.792	16.40
Camarines Norte	0.776	0.886	14.15
Kalinga	0.787	0.895	13.82
Zamboanga Sibugay	0.765	0.871	13.77
Romblon	0.798	0.900	12.75
Ifugao	0.723	0.811	12.20
Biliran	0.821	0.920	12.04
Camarines Sur	0.804	0.895	11.26
Largest losers			
Lanao del Sur	0.772	0.789	2.15
Abra	0.849	0.866	1.89
Capiz	0.790	0.803	1.61
Lanao del Norte	0.867	0.879	1.40
Nueva Vizcaya	0.870	0.879	0.94
Quirino	0.801	0.794	-0.80
Aklan	0.876	0.868	-0.99
Mt. Province	0.818	0.805	-1.58
Basilan	0.781	0.713	-8.74
Batanes	0.988	0.728	-26.32

Provinces experiencing both HDI and income growth are said to benefit from a *virtuous cycle* of development, where income and human development reinforce each other. In contrast, provinces with declining human development coupled with a declining income are said to experience a *vicious cycle*. Provinces where there is evident growth in per capita income but poor HDI performance are categorized as having biased development in favor of income growth or *income-biased*. Provinces where there is HDI improvement but decreasing per capita income have a biased progress in favor of human development or *HD-biased*.

Figure 2.8 plots the provinces' growth in income and human development, and a quadrant can be drawn where the national average per capita income growth (8.3 percent) and HDI growth (10 percent) were set as the origin.

Table 2.5 Gainers and losers in income index between 2009 and 2015

Province	2009	2015	Gap improvement (%)
Largest gainers			
Davao Oriental	0.357	0.576	240.21
Aklan	0.493	0.651	122.99
Palawan	0.497	0.671	120.65
Romblon	0.463	0.627	112.98
Antique	0.524	0.689	99.80
Guimaras	0.503	0.688	97.83
Zamboanga del Norte	0.374	0.484	79.59
Misamis Occidental	0.500	0.637	78.82
Batanes	0.683	0.731	62.62
Surigao del Norte	0.469	0.566	61.19
Largest losers			
Maguindanao	0.122	0.098	-19.08
Bukidnon	0.192	0.153	-20.43
Leyte	0.353	0.281	-20.44
Sorsogon	0.230	0.181	-21.34
North Cotabato	0.235	0.184	-21.72
Quirino	0.401	0.295	-26.45
Sulu	0.110	0.068	-38.24
Siquijor	0.202	0.110	-45.26
Catanduanes	0.525	0.252	-52.03
Lanao del Sur	0.110	0.026	-76.16

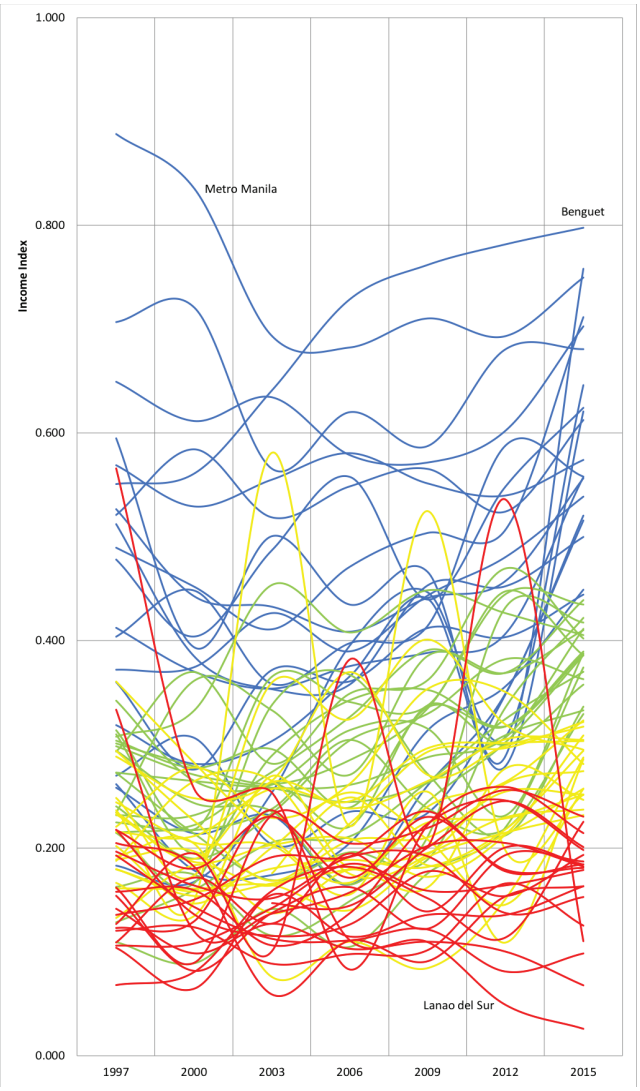


Figure 2.7 Income index by province (1997-2015)

Table 2.6 shows the list of provinces in each type of improvement. Over the 18-year period, 64 provinces experienced a virtuous cycle of development while only nine provinces underwent a vicious cycle. Five provinces experienced HD-biased growth while no province showed income-biased growth. The latter is consistent with the national-level observation that the gap between the Philippines and its neighbors is wider in terms of income per capita than in terms of health and education indicators (although the gap in the latter two has recently widened as well).

The 18-year period can also be split into three medium-term periods of six years: 1997-2003, 2003-2009, and 2009-2015. The first two periods were analyzed from the previous *PHDR* by Durano [2012]. **Table 2.6** also lists provinces by the type of development for each period.

Seventeen provinces—Agusan del Norte, Albay, Benguet, Bohol, Cagayan, Camarines Sur, Cebu, La Union, Mt. Province, Negros Occidental, Northern Samar, Occidental Mindoro, Romblon, South Cotabato, Southern Leyte, Surigao del Norte, and Biliran—have remained within the virtuous cycle of development for all three periods. Only Sulu has stayed within the vicious cycle throughout these periods. No province has been in the HD-biased or income-biased quadrant for all three periods.

There are provinces that experienced fluctuations in their performance across the three medium-term periods. Agusan del Sur and Laguna have gone from an HD-biased to a vicious-virtuous type of improvement

Table 2.6 List of provinces by type of improvement (1997-2015, 1997-2003, 2003-2009, 2009-2015)

Province	1997-2015	1997-2003	2003-2009	2009-2015
Abra	Virtuous	Virtuous	Vicious	Virtuous
Agusan del Norte	Virtuous	Virtuous	Virtuous	Virtuous
Agusan del Sur	Virtuous	HD-biased	Vicious	Virtuous
Aklan	Virtuous	Vicious	Virtuous	Virtuous
Albay	Virtuous	Virtuous	Virtuous	Virtuous
Antique	Virtuous	Vicious	Virtuous	Virtuous
Apayao	Virtuous	Vicious	Virtuous	Virtuous
Aurora	Virtuous	Vicious	Virtuous	Virtuous
Basilan	Vicious	Vicious	Virtuous	Vicious
Bataan	Virtuous	Vicious	Virtuous	Virtuous
Batanes	Virtuous	Vicious	HD-biased	Virtuous
Batangas	Virtuous	Vicious	Virtuous	Virtuous
Benguet	Virtuous	Virtuous	Virtuous	Virtuous
Biliran	Virtuous	Virtuous	Virtuous	Virtuous
Bohol	Virtuous	Virtuous	Virtuous	Virtuous
Bukidnon	Vicious	Vicious	Virtuous	Vicious
Bulacan	Virtuous	HD-biased	Virtuous	Virtuous
Cagayan	Virtuous	Virtuous	Virtuous	Virtuous
Camarines Norte	Virtuous	HD-biased	Virtuous	Virtuous
Camarines Sur	Virtuous	Virtuous	Virtuous	Virtuous
Camiguin	Virtuous	Virtuous	Vicious	Virtuous
Capiz	Virtuous	Vicious	Virtuous	Virtuous
Catanduanes	Virtuous	Virtuous	Vicious	Vicious
Cavite	Virtuous	HD-biased	HD-biased	Virtuous
Cebu	Virtuous	Virtuous	Virtuous	Virtuous
Compostela Valley	NA	NA	Virtuous	Virtuous
Davao del Norte	Virtuous	Virtuous	Vicious	Virtuous
Davao del Sur	Virtuous	Vicious	Virtuous	Virtuous
Davao Oriental	Virtuous	Vicious	PCI-biased	Virtuous
Eastern Samar	Virtuous	Virtuous	HD-biased	Virtuous
Guimaras	Virtuous	Vicious	Virtuous	Virtuous
Ifugao	Virtuous	Virtuous	HD-biased	Virtuous
Ilocos Norte	Virtuous	Vicious	Virtuous	Virtuous
Ilocos Sur	Virtuous	Vicious	Virtuous	Virtuous
Iloilo	Virtuous	Vicious	Virtuous	Virtuous
Isabela	Virtuous	HD-biased	Virtuous	Virtuous
Kalinga	Virtuous	Vicious	Virtuous	Virtuous
La Union	Virtuous	Virtuous	Virtuous	Virtuous
Laguna	Virtuous	HD-biased	Vicious	Virtuous
Lanao del Norte	Virtuous	HD-biased	Virtuous	Virtuous
Lanao del Sur	Vicious	Virtuous	Vicious	Vicious
Leyte	Virtuous	Virtuous	Virtuous	Vicious
Maguindanao	Vicious	Vicious	Virtuous	Vicious
Marinduque	Virtuous	Vicious	Virtuous	Virtuous
Masbate	Virtuous	Virtuous	Vicious	Virtuous
Metro Manila	Vicious	Vicious	Virtuous	Virtuous
Misamis Occidental	Virtuous	Vicious	Vicious	Virtuous
Misamis Oriental	HD-biased	Vicious	Virtuous	Virtuous
Mt. Province	Virtuous	Virtuous	Virtuous	Virtuous
Negros Occidental	Virtuous	Virtuous	Virtuous	Virtuous
Negros Oriental	Virtuous	Vicious	Virtuous	Vicious
North Cotabato	Virtuous	Virtuous	Virtuous	Vicious
Northern Samar	Virtuous	Virtuous	Virtuous	Virtuous
Nueva Ecija	Virtuous	Vicious	Virtuous	Virtuous
Nueva Vizcaya	Virtuous	Virtuous	HD-biased	Vicious
Occidental Mindoro	Virtuous	Virtuous	Virtuous	Virtuous
Oriental Mindoro	Virtuous	Vicious	Virtuous	Virtuous
Palawan	Virtuous	Vicious	Virtuous	Virtuous
Pampanga	Virtuous	Virtuous	Vicious	Virtuous
Pangasinan	Virtuous	Vicious	Virtuous	Virtuous
Quezon	HD-biased	Vicious	Virtuous	Virtuous
Quirino	Virtuous	Virtuous	Virtuous	Vicious
Rizal	HD-biased	Vicious	Virtuous	Virtuous
Romblon	Virtuous	Virtuous	Virtuous	Virtuous
Sarangani	Virtuous	Vicious	Virtuous	Virtuous
Siquijor	HD-biased	Vicious	Virtuous	Vicious
Sorsogon	Vicious	Virtuous	HD-biased	Vicious
South Cotabato	Virtuous	Virtuous	Virtuous	Virtuous
Southern Leyte	Virtuous	Virtuous	Virtuous	Virtuous
Sultan Kudarat	HD-biased	Vicious	Virtuous	Virtuous
Sulu	Vicious	Vicious	Vicious	Vicious
Surigao del Norte	Virtuous	Virtuous	Virtuous	Virtuous
Surigao del Sur	Virtuous	Vicious	Virtuous	Virtuous
Tarlac	Virtuous	Virtuous	Vicious	Virtuous
Tawi-Tawi	Vicious	Vicious	Vicious	HD-biased
Western Samar	Virtuous	HD-biased	Virtuous	Virtuous
Zambales	Virtuous	Vicious	Virtuous	Virtuous
Zamboanga del Norte	Vicious	Vicious	Virtuous	Virtuous
Zamboanga del Sur	Virtuous	HD-biased	Virtuous	Virtuous
Zamboanga Sibugay	NA	NA	Virtuous	Virtuous

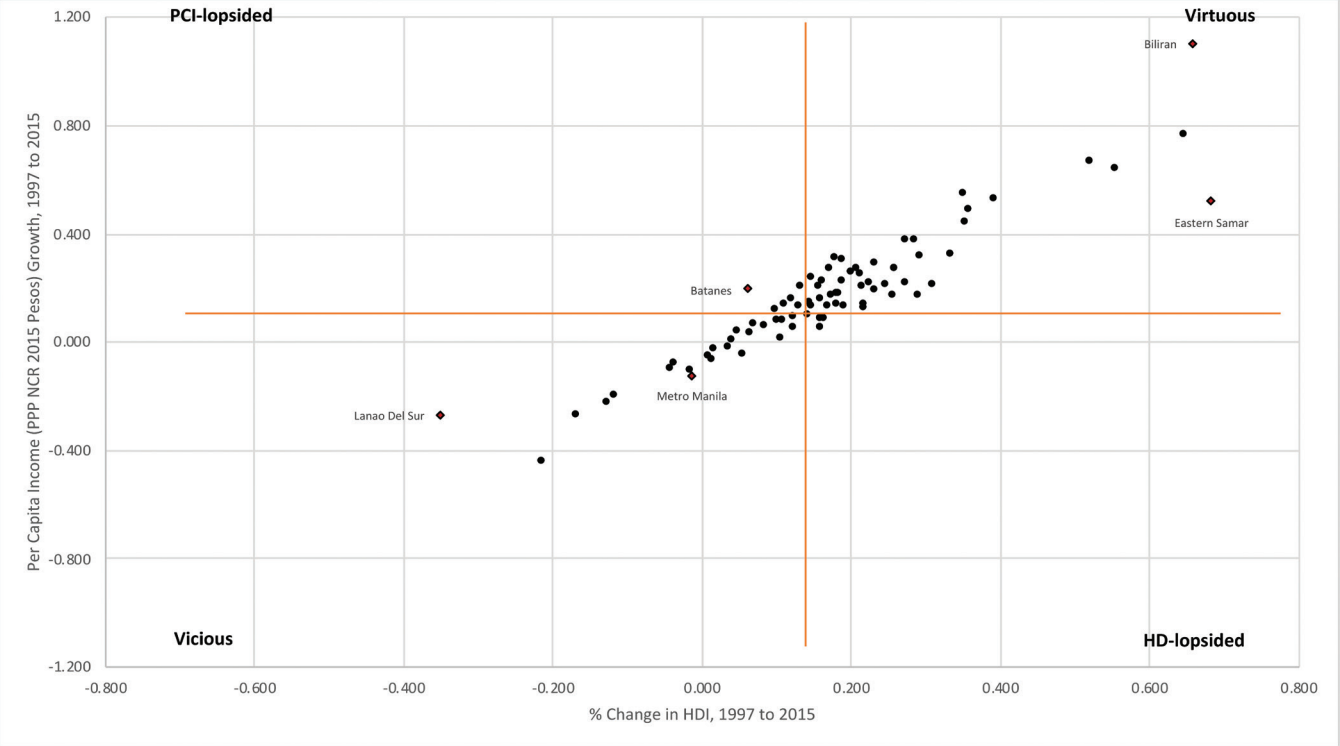


Figure 2.8 Provinces by type of improvement between 1997 and 2015

while seven provinces—Bulacan, Camarines Norte, Isabela, Lanao del Norte, Western Samar, and Zamboanga del Sur—have undergone an HD-biased (first period) to a virtuous (second and third period) movement.

Batanes has experienced a vicious-HD biased-virtuous movement while Eastern Samar and Ifugao have undergone a virtuous-HD biased-virtuous movement. On the other hand, Nueva Vizcaya and Sorsogon have gradually suffered, moving from virtuous to HD-biased to a vicious type of development. Only Davao Oriental has undergone a vicious-income biased-virtuous type of development while Tawi-Tawi has gone up from vicious (first and second period) to an HD-biased type of development.

Five provinces—Siquijor, Negros Oriental, Maguindanao, Bukidnon, and Basilan—have experienced a vicious-virtuous-vicious type of development for the three periods while six provinces—Abra, Camiguin, Davao del Norte, Masbate, Pampanga, and Tarlac—have undergone the opposite (virtuous-vicious-virtuous).

Only two provinces (Lanao del Sur and Catanduanes) have fallen from virtuous (first period) and stayed in vicious cycles of improvement (second and third period).

At the level of countries, moving from vicious to virtuous cycles is thought to be extremely rare and difficult. Yet the data in this study show 28 provinces shifting from vicious cycles in the first period to virtuous cycles of development for the second and or third periods. Their achievement must be credited, for they were able to sustain progressive development despite adverse initial conditions.

Notwithstanding the large number of provinces demonstrating virtuous progress, however, important questions remain. The most important is whether and how these growth paths can be sustained. How does a province attain a virtuous cycle of development? What factors were responsible? How does income alone affect other human development outcomes? Beyond directions of change, what is the size of improvement attained in income and non-income dimensions, and how does each condition the other? Clearly, a more disaggregated and deeper approach is needed for these questions to be answered.

This also means the episodes of falling off (from virtuous to vicious cycles), as well as ascending (from vicious to virtuous cycles), deserve the most attention. The exact mix of local and national interventions and initiatives will obviously vary. One possibility that explains a greater incidence of virtuous progress at subnational lev-

els is that, unlike self-contained countries, citizens and local governments can tap national resources or exploit geographic mobility to overcome local barriers to human development. Whether and how this potential is tapped ultimately depends on the aims and character of local governance and policies.

HD-biased episodes are also worthy of attention. HD-biased growth may be due to the lack of complementary public investments that help unlock the income potential otherwise implied by improving levels of health and education [Ranis et al. 2000]. Such episodes are, therefore, likely to be transient and may be changed through a shift in policy.

Again, such shifts are even more likely to occur at subnational levels where geographic mobility of people (e.g., internal migration) and nationwide policies and resources provide opportunities to escape or modulate the effects of inadequate local environments. This hypothesis is partly borne out in that no province has stayed in the HD-biased mode for more than one episode. Most typically transit into virtuous cycles.

In short, more than snapshots of the status of provinces, it is the development dynamics or the mobility of provinces that should command the attention of social scientists and policy makers alike.

Provincial GDIs mirror provincial HDI performance

THE gender-related development index or GDI is designed to account for gender-based differences in human development. The GDI has the same components as the HDI, but the component indices use different achievements between males and females to adjust for inequality. The GDI measures achievements for males and females as well as the disparity in achievements between the two. The greater the differences in achievements between males and females, the lower the GDI will be. In the presence of gender-based inequalities, the HDI values go down to the GDI levels. In other words, the HDI value is discounted due to gender-based inequalities.

Figure 2.9 shows the comparison between the provincial HDI levels and the provincial GDI levels for 2015. HDIs and GDIs vary across provinces, with most provinces having higher GDIs than their HDIs. This healthy development, which should be credited, occurs because female achievements in some or all components are higher than those of males.

Table 2.7 Gainers and losers in GDI between 2009 and 2015 (in percent)

Province	Equally distributed life expectancy index	Equally distributed education index	Equally distributed income index	GDI
Largest gainers and comparative gap improvements				
Davao Oriental	2.30	15.91	60.12	23.83
Antique	6.81	8.97	55.84	21.95
Palawan	7.26	9.01	47.77	20.00
Romblon	4.48	13.07	35.67	17.03
Oriental Mindoro	4.91	8.00	28.58	13.36
Surigao del Norte	2.77	7.82	26.10	11.80
Pampanga	-0.24	6.68	29.21	11.20
Aklan	5.77	-1.15	28.55	10.36
Davao del Sur	1.60	6.62	23.68	10.24
Biliran	5.66	7.99	15.21	9.55
Largest losers and comparative gap improvements				
Negros Oriental	3.64	6.90	-8.45	0.48
Bukidnon	1.35	7.97	-7.74	0.32
Leyte	3.12	7.57	-11.13	-0.48
Sultan Kudarat	5.83	2.81	-9.94	-0.67
North Cotabato	2.75	4.69	-12.12	-1.86
Sorsogon	-0.55	4.23	-12.44	-3.18
Basilan	5.73	-8.67	-8.63	-4.09
Quirino	5.07	-2.03	-19.96	-6.25
Lanao del Sur	10.36	2.20	-30.84	-7.95
Catanduanes	3.41	6.36	-29.55	-8.15

But how is GDI changing?

Figure 2.10 depicts the trend of the provincial GDI estimates from 1997 to 2015. The provinces with the biggest losses between these two years are Leyte (down 0.48 percent), Sultan Kudarat (0.67 percent), North Cotabato (1.86 percent), Sorsogon (3.18 percent), Basilan (4.09 percent), Quirino (6.25 percent), Lanao del Sur (7.95 per-

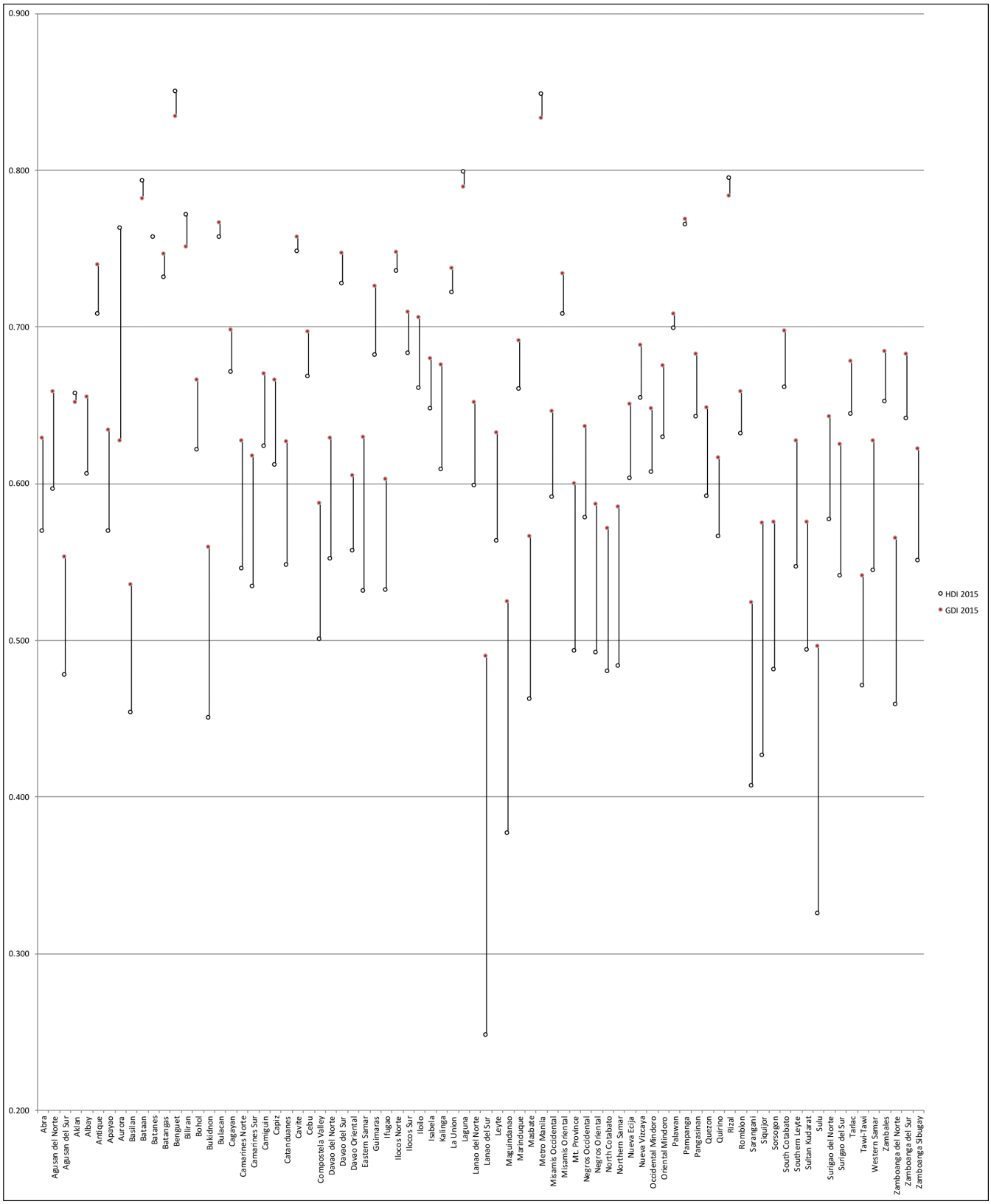


Figure 2.9 HDI and GDI by province (2015)

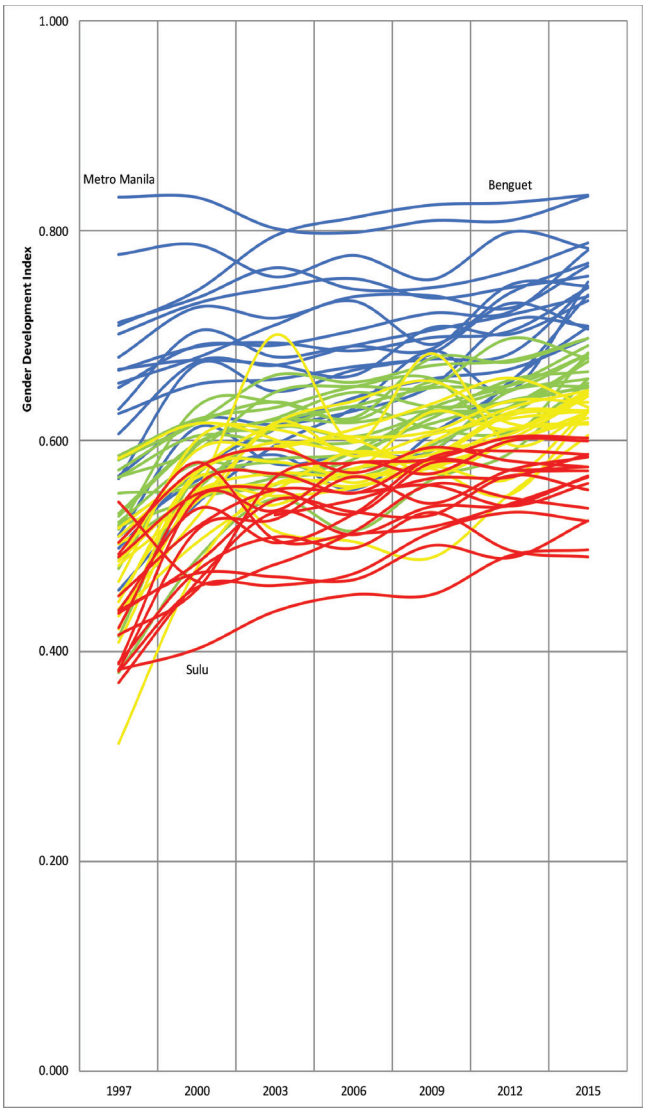


Figure 2.10 Gender development index by province (1997-2015)

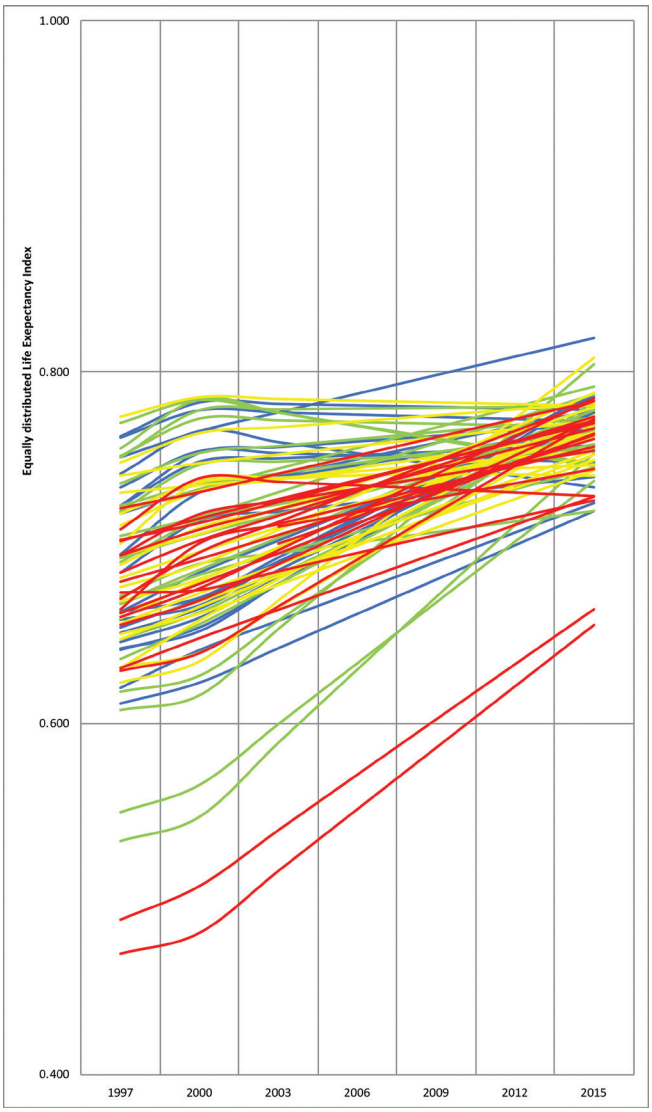


Figure 2.11 Equally distributed life expectancy index (1997-2015)

cent), and Catanduanes (8.15 percent). [**Table 2.7**]. These declines are due to the decrease of the index for equally distributed income. The provinces with the least improvement in GDI are Negros Oriental (0.48 percent) and Bukidnon (0.32 percent).

On the other hand, positive developments between 2009 and 2015 are evident from Davao Oriental that increased its GDI by 23.83 percent. This is followed by Antique (21.95 percent), Palawan (20 percent), Romblon (17.03 percent), Oriental Mindoro (13.36 percent), Surigao del Norte (11.8 percent), Pampanga (11.2 percent), Aklan (10.36 percent), Davao del Sur (10.24 percent), and Biliran (9.55 percent). Again, the improvements are due largely to large increases (more than 15 percent) in the equally distributed income index.

Looking at the performance of the provinces for each component of the GDI can also be instructive [**Table 2.8**]. For life expectancy, the trend is one of convergence from 1997 to 2015 [**Figure 2.11**].

Provinces with the biggest improvement in their equally distributed life expectancy index between 2009 and 2015 are Maguindanao (12.17 percent), Tawi-Tawi (11.92 percent), Sulu (10.44 percent), Lanao del Sur (10.36 percent), Ifugao (10.33 percent), Mt. Province (9.36 percent), Kalinga (8.66 percent), Apayao (7.39 percent), Agusan del Norte (7.37 percent), and Palawan

Table 2.8 Gainers and losers in equally distributed life expectancy index between 2009 and 2015

Province	2009	2015	Gap improvement (%)
Largest gainers			
Maguindanao	0.672	0.754	12.17
Tawi-Tawi	0.586	0.656	11.92
Sulu	0.602	0.665	10.44
Lanao del Sur	0.669	0.738	10.36
Ifugao	0.729	0.804	10.33
Mt. Province	0.739	0.808	9.36
Kalinga	0.721	0.783	8.66
Apayao	0.720	0.773	7.39
Agusan del Norte	0.733	0.787	7.37
Palawan	0.718	0.770	7.26
Largest losers			
Misamis Occidental	0.742	0.741	-0.11
Bulacan	0.780	0.778	-0.22
Pampanga	0.783	0.781	-0.24
Ilocos Norte	0.771	0.769	-0.25
Batangas	0.775	0.772	-0.32
Bohol	0.751	0.748	-0.36
Sorsogon	0.733	0.729	-0.55
Camarines Sur	0.747	0.734	-1.74
Cebu	0.762	0.748	-1.89
La Union	0.762	0.746	-2.00

Table 2.9 Gainers and losers in equally distributed education index between 2009 and 2015

Province	2009	2015	Gap improvement (%)
Largest gainers			
Sulu	0.581	0.746	28.35
Davao Oriental	0.668	0.774	15.91
Kalinga	0.770	0.879	14.19
Zamboanga Sibugay	0.750	0.850	13.24
Camarines Norte	0.765	0.867	13.23
Romblon	0.784	0.886	13.07
Ifugao	0.705	0.790	12.11
Camarines Sur	0.787	0.876	11.36
Occidental Mindoro	0.745	0.824	10.59
Sarangani	0.632	0.698	10.58
Largest losers			
Sultan Kudarat	0.757	0.778	2.81
Bataan	0.871	0.891	2.31
Lanao del Sur	0.756	0.772	2.20
Benguet	0.957	0.977	2.12
Abra	0.831	0.844	1.55
Lanao del Norte	0.849	0.858	1.09
Aklan	0.859	0.849	-1.15
Mt. Province	0.801	0.791	-1.28
Quirino	0.794	0.778	-2.03
Basilan	0.764	0.698	-8.67

(7.26 percent).

On the other hand, those with the largest losses in their equally distributed life expectancy index are Misamis Occidental (down 0.11 percent), Bulacan (0.22 percent), Pampanga (0.24 percent), Ilocos Norte (0.25 percent), Batangas (0.32 percent), Bohol (0.36 percent), Sorsogon (0.55 percent), Camarines Sur (1.74 percent), Cebu (1.89 percent), and La Union (2 percent).

In education, only four provinces experienced a drop in their equally distributed education index [**Figure 2.12 and Table 2.9**]. The declines came from Aklan (down 1.15 percent), Mt. Province (1.28 percent), Quirino (2.03 percent), and Basilan (8.67 percent).

The largest improvements in the equally distributed education index between 2009 and 2015 were observed in Sulu (28.35 percent), Davao Oriental (15.91 percent), Kalinga (14.19 percent), Zamboanga Sibugay (13.24 percent), Camarines Norte (13.23 percent), Romblon (13.07 percent), Ifugao (12.11 percent), Camarines Sur (11.36 percent), Occidental Mindoro (10.59 percent), and Sarangani (10.58 percent).

With regard to the standard of living, 21 provinces experienced a decline in their equally distributed income index [**Figure 2.13 and Table 2.10**]. The biggest declines came from Nueva Vizcaya (down 10 percent), Ifugao (10.39 percent), Leyte (11.13 percent),

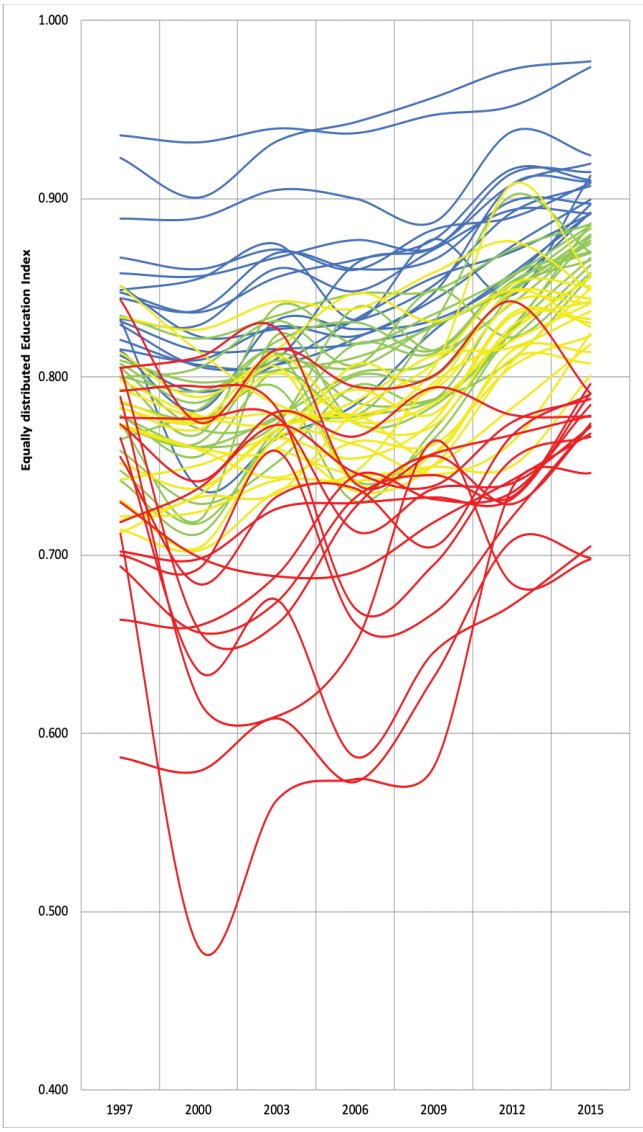


Figure 2.12 Equally distributed education index (1997-2015)

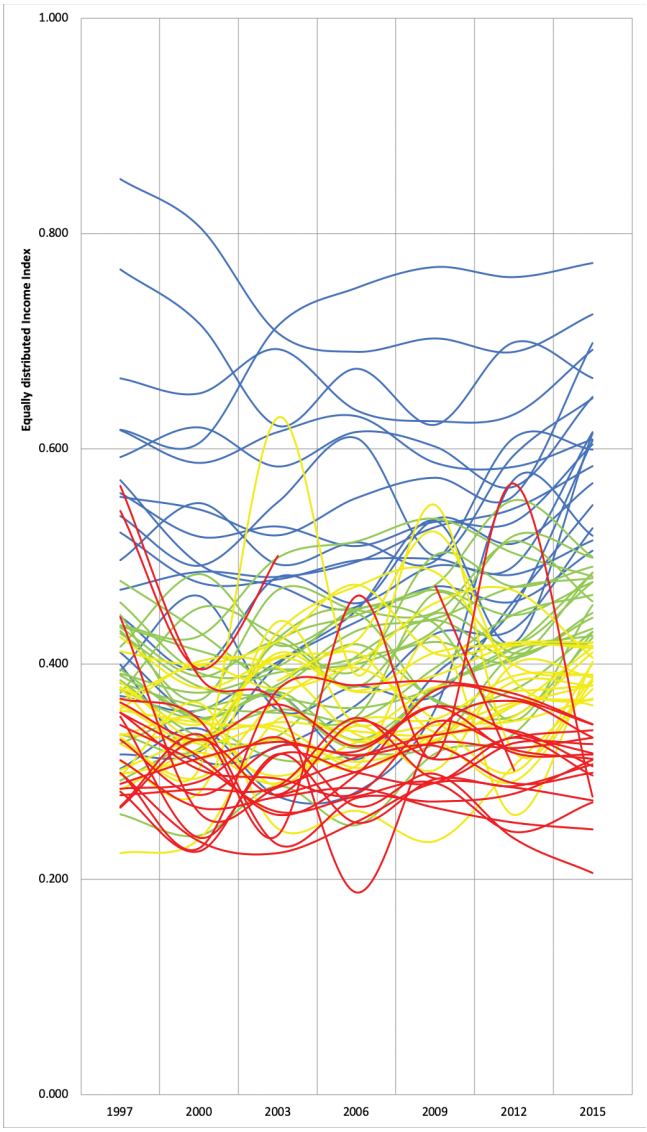


Figure 2.13 Equally distributed income index (1997-2015)

Siquijor (11.73 percent), North Cotabato (12.12 percent), Sorsogon (12.44 percent), Quirino (19.96 percent), Catanduanes (29.55 percent), Aurora (30.84 percent), and Lanao del Sur (30.84 percent).

Provinces with the highest improvements in the equally distributed income index between 2009 and 2015 are Davao Oriental (60.12 percent), Antique (55.84 percent), Palawan (47.77 percent), Guimaras (45.18 percent), Romblon (35.67 percent), Pampanga (29.21 percent), Oriental Mindoro (28.58 percent), Aklan (28.55 percent), Surigao del Sur (28.5 percent), and Surigao del Norte (26.1 percent).

Overall, provincial GDI estimates have tended to run parallel with the provincial HDI estimates, with a correlation of 0.9642.

Significant losses to HDI due to inequality

BECAUSE the HDI is an average value for a given population, it may mask unevenness in access or achievement across groups within that population. The Inequality-adjusted HDI (IHDI) is computed precisely to capture the uneven distribution of human development within provinces. The IHDI has the same components as the HDI, but these components are adjusted to reflect inequalities in

Table 2.10 Gainers and losers in equally distributed income index between 2009 and 2015

Province	2009	2015	Gap improvement (%)
Largest gainers			
Davao Oriental	0.235	0.377	60.12
Antique	0.390	0.607	55.84
Palawan	0.371	0.547	47.77
Guimaras	0.358	0.519	45.18
Romblon	0.317	0.430	35.67
Pampanga	0.501	0.647	29.21
Oriental Mindoro	0.377	0.484	28.58
Aklan	0.327	0.420	28.55
Surigao del Sur	0.301	0.387	28.50
Surigao del Norte	0.330	0.416	26.10
Largest losers			
Nueva Vizcaya	0.535	0.481	-10.00
Ifugao	0.384	0.344	-10.39
Leyte	0.457	0.406	-11.13
Siquijor	0.313	0.277	-11.73
North Cotabato	0.360	0.317	-12.12
Sorsogon	0.361	0.316	-12.44
Quirino	0.486	0.389	-19.96
Catanduanes	0.547	0.386	-29.55
Aurora	0.523	0.362	-30.84
Lanao del Sur	0.298	0.206	-30.84

Table 2.11 Top 10 provinces with the largest losses to HDI due to inequality

Province	HDI 2015	IHDI 2015	Overall loss (%)
Antique	0.708	0.540	23.69
Aurora	0.763	0.583	23.59
Occidental Mindoro	0.607	0.470	22.54
Biliran	0.772	0.601	22.08
Lanao del Norte	0.599	0.471	21.30
Batanes	0.758	0.600	20.76
Sultan Kudarat	0.494	0.393	20.34
Romblon	0.632	0.505	20.12
Western Samar	0.545	0.437	19.83
Camiguin	0.624	0.504	19.27

Table 2.12 Top 10 provinces with the least losses to HDI due to inequality

Province	HDI 2015	IHDI 2015	Overall loss (%)
Ilocos Norte	0.735	0.630	14.36
Nueva Ecija	0.603	0.517	14.28
Zambales	0.652	0.560	14.09
Bulacan	0.757	0.652	13.95
Guimaras	0.682	0.587	13.93
Cavite	0.748	0.645	13.73
Pampanga	0.765	0.662	13.45
Tawi-Tawi	0.471	0.409	13.13
Sulu	0.325	0.283	13.03
Compostela Valley	0.501	0.436	12.95

human development. The IHDI of a province becomes lower than its standard HDI when a proportion of the population has yet to attain the average HDI value.

Provincial IHDIs have been estimated since the last report. **Figure 2.14** shows the comparison of the HDIs and IHDIs of each province using the latest data for 2015. As expected, IHDIs are invariably lower than HDIs because inequality in ubiquitous. What really matters is how great the inequality is for each province, which is reflected in the size of the difference between HDI and IHDI.

The 10 provinces with the largest losses in their HDI values when adjusted for inequality are Antique (23.69 percent), Aurora (23.59 percent), Occidental Mindoro

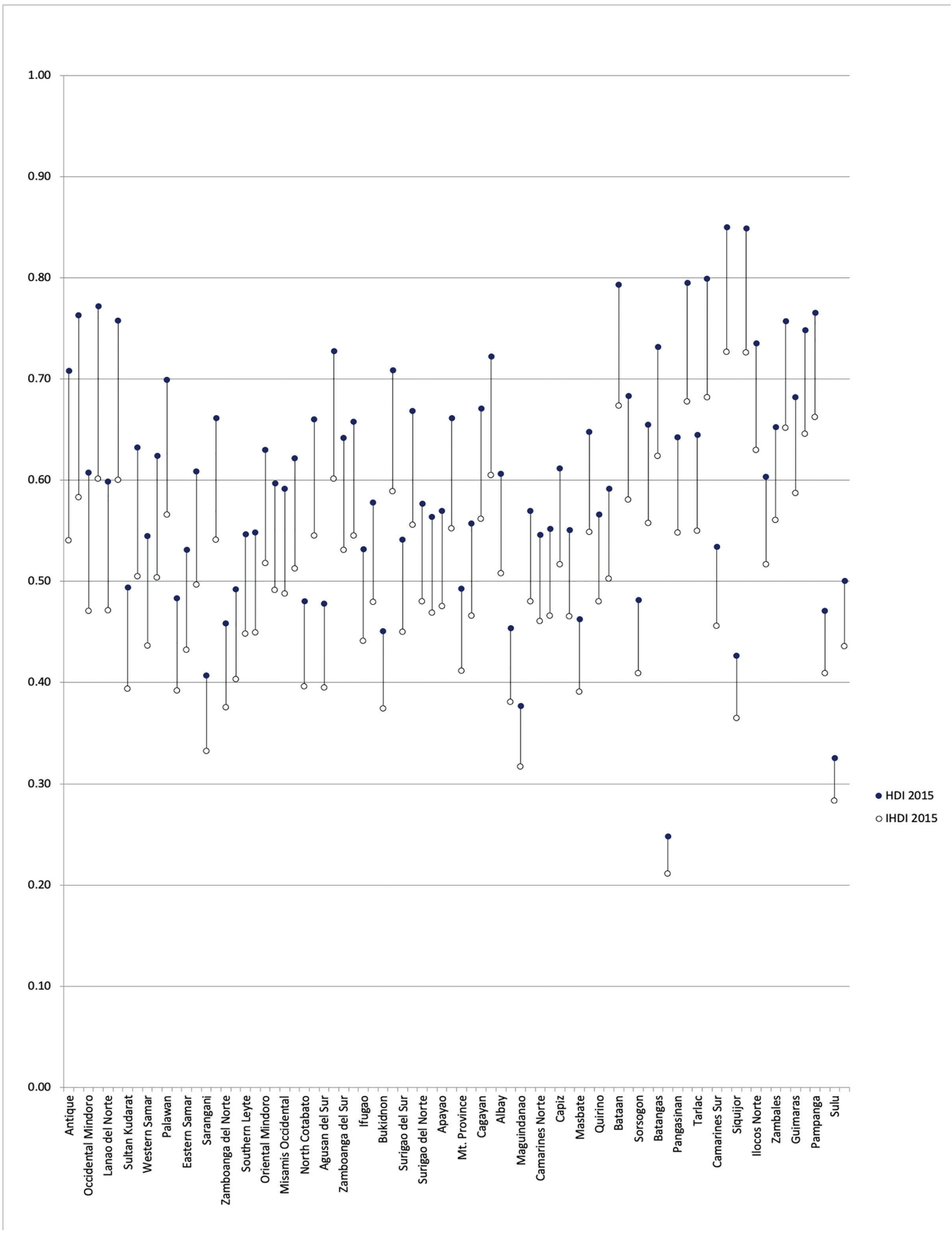


Figure 2.14 **HDI and Inequality-adjusted Human Development Index (2015)**

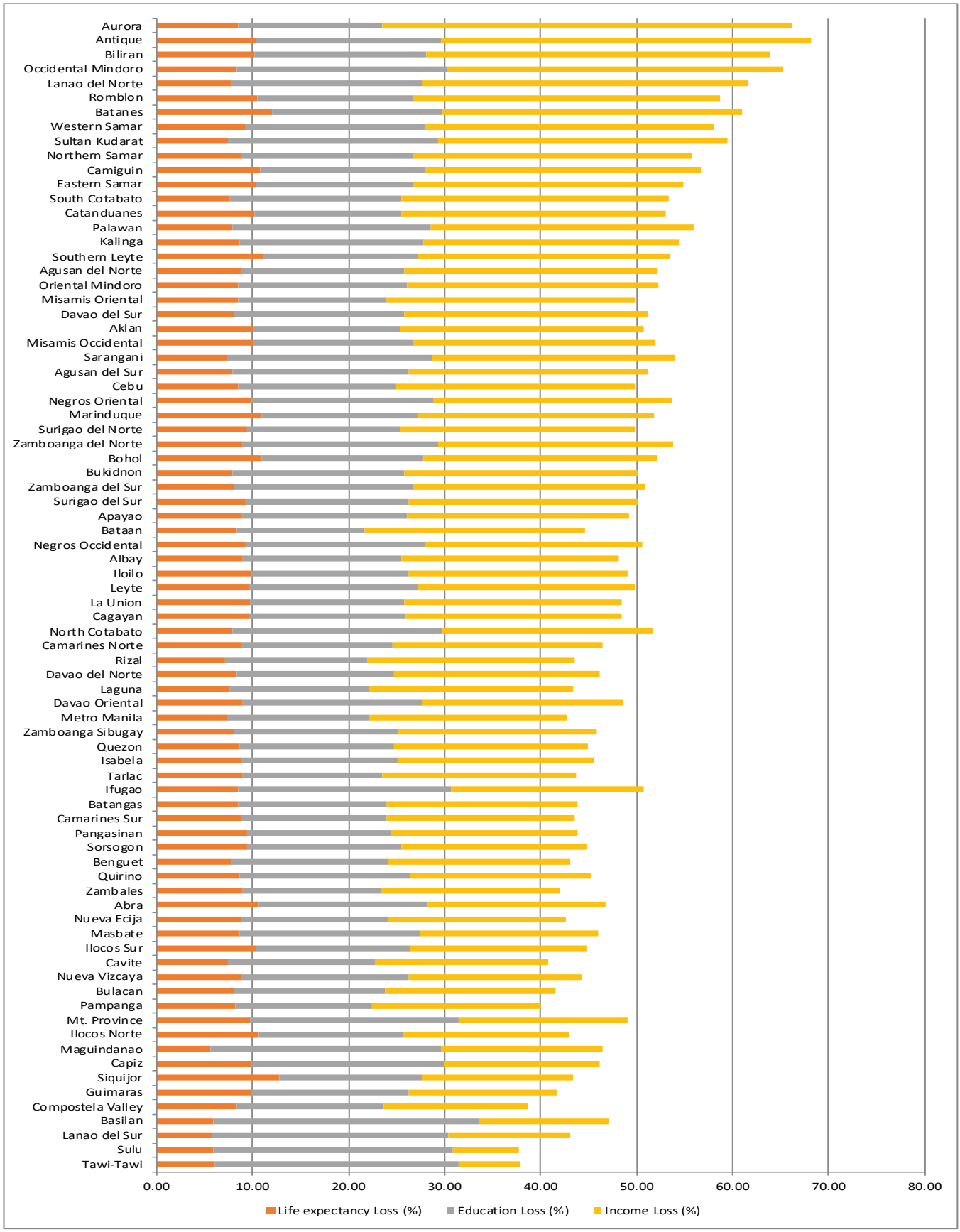


Figure 2.15 Losses in life expectancy, education, and income due to inequality by province (2015)

(22.54 percent), Biliran (22.08 percent), Lanao del Norte (21.3 percent), Batanes (20.76 percent), Sultan Kudarat (20.34 percent), Romblon (20.12 percent), Western Samar (19.83 percent), and Camiguin (19.27 percent) [**Table 2.11**].

On the other hand, the 10 with the smallest losses are Ilocos Norte (14.36 percent), Nueva Ecija (14.28 percent), Zambales (14.09 percent), Bulacan (13.95 percent), Guimaras (13.93 percent), Cavite (13.73 percent), Pampanga (13.45 percent), Tawi-Tawi (13.13 percent), Sulu (13.03 percent), and Compostela Valley (12.95 percent) [**Table 2.12**]. It can roughly be said that the latter group shows comparatively less inequality than the former.

Finally, **Figure 2.15** is a stacked bar graph of the absolute values of the losses in life expectancy, education, and income due to inequality. Provinces are ordered first by the loss due to income inequality, followed by education inequality, and finally by life expectancy inequality.

While the inequality loss in many provinces is due mainly to unequal incomes, 11 of them have lower inequalities in income than in education. These are Tawi-Tawi, Sulu, Basilan, Lanao del Sur, Maguindanao, Mt. Province, Capiz, Ifugao, Guimaras, Masbate, and Compostela Valley. The predominance in this list of provinces in the bottom quartile (Guimaras being the exception) lends itself to the more negative interpretation in which a general lack of earning opportunities prevents inequalities in education from manifesting themselves in income inequalities.

As with previous reports, the current one offers data that allow one to raise deeper and more detailed questions regarding the process of human development, questions that should be of inherent interest to both policymakers and scholars. This Report has been particularly concerned not merely to present the state of human development among the various provinces but also trace their *movement* or *progress* over a significant period of time. This hopefully brings us a step beyond the beauty contest of seeing not only that some areas fare better than others, but also helps us begin to understand how and why they do.

In the process, one learns there is no royal road to progress. While it is well known that growth in incomes per capita is both a condition and is conditioned by improvements in health and education, people and their leaders do confront different obstacles, hold different mindsets at various times, and, therefore, take differing decisions and development paths—not all of them beneficial for their citizens.

The hope held out by data from this Report, however, is that change and movement—for the better or for the worse—are always possible. Even mistakes can be repaired. That some improvement has come through time even for the poorest and least developed areas demonstrates that the level of human development of a community, a province, or a nation is not destiny but rather a challenge to its people and their leaders.

Endnotes

[1] Non-income HDI for each province is determined by computing the geometric mean of the life expectancy index and the education index.

[2] There are provinces with small sample sizes, making some of the estimates less reliable. This is further discussed in the Technical Notes.

[3] Quartiles are based on the provinces' HDI in 1997.

Calculating the HDI

THE Human Development Index (HDI) is an overall measure of human development. It measures the average achievement in a country in three basic dimensions of human development: longevity or a long healthy life, access to knowledge or education, and a decent standard of living or high levels of income. These dimensions are measured by a set of indicators which are then aggregated into indices.

After several refinements, the methodology to compute the HDI has gone through (this was discussed from the previous report), HDI has been included as an official statistic by the Philippine Statistics Authority (PSA Board Resolution No 01, Series of 2017 – 99).

Data Sources

Indicators for each of the dimension came from the available secondary data collected government and statistical agencies [**Table 1**]. These data can be disaggregated at the provincial level.

Creating dimension Indices

Before computing the actual HDI itself, a performance index needs to be created first for each of the three dimensions. To calculate these dimension indices, the minimum and maximum values (called goalposts) are chosen for each underlying indicator. The index for each dimension is then expressed as a value between 0 and 1 by applying the general formula:

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

The goalposts used are obtained from the Global 2015 HDR, except for the following: the maximum for the mean years of schooling, expected years of schooling, and combined education index and the maximum and minimum for the per capita income for interprovince comparison. For the education component and index, the actual maximum value observed from 1997 to 2015 is used. For the latter, the minimum is set at 90 percent of the actual minimum value observed while the maximum is set at 110 percent of the actual maximum value observed. This is to avoid undefined estimates when the general formula is applied. The goalposts used in this report are shown as follows:

Table 1. HDI data sources

Dimension	Indicator	Source
Longevity	Life expectancy at birth	Philippine Statistics Authority (2010 Life Tables) Cabigon (2000 Life Tables)
Knowledge	Mean years of schooling Expected years of schooling	Labor Force Survey, NSO Annual Poverty Indicators Survey, NSO
Standard of living	Per capita income • For local adjustment F• or international adjustment	Family Income and Expenditures Survey, NSO Regional Consumer Price Index, NSO 2015 Provincial Poverty Line, PSA PPP conversion factor: GDP (pesos per international $) 2011=100, World Bank (World Development Indicators)

Table 2. Goalposts for calculating the HDI

Indicator	Max	Min
Life expectancy at birth, years	85 (global maximum)	20 (global minimum)
Mean Years of Schooling	11.5 (Batanes, 2008)	0 (global minimum)
Expected Years of Schooling	14.6 (Benguet, 2002)	0 (global minimum)
Combined Education Index	0.937 (Benguet, 2015)	0
Real per capita income, 2015 MM Pesos (for interprovince comparison)	112,053 (Metro Manila, 1997)	21,346 (Lanao del Sur, 2015)
Real per capita income, PPP US$ (for cross-country comparison)	75,000 (global maximum	100 (global minimum)

Indices for both subcomponents of education are first calculated before computing their geometric mean. The combined education index is then computed by applying the general formula with minimum equal to 0 and maximum equal to the highest geometric mean observed among provinces (Benguet in 2015).

The data for Metro Manila are used as illustration [Table 3].

Table 3. HDI Dimension Index computation: Metro Manila

Dimension Index	Estimate (2015)
Life expectancy (I_L)	(73.3 – 20)/(85 – 20) = 0.820
Education	
▪ Mean years of schooling	(11.1 – 0)/(11.5 – 0) = 0.963
▪ Expected years of schooling	(13.1 – 0)/(14.6 – 0) = 0.900
▪ Combined education (I_K)	$[(0.963 \times 0.900)^2 - 0]/(0.937 - 0) = 0.994$
Income for inter-province comparison ($I_{Y,\ 2015\ NCR\ pesos}$)	(89, 330 – 21,246)/(112,053 – 21,346) = 0.749
Income for cross-country comparison ($I_{Y,\ PPP\$}$)	[ln(4,590) – ln(100)]/(ln(75,000) – ln(100)] = 0.578

Aggregating the dimension indices

Once the dimension indices have been calculated, the HDI is determined through computing the geometric mean of the three dimension indices:

$$\textit{HDI inter-province comparison} = (I_L \times I_K \times I_{Y,\ 2015\ NCR\ pesos})^{1/3}$$
$$= (0.820 \times 0.994 \times 0.749)^{1/3}$$
$$= 0.849$$

$$\textit{HDI cross-country comparison} = (I_L \times I_K \times I_{Y,\ PPP\$})^{1/3}$$
$$= (0.820 \times 0.994 \times 0.578)^{1/3}$$
$$= 0.778$$

Data Transformation

Per capita income in the computation of HDI is a very good yardstick to compare the levels of living among nations.

The survey data was altered using the trimmed means technique to be closer to the true mean of the whole population. This technique drops or excludes the extreme values or outliers from the sample. Every observation within the upper and lower 0.5% is dropped from the sample.

Since any economy wouldn't want to have a rubber or flexible yardstick, the nominal per capita income has been corrected to a value that would make it stiff or consistent across time and space. This was done across provinces and over the periods covered (from 1997 to 2015).

To address its consistency over time, the nominal values are inflated using the regional consumer price index. These inflated or real per capita income values are further adjusted by a cost of living index (ratio of the province's poverty line over the base province's poverty line) to make it comparable across provinces. All nominal values are inflated at 2015 prices in the National Capital Region (NCR).

HDI Computation Changes

Starting 2012, indicator for the education component was solely derived from the Labor Force Survey. This was made possible because LFS has become more comprehensive on how they assign the highest grade completed of each individual surveyed.

Furthermore, the regional consumer price index used for this series was changed from 2000 to the new 2006 RCPI series. The 2006 series was then rebased to year 2015.

Gender Development Index

Calculating the GDI

While the HDI measures average achievement, the Gender-related Development Index or GDI is the adjustment of the average achievement to reflect the inequalities between genders (male and female).

Data sources

Estimates for male and female are extracted from the same data sources to compute the HDI since they also support disaggregation by gender.

However, 10 provinces were excluded in the compu-

tation of the GDI due to lack of data support. These are Apayao, Aurora, Batanes, Camiguin, Capiz, Guimaras, Nueva Vizcaya, Siquijor, Surigao del Sur, and Tawi-Tawi.

Creating gender specific dimension indices

Similar to the HDI computation, an intermediate step is to compute the disaggregated dimension indices for male and female using the same general formula but using the following minimum and maximum values [Table 4].

Table 4. Goalposts for calculating GDI

Indicator	Max	Min
Male life expectancy at birth, years	82.5	17.5
Female life expectancy at birth, years	87.5	22.5
Male/Female Mean Years of Schooling	11.5 (Batanes, 2008)	0
Male Expected Years of Schooling	14.6 (Benguet, 2002)	0
Female Expected Years of Schooling	16.2 (Mt. Province, 1999)	0
Male Combined Education Index	0.934 (Metro Manila, 2015)	0
Female Combined Education Index	0.931 (Benguet, 2015)	0
Real per capita income, 2015 NCR Pesos (for inter-province comparison)	126,014 (Rizal, 1997)	21,178 (Lanao del Sur, 2015)
Real per capita income, PPP US 2011 $ (for cross-country comparison)	75,000 (Global maximum)	100 (Global Minimum)

The maximum and minimum goalposts for the life expectancy index of both male and female were taken from the 2016 Global HDR. The maximum and minimum values of all other indices are obtained from the actual data from 1997 to 2015 except for the mean years of schooling of male and female, which are pegged at the maximum and minimum of the mean years of schooling for the HDI, and minimum of real per capita income is the 90% of the actual minimum. Again, Metro Manila is used to illustrate the computation.

Table 5. GDI Dimension Index computation for male and female: Metro Manila

Dimension Index I	Male I_M (2015)	Female I_F (2015)
Life expectancy	$\frac{(69.8-17.5)}{(82.5-17.5)}=0.805$	$\frac{(76.7-22.5)}{(87.5-22.5)}=0.834$
Mean years of schooling	$\frac{(11.0-0)}{(11.5-0)}=0.958$	$\frac{(11.2-0)}{(11.5-0)}=0.968$
Expected years of schooling	$\frac{(13.2-0)}{(14.6-0)}=0.906$	$\frac{(13.1-0)}{(16.2-0)}=0.807$
Combined education	$\frac{[(0.958 \times 0.906)^{1/2}-0]}{(0.934-0)}=1.000$	$\frac{[(0.968 \times 0.807)^{1/2}-0]}{(0.931-0)}=0.952$
Income for inter-province comparison	$\frac{(87{,}011-21{,}178)}{(126{,}014-21{,}178)}=0.628$	$\frac{(96{,}077-21{,}178)}{(126{,}014-21{,}178)}=0.714$
Income for cross-country comparison	$\frac{[\ln(4{,}471)-\ln(100)]}{[\ln(75{,}000)-\ln(100)]}=0.574$	$\frac{[\ln(4{,}936)-\ln(100)]}{[\ln(75{,}000)-\ln(100)]}=0.589$

Aggregating across gender groups

The male and female indices are combined in a way that penalizes differences in achievement between men and women. The formula for computing an equally distributed index (EDI) of dimension index I uses the harmonic mean of the gender specific indices.

$$EDI = [(Popn_F \times I_F^{-1})) + (Popn_M \times I_M^{-1})]^{-1}$$

Dimension Index I	EDI
Life expectancy (EDI_L)	$= [0.500 \times (0.805)^{-1} + 0.500 \times (0.834)^{-1}]^{-1}$ $= 0.820$
Education (EDI_K)	$= [0.500 \times (1.000)^{-1} + 0.500 \times (0.952)^{-1}]^{-1}$ $= 0.975$
Income for inter-province comparison ($EDI_{Y,\ 2015\ NCR\ pesos}$)	$= [0.500 \times (0.628)^{-1} + 0.500 \times (0.714)^{-1}]^{-1}$ $= 0.668$
Income for cross-country comparison ($EDI_{Y,\ PPPS}$)	$= [0.500 \times (0.574)^{-1} + 0.500 \times (0.589)^{-1}]^{-1}$ $= 0.581$

Aggregating equally distributed dimension indices

The GDI is calculated by combining the three equally distributed indices by the geometric mean.

$$\begin{aligned} \textit{GDI inter-province comparison} &= (EDI_L \times EDI_K \times I_{Y,\ 2015\ NCR\ pesos})^{1/3} \\ &= (0.820 \times 0.975 \times 0.668)^{1/3} \\ &= 0.811 \end{aligned}$$

$$\begin{aligned} \textit{GDI cross-country comparison} &= (EDI_L \times EDI_K \times EDI_{Y,\ PPP\$})^{1/3} \\ &= (0.820 \times 0.975 \times 0.668)^{1/3} \\ &= 0.775 \end{aligned}$$

Inequality-adjusted Human Development Index

Calculating the IHDI

The inequality-adjusted Human Development Index (IHDI) accounts for discrepancies in distribution of each dimension across the population. Each of the HDI dimension is adjusted by the level of inequality measured by the Atkinson Index.

The level of inequality is inversely proportional to the IHDI – worsening inequality results to lowering IHDI. Conversely, HDI is equal to the IHDI when distribution is uniform across the population. In this sense, the IHDI is the actual level of human development while the HDI is the "potential" level of human development that can be achieved. The difference between the two indices is the "loss" in potential human development due to inequality.

Data used in calculating the IHDI are the same as those used in computing the HDI.

Measuring inequality in underlying distributions

The Atkinson index for each dimension is computed for each dimension indicator (life expectancy, years of schooling, and per capita income) with the following formula:

$$A_x = 1 - \frac{\sqrt[n]{X_1 \ldots X_n}}{X}$$

where $\{X_1, \ldots, X_n\}$ is the underlying distribution and X is the arithmetic mean in the dimension of interest. For education and income, A_X is computed directly from the survey data using the survey weights. To avoid zero values that could lead to undefined estimates, transformation is applied to the raw data. A year is added to the mean years of schooling while extreme values of the 0.5 percentile on both ends of the distribution are truncated. Inequality index for life expectancy is derived using information from the five-year interval life tables.

Adjusting dimension indices

The inequality-adjusted dimension indices, II_x, are derived by multiplying the HDI dimension indices by $(1\text{-}A_x)$, where A_x is the corresponding Atkinson index.

$$II_x = (1 - A_x) - I_x$$

The inequality-adjusted dimension indices for Metro Manila are as follows:

Inequality-adjusted dimension index	Estimate (2015)
Life expectancy (II_L)	(1 – 0.072) x 0.820 = 0.760
Education (EDI_K)	(1 – 0.148) x 0.994 = 0.847
Income for inter-province comparison ($II_{Y,\ 2015\ NCR\ pesos}$)	(1 – 0.206) x 0.749 = 0.595

Aggregating inequality-adjusted dimension indices

The geometric mean of the three inequality-adjusted dimension indices is the IHDI. This is calculated as:

$$\begin{aligned} IHDI &= (II_L \times II_K \times II_{Y,\ 2015\ NCR\ pesos})^{1/3} \\ &= (0.813 \times 0.873 \times 0.619)^{1/3} \\ &= 0.726 \end{aligned}$$

Inequality estimates

Alternative measures of inequality are also computed and included in the report. The share in consumption and share in income of the poorest and richest 10 and 20 percent and proportions are computed (richest to poorest). A higher magnitude of the proportion implies higher inequality or difference between the top and bottom quintiles. Provincial Gini coefficients were also generated using Stata.

Mobility estimates

To better understand economic mobility using the 2003, 2006, and 2009 data, below are definitions that measure poverty incidence and persistence estimated by Martinez (2015).

Proportion of people in transient poverty

A household is considered transient poor if it has been classified poor at least once in three time periods. In mobility terms, it could mean that initially, a household is classified as non-poor but experiencing a downward movement in any of the subsequent years. It could also mean that a household has been categorized as poor at baseline but experiencing upward mobility the following survey year. Another possibility is poor – non-poor – poor classification which means the recurrence of poverty at the last survey year but an upward mobility during the middle period. It can also be a non-poor – poor – non-poor combination which means a dip in the income class during the middle survey year. The total number of transiently poor households divided by the total number of households gives the proportion of people in transient poverty.

Proportion of people in chronic poverty

If a poor household is immobile in all time periods, then that household is considered chronically poor. This means that the households experiencing chronic poverty are those which have not experienced any upward movement in the three survey years. The total number of chronically poor households divided by the total number of households gives the proportion of people in chronic poverty.

Proportion of people who stayed in the same income decile

Households with no income movement in the three time periods form the proportion of households who stayed in the same income decile. Specifically, immobile households are those which belong to the same income categories in 2003, 2006, and 2009. They not only include chronically poor households but also households belonging to the upper deciles which did not experience mobility. The total number of immobile households over the total number of households gives the proportion of people who stayed in the same income decile.

Proportion of people who frequently experienced upward decile mobility

A household which moved up at least an income decile from 2003 to 2006 and 2006 to 2009 is considered a household which frequently experienced upward mobility. An example would be a household classified as poor in 2003, vulnerable in 2006, and economically secured in 2009. The number these households which moved up in the subsequent periods after 2003 over the total number of households constitutes the proportion of people who frequently experienced upward decile mobility.

Proportion of people who experienced upward decile mobility at least once

If a household class moved up at least one income decile from 2003 to 2006, 2006 and 2009, or 2003 to 2009, that household is considered an upwardly mobile household at least once. The total number of households which experienced upward mobility at least once over the total number of households give the proportion of people who experienced upward decile mobility at least once. This proportion is always greater than the proportion of people who frequently experienced upward decile mobility as the former includes upwardly mobile households in 2006 and 2009 or those classified as the latter.

Proportion of people who frequently experienced downward decile mobility

A household whose condition deteriorated at least an income decile from 2003 to 2006 and 2006 to 2009 is considered a household which frequently experienced downward mobility. An example would be a household classified as economically secure in 2003, vulnerable in 2006, and poor in 2009. The number these households which moved down in the subsequent periods after 2003 over the total number of households constitutes the proportion of people who frequently experienced upward decile mobility.

Proportion of people who experienced downward decile mobility at least once

If a household class deteriorated at least one income decile from 2003 to 2006, 2006 and 2009, or 2003 to 2009, that household is considered a downward mobile household at least once. The total number of households which experienced downward mobility at least once over the total number of households gives the proportion of people who experienced downward decile mobility at least once. This proportion is always greater than the proportion of people who frequently experienced downward decile mobility as the former includes downwardly mobile households in 2006 and 2009 or those classified as the latter.

Inequality of longitudinally-averaged income

The inequality of longitudinally-averaged income is the Gini coefficient of the average per capita expenditure of the three time periods using 2011 purchasing power parity. The Gini coefficient measures the distribution of expenditure across different households.

STATISTICAL ANNEX

Statistical Annex A1: Human Development Index 2015

Province	Life Expectancy at birth (years) 2015	Mean years of Schooling 2015	Expected years of Schooling 2015	Per Capita Income (NCR 2015 PPP Pesos) 2015	Per Capita Income (US 2011 PPP $) 2015	Life Expectancy Index	
Metro Manila	73.3	11.1	13.1	89,330	4,590	0.820	
Abra	70.5	9.3	11.9	46,243	1,952	0.777	
Agusan del Norte	71.2	9.3	12.5	48,868	2,016	0.787	
Agusan del Sur	67.2	7.9	12.0	38,329	1,686	0.725	
Aklan	70.5	9.1	12.2	59,586	2,465	0.777	
Albay	69.3	9.1	13.0	51,198	2,240	0.758	
Antique	70.6	8.6	13.3	68,520	2,702	0.778	
Apayao	70.2	8.3	12.5	47,273	1,968	0.773	
Aurora	70.9	8.6	14.4	77,664	3,193	0.784	
Basilan	66.9	6.8	11.0	37,860	1,523	0.721	
Bataan	69.9	10.0	12.3	85,908	4,276	0.768	
Batanes	71.2	11.2	7.0	90,087	5,226	0.788	
Batangas	70.2	9.7	12.6	71,794	3,167	0.772	
Benguet	70.1	11.0	13.4	93,698	4,015	0.770	
Biliran	70.3	9.7	12.9	79,934	3,214	0.773	
Bohol	68.7	8.7	12.8	54,897	2,130	0.749	
Bukidnon	68.1	7.7	12.5	35,197	1,620	0.740	
Bulacan	70.6	9.7	12.6	76,879	3,397	0.778	
Cagayan	70.6	8.9	12.9	61,145	2,570	0.779	
Camarines Norte	70.3	9.3	12.5	42,848	1,876	0.774	
Camarines Sur	67.7	9.1	12.9	42,377	1,860	0.734	
Camiguin	70.4	9.3	13.7	51,841	2,185	0.775	
Capiz	71.1	7.9	12.0	54,266	2,220	0.786	
Catanduanes	68.5	9.2	12.3	44,170	1,896	0.746	
Cavite	70.7	10.4	12.3	73,413	3,702	0.781	
Cebu	68.6	9.3	12.8	61,619	2,543	0.748	
Compostela Valley	69.7	8.3	11.9	39,579	1,791	0.764	
Davao del Norte	70.6	8.7	12.5	44,118	2,145	0.778	
Davao del Sur	69.8	9.5	12.6	71,934	3,128	0.766	
Davao Oriental	69.4	7.1	13.0	47,432	2,097	0.759	
Eastern Samar	70.2	8.0	13.6	41,809	1,831	0.773	
Guimaras	69.9	10.7	13.6	59,178	2,649	0.768	
Ifugao	72.3	8.0	12.1	42,260	1,904	0.804	
Ilocos Norte	70.0	9.9	12.8	71,967	2,956	0.769	
Ilocos Sur	71.2	9.4	13.6	60,788	2,729	0.787	
Iloilo	70.3	9.7	13.2	57,806	2,473	0.774	
Isabela	69.1	9.1	12.4	58,622	2,633	0.756	
Kalinga	70.9	8.5	13.9	50,533	2,056	0.783	
La Union	68.5	9.9	13.0	70,178	2,663	0.746	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2015	HDI (International) 2015
	0.963	0.900	0.931	0.994	0.749	0.578	0.849	0.778
	0.807	0.814	0.811	0.866	0.274	0.449	0.569	0.671
	0.811	0.855	0.833	0.889	0.303	0.454	0.597	0.682
	0.686	0.824	0.752	0.803	0.187	0.427	0.478	0.629
	0.791	0.834	0.813	0.868	0.422	0.484	0.657	0.688
	0.787	0.888	0.836	0.892	0.329	0.470	0.606	0.682
	0.743	0.908	0.821	0.877	0.520	0.498	0.708	0.698
	0.719	0.854	0.784	0.837	0.286	0.450	0.570	0.663
	0.743	0.985	0.855	0.913	0.621	0.523	0.763	0.721
	0.592	0.753	0.667	0.713	0.182	0.411	0.454	0.596
	0.867	0.842	0.855	0.913	0.712	0.567	0.793	0.735
	0.969	0.479	0.682	0.728	0.758	0.598	0.758	0.700
	0.843	0.863	0.853	0.911	0.556	0.522	0.731	0.716
	0.953	0.920	0.937	1.000	0.798	0.558	0.850	0.755
	0.840	0.884	0.862	0.920	0.646	0.524	0.772	0.720
	0.757	0.874	0.813	0.868	0.370	0.462	0.622	0.670
	0.670	0.858	0.758	0.809	0.153	0.421	0.451	0.632
	0.841	0.865	0.853	0.911	0.612	0.533	0.757	0.723
	0.775	0.885	0.828	0.884	0.439	0.490	0.671	0.696
	0.804	0.857	0.830	0.886	0.237	0.443	0.546	0.672
	0.793	0.885	0.838	0.895	0.232	0.442	0.534	0.662
	0.811	0.941	0.873	0.932	0.336	0.466	0.624	0.696
	0.686	0.824	0.752	0.803	0.363	0.468	0.612	0.666
	0.801	0.845	0.822	0.878	0.252	0.444	0.548	0.663
	0.907	0.844	0.875	0.934	0.574	0.546	0.748	0.736
	0.805	0.879	0.842	0.899	0.444	0.489	0.668	0.690
	0.720	0.813	0.765	0.817	0.201	0.436	0.501	0.648
	0.758	0.856	0.806	0.860	0.251	0.463	0.552	0.677
	0.827	0.862	0.845	0.902	0.558	0.520	0.728	0.711
	0.618	0.891	0.742	0.792	0.288	0.460	0.557	0.652
	0.699	0.929	0.805	0.860	0.226	0.439	0.531	0.663
	0.928	0.928	0.928	0.991	0.417	0.495	0.682	0.722
	0.695	0.830	0.759	0.811	0.231	0.445	0.532	0.662
	0.857	0.879	0.868	0.927	0.558	0.512	0.735	0.714
	0.814	0.933	0.872	0.931	0.435	0.499	0.683	0.715
	0.839	0.902	0.869	0.928	0.402	0.485	0.661	0.704
	0.788	0.852	0.819	0.875	0.411	0.494	0.648	0.689
	0.741	0.949	0.839	0.895	0.322	0.457	0.609	0.684
	0.864	0.893	0.878	0.937	0.538	0.496	0.722	0.703

Statistical Annex A1: Human Development Index 2015

Province	Life Expectancy at birth (years) 2015	Mean years of Schooling 2015	Expected years of Schooling 2015	Per Capita Income (NCR 2015 PPP Pesos) 2015	Per Capita Income (US 2011 PPP $) 2015	Life Expectancy Index	
Laguna	71.5	10.2	12.2	85,064	3,753	0.792	
Lanao del Norte	70.0	8.8	12.9	50,109	2,127	0.769	
Lanao del Sur	68.0	7.6	12.1	23,718	1,064	0.738	
Leyte	69.7	8.3	12.3	46,856	1,866	0.765	
Maguindanao	69.0	6.5	11.7	30,274	1,282	0.754	
Marinduque	66.8	9.0	13.0	62,078	2,449	0.721	
Masbate	69.1	7.3	12.9	36,171	1,462	0.755	
Misamis Occidental	68.3	9.8	12.3	49,320	1,954	0.742	
Misamis Oriental	69.7	9.9	12.9	66,678	2,761	0.765	
Mt. Province	72.5	8.0	12.0	38,033	1,785	0.808	
Negros Occidental	68.6	8.6	12.4	48,945	1,938	0.747	
Negros Oriental	69.8	7.5	12.1	39,334	1,704	0.766	
North Cotabato	69.6	7.7	11.9	38,057	1,543	0.763	
Northern Samar	68.9	7.9	13.2	37,574	1,551	0.753	
Nueva Ecija	70.2	9.1	11.8	51,505	2,422	0.772	
Nueva Vizcaya	71.2	9.1	12.5	58,125	2,568	0.788	
Occidental Mindoro	68.4	8.4	12.5	53,788	2,151	0.744	
Oriental Mindoro	70.2	7.9	13.0	56,327	2,299	0.773	
Palawan	70.1	8.6	12.7	68,111	2,648	0.770	
Pampanga	70.8	9.9	12.6	77,944	3,520	0.781	
Pangasinan	69.1	9.8	12.2	56,640	2,307	0.755	
Quezon	70.7	8.6	11.6	50,637	2,105	0.780	
Quirino	70.4	7.5	12.4	48,098	2,007	0.775	
Rizal	70.8	10.4	12.6	83,104	4,075	0.782	
Romblon	68.8	8.8	13.6	55,263	2,388	0.750	
Sarangani	69.1	6.2	12.1	32,708	1,339	0.755	
Siquijor	69.7	9.4	13.2	31,367	1,290	0.765	
Sorsogon	67.4	8.1	13.0	37,771	1,533	0.729	
South Cotabato	70.1	9.5	13.1	58,529	2,556	0.771	
Southern Leyte	69.5	8.3	12.9	44,182	1,972	0.762	
Sultan Kudarat	71.0	7.8	11.9	38,904	1,582	0.785	
Sulu	63.3	6.3	13.6	27,502	1,124	0.666	
Surigao del Norte	67.2	9.1	13.2	47,976	2,119	0.727	
Surigao del Sur	67.4	8.8	13.0	43,708	1,906	0.729	
Tarlac	70.9	9.5	12.2	56,331	2,605	0.783	
Tawi-tawi	62.6	7.6	10.7	40,801	1,332	0.656	
Western Samar	70.4	7.2	13.4	44,664	1,722	0.775	
Zambales	70.2	9.6	13.1	56,528	3,007	0.773	
Zamboanga del Norte	69.3	7.5	12.0	36,133	1,517	0.758	
Zamboanga del Sur	70.3	8.9	12.8	56,443	2,191	0.775	
Zamboanga Sibugay	68.4	8.4	13.3	44,684	1,774	0.745	
Philippines	71.0	9.3	12.6	61,317	2,747	0.785	

Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2015	HDI (International) 2015
0.885	0.832	0.858	0.916	0.702	0.548	0.799	0.735
0.767	0.884	0.823	0.879	0.317	0.462	0.599	0.679
0.661	0.826	0.739	0.789	0.026	0.357	0.248	0.592
0.718	0.844	0.779	0.831	0.281	0.442	0.564	0.655
0.568	0.800	0.674	0.720	0.098	0.385	0.377	0.594
0.778	0.890	0.832	0.889	0.449	0.483	0.660	0.676
0.637	0.883	0.750	0.801	0.163	0.405	0.462	0.626
0.849	0.844	0.846	0.904	0.308	0.449	0.591	0.670
0.859	0.883	0.871	0.930	0.500	0.501	0.708	0.709
0.690	0.824	0.754	0.805	0.184	0.435	0.493	0.657
0.748	0.847	0.796	0.850	0.304	0.448	0.578	0.657
0.650	0.832	0.736	0.786	0.198	0.428	0.492	0.636
0.665	0.818	0.737	0.787	0.184	0.413	0.480	0.628
0.686	0.901	0.786	0.840	0.179	0.414	0.484	0.640
0.788	0.811	0.800	0.854	0.332	0.481	0.603	0.682
0.788	0.859	0.823	0.879	0.405	0.490	0.655	0.698
0.726	0.855	0.788	0.841	0.358	0.464	0.607	0.662
0.690	0.893	0.785	0.838	0.386	0.474	0.630	0.674
0.743	0.872	0.805	0.859	0.516	0.495	0.699	0.689
0.859	0.862	0.861	0.919	0.624	0.538	0.765	0.728
0.855	0.838	0.846	0.903	0.389	0.474	0.643	0.686
0.746	0.796	0.771	0.823	0.323	0.460	0.592	0.666
0.652	0.848	0.744	0.794	0.295	0.453	0.566	0.653
0.901	0.866	0.883	0.943	0.681	0.560	0.795	0.745
0.762	0.933	0.843	0.900	0.374	0.479	0.632	0.687
0.539	0.826	0.667	0.713	0.125	0.392	0.407	0.595
0.812	0.907	0.858	0.916	0.110	0.386	0.426	0.647
0.706	0.888	0.792	0.845	0.181	0.412	0.481	0.633
0.821	0.895	0.857	0.915	0.410	0.490	0.661	0.702
0.722	0.881	0.798	0.852	0.252	0.450	0.547	0.664
0.678	0.814	0.743	0.793	0.194	0.417	0.494	0.638
0.549	0.932	0.715	0.763	0.068	0.366	0.325	0.571
0.788	0.901	0.842	0.899	0.294	0.461	0.577	0.671
0.766	0.891	0.826	0.882	0.247	0.445	0.541	0.659
0.825	0.834	0.830	0.886	0.386	0.492	0.644	0.699
0.659	0.735	0.696	0.743	0.214	0.391	0.471	0.576
0.627	0.918	0.759	0.810	0.257	0.430	0.545	0.646
0.836	0.899	0.867	0.926	0.388	0.514	0.652	0.716
0.651	0.822	0.732	0.781	0.163	0.411	0.459	0.624
0.777	0.878	0.826	0.882	0.387	0.466	0.642	0.683
0.730	0.911	0.815	0.871	0.257	0.434	0.551	0.656
0.809	0.865	0.836	0.893	0.441	0.500	0.676	0.705

Statistical Annex A2: Human Development Index 2012

Province	Life Expectancy at birth (years) 2012	Mean years of Schooling 2012	Expected years of Schooling 2012	Per Capita Income (NCR 2015 PPP Pesos) 2012	Per Capita Income (US 2011 PPP $) 2012	Life Expectancy Index	
Metro Manila	72.6	11.0	12.6	84,216	4,084	0.809	
Abra	69.3	9.2	12.0	45,162	1,753	0.759	
Agusan del Norte	69.4	9.1	12.3	48,697	1,792	0.760	
Agusan del Sur	66.1	8.2	11.2	38,894	1,526	0.709	
Aklan	69.1	9.3	12.7	51,772	1,926	0.756	
Albay	69.2	8.8	12.5	41,197	1,639	0.756	
Antique	69.0	8.6	12.3	52,999	1,879	0.753	
Apayao	68.5	7.2	12.3	31,249	1,196	0.746	
Aurora	69.8	8.4	12.4	46,639	1,780	0.766	
Basilan	65.6	6.7	10.8	39,915	1,450	0.702	
Bataan	69.5	10.0	12.2	67,310	3,110	0.761	
Batanes	69.7	10.1	7.0	47,548	2,515	0.764	
Batangas	70.3	9.3	12.0	62,820	2,575	0.773	
Benguet	69.9	10.8	13.5	92,249	3,636	0.767	
Biliran	68.9	8.5	13.4	49,233	1,742	0.753	
Bohol	68.7	8.8	12.8	50,772	1,759	0.750	
Bukidnon	67.8	7.5	10.9	33,802	1,408	0.735	
Bulacan	70.7	9.6	12.2	68,914	2,827	0.779	
Cagayan	70.0	8.8	12.6	54,801	2,100	0.769	
Camarines Norte	68.8	8.9	11.8	42,170	1,679	0.751	
Camarines Sur	68.1	8.8	12.5	40,842	1,630	0.741	
Camiguin	68.9	9.7	14.1	40,592	1,547	0.753	
Capiz	69.6	8.5	12.6	56,015	2,060	0.763	
Catanduanes	67.7	9.8	12.8	39,281	1,533	0.733	
Cavite	70.7	10.2	12.6	70,319	3,295	0.780	
Cebu	69.1	8.9	12.4	57,903	2,134	0.755	
Compostela Valley	68.7	7.8	11.1	43,597	1,797	0.749	
Davao del Norte	69.4	8.9	12.2	42,072	1,863	0.760	
Davao del Sur	69.4	9.1	12.2	58,245	2,306	0.760	
Davao Oriental	68.8	7.0	11.4	35,069	1,412	0.751	
Eastern Samar	68.7	8.3	12.4	31,687	1,222	0.749	
Guimaras	69.2	9.4	12.7	60,498	2,434	0.757	
Ifugao	69.8	7.5	12.1	44,582	1,848	0.767	
Ilocos Norte	70.0	10.0	12.2	74,688	2,830	0.770	
Ilocos Sur	70.3	9.8	12.8	61,696	2,555	0.773	
Iloilo	70.1	9.9	13.0	63,926	2,459	0.770	
Isabela	69.0	8.7	11.6	49,157	2,013	0.754	
Kalinga	68.9	8.5	12.4	48,250	1,805	0.752	
La Union	69.0	10.0	12.7	64,897	2,272	0.754	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2012	HDI (International) 2012
	0.957	0.866	0.910	0.972	0.693	0.560	0.817	0.761
	0.801	0.823	0.812	0.867	0.263	0.433	0.557	0.658
	0.792	0.845	0.818	0.873	0.302	0.436	0.585	0.662
	0.708	0.770	0.738	0.788	0.193	0.412	0.476	0.613
	0.804	0.872	0.837	0.894	0.335	0.447	0.610	0.671
	0.766	0.859	0.811	0.866	0.219	0.422	0.523	0.652
	0.748	0.840	0.793	0.846	0.349	0.443	0.606	0.656
	0.628	0.844	0.728	0.778	0.109	0.375	0.399	0.601
	0.731	0.846	0.786	0.840	0.279	0.435	0.564	0.654
	0.580	0.741	0.656	0.700	0.205	0.404	0.465	0.583
	0.867	0.832	0.850	0.907	0.507	0.519	0.705	0.710
	0.879	0.479	0.649	0.693	0.289	0.487	0.535	0.637
	0.811	0.819	0.815	0.870	0.457	0.491	0.675	0.691
	0.934	0.926	0.930	0.993	0.782	0.543	0.841	0.745
	0.737	0.921	0.824	0.879	0.307	0.432	0.588	0.659
	0.760	0.874	0.815	0.870	0.324	0.433	0.596	0.656
	0.653	0.747	0.699	0.746	0.137	0.399	0.422	0.603
	0.829	0.836	0.832	0.889	0.524	0.505	0.713	0.704
	0.761	0.866	0.812	0.867	0.369	0.460	0.627	0.674
	0.773	0.807	0.790	0.844	0.230	0.426	0.526	0.646
	0.764	0.856	0.809	0.864	0.215	0.422	0.516	0.646
	0.845	0.963	0.902	0.963	0.212	0.414	0.536	0.669
	0.740	0.866	0.801	0.855	0.382	0.457	0.629	0.668
	0.851	0.877	0.864	0.922	0.198	0.412	0.511	0.653
	0.888	0.864	0.876	0.935	0.540	0.528	0.733	0.728
	0.775	0.849	0.811	0.866	0.403	0.462	0.641	0.671
	0.678	0.761	0.718	0.767	0.245	0.436	0.520	0.630
	0.772	0.838	0.805	0.859	0.228	0.442	0.530	0.661
	0.793	0.837	0.815	0.870	0.407	0.474	0.646	0.679
	0.609	0.784	0.691	0.738	0.151	0.400	0.438	0.605
	0.723	0.848	0.783	0.836	0.114	0.378	0.415	0.619
	0.812	0.867	0.839	0.896	0.432	0.482	0.664	0.689
	0.649	0.828	0.733	0.782	0.256	0.441	0.536	0.642
	0.872	0.837	0.854	0.912	0.588	0.505	0.745	0.708
	0.854	0.875	0.865	0.923	0.445	0.490	0.682	0.704
	0.861	0.891	0.876	0.935	0.469	0.484	0.697	0.704
	0.753	0.796	0.774	0.826	0.307	0.454	0.576	0.656
	0.741	0.851	0.794	0.848	0.297	0.437	0.574	0.653
	0.868	0.872	0.870	0.929	0.480	0.472	0.695	0.691

Statistical Annex A2: Human Development Index 2012

Province	Life Expectancy at birth (years) 2012	Mean years of Schooling 2012	Expected years of Schooling 2012	Per Capita Income (NCR 2015 PPP Pesos) 2012	Per Capita Income (US 2011 PPP $) 2012	Life Expectancy Index	
Laguna	70.7	10.1	12.3	75,958	3,114	0.780	
Lanao del Norte	68.6	8.9	11.8	48,412	1,859	0.748	
Lanao del Sur	65.7	7.3	11.2	25,811	1,049	0.703	
Leyte	69.0	8.2	12.5	53,138	1,863	0.754	
Maguindanao	66.4	6.3	11.1	28,688	1,103	0.713	
Marinduque	66.5	9.5	12.9	53,631	1,947	0.715	
Masbate	68.0	7.2	11.5	33,656	1,237	0.739	
Misamis Occidental	68.2	9.1	12.4	40,684	1,458	0.742	
Misamis Oriental	69.3	9.7	12.5	62,381	2,336	0.758	
Mt. Province	70.3	8.4	13.0	39,529	1,707	0.774	
Negros Occidental	68.4	8.7	12.4	49,003	1,744	0.745	
Negros Oriental	68.9	7.3	11.7	43,658	1,689	0.752	
North Cotabato	68.9	7.6	11.1	37,450	1,373	0.753	
Northern Samar	67.8	7.9	11.9	36,235	1,317	0.736	
Nueva Ecija	69.9	8.9	11.5	49,337	2,154	0.768	
Nueva Vizcaya	70.0	9.3	12.6	60,041	2,418	0.769	
Occidental Mindoro	67.3	7.6	11.9	48,519	1,786	0.728	
Oriental Mindoro	69.0	8.3	12.0	48,731	1,831	0.754	
Palawan	68.4	8.6	12.3	52,906	1,893	0.744	
Pampanga	70.8	9.5	12.4	71,071	2,980	0.782	
Pangasinan	68.8	9.7	12.1	50,104	1,883	0.751	
Quezon	69.7	8.6	11.8	45,273	1,749	0.765	
Quirino	69.1	7.8	12.0	50,301	1,913	0.756	
Rizal	70.6	10.6	12.8	83,095	3,786	0.778	
Romblon	67.7	8.4	12.5	41,295	1,642	0.734	
Sarangani	68.6	6.4	11.9	36,402	1,347	0.748	
Siquijor	68.6	9.5	12.7	69,967	2,571	0.748	
Sorsogon	67.5	8.7	12.7	37,612	1,388	0.731	
South Cotabato	69.4	9.1	12.4	54,791	2,164	0.760	
Southern Leyte	68.6	8.5	12.7	44,434	1,745	0.748	
Sultan Kudarat	69.6	7.8	11.5	35,308	1,298	0.763	
Sulu	61.2	6.7	12.5	30,450	1,128	0.634	
Surigao del Norte	66.6	9.1	12.1	41,138	1,621	0.717	
Surigao del Sur	66.3	8.6	12.4	46,454	1,807	0.713	
Tarlac	70.2	9.6	11.7	61,938	2,658	0.773	
Tawi-tawi	60.4	8.1	10.7	44,833	1,326	0.621	
Western Samar	68.9	6.9	12.0	34,550	1,172	0.752	
Zambales	69.5	9.1	12.1	42,355	2,092	0.761	
Zamboanga del Norte	68.5	7.5	11.7	35,253	1,311	0.747	
Zamboanga del Sur	69.4	8.4	12.3	50,127	1,725	0.761	
Zamboanga Sibugay	67.9	8.0	12.6	40,717	1,433	0.737	
Philippines	70.4	9.2	12.2	57,288	2,364	0.775	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2012	HDI (International) 2012
	0.877	0.842	0.860	0.918	0.602	0.519	0.755	0.719
	0.770	0.805	0.788	0.841	0.298	0.441	0.573	0.652
	0.638	0.766	0.699	0.746	0.049	0.355	0.296	0.571
	0.713	0.854	0.780	0.833	0.350	0.442	0.604	0.652
	0.545	0.757	0.643	0.686	0.081	0.363	0.341	0.562
	0.826	0.884	0.855	0.912	0.356	0.449	0.615	0.664
	0.629	0.789	0.704	0.752	0.136	0.380	0.422	0.595
	0.788	0.851	0.819	0.874	0.213	0.405	0.517	0.640
	0.845	0.856	0.851	0.908	0.452	0.476	0.678	0.690
	0.725	0.888	0.802	0.857	0.200	0.429	0.510	0.657
	0.751	0.850	0.799	0.853	0.305	0.432	0.579	0.650
	0.632	0.801	0.712	0.760	0.246	0.427	0.520	0.625
	0.658	0.762	0.708	0.756	0.178	0.396	0.466	0.608
	0.689	0.815	0.749	0.800	0.164	0.389	0.459	0.612
	0.770	0.790	0.780	0.833	0.309	0.464	0.582	0.667
	0.805	0.864	0.834	0.890	0.427	0.481	0.663	0.691
	0.656	0.816	0.732	0.781	0.300	0.435	0.554	0.628
	0.724	0.819	0.770	0.822	0.302	0.439	0.572	0.648
	0.745	0.845	0.793	0.847	0.348	0.444	0.603	0.654
	0.821	0.852	0.836	0.893	0.548	0.513	0.726	0.710
	0.838	0.830	0.834	0.891	0.317	0.443	0.596	0.667
	0.744	0.806	0.774	0.827	0.264	0.432	0.551	0.649
	0.678	0.820	0.746	0.796	0.319	0.446	0.577	0.645
	0.923	0.874	0.898	0.959	0.681	0.549	0.798	0.743
	0.732	0.859	0.793	0.847	0.220	0.423	0.515	0.640
	0.558	0.817	0.675	0.721	0.166	0.393	0.447	0.596
	0.827	0.872	0.849	0.907	0.536	0.490	0.714	0.693
	0.756	0.872	0.812	0.867	0.179	0.397	0.484	0.632
	0.789	0.849	0.818	0.874	0.369	0.464	0.626	0.676
	0.736	0.867	0.799	0.853	0.255	0.432	0.546	0.651
	0.679	0.790	0.732	0.782	0.154	0.387	0.451	0.614
	0.581	0.859	0.707	0.754	0.100	0.366	0.363	0.559
	0.787	0.827	0.807	0.861	0.218	0.421	0.513	0.638
	0.749	0.849	0.797	0.851	0.277	0.437	0.552	0.643
	0.835	0.799	0.817	0.872	0.448	0.496	0.671	0.694
	0.700	0.730	0.715	0.763	0.259	0.390	0.497	0.570
	0.599	0.821	0.701	0.749	0.146	0.372	0.434	0.594
	0.790	0.830	0.810	0.865	0.232	0.459	0.534	0.671
	0.648	0.799	0.720	0.768	0.153	0.389	0.445	0.606
	0.733	0.843	0.786	0.839	0.317	0.430	0.587	0.650
	0.693	0.864	0.774	0.826	0.214	0.402	0.507	0.626
	0.799	0.837	0.818	0.874	0.396	0.478	0.645	0.686

Statistical Annex A3: Human Development Index 2009

Province	Life Expectancy at Birth (years) 2009	Mean years of Schooling 2008	Expected years of Schooling 2008	Per Capita Income (NCR 2015 PPP Pesos) 2009	Per Capita Income (US 2011 PPP $) 2009	Life Expectancy Index	
Metro Manila	71.9	10.7	12.9	85,759	3,748	0.799	
Abra	68.1	8.7	12.3	38,933	1,350	0.740	
Agusan del Norte	67.7	8.9	11.5	48,237	1,544	0.733	
Agusan del Sur	65.0	7.5	11.2	32,436	1,106	0.692	
Aklan	67.7	8.7	13.1	38,495	1,273	0.734	
Albay	69.0	8.5	12.5	42,986	1,529	0.755	
Antique	67.4	7.3	12.8	44,957	1,417	0.729	
Apayao	66.8	7.4	12.7	44,436	1,520	0.720	
Aurora	68.7	8.9	12.7	61,275	2,090	0.749	
Basilan	64.3	7.3	12.2	39,654	1,246	0.682	
Bataan	69.0	9.4	12.4	67,029	2,768	0.754	
Batanes	68.1	11.5	12.5	63,618	2,998	0.740	
Batangas	70.3	8.8	12.0	61,342	2,237	0.775	
Benguet	69.6	10.0	14.0	90,453	3,184	0.764	
Biliran	67.6	8.1	12.2	61,845	1,974	0.732	
Bohol	68.8	8.0	12.5	45,250	1,377	0.751	
Bukidnon	67.5	7.7	10.7	38,754	1,412	0.730	
Bulacan	70.7	9.3	12.1	72,628	2,663	0.780	
Cagayan	69.4	8.0	12.2	56,773	1,938	0.760	
Camarines Norte	67.4	8.1	10.9	39,049	1,390	0.729	
Camarines Sur	68.6	8.2	11.7	38,705	1,382	0.747	
Camiguin	67.5	8.9	13.6	45,974	1,533	0.731	
Capiz	68.1	7.6	12.2	51,245	1,676	0.740	
Catanduanes	66.9	8.5	12.1	68,926	2,405	0.721	
Cavite	70.7	9.8	12.0	71,368	2,975	0.780	
Cebu	69.6	8.5	11.9	58,698	1,900	0.762	
Compostela Valley	67.7	7.4	11.6	39,544	1,427	0.733	
Davao del Norte	68.2	8.1	11.9	41,713	1,617	0.742	
Davao del Sur	69.0	8.8	12.0	56,569	1,961	0.754	
Davao Oriental	68.2	6.5	10.5	29,014	1,023	0.742	
Eastern Samar	67.2	8.0	12.2	35,118	1,221	0.726	
Guimaras	68.4	8.1	11.6	40,470	1,448	0.745	
Ifugao	67.4	6.4	12.1	41,270	1,528	0.729	
Ilocos Norte	70.1	9.2	12.2	58,906	2,061	0.771	
Ilocos Sur	69.4	9.2	12.0	51,690	1,977	0.760	
Iloilo	69.8	9.2	12.8	54,169	1,853	0.766	
Isabela	68.9	8.2	11.7	47,420	1,730	0.752	
Kalinga	66.9	7.1	12.9	47,914	1,601	0.721	
La Union	69.5	9.3	12.4	61,534	1,989	0.762	
Laguna	69.9	9.5	12.1	73,180	2,669	0.768	
Lanao del Norte	67.3	8.8	12.7	45,884	1,541	0.727	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2009	HDI (International) 2009
	0.925	0.886	0.905	0.967	0.710	0.547	0.818	0.750
	0.752	0.842	0.796	0.849	0.194	0.393	0.496	0.628
	0.771	0.789	0.780	0.833	0.296	0.413	0.566	0.632
	0.651	0.769	0.708	0.755	0.122	0.363	0.400	0.575
	0.752	0.895	0.821	0.876	0.189	0.384	0.496	0.628
	0.736	0.857	0.794	0.848	0.239	0.412	0.534	0.641
	0.635	0.879	0.747	0.798	0.260	0.401	0.533	0.615
	0.644	0.871	0.749	0.800	0.255	0.411	0.527	0.619
	0.769	0.873	0.819	0.875	0.440	0.459	0.661	0.670
	0.638	0.838	0.731	0.781	0.202	0.381	0.475	0.588
	0.817	0.848	0.832	0.889	0.504	0.502	0.696	0.695
	1.000	0.856	0.925	0.988	0.466	0.514	0.698	0.721
	0.762	0.825	0.793	0.847	0.441	0.469	0.661	0.675
	0.869	0.962	0.914	0.976	0.762	0.523	0.828	0.730
	0.706	0.838	0.769	0.821	0.446	0.451	0.645	0.647
	0.694	0.859	0.772	0.824	0.264	0.396	0.546	0.626
	0.666	0.733	0.699	0.746	0.192	0.400	0.471	0.602
	0.809	0.826	0.818	0.873	0.565	0.496	0.728	0.696
	0.696	0.839	0.764	0.816	0.391	0.448	0.623	0.652
	0.705	0.750	0.727	0.776	0.195	0.398	0.480	0.608
	0.708	0.802	0.753	0.804	0.191	0.397	0.486	0.620
	0.774	0.930	0.848	0.906	0.272	0.412	0.564	0.649
	0.655	0.836	0.740	0.790	0.330	0.426	0.578	0.629
	0.734	0.826	0.778	0.831	0.525	0.480	0.680	0.660
	0.848	0.819	0.834	0.890	0.551	0.513	0.726	0.709
	0.734	0.815	0.774	0.826	0.412	0.445	0.638	0.654
	0.643	0.796	0.715	0.763	0.201	0.402	0.483	0.608
	0.705	0.816	0.759	0.810	0.225	0.420	0.513	0.632
	0.764	0.822	0.792	0.846	0.388	0.450	0.628	0.660
	0.564	0.720	0.638	0.681	0.085	0.351	0.350	0.562
	0.696	0.833	0.761	0.813	0.152	0.378	0.448	0.607
	0.707	0.793	0.749	0.800	0.211	0.404	0.501	0.622
	0.552	0.830	0.677	0.723	0.220	0.412	0.487	0.601
	0.797	0.835	0.816	0.871	0.414	0.457	0.653	0.674
	0.797	0.821	0.809	0.863	0.335	0.451	0.603	0.666
	0.799	0.880	0.839	0.895	0.362	0.441	0.628	0.671
	0.711	0.800	0.754	0.805	0.287	0.431	0.558	0.639
	0.616	0.881	0.737	0.787	0.293	0.419	0.550	0.619
	0.812	0.849	0.830	0.886	0.443	0.452	0.669	0.673
	0.824	0.832	0.828	0.884	0.571	0.496	0.729	0.696
	0.760	0.868	0.812	0.867	0.271	0.413	0.555	0.639

Statistical Annex A3: Human Development Index 2009

Province	Life Expectancy at Birth (years) 2009	Mean years of Schooling 2008	Expected years of Schooling 2008	Per Capita Income (NCR 2015 PPP Pesos) 2009	Per Capita Income (US 2011 PPP $) 2009	Life Expectancy Index	
Lanao del Sur	63.5	6.9	12.7	31,294	1,089	0.669	
Leyte	68.2	7.6	11.6	53,410	1,689	0.742	
Maguindanao	63.7	6.3	10.1	32,378	1,075	0.672	
Marinduque	66.1	8.2	12.8	49,780	1,580	0.709	
Masbate	67.0	7.1	11.5	33,661	1,107	0.723	
Misamis Occidental	68.2	8.6	12.4	36,990	1,159	0.742	
Misamis Oriental	68.9	9.5	12.7	62,452	2,046	0.752	
Mt. Province	68.0	7.5	13.2	33,941	1,309	0.739	
Negros Occidental	68.3	8.1	11.6	45,354	1,436	0.743	
Negros Oriental	68.0	7.0	11.4	41,637	1,415	0.739	
North Cotabato	68.3	7.4	11.3	42,692	1,379	0.742	
Northern Samar	66.7	7.3	11.8	35,763	1,172	0.718	
Nueva Ecija	69.6	8.7	11.7	45,155	1,762	0.763	
Nueva Vizcaya	68.7	9.1	12.3	62,045	2,227	0.749	
Occidental Mindoro	66.3	7.5	11.4	51,966	1,672	0.712	
Oriental Mindoro	67.9	7.7	11.6	43,533	1,430	0.736	
Palawan	66.7	7.8	11.7	42,541	1,330	0.718	
Pampanga	70.9	9.0	12.1	61,212	2,294	0.783	
Pangasinan	68.6	9.3	11.9	51,770	1,796	0.747	
Quezon	68.8	8.0	11.0	43,113	1,482	0.751	
Quirino	67.9	8.3	11.4	57,719	1,956	0.737	
Rizal	70.4	9.9	12.2	74,630	3,026	0.775	
Romblon	66.7	7.8	12.0	37,271	1,296	0.718	
Sarangani	68.1	5.8	10.6	30,557	997	0.740	
Siquijor	67.5	8.4	13.0	39,651	1,279	0.731	
Sorsogon	67.7	7.8	12.4	42,228	1,393	0.733	
South Cotabato	68.7	8.8	12.1	56,278	1,959	0.749	
Southern Leyte	67.8	7.8	11.6	40,439	1,433	0.735	
Sultan Kudarat	68.2	7.7	11.5	37,466	1,214	0.742	
Sulu	59.2	4.6	11.3	31,313	993	0.602	
Surigao del Norte	66.0	8.4	12.1	37,867	1,297	0.707	
Surigao del Sur	65.3	8.2	12.5	36,056	1,219	0.697	
Tarlac	69.6	9.0	11.3	51,961	1,993	0.763	
Tawi-Tawi	58.1	6.2	11.9	41,505	1,051	0.586	
Western Samar	67.4	7.4	11.4	40,218	1,231	0.729	
Zambales	68.7	9.5	12.6	49,940	2,204	0.749	
Zamboanga del Norte	67.8	6.7	11.0	29,580	972	0.736	
Zamboanga del Sur	68.5	8.1	11.8	53,302	1,619	0.746	
Zamboanga Sibugay	67.4	7.3	11.8	37,996	1,181	0.729	
Philippines	69.7	8.7	12.0	55,887	2,058	0.765	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2009	HDI (International) 2009
	0.599	0.873	0.723	0.772	0.110	0.361	0.384	0.571
	0.662	0.794	0.725	0.774	0.353	0.427	0.588	0.626
	0.548	0.695	0.617	0.659	0.122	0.359	0.378	0.542
	0.714	0.878	0.791	0.845	0.313	0.417	0.573	0.630
	0.620	0.786	0.698	0.745	0.136	0.363	0.418	0.580
	0.743	0.852	0.796	0.849	0.172	0.370	0.477	0.616
	0.825	0.867	0.846	0.903	0.453	0.456	0.675	0.676
	0.651	0.902	0.767	0.818	0.139	0.388	0.438	0.617
	0.701	0.792	0.745	0.796	0.265	0.402	0.539	0.620
	0.603	0.782	0.687	0.733	0.224	0.400	0.495	0.601
	0.639	0.775	0.703	0.751	0.235	0.396	0.508	0.605
	0.634	0.812	0.717	0.766	0.159	0.372	0.444	0.589
	0.753	0.802	0.777	0.830	0.262	0.433	0.550	0.650
	0.791	0.841	0.815	0.870	0.449	0.469	0.664	0.674
	0.654	0.784	0.716	0.765	0.338	0.425	0.568	0.614
	0.666	0.798	0.729	0.778	0.245	0.402	0.519	0.613
	0.678	0.803	0.738	0.788	0.234	0.391	0.509	0.605
	0.785	0.828	0.806	0.861	0.440	0.473	0.667	0.683
	0.804	0.818	0.811	0.866	0.335	0.436	0.601	0.656
	0.695	0.757	0.725	0.774	0.240	0.407	0.519	0.619
	0.717	0.784	0.750	0.801	0.401	0.449	0.619	0.642
	0.858	0.839	0.848	0.906	0.587	0.515	0.744	0.712
	0.679	0.824	0.748	0.798	0.176	0.387	0.465	0.605
	0.504	0.729	0.606	0.647	0.102	0.347	0.365	0.550
	0.725	0.889	0.803	0.857	0.202	0.385	0.502	0.623
	0.679	0.848	0.759	0.810	0.230	0.398	0.515	0.618
	0.761	0.829	0.794	0.848	0.385	0.449	0.625	0.658
	0.680	0.794	0.735	0.784	0.210	0.402	0.495	0.614
	0.665	0.785	0.722	0.771	0.178	0.377	0.467	0.600
	0.401	0.772	0.556	0.594	0.110	0.347	0.340	0.499
	0.729	0.832	0.779	0.832	0.182	0.387	0.475	0.611
	0.713	0.856	0.781	0.834	0.162	0.378	0.455	0.603
	0.781	0.774	0.777	0.830	0.338	0.452	0.598	0.659
	0.538	0.816	0.663	0.708	0.222	0.355	0.452	0.528
	0.643	0.783	0.710	0.758	0.208	0.379	0.486	0.594
	0.822	0.860	0.841	0.898	0.315	0.467	0.596	0.680
	0.584	0.755	0.664	0.709	0.091	0.343	0.362	0.564
	0.706	0.806	0.754	0.805	0.352	0.421	0.596	0.632
	0.635	0.809	0.717	0.765	0.184	0.373	0.468	0.592
	0.758	0.822	0.789	0.843	0.381	0.457	0.626	0.665

Statistical Annex A4: Human Development Index 2006

Province	Life Expectancy at birth (years) 2006	Mean years of Schooling 2004	Expected years of Schooling 2004	Per Capita Income (NCR 2015 PPP Pesos) 2006	Per Capita Income (US 2011 PPP $) 2006	Life Expectancy Index	
Metro Manila	71.2	10.4	12.9	83,222	3,244	0.788	
Abra	66.9	8.8	12.7	37,250	1,128	0.722	
Agusan del Norte	65.9	8.8	12.1	43,602	1,127	0.706	
Agusan del Sur	63.9	7.3	11.8	36,085	994	0.675	
Aklan	66.4	8.4	12.7	39,125	1,103	0.713	
Albay	68.9	8.1	12.3	48,942	1,471	0.753	
Antique	65.8	7.3	12.4	36,292	975	0.704	
Apayao	65.0	6.9	13.3	35,454	1,059	0.693	
Aurora	67.6	8.3	10.4	54,491	1,577	0.732	
Basilan	63.1	5.7	11.5	35,592	925	0.663	
Bataan	68.5	9.2	12.1	64,066	2,244	0.747	
Batanes	66.5	10.3	13.0	60,767	2,450	0.716	
Batangas	70.4	8.6	12.0	58,392	1,844	0.776	
Benguet	69.4	9.5	14.5	87,447	2,688	0.761	
Biliran	66.2	8.1	11.7	57,195	1,514	0.711	
Bohol	68.9	7.4	12.6	40,501	1,090	0.752	
Bukidnon	67.2	7.4	11.1	38,693	1,165	0.725	
Bulacan	70.8	9.0	11.9	71,106	2,211	0.781	
Cagayan	68.8	7.9	12.4	50,936	1,488	0.750	
Camarines Norte	65.9	8.0	10.8	37,645	1,132	0.706	
Camarines Sur	69.0	8.2	11.8	34,079	1,027	0.754	
Camiguin	66.1	8.1	14.3	54,629	1,506	0.709	
Capiz	66.6	7.1	12.4	48,918	1,364	0.717	
Catanduanes	66.1	7.8	11.8	41,434	1,221	0.709	
Cavite	70.7	9.6	12.3	74,003	2,671	0.779	
Cebu	70.0	8.1	12.1	54,039	1,546	0.770	
Compostela Valley	66.7	7.2	11.9	34,467	1,047	0.718	
Davao del Norte	67.0	8.0	12.5	37,780	1,233	0.724	
Davao del Sur	68.6	8.6	11.8	55,409	1,617	0.748	
Davao Oriental	67.7	6.3	10.7	31,323	929	0.733	
Eastern Samar	65.7	7.3	11.8	37,863	1,092	0.703	
Guimaras	67.7	7.7	11.9	34,856	1,063	0.734	
Ifugao	64.9	7.0	11.9	39,909	1,290	0.691	
Ilocos Norte	70.2	8.8	12.1	57,392	1,755	0.772	
Ilocos Sur	68.5	8.3	12.4	47,171	1,577	0.746	
Iloilo	69.5	8.7	13.3	52,997	1,546	0.762	
Isabela	68.8	7.9	11.9	45,010	1,405	0.750	
Kalinga	64.8	6.8	12.2	41,632	1,215	0.690	
La Union	70.0	8.9	12.8	56,661	1,601	0.769	
Laguna	69.2	9.2	12.3	73,827	2,332	0.757	
Lanao del Norte	65.9	8.1	12.4	54,877	1,523	0.706	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2006	HDI (International) 2006
	0.906	0.885	0.895	0.956	0.682	0.526	0.801	0.734
	0.760	0.867	0.812	0.867	0.175	0.366	0.479	0.612
	0.763	0.826	0.793	0.847	0.245	0.366	0.528	0.603
	0.637	0.806	0.717	0.765	0.162	0.347	0.438	0.564
	0.733	0.870	0.798	0.852	0.196	0.363	0.492	0.604
	0.703	0.846	0.771	0.823	0.304	0.406	0.573	0.631
	0.637	0.852	0.737	0.787	0.165	0.344	0.450	0.575
	0.598	0.912	0.738	0.788	0.156	0.356	0.440	0.580
	0.723	0.715	0.719	0.768	0.365	0.417	0.590	0.616
	0.494	0.785	0.623	0.665	0.157	0.336	0.411	0.529
	0.796	0.827	0.811	0.866	0.471	0.470	0.673	0.672
	0.894	0.890	0.892	0.953	0.435	0.483	0.667	0.691
	0.746	0.823	0.783	0.836	0.408	0.440	0.642	0.659
	0.821	0.991	0.902	0.963	0.729	0.497	0.811	0.714
	0.704	0.803	0.752	0.803	0.395	0.410	0.609	0.616
	0.646	0.865	0.748	0.798	0.211	0.361	0.502	0.601
	0.642	0.758	0.698	0.745	0.191	0.371	0.469	0.585
	0.778	0.815	0.796	0.850	0.549	0.468	0.714	0.677
	0.687	0.848	0.763	0.815	0.326	0.408	0.584	0.629
	0.692	0.743	0.717	0.766	0.180	0.367	0.460	0.583
	0.715	0.806	0.759	0.811	0.140	0.352	0.441	0.599
	0.706	0.980	0.832	0.888	0.367	0.410	0.614	0.637
	0.615	0.849	0.723	0.771	0.304	0.395	0.552	0.602
	0.675	0.810	0.740	0.790	0.221	0.378	0.499	0.596
	0.835	0.843	0.839	0.896	0.581	0.496	0.740	0.702
	0.707	0.830	0.766	0.818	0.360	0.414	0.610	0.639
	0.624	0.814	0.713	0.761	0.145	0.355	0.429	0.579
	0.692	0.856	0.770	0.822	0.181	0.379	0.476	0.609
	0.745	0.805	0.774	0.827	0.376	0.420	0.615	0.638
	0.543	0.734	0.631	0.674	0.110	0.337	0.379	0.550
	0.631	0.805	0.713	0.761	0.182	0.361	0.460	0.578
	0.667	0.814	0.737	0.787	0.149	0.357	0.441	0.591
	0.610	0.814	0.704	0.752	0.205	0.386	0.474	0.586
	0.761	0.829	0.794	0.848	0.397	0.433	0.638	0.657
	0.722	0.852	0.784	0.838	0.285	0.417	0.562	0.638
	0.754	0.908	0.827	0.883	0.349	0.414	0.617	0.653
	0.690	0.818	0.751	0.802	0.261	0.399	0.539	0.622
	0.588	0.833	0.700	0.747	0.224	0.377	0.487	0.579
	0.774	0.879	0.825	0.881	0.389	0.419	0.641	0.657
	0.802	0.844	0.823	0.878	0.579	0.476	0.727	0.681
	0.703	0.852	0.774	0.826	0.370	0.411	0.600	0.621

Statistical Annex A4: Human Development Index 2006

Province	Life Expectancy at birth (years) 2006	Mean years of Schooling 2004	Expected years of Schooling 2004	Per Capita Income (NCR 2015 PPP Pesos) 2006	Per Capita Income (US 2011 PPP $) 2006	Life Expectancy Index	
Lanao del Sur	61.2	6.5	12.4	31,459	902	0.634	
Leyte	67.5	7.5	12.5	45,130	1,183	0.730	
Maguindanao	61.0	5.7	9.2	31,417	862	0.631	
Marinduque	65.7	7.6	12.4	39,935	1,088	0.703	
Masbate	65.9	7.1	11.9	31,760	882	0.706	
Misamis Occidental	68.2	8.1	12.7	40,334	1,045	0.741	
Misamis Oriental	68.4	8.9	12.7	53,812	1,457	0.745	
Mt. Province	65.8	7.0	13.7	38,995	1,313	0.705	
Negros Occidental	68.2	8.1	12.0	42,954	1,159	0.741	
Negros Oriental	67.1	6.6	11.1	33,818	1,016	0.725	
North Cotabato	67.6	7.5	10.4	38,759	1,043	0.732	
Northern Samar	65.6	7.4	11.5	38,107	1,036	0.701	
Nueva Ecija	69.3	8.3	11.4	43,500	1,440	0.758	
Nueva Vizcaya	67.4	8.5	12.9	58,353	1,791	0.730	
Occidental Mindoro	65.2	7.6	11.7	41,355	1,142	0.695	
Oriental Mindoro	66.7	7.5	11.8	36,332	1,024	0.718	
Palawan	65.0	7.5	12.3	42,644	1,145	0.692	
Pampanga	70.9	9.0	11.7	71,917	2,286	0.784	
Pangasinan	68.3	9.2	12.0	43,027	1,305	0.743	
Quezon	67.9	7.5	11.2	36,488	1,086	0.737	
Quirino	66.7	7.4	12.4	50,756	1,472	0.718	
Rizal	70.2	9.6	13.0	77,596	2,724	0.772	
Romblon	65.6	7.2	12.6	30,849	920	0.702	
Sarangani	67.7	5.3	9.6	30,205	821	0.733	
Siquijor	66.4	7.5	13.0	55,989	1,597	0.714	
Sorsogon	67.8	7.7	12.1	36,906	1,029	0.735	
South Cotabato	68.0	8.6	12.3	45,905	1,331	0.738	
Southern Leyte	66.9	7.1	12.3	40,152	1,180	0.721	
Sultan Kudarat	66.8	7.3	11.7	32,827	886	0.720	
Sulu	57.1	4.5	11.2	30,695	802	0.571	
Surigao del Norte	65.3	8.4	12.9	38,478	1,065	0.697	
Surigao del Sur	64.2	8.0	12.7	37,597	1,027	0.681	
Tarlac	68.9	8.8	11.7	52,264	1,701	0.752	
Tawi-tawi	55.8	6.3	10.7	28,876	603	0.551	
Western Samar	65.8	7.0	11.8	44,338	1,125	0.705	
Zambales	67.9	8.7	12.4	49,810	1,865	0.737	
Zamboanga del Norte	67.1	6.6	10.5	31,377	857	0.725	
Zamboanga del Sur	67.6	7.8	12.0	52,405	1,325	0.732	
Zamboanga Sibugay	66.8	7.2	11.7	43,928	1,136	0.720	
Philippines	69.0	7.3	12.1	53,632	1,705	0.754	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2006	HDI (International) 2006
	0.565	0.850	0.693	0.740	0.111	0.332	0.374	0.538
	0.649	0.854	0.745	0.795	0.262	0.373	0.534	0.601
	0.498	0.629	0.559	0.597	0.111	0.325	0.347	0.497
	0.658	0.850	0.748	0.799	0.205	0.361	0.486	0.587
	0.618	0.817	0.710	0.759	0.115	0.329	0.395	0.561
	0.705	0.868	0.782	0.835	0.209	0.354	0.506	0.603
	0.776	0.870	0.822	0.877	0.358	0.405	0.616	0.642
	0.612	0.941	0.759	0.810	0.195	0.389	0.481	0.606
	0.700	0.821	0.758	0.809	0.238	0.370	0.523	0.606
	0.573	0.759	0.659	0.704	0.137	0.350	0.412	0.563
	0.650	0.714	0.681	0.727	0.192	0.354	0.468	0.573
	0.639	0.787	0.709	0.757	0.185	0.353	0.461	0.572
	0.721	0.783	0.751	0.802	0.244	0.403	0.530	0.626
	0.737	0.881	0.806	0.861	0.408	0.436	0.635	0.649
	0.660	0.804	0.728	0.778	0.221	0.368	0.492	0.584
	0.654	0.810	0.728	0.777	0.165	0.351	0.452	0.581
	0.650	0.844	0.741	0.791	0.235	0.368	0.505	0.586
	0.777	0.800	0.788	0.842	0.558	0.473	0.716	0.678
	0.795	0.824	0.810	0.864	0.239	0.388	0.535	0.629
	0.652	0.770	0.708	0.756	0.167	0.360	0.453	0.586
	0.645	0.846	0.739	0.789	0.324	0.406	0.569	0.613
	0.834	0.891	0.862	0.920	0.620	0.499	0.761	0.708
	0.629	0.864	0.737	0.787	0.105	0.335	0.387	0.570
	0.456	0.655	0.547	0.584	0.098	0.318	0.347	0.514
	0.650	0.890	0.761	0.813	0.382	0.419	0.605	0.624
	0.668	0.830	0.745	0.795	0.172	0.352	0.465	0.590
	0.743	0.842	0.791	0.845	0.271	0.391	0.553	0.625
	0.614	0.845	0.720	0.769	0.207	0.373	0.486	0.591
	0.629	0.801	0.710	0.758	0.127	0.330	0.410	0.565
	0.394	0.768	0.551	0.588	0.103	0.315	0.326	0.473
	0.733	0.881	0.804	0.858	0.189	0.357	0.483	0.598
	0.695	0.868	0.777	0.829	0.179	0.352	0.466	0.583
	0.762	0.801	0.782	0.835	0.341	0.428	0.598	0.645
	0.544	0.735	0.632	0.675	0.083	0.271	0.314	0.466
	0.605	0.807	0.699	0.746	0.253	0.366	0.511	0.577
	0.753	0.852	0.801	0.855	0.314	0.442	0.583	0.653
	0.574	0.718	0.642	0.685	0.111	0.325	0.380	0.544
	0.673	0.821	0.743	0.793	0.342	0.390	0.584	0.610
	0.623	0.800	0.706	0.753	0.249	0.367	0.513	0.584
	0.635	0.828	0.725	0.774	0.356	0.428	0.592	0.630

Statistical Annex A5: Human Development Index 2003

Province	Life Expectancy at birth (years) 2003	Mean years of Schooling 2002	Expected years of Schooling 2002	Per Capita Income (NCR 2015 PPP Pesos) 2003	Per Capita Income (US 2011 PPP $) 2003	Life Expectancy Index	
Metro Manila	70.5	10.3	13.2	84,231	2,755	0.777	
Abra	65.8	7.9	13.2	45,388	1,157	0.704	
Agusan del Norte	64.2	8.2	12.7	44,674	957	0.679	
Agusan del Sur	62.8	7.6	12.1	33,815	772	0.658	
Aklan	65.0	8.2	13.4	36,684	900	0.692	
Albay	68.8	8.3	12.2	42,929	1,095	0.751	
Antique	64.1	7.5	13.2	42,315	989	0.679	
Apayao	63.3	7.3	12.1	39,753	1,000	0.666	
Aurora	66.4	8.4	12.3	48,828	1,208	0.715	
Basilan	61.8	5.2	11.1	33,739	740	0.643	
Bataan	68.1	9.0	12.6	58,600	1,755	0.740	
Batanes	64.9	8.9	14.1	66,738	2,322	0.691	
Batangas	70.5	8.3	12.3	60,573	1,643	0.777	
Benguet	69.2	9.2	14.6	79,490	2,058	0.757	
Biliran	64.9	7.5	12.1	44,363	1,016	0.690	
Bohol	69.0	6.6	12.4	39,969	918	0.754	
Bukidnon	66.8	7.1	11.5	35,089	886	0.720	
Bulacan	70.8	8.5	11.9	68,410	1,819	0.782	
Cagayan	68.1	7.2	12.6	46,127	1,163	0.741	
Camarines Norte	64.4	8.2	12.4	36,382	929	0.683	
Camarines Sur	69.4	7.4	11.8	36,258	928	0.760	
Camiguin	64.7	8.4	13.3	51,985	1,202	0.687	
Capiz	65.1	7.3	13.1	42,569	1,033	0.695	
Catanduanes	65.3	7.6	12.5	74,026	1,852	0.697	
Cavite	70.6	9.1	12.7	71,699	2,223	0.779	
Cebu	70.5	7.6	12.2	55,030	1,345	0.777	
Compostella Valley	65.7	7.5	11.9	34,683	872	0.703	
Davao del Norte	65.8	7.5	11.9	45,773	1,236	0.705	
Davao del Sur	68.2	8.3	12.0	53,444	1,291	0.742	
Davao Oriental	67.1	7.2	12.3	28,242	694	0.725	
Eastern Samar	64.2	6.8	12.2	35,761	892	0.680	
Guimaras	66.9	6.8	12.3	31,846	845	0.722	
Ifugao	62.5	6.1	13.6	42,389	1,154	0.654	
Ilocos Norte	70.2	8.3	12.6	53,834	1,353	0.773	
Ilocos Sur	67.6	8.3	11.9	45,078	1,239	0.732	
Iloilo	69.3	8.4	13.4	46,871	1,189	0.758	
Isabela	68.7	8.1	12.5	44,761	1,206	0.749	
Kalinga	62.8	7.4	13.1	36,615	900	0.659	
La Union	70.5	8.5	11.8	60,003	1,394	0.777	
Laguna	68.4	9.2	12.6	78,875	2,140	0.745	
Lanao del Norte	64.5	8.2	12.9	45,380	1,057	0.685	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2003	HDI (International) 2003
	0.892	0.905	0.898	0.959	0.693	0.501	0.802	0.720
	0.682	0.904	0.785	0.838	0.265	0.370	0.539	0.602
	0.711	0.871	0.787	0.840	0.257	0.341	0.527	0.580
	0.660	0.828	0.739	0.789	0.137	0.309	0.415	0.543
	0.709	0.917	0.806	0.861	0.169	0.332	0.465	0.583
	0.718	0.837	0.775	0.828	0.238	0.362	0.529	0.608
	0.655	0.902	0.769	0.821	0.231	0.346	0.505	0.578
	0.635	0.831	0.726	0.776	0.203	0.348	0.472	0.564
	0.725	0.842	0.781	0.834	0.303	0.376	0.565	0.608
	0.451	0.759	0.585	0.625	0.137	0.302	0.380	0.495
	0.784	0.861	0.822	0.877	0.411	0.433	0.644	0.655
	0.770	0.963	0.861	0.920	0.500	0.475	0.683	0.671
	0.722	0.843	0.780	0.833	0.432	0.423	0.654	0.649
	0.796	1.000	0.892	0.952	0.641	0.457	0.773	0.691
	0.651	0.830	0.735	0.785	0.254	0.350	0.516	0.575
	0.575	0.852	0.700	0.748	0.205	0.335	0.487	0.574
	0.612	0.790	0.695	0.742	0.152	0.330	0.433	0.561
	0.733	0.813	0.772	0.825	0.519	0.438	0.694	0.656
	0.627	0.860	0.734	0.784	0.273	0.371	0.541	0.599
	0.707	0.847	0.774	0.827	0.166	0.337	0.454	0.575
	0.639	0.808	0.718	0.767	0.164	0.337	0.458	0.581
	0.733	0.909	0.816	0.871	0.338	0.376	0.587	0.608
	0.632	0.898	0.753	0.804	0.234	0.353	0.507	0.582
	0.658	0.856	0.751	0.801	0.581	0.441	0.687	0.627
	0.791	0.867	0.828	0.885	0.555	0.468	0.726	0.686
	0.658	0.839	0.743	0.793	0.371	0.393	0.612	0.623
	0.648	0.812	0.725	0.774	0.147	0.327	0.431	0.563
	0.648	0.812	0.725	0.774	0.269	0.380	0.528	0.592
	0.717	0.825	0.769	0.821	0.354	0.386	0.600	0.617
	0.626	0.842	0.726	0.775	0.076	0.293	0.350	0.548
	0.590	0.836	0.702	0.749	0.159	0.331	0.433	0.552
	0.590	0.845	0.706	0.754	0.116	0.322	0.398	0.560
	0.527	0.932	0.701	0.748	0.232	0.369	0.484	0.565
	0.724	0.863	0.791	0.844	0.358	0.394	0.616	0.636
	0.722	0.818	0.769	0.821	0.262	0.380	0.540	0.611
	0.727	0.917	0.817	0.872	0.281	0.374	0.571	0.628
	0.702	0.855	0.775	0.827	0.258	0.376	0.543	0.615
	0.643	0.901	0.761	0.812	0.168	0.332	0.448	0.562
	0.739	0.809	0.773	0.826	0.426	0.398	0.649	0.634
	0.802	0.860	0.831	0.887	0.634	0.463	0.748	0.674
	0.713	0.887	0.795	0.849	0.265	0.356	0.536	0.592

Statistical Annex A5: Human Development Index 2003

Province	Life Expectancy at birth (years) 2003	Mean years of Schooling 2002	Expected years of Schooling 2002	Per Capita Income (NCR 2015 PPP Pesos) 2003	Per Capita Income (US 2011 PPP $) 2003	Life Expectancy Index	
Lanao del Sur	59.0	5.7	12.1	42,809	1,035	0.599	
Leyte	66.7	7.3	12.4	42,158	956	0.719	
Maguindanao	58.3	6.4	11.0	31,560	733	0.589	
Marinduque	65.3	7.5	13.3	37,132	873	0.697	
Masbate	64.9	6.5	11.3	35,420	835	0.690	
Misamis Occidental	68.2	8.3	13.1	39,769	864	0.741	
Misamis Oriental	68.0	9.0	12.9	53,400	1,213	0.739	
Mt. Province	63.6	7.3	13.7	32,883	932	0.670	
Negros Occidental	68.1	7.4	12.2	45,261	1,063	0.739	
Negros Oriental	66.2	6.9	10.5	31,015	796	0.711	
North Cotabato	66.9	7.5	12.3	38,688	887	0.722	
Northern Samar	64.4	6.7	12.5	34,249	805	0.684	
Nueva Ecija	68.9	7.9	11.6	44,719	1,265	0.753	
Nueva Vizcaya	66.2	8.2	12.6	62,507	1,656	0.710	
Occidental Mindoro	64.1	7.3	12.2	45,105	1,075	0.679	
Oriental Mindoro	65.5	7.2	11.8	42,709	1,039	0.700	
Palawan	63.3	8.1	12.6	39,792	922	0.666	
Pampanga	71.0	8.6	12.3	65,513	1,780	0.785	
Pangasinan	68.1	8.6	12.5	48,123	1,200	0.739	
Quezon	67.0	8.2	12.1	40,303	1,030	0.722	
Quirino	65.5	7.4	12.4	53,966	1,350	0.700	
Rizal	69.9	9.8	12.9	72,648	2,191	0.768	
Romblon	64.6	7.7	13.4	34,161	880	0.686	
Sarangani	67.2	5.8	9.8	29,370	680	0.726	
Siquijor	65.3	7.7	12.6	30,493	743	0.697	
Sorsogon	67.9	7.5	12.3	42,254	1,000	0.737	
South Cotabato	67.3	8.7	12.2	51,534	1,273	0.727	
Southern Leyte	66.0	7.2	12.4	36,243	921	0.707	
Sultan Kudarat	65.4	8.2	12.6	31,834	732	0.698	
Sulu	55.1	4.2	11.7	32,883	725	0.539	
Surigao del Norte	64.7	7.3	12.8	37,718	865	0.687	
Surigao del Sur	63.2	7.8	12.4	33,814	766	0.664	
Tarlac	68.2	7.9	11.7	54,479	1,516	0.742	
Tawi-tawi	53.5	6.4	13.4	44,338	780	0.516	
Western Samar	64.3	6.4	10.8	39,528	868	0.682	
Zambales	67.2	9.0	13.0	45,042	1,442	0.726	
Zamboanga del Norte	66.4	7.5	12.6	26,679	616	0.714	
Zamboanga del Sur	66.7	7.4	12.3	47,564	1,016	0.718	
Zamboanga Sibugay	66.3	7.4	12.3	37,307	815	0.712	
Philippines	68.4	8.3	12.4	53,678	1,455	0.744	

	Mean Years Index	Expected Years Index	Geometric Mean of Mean Expected Years of Schooling	Education Index	Income Index	Income (PPP US 2011 $) Index	HDI 2003	HDI (International) 2003
	0.491	0.828	0.637	0.681	0.237	0.353	0.459	0.524
	0.634	0.850	0.734	0.784	0.229	0.341	0.506	0.577
	0.556	0.750	0.646	0.690	0.113	0.301	0.358	0.497
	0.649	0.908	0.768	0.820	0.174	0.327	0.463	0.572
	0.560	0.773	0.658	0.703	0.155	0.321	0.422	0.538
	0.719	0.897	0.803	0.858	0.203	0.326	0.505	0.592
	0.785	0.885	0.833	0.890	0.353	0.377	0.615	0.628
	0.633	0.939	0.771	0.823	0.127	0.337	0.412	0.571
	0.645	0.839	0.736	0.785	0.264	0.357	0.535	0.592
	0.602	0.721	0.659	0.703	0.107	0.313	0.376	0.539
	0.653	0.842	0.742	0.792	0.191	0.330	0.478	0.573
	0.584	0.857	0.707	0.755	0.142	0.315	0.419	0.546
	0.687	0.797	0.740	0.790	0.258	0.383	0.535	0.611
	0.708	0.864	0.782	0.835	0.454	0.424	0.646	0.631
	0.634	0.836	0.728	0.778	0.262	0.359	0.517	0.574
	0.621	0.811	0.710	0.758	0.236	0.354	0.500	0.572
	0.701	0.860	0.776	0.829	0.203	0.336	0.482	0.570
	0.744	0.840	0.790	0.844	0.487	0.435	0.686	0.660
	0.745	0.855	0.798	0.852	0.295	0.375	0.571	0.618
	0.712	0.827	0.767	0.819	0.209	0.352	0.498	0.593
	0.645	0.852	0.742	0.792	0.360	0.393	0.584	0.602
	0.852	0.883	0.867	0.926	0.566	0.466	0.738	0.692
	0.671	0.915	0.784	0.837	0.141	0.328	0.433	0.573
	0.499	0.671	0.579	0.618	0.088	0.290	0.341	0.507
	0.667	0.865	0.760	0.811	0.101	0.303	0.385	0.555
	0.650	0.844	0.741	0.791	0.231	0.348	0.512	0.588
	0.754	0.835	0.794	0.847	0.333	0.384	0.590	0.619
	0.629	0.852	0.732	0.782	0.164	0.335	0.449	0.570
	0.712	0.863	0.784	0.837	0.116	0.301	0.407	0.560
	0.363	0.801	0.539	0.576	0.127	0.299	0.341	0.453
	0.633	0.876	0.745	0.795	0.180	0.326	0.462	0.563
	0.675	0.850	0.758	0.809	0.137	0.307	0.420	0.549
	0.688	0.799	0.742	0.792	0.365	0.411	0.599	0.622
	0.552	0.915	0.711	0.759	0.253	0.310	0.463	0.495
	0.560	0.740	0.644	0.687	0.200	0.326	0.455	0.535
	0.785	0.889	0.835	0.892	0.261	0.403	0.553	0.639
	0.647	0.866	0.749	0.799	0.059	0.275	0.322	0.539
	0.641	0.845	0.736	0.786	0.289	0.350	0.546	0.583
	0.641	0.845	0.736	0.786	0.176	0.317	0.462	0.562
	0.717	0.848	0.780	0.833	0.356	0.404	0.604	0.630

Statistical Annex B1: Gender-related Development Index 2015

Province	Life expectancy at birth (years) 2015		Mean years of schooling 2015		Expected years of schooling 2015		Estimated earned income (NCR 2015 PPP pesos) 2015		Estimated earned income (US 2011 PPP $) 2015		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Metro Manila	69.8	76.7	11.0	11.2	13.2	13.1	87,011	96,077	4,471	4,936	0.805	0.834	0.958	0.968
Abra	67.4	73.6	9.1	9.5	11.4	12.2	45,424	50,515	1,918	2,133	0.767	0.787	0.788	0.826
Agusan del Norte	68.3	74.1	8.9	9.8	12.3	12.6	46,529	60,313	1,919	2,488	0.781	0.793	0.776	0.846
Agusan del Sur	64.4	69.9	7.5	8.3	11.5	12.8	38,947	35,922	1,713	1,580	0.722	0.729	0.652	0.720
Aklan	67.4	73.6	8.8	9.4	11.9	12.5	51,343	54,549	2,124	2,257	0.767	0.787	0.763	0.818
Albay	66.2	72.4	8.7	9.5	12.5	13.4	48,423	59,707	2,119	2,612	0.749	0.767	0.751	0.823
Antique	67.9	73.3	8.1	9.1	12.7	13.6	64,310	94,533	2,536	3,727	0.775	0.782	0.701	0.794
Apayao														
Aurora														
Basilan	63.8	70.0	6.5	7.1	10.2	11.8	37,269	39,675	1,499	1,591	0.712	0.730	0.565	0.617
Bataan	66.9	72.9	9.7	10.3	13.2	11.3	84,168	92,190	4,190	4,589	0.760	0.776	0.838	0.897
Batanes														
Batangas	67.5	72.9	9.5	9.9	12.3	12.9	65,405	90,957	2,885	4,012	0.769	0.775	0.828	0.857
Benguet	67.0	73.1	10.5	11.4	12.8	14.0	88,291	108,400	3,784	4,645	0.761	0.779	0.912	0.994
Biliran	67.3	73.2	9.5	9.9	12.4	12.8	81,310	73,842	3,269	2,969	0.766	0.780	0.821	0.858
Bohol	65.4	72.0	8.6	8.8	12.3	13.2	50,500	69,380	1,959	2,691	0.736	0.761	0.747	0.767
Bukidnon	65.1	71.1	7.3	8.2	12.2	12.7	34,385	41,663	1,583	1,918	0.732	0.748	0.630	0.713
Bulacan	67.5	73.7	9.6	9.8	12.2	13.1	72,684	93,208	3,212	4,119	0.769	0.788	0.831	0.852
Cagayan	67.2	74.0	8.6	9.2	12.6	13.3	59,918	67,846	2,518	2,851	0.765	0.792	0.750	0.799
Camarines Norte	67.1	73.5	8.9	9.7	12.5	12.5	39,656	55,788	1,736	2,442	0.763	0.785	0.771	0.838
Camarines Sur	64.4	71.1	8.8	9.5	12.7	13.1	38,775	57,023	1,702	2,503	0.721	0.747	0.764	0.823
Camiguin														
Capiz														
Catanduanes	65.6	71.4	8.9	9.5	12.2	12.3	38,850	64,902	1,667	2,785	0.740	0.752	0.776	0.828
Cavite	67.8	73.6	10.3	10.6	12.3	12.3	70,486	84,148	3,554	4,243	0.775	0.787	0.894	0.919
Cebu	65.5	71.7	9.0	9.5	12.5	13.2	57,439	74,452	2,370	3,072	0.739	0.757	0.784	0.826
Compostela Valley *	66.5	72.9	7.8	8.8	11.5	12.2	38,460	45,691	1,741	2,068	0.753	0.775	0.679	0.765
Davao del Norte *	67.2	74.0	8.4	9.2	11.9	13.0	42,345	55,028	2,058	2,675	0.765	0.792	0.725	0.795
Davao del Sur	66.5	73.1	9.2	9.9	12.3	12.9	67,166	91,796	2,920	3,991	0.754	0.778	0.795	0.860
Davao Oriental	66.0	72.7	6.7	7.6	12.6	13.3	45,096	50,154	1,993	2,217	0.747	0.772	0.582	0.656
Eastern Samar	67.4	73.1	7.5	8.6	13.7	13.3	39,351	62,737	1,724	2,748	0.767	0.778	0.655	0.748
Guimaras														
Ifugao	69.4	75.2	7.5	8.6	10.9	13.3	41,893	44,922	1,888	2,024	0.798	0.810	0.648	0.746
Ilocos Norte	67.0	73.0	9.4	10.3	12.3	13.4	69,063	83,178	2,837	3,416	0.761	0.776	0.815	0.896
Ilocos Sur	68.7	73.6	8.8	9.9	13.7	13.4	59,287	66,919	2,662	3,004	0.788	0.786	0.766	0.861
Iloilo	67.2	73.5	9.3	10.0	13.0	13.5	53,827	75,753	2,303	3,241	0.764	0.784	0.806	0.870
Isabela	65.9	72.3	8.8	9.4	12.3	12.5	57,485	65,170	2,582	2,928	0.745	0.766	0.761	0.816
Kalinga	68.0	73.8	8.1	9.0	13.8	14.0	48,024	68,300	1,954	2,779	0.777	0.790	0.704	0.780
La Union	65.7	71.3	9.9	10.0	12.8	13.4	67,636	80,585	2,566	3,058	0.742	0.751	0.857	0.870
Laguna	68.8	74.2	10.1	10.2	12.3	12.0	82,798	92,134	3,653	4,065	0.789	0.795	0.880	0.889

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2015	GDI (International) 2015
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.906	0.807	0.931	0.884	1.000	0.952	0.628	0.714	0.574	0.589	0.820	0.975	0.668	0.581	0.811	0.775
0.779	0.754	0.784	0.789	0.842	0.850	0.231	0.280	0.446	0.462	0.777	0.846	0.253	0.454	0.550	0.668
0.844	0.780	0.809	0.813	0.869	0.875	0.242	0.373	0.446	0.486	0.787	0.872	0.294	0.465	0.586	0.683
0.784	0.789	0.715	0.754	0.767	0.811	0.169	0.141	0.429	0.417	0.725	0.789	0.154	0.423	0.445	0.623
0.812	0.771	0.787	0.795	0.845	0.856	0.288	0.318	0.462	0.471	0.777	0.850	0.302	0.466	0.584	0.675
0.858	0.832	0.803	0.827	0.862	0.891	0.260	0.368	0.461	0.493	0.758	0.876	0.304	0.477	0.587	0.682
0.866	0.839	0.779	0.816	0.836	0.879	0.411	0.700	0.488	0.547	0.778	0.857	0.518	0.516	0.702	0.701
0.701	0.733	0.629	0.672	0.676	0.724	0.153	0.176	0.409	0.418	0.721	0.699	0.164	0.413	0.436	0.593
0.906	0.702	0.871	0.793	0.936	0.854	0.601	0.677	0.564	0.578	0.768	0.893	0.637	0.571	0.759	0.732
0.845	0.796	0.837	0.826	0.898	0.889	0.422	0.666	0.508	0.558	0.772	0.894	0.516	0.532	0.709	0.716
0.874	0.868	0.892	0.929	0.958	1.000	0.640	0.832	0.549	0.580	0.770	0.979	0.724	0.564	0.817	0.752
0.852	0.794	0.836	0.826	0.898	0.889	0.574	0.502	0.527	0.512	0.773	0.893	0.536	0.519	0.718	0.711
0.842	0.818	0.793	0.792	0.852	0.853	0.280	0.460	0.449	0.497	0.748	0.852	0.348	0.472	0.605	0.670
0.834	0.786	0.725	0.748	0.779	0.806	0.126	0.195	0.417	0.446	0.740	0.792	0.153	0.431	0.448	0.632
0.833	0.807	0.832	0.829	0.893	0.893	0.491	0.687	0.524	0.562	0.778	0.893	0.573	0.542	0.736	0.722
0.859	0.822	0.803	0.810	0.862	0.873	0.370	0.445	0.487	0.506	0.778	0.867	0.404	0.497	0.648	0.695
0.854	0.770	0.811	0.804	0.871	0.865	0.176	0.330	0.431	0.483	0.774	0.868	0.230	0.455	0.536	0.674
0.870	0.813	0.815	0.818	0.875	0.881	0.168	0.342	0.428	0.486	0.734	0.878	0.225	0.455	0.526	0.665
0.833	0.759	0.804	0.792	0.863	0.853	0.169	0.417	0.425	0.503	0.746	0.858	0.240	0.461	0.536	0.665
0.842	0.763	0.868	0.837	0.932	0.902	0.470	0.601	0.539	0.566	0.781	0.916	0.528	0.552	0.723	0.734
0.854	0.816	0.819	0.821	0.879	0.884	0.346	0.508	0.478	0.517	0.748	0.881	0.412	0.497	0.647	0.689
0.788	0.757	0.732	0.761	0.786	0.820	0.165	0.234	0.432	0.458	0.764	0.802	0.193	0.444	0.491	0.648
0.815	0.804	0.769	0.799	0.826	0.861	0.202	0.323	0.457	0.496	0.778	0.843	0.248	0.476	0.546	0.678
0.843	0.795	0.819	0.827	0.879	0.891	0.439	0.674	0.510	0.557	0.766	0.885	0.531	0.532	0.711	0.712
0.862	0.821	0.708	0.734	0.760	0.790	0.228	0.276	0.452	0.468	0.759	0.775	0.250	0.460	0.528	0.647
0.934	0.825	0.782	0.786	0.840	0.846	0.173	0.396	0.430	0.501	0.773	0.843	0.241	0.463	0.540	0.670
0.743	0.823	0.694	0.784	0.746	0.844	0.198	0.226	0.444	0.454	0.804	0.792	0.211	0.449	0.512	0.659
0.845	0.828	0.830	0.861	0.891	0.927	0.457	0.591	0.505	0.533	0.769	0.909	0.515	0.519	0.711	0.713
0.940	0.831	0.849	0.846	0.911	0.911	0.364	0.436	0.496	0.514	0.787	0.911	0.397	0.505	0.658	0.713
0.886	0.833	0.845	0.851	0.908	0.916	0.311	0.521	0.474	0.525	0.774	0.912	0.390	0.498	0.650	0.706
0.844	0.774	0.802	0.795	0.861	0.856	0.346	0.420	0.491	0.510	0.756	0.858	0.379	0.500	0.627	0.687
0.946	0.869	0.816	0.823	0.876	0.886	0.256	0.449	0.449	0.502	0.783	0.881	0.326	0.474	0.608	0.689
0.874	0.827	0.866	0.848	0.929	0.913	0.443	0.567	0.490	0.517	0.746	0.921	0.497	0.503	0.699	0.702
0.839	0.744	0.859	0.813	0.923	0.876	0.588	0.677	0.544	0.560	0.792	0.899	0.629	0.551	0.765	0.732

Statistical Annex B1: Gender-related Development Index 2015

Province	Life expectancy at birth (years) 2015		Mean years of schooling 2015		Expected years of schooling 2015		Estimated earned income (NCR 2015 PPP pesos) 2015		Estimated earned income (US 2011 PPP $) 2015		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Lanao del Norte	66.7	73.3	8.3	9.4	12.3	13.4	48,212	58,570	2,046	2,486	0.757	0.782	0.716	0.815
Lanao del Sur	64.9	71.1	7.1	8.1	11.6	12.6	23,531	28,886	1,056	1,296	0.729	0.747	0.616	0.705
Leyte	66.6	72.8	7.8	8.7	12.2	12.4	44,358	60,343	1,766	2,403	0.756	0.775	0.678	0.759
Maguindanao	65.1	73.0	6.5	6.6	11.3	12.1	29,326	41,035	1,242	1,745	0.732	0.777	0.561	0.575
Marinduque	64.5	69.2	8.7	9.3	13.0	12.9	57,320	78,600	2,261	3,100	0.723	0.719	0.752	0.804
Masbate	65.9	72.2	6.7	8.0	12.6	13.3	35,176	42,800	1,422	1,730	0.745	0.764	0.580	0.697
Misamis Occidental	63.7	72.8	9.7	9.9	12.1	12.6	47,793	56,468	1,893	2,237	0.711	0.774	0.843	0.856
Misamis Oriental	66.6	72.8	9.7	10.1	13.1	12.6	61,460	85,678	2,545	3,547	0.756	0.774	0.840	0.877
Mt. Province	69.8	75.3	7.3	8.6	11.5	12.8	35,418	53,502	1,663	2,512	0.805	0.812	0.636	0.747
Negros Occidental	65.8	71.3	8.2	9.1	12.0	12.8	46,440	59,773	1,838	2,366	0.743	0.751	0.710	0.786
Negros Oriental	66.2	73.4	7.2	7.8	11.7	12.6	35,267	56,059	1,528	2,428	0.749	0.782	0.623	0.678
North Cotabato	66.4	72.8	7.5	7.8	12.0	12.0	36,967	43,362	1,499	1,758	0.752	0.774	0.649	0.680
Northern Samar	66.8	71.0	7.2	8.5	12.5	13.7	35,897	47,844	1,482	1,976	0.759	0.747	0.627	0.742
Nueva Ecija	67.0	73.4	8.9	9.3	11.5	12.2	50,439	57,445	2,372	2,702	0.761	0.784	0.773	0.803
Nueva Vizcaya														
Occidental Mindoro	65.5	71.3	8.2	8.6	11.7	13.3	52,731	59,286	2,109	2,371	0.738	0.750	0.708	0.745
Oriental Mindoro	67.0	73.5	7.6	8.3	12.5	13.7	53,049	71,790	2,165	2,931	0.761	0.784	0.661	0.719
Palawan	67.4	72.7	8.0	9.1	12.7	12.8	65,550	72,817	2,548	2,830	0.768	0.773	0.696	0.794
Pampanga	67.9	73.6	9.9	9.9	12.6	12.6	73,716	91,199	3,329	4,119	0.776	0.786	0.858	0.861
Pangasinan	66.2	71.9	9.8	9.9	12.0	12.5	53,633	68,068	2,185	2,772	0.750	0.760	0.853	0.857
Quezon	67.9	73.4	8.4	8.8	11.2	12.2	48,051	63,074	1,998	2,622	0.776	0.784	0.729	0.763
Quirino	66.9	73.9	7.2	7.9	11.6	13.1	47,581	50,466	1,985	2,106	0.760	0.790	0.625	0.685
Rizal	67.8	73.8	10.2	10.5	12.5	12.8	81,443	86,477	3,994	4,241	0.774	0.790	0.887	0.914
Romblon	66.2	71.3	8.4	9.2	12.8	14.9	52,120	56,394	2,252	2,436	0.750	0.751	0.728	0.795
Sarangani	66.0	72.2	5.9	6.6	12.0	12.1	32,068	37,173	1,312	1,521	0.746	0.764	0.513	0.569
Siquijor														
Sorsogon	64.5	70.3	7.7	8.6	12.9	13.1	37,483	42,380	1,521	1,720	0.723	0.735	0.669	0.745
South Cotabato	66.7	73.5	9.3	9.7	12.8	13.3	56,733	67,851	2,478	2,963	0.757	0.785	0.803	0.839
Southern Leyte	66.6	72.5	8.0	8.6	13.2	12.3	37,845	70,167	1,689	3,131	0.756	0.769	0.699	0.747
Sultan Kudarat	67.8	74.2	7.5	8.2	11.6	12.2	38,735	39,917	1,575	1,623	0.775	0.796	0.647	0.711
Sulu	59.9	66.7	6.0	6.6	13.4	13.8	27,280	35,923	1,115	1,469	0.652	0.679	0.518	0.577
Surigao del Norte	65.7	68.8	8.6	9.5	12.9	13.4	45,888	60,987	2,027	2,694	0.741	0.713	0.746	0.827
Surigao del Sur														
Tarlac	67.7	74.1	9.3	9.7	12.2	12.3	55,362	60,318	2,560	2,789	0.773	0.794	0.811	0.839
Tawi-Tawi														
Western Samar	67.2	73.6	6.8	7.7	12.7	14.4	41,867	63,203	1,614	2,436	0.765	0.785	0.586	0.671
Zambales	66.8	73.6	9.4	9.8	13.3	13.3	55,734	58,995	2,965	3,139	0.759	0.787	0.817	0.855
Zamboanga del Norte	66.4	72.1	6.9	8.1	11.9	12.2	33,297	47,535	1,398	1,995	0.753	0.763	0.603	0.701
Zamboanga del Sur *	67.6	73.1	8.5	9.4	12.6	12.9	54,107	67,264	2,101	2,612	0.771	0.778	0.735	0.820
Zamboanga Sibugay *	66.0	70.8	8.0	8.8	13.0	13.4	43,094	54,026	1,711	2,145	0.746	0.743	0.694	0.768

*Life expectancy of Compostela Valley and Zamboanga Sibugay is from Davao del Norte and Zamboanga del Sur, respectively.

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2015	GDI (International) 2015
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.844	0.831	0.777	0.823	0.835	0.886	0.258	0.357	0.456	0.485	0.769	0.860	0.299	0.470	0.583	0.678
0.796	0.777	0.700	0.740	0.752	0.797	0.022	0.074	0.356	0.387	0.738	0.774	0.034	0.371	0.270	0.596
0.837	0.768	0.753	0.764	0.809	0.822	0.221	0.374	0.434	0.480	0.765	0.816	0.278	0.456	0.558	0.658
0.771	0.748	0.658	0.656	0.706	0.707	0.078	0.189	0.381	0.432	0.754	0.706	0.110	0.405	0.389	0.599
0.891	0.800	0.819	0.802	0.879	0.864	0.345	0.548	0.471	0.519	0.721	0.871	0.423	0.494	0.643	0.677
0.859	0.821	0.706	0.756	0.758	0.815	0.134	0.206	0.401	0.431	0.755	0.786	0.162	0.415	0.458	0.627
0.825	0.777	0.834	0.815	0.895	0.878	0.254	0.337	0.444	0.469	0.741	0.887	0.289	0.456	0.575	0.669
0.895	0.779	0.867	0.827	0.931	0.890	0.384	0.615	0.489	0.539	0.765	0.910	0.473	0.513	0.691	0.709
0.787	0.791	0.707	0.768	0.759	0.828	0.136	0.308	0.425	0.487	0.808	0.792	0.189	0.454	0.494	0.662
0.821	0.791	0.763	0.788	0.820	0.849	0.241	0.368	0.440	0.478	0.747	0.834	0.291	0.458	0.566	0.658
0.799	0.778	0.706	0.726	0.758	0.782	0.134	0.333	0.412	0.482	0.765	0.769	0.191	0.444	0.483	0.640
0.818	0.740	0.729	0.710	0.783	0.764	0.151	0.212	0.409	0.433	0.763	0.773	0.176	0.421	0.470	0.628
0.858	0.849	0.733	0.794	0.787	0.855	0.140	0.254	0.407	0.451	0.753	0.820	0.181	0.428	0.481	0.641
0.789	0.754	0.781	0.778	0.839	0.838	0.279	0.346	0.478	0.498	0.772	0.838	0.309	0.488	0.585	0.681
0.801	0.825	0.753	0.784	0.808	0.844	0.301	0.364	0.461	0.478	0.744	0.826	0.329	0.469	0.587	0.661
0.857	0.849	0.753	0.781	0.808	0.842	0.304	0.483	0.465	0.510	0.772	0.825	0.373	0.486	0.619	0.677
0.867	0.791	0.777	0.793	0.834	0.854	0.423	0.493	0.489	0.505	0.770	0.844	0.455	0.497	0.666	0.686
0.860	0.778	0.859	0.818	0.922	0.881	0.501	0.668	0.530	0.562	0.781	0.901	0.573	0.545	0.739	0.727
0.823	0.771	0.838	0.813	0.899	0.875	0.310	0.447	0.466	0.502	0.755	0.887	0.366	0.483	0.626	0.687
0.764	0.755	0.746	0.759	0.801	0.817	0.256	0.400	0.452	0.493	0.780	0.809	0.312	0.472	0.582	0.668
0.794	0.813	0.704	0.746	0.756	0.803	0.252	0.279	0.451	0.460	0.775	0.779	0.265	0.456	0.543	0.650
0.858	0.790	0.872	0.850	0.937	0.915	0.575	0.623	0.557	0.566	0.782	0.926	0.598	0.561	0.756	0.741
0.875	0.920	0.798	0.855	0.857	0.921	0.295	0.336	0.470	0.482	0.750	0.888	0.314	0.476	0.594	0.682
0.819	0.749	0.648	0.653	0.696	0.703	0.104	0.153	0.389	0.411	0.755	0.700	0.124	0.400	0.403	0.595
0.880	0.808	0.767	0.776	0.824	0.835	0.156	0.202	0.411	0.430	0.729	0.830	0.176	0.420	0.474	0.633
0.875	0.826	0.838	0.832	0.900	0.896	0.339	0.445	0.485	0.512	0.771	0.898	0.385	0.498	0.644	0.701
0.902	0.761	0.794	0.754	0.852	0.812	0.159	0.467	0.427	0.520	0.762	0.832	0.237	0.469	0.532	0.667
0.796	0.755	0.718	0.732	0.771	0.789	0.167	0.179	0.416	0.421	0.785	0.780	0.173	0.419	0.473	0.635
0.916	0.853	0.689	0.701	0.740	0.755	0.058	0.141	0.364	0.406	0.665	0.747	0.082	0.384	0.345	0.576
0.881	0.826	0.811	0.826	0.870	0.890	0.236	0.380	0.455	0.498	0.727	0.880	0.291	0.475	0.571	0.672
0.835	0.759	0.823	0.798	0.884	0.859	0.326	0.373	0.490	0.503	0.783	0.871	0.348	0.496	0.619	0.697
0.866	0.890	0.712	0.773	0.765	0.833	0.197	0.401	0.420	0.482	0.775	0.797	0.264	0.449	0.547	0.652
0.909	0.824	0.862	0.839	0.925	0.904	0.330	0.361	0.512	0.521	0.772	0.914	0.344	0.516	0.624	0.714
0.816	0.754	0.701	0.727	0.753	0.783	0.116	0.251	0.398	0.452	0.758	0.768	0.158	0.424	0.452	0.627
0.865	0.800	0.798	0.810	0.857	0.872	0.314	0.440	0.460	0.493	0.775	0.864	0.366	0.476	0.626	0.683
0.889	0.830	0.785	0.798	0.843	0.859	0.209	0.313	0.429	0.463	0.745	0.851	0.251	0.445	0.542	0.656

Statistical Annex B2: Gender-related Development Index 2012

Province	Life expectancy at birth (years) 2012		Mean years of schooling 2012		Expected years of schooling 2012		Estimated earned income (NCR 2015 PPP pesos) 2012		Estimated earned income (US 2011 PPP $) 2012		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Metro Manila	69.4	75.8	11.0	11.1	12.7	12.6	80,958	93,840	4,160	4,821	0.798	0.820	0.951	0.962
Abra	66.3	72.3	8.9	9.5	12.3	11.7	43,594	54,126	1,840	2,285	0.751	0.766	0.776	0.827
Agusan del Norte	66.5	72.3	8.8	9.5	12.2	12.5	46,494	60,690	1,918	2,504	0.754	0.766	0.764	0.823
Agusan del Sur	63.5	68.7	7.7	8.6	11.0	11.6	37,798	46,738	1,662	2,055	0.707	0.710	0.672	0.746
Aklan	66.1	72.1	9.0	9.6	12.0	13.5	51,884	51,247	2,147	2,120	0.748	0.763	0.778	0.831
Albay	66.2	72.2	8.6	9.0	12.3	12.8	38,409	52,305	1,680	2,288	0.749	0.764	0.750	0.781
Antique	66.2	71.8	8.5	8.7	12.0	12.3	44,460	79,413	1,753	3,131	0.749	0.758	0.742	0.755
Apayao														
Aurora														
Basilan	62.6	68.6	6.9	6.5	10.9	10.7	38,497	47,680	1,554	1,932	0.695	0.709	0.595	0.566
Bataan	66.5	72.4	9.9	10.1	12.3	12.3	62,729	79,483	3,123	3,957	0.755	0.767	0.855	0.880
Batanes														
Batangas	67.5	73.0	9.1	9.6	12.0	11.9	58,634	78,163	2,586	3,448	0.769	0.778	0.789	0.831
Benguet	66.9	72.9	10.4	11.1	13.3	13.7	88,282	104,412	3,783	4,474	0.759	0.775	0.902	0.966
Biliran	66.1	71.8	8.4	8.6	13.4	13.3	46,682	60,855	1,877	2,447	0.747	0.758	0.727	0.746
Bohol	65.7	71.8	8.4	9.1	12.8	12.8	46,149	71,718	1,790	2,782	0.741	0.758	0.733	0.787
Bukidnon	64.9	70.7	7.1	7.9	10.6	11.3	32,849	40,992	1,512	1,887	0.729	0.741	0.617	0.690
Bulacan	67.7	73.6	9.6	9.5	12.2	12.2	65,796	77,454	2,908	3,423	0.772	0.787	0.832	0.826
Cagayan	66.9	73.1	8.5	9.1	12.4	12.9	53,505	62,548	2,249	2,629	0.759	0.779	0.736	0.787
Camarines Norte	65.8	71.9	8.4	9.4	11.3	12.2	41,037	46,756	1,797	2,047	0.743	0.759	0.732	0.817
Camarines Sur	65.1	71.2	8.5	9.1	12.1	13.0	36,999	60,291	1,624	2,646	0.732	0.749	0.737	0.793
Camiguin														
Capiz														
Catanduanes	64.8	70.6	9.5	10.0	12.2	13.8	38,673	41,679	1,660	1,789	0.727	0.739	0.829	0.870
Cavite	67.8	73.6	10.1	10.4	12.7	12.4	67,139	81,251	3,386	4,097	0.774	0.786	0.876	0.899
Cebu	66.1	72.1	8.8	9.0	12.3	12.4	53,914	69,877	2,225	2,883	0.748	0.763	0.764	0.785
Compostela Valley *	65.7	71.7	7.6	8.1	10.2	12.0	44,002	37,619	1,991	1,703	0.742	0.756	0.656	0.701
Davao del Norte *	66.3	72.5	8.8	9.0	12.1	12.4	38,660	60,721	1,879	2,952	0.751	0.770	0.763	0.781
Davao del Sur	66.4	72.4	8.8	9.4	11.9	12.5	56,317	68,684	2,449	2,986	0.752	0.768	0.768	0.820
Davao Oriental	65.7	71.9	6.9	7.2	11.6	11.2	33,097	45,995	1,463	2,033	0.742	0.760	0.595	0.624
Eastern Samar	66.0	71.5	8.1	8.6	12.0	12.8	29,245	49,160	1,281	2,153	0.746	0.753	0.701	0.747
Guimaras														
Ifugao	66.9	72.7	7.0	8.0	11.8	12.4	43,864	50,484	1,977	2,275	0.761	0.773	0.608	0.693
Ilocos Norte	67.1	73.0	9.9	10.2	12.3	12.1	73,384	80,652	3,050	3,352	0.763	0.777	0.858	0.886
Ilocos Sur	67.6	73.0	9.6	10.0	12.9	12.9	57,957	75,129	2,633	3,413	0.770	0.777	0.835	0.872
Iloilo	66.9	73.2	9.6	10.2	13.1	12.9	56,571	90,246	2,420	3,861	0.760	0.780	0.835	0.887
Isabela	66.0	72.0	8.4	9.0	11.2	12.0	48,568	53,279	2,182	2,393	0.746	0.762	0.726	0.781
Kalinga	66.0	71.8	8.1	9.0	11.4	13.5	46,895	56,237	1,908	2,288	0.746	0.758	0.699	0.778
La Union	66.2	71.8	9.9	10.1	12.7	12.6	61,520	77,482	2,362	2,975	0.749	0.759	0.862	0.875
Laguna	67.9	73.5	10.0	10.2	12.2	12.4	71,730	89,495	3,165	3,948	0.775	0.785	0.868	0.886

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2012	GDI (International) 2012
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.866	0.781	0.908	0.867	0.974	0.933	0.570	0.693	0.563	0.585	0.809	0.954	0.626	0.574	0.784	0.762
0.841	0.725	0.808	0.775	0.867	0.834	0.214	0.314	0.440	0.473	0.759	0.851	0.254	0.456	0.548	0.665
0.832	0.776	0.797	0.799	0.856	0.860	0.241	0.377	0.446	0.486	0.760	0.858	0.294	0.465	0.577	0.672
0.756	0.716	0.713	0.730	0.765	0.787	0.159	0.244	0.425	0.457	0.709	0.776	0.192	0.440	0.473	0.623
0.823	0.835	0.800	0.833	0.859	0.897	0.293	0.287	0.463	0.461	0.756	0.878	0.290	0.462	0.577	0.674
0.842	0.792	0.795	0.787	0.853	0.847	0.164	0.297	0.426	0.473	0.756	0.850	0.212	0.448	0.514	0.661
0.820	0.763	0.780	0.759	0.837	0.817	0.222	0.555	0.433	0.520	0.753	0.827	0.317	0.472	0.583	0.665
0.744	0.660	0.666	0.611	0.715	0.658	0.165	0.253	0.414	0.447	0.702	0.685	0.200	0.430	0.458	0.591
0.842	0.758	0.849	0.817	0.911	0.880	0.396	0.556	0.520	0.556	0.761	0.895	0.463	0.537	0.681	0.715
0.821	0.739	0.805	0.784	0.864	0.844	0.357	0.544	0.491	0.535	0.773	0.854	0.431	0.512	0.658	0.697
0.911	0.849	0.906	0.906	0.973	0.975	0.640	0.794	0.549	0.574	0.767	0.974	0.709	0.561	0.809	0.748
0.916	0.822	0.816	0.783	0.877	0.844	0.243	0.378	0.443	0.483	0.752	0.860	0.296	0.462	0.576	0.669
0.874	0.789	0.800	0.788	0.859	0.848	0.238	0.482	0.436	0.502	0.750	0.854	0.319	0.467	0.589	0.669
0.727	0.697	0.670	0.693	0.719	0.747	0.111	0.189	0.410	0.444	0.735	0.733	0.140	0.426	0.423	0.612
0.834	0.755	0.833	0.790	0.894	0.851	0.426	0.537	0.509	0.534	0.779	0.872	0.475	0.521	0.686	0.707
0.849	0.798	0.790	0.793	0.849	0.854	0.308	0.395	0.470	0.494	0.769	0.851	0.346	0.482	0.610	0.681
0.776	0.755	0.754	0.785	0.809	0.846	0.189	0.244	0.436	0.456	0.751	0.827	0.213	0.446	0.510	0.652
0.826	0.803	0.780	0.798	0.838	0.859	0.151	0.373	0.421	0.495	0.741	0.848	0.215	0.455	0.513	0.659
0.833	0.853	0.831	0.861	0.892	0.928	0.167	0.196	0.424	0.436	0.733	0.910	0.180	0.430	0.493	0.659
0.871	0.767	0.874	0.831	0.938	0.895	0.438	0.573	0.532	0.561	0.780	0.916	0.497	0.546	0.708	0.731
0.845	0.768	0.803	0.777	0.863	0.837	0.312	0.465	0.469	0.508	0.755	0.849	0.373	0.487	0.621	0.679
0.698	0.744	0.677	0.722	0.727	0.778	0.218	0.157	0.452	0.428	0.749	0.751	0.182	0.440	0.468	0.628
0.827	0.768	0.794	0.775	0.853	0.834	0.167	0.377	0.443	0.511	0.760	0.843	0.231	0.475	0.529	0.673
0.814	0.775	0.790	0.797	0.849	0.858	0.335	0.453	0.483	0.513	0.760	0.853	0.385	0.498	0.630	0.686
0.791	0.694	0.686	0.658	0.737	0.709	0.114	0.237	0.405	0.455	0.751	0.723	0.154	0.429	0.437	0.615
0.821	0.793	0.759	0.770	0.815	0.829	0.077	0.267	0.385	0.464	0.749	0.822	0.119	0.421	0.419	0.638
0.807	0.769	0.701	0.730	0.752	0.786	0.216	0.280	0.451	0.472	0.767	0.769	0.244	0.461	0.524	0.648
0.838	0.751	0.848	0.815	0.911	0.878	0.498	0.567	0.516	0.531	0.770	0.894	0.530	0.523	0.715	0.711
0.881	0.799	0.858	0.834	0.921	0.898	0.351	0.515	0.494	0.533	0.773	0.910	0.417	0.513	0.665	0.712
0.897	0.800	0.866	0.842	0.930	0.907	0.338	0.659	0.481	0.552	0.770	0.918	0.446	0.514	0.681	0.714
0.767	0.745	0.746	0.763	0.801	0.821	0.261	0.306	0.466	0.480	0.754	0.811	0.282	0.473	0.557	0.661
0.779	0.835	0.738	0.806	0.793	0.868	0.245	0.334	0.445	0.473	0.752	0.829	0.283	0.459	0.561	0.659
0.871	0.780	0.866	0.826	0.930	0.889	0.385	0.537	0.478	0.512	0.754	0.909	0.448	0.494	0.675	0.697
0.836	0.764	0.852	0.823	0.914	0.886	0.482	0.652	0.522	0.555	0.780	0.900	0.554	0.538	0.730	0.723

Statistical Annex B2: Gender-related Development Index 2012

Province	Life expectancy at birth (years) 2012		Mean years of schooling 2012		Expected years of schooling 2012		Estimated earned income (NCR 2015 PPP pesos) 2012		Estimated earned income (US 2011 PPP $) 2012		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Lanao del Norte	65.6	71.6	8.3	9.4	11.1	12.5	43,788	66,834	1,859	2,837	0.741	0.756	0.723	0.816
Lanao del Sur	62.8	68.6	7.2	7.5	10.7	11.6	24,492	38,665	1,099	1,735	0.697	0.710	0.624	0.650
Leyte	66.1	71.9	7.8	8.6	12.0	12.9	48,627	74,984	1,936	2,986	0.747	0.760	0.679	0.748
Maguindanao	63.0	69.7	6.3	6.3	10.7	11.5	27,960	34,166	1,186	1,460	0.701	0.726	0.546	0.544
Marinduque	63.9	69.0	9.4	9.7	12.3	14.0	53,270	55,806	2,101	2,201	0.714	0.716	0.815	0.838
Masbate	65.0	71.0	6.9	7.6	11.4	11.5	32,467	40,621	1,313	1,642	0.731	0.746	0.597	0.660
Misamis Occidental	64.7	71.8	8.8	9.4	12.0	12.9	37,312	54,322	1,478	2,152	0.726	0.758	0.761	0.816
Misamis Oriental	66.4	72.2	9.6	9.9	12.3	12.7	60,786	68,689	2,517	2,844	0.752	0.765	0.833	0.858
Mt. Province	67.5	73.1	7.8	8.9	12.6	13.6	38,382	45,907	1,802	2,155	0.769	0.779	0.680	0.771
Negros Occidental	65.6	71.3	8.3	9.0	12.2	12.5	46,023	61,250	1,822	2,425	0.740	0.750	0.718	0.784
Negros Oriental	65.7	72.0	6.9	7.7	11.2	12.2	42,125	51,644	1,825	2,237	0.742	0.762	0.597	0.666
North Cotabato	65.9	71.9	7.4	7.7	10.6	11.7	34,840	53,848	1,412	2,183	0.745	0.761	0.645	0.671
Northern Samar	65.4	70.2	7.5	8.3	11.5	12.3	33,621	52,950	1,388	2,186	0.738	0.733	0.653	0.724
Nueva Ecija	66.9	72.9	8.8	9.0	11.2	11.9	47,497	58,104	2,234	2,733	0.759	0.776	0.761	0.780
Nueva Vizcaya														
Occidental Mindoro	64.5	70.2	7.3	7.8	11.4	12.3	47,110	57,231	1,884	2,289	0.723	0.733	0.637	0.674
Oriental Mindoro	66.0	72.0	8.1	8.6	11.8	12.1	46,655	59,676	1,905	2,436	0.747	0.762	0.705	0.746
Palawan	65.7	71.1	8.2	9.0	12.6	12.0	49,967	68,460	1,942	2,661	0.741	0.747	0.710	0.780
Pampanga	68.0	73.7	9.3	9.6	12.4	12.4	67,367	84,198	3,043	3,803	0.777	0.787	0.810	0.832
Pangasinan	66.0	71.6	9.5	9.8	12.1	12.1	48,064	58,209	1,981	2,399	0.746	0.756	0.826	0.851
Quezon	66.9	72.6	8.2	8.9	11.7	11.9	40,854	68,411	1,698	2,844	0.761	0.770	0.714	0.774
Quirino	66.0	72.3	7.2	8.5	11.4	12.5	50,292	50,349	2,098	2,101	0.746	0.766	0.623	0.738
Rizal	67.7	73.5	10.5	10.8	12.9	12.5	75,996	104,643	3,727	5,132	0.772	0.785	0.910	0.934
Romblon	65.0	70.4	8.5	8.3	12.1	12.9	40,695	43,921	1,758	1,898	0.731	0.737	0.740	0.724
Sarangani	65.6	71.6	6.2	6.7	11.8	12.2	36,464	35,449	1,492	1,451	0.740	0.755	0.539	0.578
Siquijor														
Sorsogon	64.6	70.4	8.6	8.8	12.3	13.1	35,905	45,107	1,457	1,830	0.725	0.737	0.744	0.768
South Cotabato	66.3	72.5	8.8	9.4	12.5	12.3	51,643	70,111	2,256	3,062	0.751	0.769	0.765	0.814
Southern Leyte	65.8	71.5	8.1	8.9	12.5	12.8	40,189	62,765	1,794	2,801	0.743	0.754	0.706	0.769
Sultan Kudarat	66.6	72.6	7.4	8.2	11.5	11.7	32,421	53,515	1,318	2,176	0.756	0.771	0.646	0.714
Sulu	58.2	64.2	6.8	6.6	12.7	12.3	30,327	33,440	1,240	1,367	0.626	0.642	0.588	0.575
Surigao del Norte	64.4	68.8	8.5	9.6	12.0	12.0	39,143	54,379	1,729	2,402	0.722	0.712	0.741	0.833
Surigao del Sur														
Tarlac	67.3	73.2	9.3	9.9	11.5	11.8	59,686	70,891	2,760	3,278	0.765	0.780	0.807	0.862
Tawi-Tawi														
Western Samar	66.0	71.8	6.4	7.4	11.4	12.7	33,041	43,986	1,274	1,695	0.746	0.758	0.555	0.643
Zambales	66.4	72.5	9.2	9.0	11.7	12.5	40,435	47,720	2,151	2,539	0.752	0.770	0.798	0.783
Zamboanga del Norte	65.7	71.3	7.0	8.0	11.2	12.3	35,273	35,127	1,481	1,474	0.742	0.751	0.605	0.694
Zamboanga del Sur *	66.6	72.3	8.2	8.7	12.2	12.4	46,666	70,331	1,812	2,731	0.755	0.766	0.709	0.756
Zamboanga Sibugay *	65.3	70.5	7.6	8.4	12.6	12.5	38,830	55,259	1,542	2,194	0.735	0.738	0.656	0.733

*Life expectancy of Compostela Valley and Zamboanga Sibugay is from Davao del Norte and Zamboanga del Sur, respectively.

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2012	GDI (International) 2012
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.759	0.772	0.741	0.793	0.795	0.854	0.216	0.435	0.441	0.505	0.748	0.824	0.288	0.471	0.562	0.662
0.730	0.718	0.675	0.683	0.725	0.736	0.032	0.167	0.362	0.431	0.703	0.730	0.053	0.394	0.301	0.587
0.818	0.800	0.745	0.774	0.800	0.833	0.262	0.513	0.448	0.513	0.754	0.816	0.347	0.478	0.597	0.665
0.730	0.709	0.632	0.621	0.678	0.669	0.065	0.124	0.374	0.405	0.713	0.673	0.085	0.389	0.344	0.571
0.840	0.868	0.828	0.853	0.889	0.918	0.306	0.330	0.460	0.467	0.715	0.903	0.318	0.463	0.590	0.669
0.781	0.714	0.683	0.687	0.733	0.739	0.108	0.185	0.389	0.423	0.739	0.736	0.136	0.405	0.420	0.604
0.824	0.795	0.792	0.806	0.850	0.868	0.154	0.316	0.407	0.464	0.742	0.859	0.207	0.433	0.509	0.651
0.839	0.786	0.836	0.821	0.898	0.884	0.378	0.453	0.487	0.506	0.758	0.891	0.412	0.496	0.653	0.695
0.862	0.839	0.766	0.804	0.822	0.866	0.164	0.236	0.437	0.464	0.774	0.844	0.194	0.450	0.502	0.665
0.838	0.772	0.776	0.778	0.833	0.838	0.237	0.382	0.438	0.482	0.745	0.835	0.293	0.459	0.567	0.659
0.764	0.753	0.675	0.708	0.725	0.763	0.200	0.291	0.439	0.469	0.752	0.743	0.237	0.454	0.510	0.633
0.724	0.723	0.683	0.696	0.734	0.750	0.130	0.312	0.400	0.466	0.753	0.742	0.184	0.430	0.468	0.622
0.787	0.760	0.717	0.742	0.769	0.799	0.119	0.303	0.397	0.466	0.736	0.784	0.171	0.429	0.462	0.628
0.770	0.734	0.765	0.757	0.822	0.815	0.251	0.352	0.469	0.500	0.768	0.818	0.293	0.484	0.569	0.672
0.782	0.761	0.706	0.716	0.758	0.772	0.247	0.344	0.443	0.473	0.728	0.765	0.288	0.458	0.543	0.634
0.808	0.748	0.755	0.747	0.810	0.805	0.243	0.367	0.445	0.482	0.754	0.807	0.292	0.463	0.563	0.656
0.860	0.745	0.781	0.763	0.839	0.821	0.275	0.451	0.448	0.496	0.744	0.830	0.341	0.471	0.595	0.662
0.846	0.769	0.828	0.800	0.889	0.861	0.441	0.601	0.516	0.550	0.782	0.875	0.508	0.532	0.703	0.714
0.825	0.750	0.826	0.799	0.886	0.860	0.256	0.353	0.451	0.480	0.751	0.873	0.297	0.465	0.580	0.673
0.798	0.738	0.754	0.756	0.810	0.814	0.188	0.451	0.428	0.506	0.765	0.812	0.265	0.464	0.548	0.660
0.779	0.775	0.697	0.756	0.748	0.815	0.278	0.278	0.460	0.460	0.756	0.780	0.278	0.460	0.547	0.647
0.886	0.774	0.898	0.850	0.964	0.916	0.523	0.796	0.547	0.595	0.778	0.939	0.631	0.570	0.773	0.747
0.827	0.796	0.782	0.759	0.840	0.817	0.186	0.217	0.433	0.445	0.734	0.829	0.200	0.439	0.496	0.644
0.805	0.755	0.659	0.661	0.707	0.711	0.146	0.136	0.408	0.404	0.748	0.709	0.141	0.406	0.421	0.599
0.840	0.810	0.791	0.788	0.849	0.849	0.140	0.228	0.405	0.439	0.731	0.849	0.174	0.421	0.476	0.639
0.852	0.764	0.807	0.788	0.867	0.849	0.291	0.467	0.471	0.517	0.760	0.858	0.358	0.493	0.616	0.685
0.856	0.791	0.777	0.780	0.835	0.840	0.181	0.397	0.436	0.503	0.748	0.837	0.249	0.467	0.538	0.664
0.784	0.722	0.712	0.718	0.764	0.773	0.107	0.308	0.390	0.465	0.763	0.769	0.159	0.424	0.454	0.629
0.869	0.762	0.715	0.662	0.767	0.713	0.087	0.117	0.380	0.395	0.634	0.739	0.100	0.388	0.360	0.566
0.824	0.743	0.781	0.786	0.839	0.847	0.171	0.317	0.431	0.480	0.717	0.843	0.222	0.454	0.512	0.650
0.786	0.731	0.796	0.794	0.855	0.855	0.367	0.474	0.501	0.527	0.773	0.855	0.414	0.514	0.649	0.698
0.777	0.785	0.657	0.711	0.705	0.765	0.113	0.218	0.384	0.428	0.752	0.734	0.149	0.405	0.435	0.607
0.799	0.774	0.798	0.778	0.857	0.838	0.184	0.253	0.464	0.489	0.761	0.848	0.213	0.476	0.516	0.674
0.764	0.761	0.680	0.726	0.730	0.782	0.134	0.133	0.407	0.406	0.747	0.755	0.134	0.407	0.422	0.612
0.833	0.767	0.769	0.762	0.826	0.820	0.243	0.469	0.438	0.500	0.761	0.823	0.320	0.467	0.585	0.663
0.864	0.774	0.753	0.753	0.808	0.811	0.168	0.325	0.413	0.467	0.737	0.810	0.222	0.438	0.510	0.639

Statistical Annex B3: Gender-related Development Index 2009

Province	Life expectancy at birth (years) 2009		Mean years of schooling 2008		Expected years of schooling 2008		Estimated earned income (NCR 2015 PPP pesos) 2009		Estimated earned income (US 2011 PPP $) 2009		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Metro Manila	68.9	74.9	10.6	10.7	12.9	13.0	82,388	95,587	4,233	4,911	0.791	0.806	0.924	0.926
Abra	65.3	71.0	8.5	8.8	12.0	12.6	37,405	46,473	1,579	1,962	0.735	0.746	0.742	0.762
Agusan del Norte	64.8	70.5	8.6	9.1	11.3	11.7	46,502	58,283	1,918	2,404	0.727	0.739	0.748	0.793
Agusan del Sur	62.5	67.5	7.3	7.7	10.8	11.6	31,431	43,640	1,382	1,919	0.692	0.692	0.637	0.665
Aklan	64.9	70.6	8.4	9.0	12.6	13.6	34,974	49,970	1,447	2,067	0.729	0.740	0.729	0.778
Albay	66.1	72.0	8.3	8.7	11.8	13.1	40,236	54,288	1,760	2,375	0.748	0.761	0.720	0.752
Antique	64.5	70.2	7.0	7.6	12.2	13.9	39,912	63,847	1,574	2,517	0.723	0.734	0.607	0.662
Apayao														
Aurora														
Basilan	61.5	67.2	7.6	7.0	12.6	12.0	38,846	45,864	1,570	1,849	0.677	0.687	0.664	0.610
Bataan	66.2	71.8	9.4	9.4	12.2	12.6	58,770	93,645	2,926	4,662	0.749	0.759	0.820	0.814
Batanes														
Batangas	67.5	73.2	8.6	8.9	12.3	11.8	56,317	82,750	2,484	3,650	0.769	0.780	0.749	0.775
Benguet	66.7	72.6	9.7	10.3	13.8	14.3	84,460	113,495	3,619	4,864	0.757	0.770	0.843	0.896
Biliran	64.8	70.3	8.0	8.3	13.0	12.8	53,627	89,885	2,156	3,614	0.728	0.735	0.694	0.718
Bohol	66.0	71.6	8.0	8.0	12.1	13.0	42,019	61,482	1,630	2,385	0.747	0.756	0.696	0.692
Bukidnon	64.7	70.2	7.3	8.0	10.7	10.8	38,364	43,649	1,766	2,009	0.727	0.734	0.637	0.698
Bulacan	67.9	73.5	9.2	9.4	12.1	12.0	69,850	82,977	3,087	3,667	0.775	0.785	0.802	0.816
Cagayan	66.5	72.2	8.0	8.1	11.7	12.8	55,785	63,604	2,344	2,673	0.754	0.765	0.693	0.699
Camarines Norte	64.5	70.2	8.0	8.2	10.3	12.0	36,349	53,330	1,591	2,335	0.724	0.733	0.695	0.715
Camarines Sur	65.8	71.3	7.9	8.4	11.3	12.1	36,448	49,889	1,600	2,190	0.743	0.751	0.688	0.728
Camiguin														
Capiz														
Catanduanes	64.0	69.8	8.3	8.6	10.6	13.2	68,846	69,132	2,955	2,967	0.715	0.727	0.721	0.746
Cavite	67.8	73.6	9.7	9.9	11.9	12.1	68,800	80,023	3,469	4,035	0.774	0.786	0.838	0.858
Cebu	66.7	72.4	8.3	8.6	11.7	12.1	55,201	70,403	2,278	2,905	0.757	0.768	0.724	0.743
Compostela Valley *	64.9	70.4	7.1	7.7	11.7	11.6	39,149	43,462	1,772	1,967	0.730	0.737	0.620	0.669
Davao del Norte *	65.4	71.1	7.9	8.4	11.3	12.6	40,048	58,898	1,947	2,863	0.737	0.747	0.685	0.727
Davao del Sur	66.3	71.8	8.6	9.0	11.8	12.2	53,533	75,719	2,328	3,292	0.750	0.758	0.744	0.785
Davao Oriental	65.4	71.1	6.1	7.0	9.9	11.2	28,775	30,598	1,272	1,353	0.737	0.747	0.526	0.608
Eastern Samar	64.5	69.9	7.4	8.7	11.7	12.7	31,464	60,390	1,378	2,645	0.724	0.729	0.639	0.754
Guimaras														
Ifugao	64.5	70.3	6.1	6.7	11.3	12.8	39,084	63,482	1,761	2,861	0.723	0.736	0.525	0.581
Ilocos Norte	67.2	73.0	9.2	9.2	12.0	12.3	56,733	69,439	2,443	2,990	0.764	0.777	0.800	0.795
Ilocos Sur	66.4	72.3	9.1	9.3	11.4	12.7	49,512	60,289	2,331	2,838	0.753	0.767	0.789	0.805
Iloilo	66.7	72.9	9.0	9.4	12.6	13.1	48,844	76,588	2,090	3,277	0.757	0.775	0.777	0.820
Isabela	66.1	71.7	8.0	8.3	11.3	12.0	45,292	63,737	2,035	2,863	0.747	0.757	0.698	0.724
Kalinga	64.0	69.8	7.1	7.1	12.0	13.8	43,665	76,215	1,776	3,100	0.715	0.727	0.613	0.619
La Union	66.6	72.4	9.4	9.3	12.2	12.8	57,185	79,195	2,275	3,151	0.756	0.767	0.814	0.809

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2009	GDI (International) 2009
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.881	0.804	0.902	0.863	0.969	0.929	0.584	0.710	0.566	0.588	0.798	0.949	0.641	0.577	0.786	0.759
0.818	0.778	0.779	0.770	0.836	0.829	0.155	0.241	0.417	0.450	0.740	0.833	0.189	0.433	0.488	0.644
0.776	0.721	0.762	0.756	0.818	0.815	0.242	0.354	0.446	0.480	0.733	0.816	0.287	0.463	0.556	0.652
0.740	0.715	0.687	0.690	0.737	0.743	0.098	0.214	0.397	0.446	0.692	0.740	0.134	0.420	0.410	0.599
0.861	0.838	0.792	0.808	0.851	0.870	0.132	0.275	0.404	0.458	0.734	0.860	0.178	0.429	0.483	0.647
0.809	0.813	0.764	0.782	0.820	0.842	0.182	0.316	0.433	0.478	0.755	0.831	0.231	0.455	0.525	0.658
0.834	0.857	0.711	0.753	0.764	0.811	0.179	0.407	0.416	0.487	0.729	0.787	0.248	0.449	0.522	0.636
0.860	0.742	0.755	0.673	0.811	0.725	0.169	0.235	0.416	0.441	0.682	0.766	0.196	0.428	0.468	0.607
0.835	0.779	0.827	0.797	0.889	0.858	0.359	0.691	0.510	0.580	0.754	0.873	0.472	0.543	0.677	0.710
0.841	0.731	0.794	0.752	0.852	0.810	0.335	0.587	0.485	0.543	0.775	0.831	0.427	0.513	0.650	0.691
0.946	0.883	0.893	0.889	0.959	0.958	0.604	0.881	0.542	0.587	0.764	0.958	0.716	0.564	0.806	0.744
0.889	0.792	0.785	0.754	0.843	0.812	0.310	0.655	0.464	0.542	0.732	0.827	0.420	0.500	0.634	0.671
0.825	0.806	0.758	0.747	0.814	0.804	0.199	0.384	0.422	0.479	0.751	0.809	0.262	0.449	0.542	0.648
0.729	0.668	0.681	0.683	0.732	0.736	0.164	0.214	0.434	0.453	0.730	0.734	0.186	0.443	0.463	0.619
0.830	0.745	0.816	0.780	0.876	0.840	0.464	0.589	0.518	0.544	0.780	0.857	0.519	0.531	0.703	0.708
0.803	0.794	0.746	0.745	0.801	0.802	0.330	0.405	0.477	0.496	0.760	0.802	0.364	0.486	0.605	0.666
0.702	0.742	0.698	0.728	0.750	0.784	0.145	0.307	0.418	0.476	0.728	0.767	0.197	0.445	0.479	0.629
0.772	0.747	0.729	0.737	0.783	0.794	0.146	0.274	0.419	0.466	0.747	0.788	0.190	0.441	0.482	0.638
0.724	0.816	0.723	0.780	0.776	0.840	0.455	0.457	0.511	0.512	0.721	0.807	0.456	0.512	0.643	0.668
0.815	0.746	0.826	0.800	0.887	0.862	0.454	0.561	0.536	0.559	0.780	0.874	0.502	0.547	0.700	0.720
0.797	0.748	0.760	0.746	0.816	0.803	0.325	0.470	0.472	0.509	0.762	0.810	0.384	0.490	0.619	0.671
0.798	0.719	0.703	0.693	0.755	0.747	0.171	0.213	0.434	0.450	0.733	0.751	0.190	0.442	0.471	0.624
0.772	0.778	0.727	0.752	0.780	0.810	0.180	0.360	0.448	0.507	0.742	0.795	0.240	0.476	0.521	0.655
0.805	0.754	0.774	0.769	0.831	0.829	0.309	0.520	0.475	0.528	0.754	0.830	0.387	0.500	0.624	0.679
0.677	0.694	0.597	0.649	0.641	0.699	0.072	0.090	0.384	0.393	0.742	0.669	0.080	0.389	0.341	0.578
0.802	0.787	0.716	0.771	0.769	0.830	0.098	0.374	0.396	0.495	0.726	0.798	0.155	0.440	0.448	0.634
0.774	0.789	0.637	0.677	0.684	0.729	0.171	0.404	0.433	0.507	0.729	0.706	0.240	0.467	0.498	0.622
0.820	0.761	0.810	0.777	0.869	0.837	0.339	0.460	0.483	0.513	0.771	0.853	0.391	0.498	0.636	0.689
0.779	0.785	0.784	0.795	0.841	0.856	0.270	0.373	0.476	0.505	0.760	0.849	0.313	0.490	0.587	0.681
0.864	0.810	0.819	0.815	0.880	0.878	0.264	0.529	0.459	0.527	0.766	0.879	0.352	0.491	0.619	0.691
0.771	0.744	0.733	0.734	0.788	0.790	0.230	0.406	0.455	0.507	0.752	0.789	0.294	0.480	0.559	0.658
0.821	0.851	0.709	0.726	0.762	0.782	0.214	0.525	0.435	0.519	0.721	0.772	0.305	0.473	0.553	0.641
0.835	0.794	0.824	0.802	0.885	0.863	0.343	0.553	0.472	0.521	0.762	0.874	0.424	0.495	0.656	0.691

Statistical Annex B3: Gender-related Development Index 2009

Province	Life expectancy at birth (years) 2009		Mean years of schooling 2008		Expected years of schooling 2008		Estimated earned income (NCR 2015 PPP pesos) 2009		Estimated earned income (US 2011 PPP $) 2009		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Laguna	67.0	72.9	9.3	9.7	12.2	12.1	67,332	95,107	2,971	4,196	0.761	0.775	0.808	0.839
Lanao del Norte	64.6	69.9	8.4	9.1	12.7	12.6	41,320	68,694	1,754	2,916	0.724	0.730	0.733	0.787
Lanao del Sur	60.7	66.2	7.0	6.8	12.5	12.9	29,998	50,008	1,346	2,244	0.664	0.673	0.610	0.589
Leyte	65.5	70.9	7.1	8.1	11.0	12.2	50,147	67,478	1,997	2,687	0.739	0.745	0.619	0.703
Maguindanao	61.0	66.3	6.3	6.3	9.8	10.5	30,794	44,726	1,306	1,905	0.670	0.674	0.546	0.551
Marinduque	63.3	68.8	7.9	8.5	12.9	12.9	47,185	62,843	1,861	2,479	0.705	0.712	0.685	0.741
Masbate	64.1	69.8	6.9	7.4	11.3	11.7	32,310	43,003	1,306	1,739	0.718	0.728	0.599	0.641
Misamis Occidental	65.7	70.7	8.3	8.8	12.1	13.0	32,907	58,405	1,303	2,313	0.742	0.741	0.718	0.768
Misamis Oriental	66.1	71.7	9.2	9.8	12.1	13.2	58,826	78,822	2,436	3,263	0.748	0.756	0.795	0.853
Mt. Province	65.1	71.0	7.5	7.5	11.8	14.6	32,585	49,223	1,530	2,311	0.732	0.746	0.654	0.648
Negros Occidental	65.4	71.2	7.8	8.3	11.2	12.0	42,895	57,321	1,698	2,269	0.737	0.750	0.678	0.725
Negros Oriental	65.3	70.7	6.8	7.1	11.4	11.5	38,634	60,950	1,674	2,640	0.735	0.742	0.587	0.620
North Cotabato	65.4	71.1	7.2	7.6	11.0	11.8	41,995	49,440	1,702	2,004	0.737	0.747	0.622	0.657
Northern Samar	64.1	69.3	7.0	7.7	11.4	12.3	35,523	38,619	1,467	1,595	0.717	0.720	0.604	0.667
Nueva Ecija	66.7	72.4	8.6	8.8	11.4	12.0	43,668	52,336	2,054	2,461	0.758	0.768	0.744	0.761
Nueva Vizcaya														
Occidental Mindoro	63.5	69.0	7.2	7.9	11.1	11.5	47,570	76,594	1,902	3,063	0.707	0.716	0.626	0.684
Oriental Mindoro	65.1	70.6	7.6	7.8	11.6	11.7	41,536	55,331	1,696	2,259	0.732	0.740	0.657	0.675
Palawan	64.0	69.4	7.6	8.0	11.7	11.8	41,241	53,797	1,603	2,091	0.715	0.721	0.661	0.697
Pampanga	68.0	73.7	9.0	9.1	11.8	12.4	59,658	66,964	2,694	3,024	0.778	0.788	0.783	0.786
Pangasinan	65.8	71.3	9.3	9.2	11.7	12.2	48,319	67,426	2,064	2,880	0.743	0.751	0.806	0.803
Quezon	66.0	71.7	7.8	8.2	10.7	11.3	39,903	58,933	1,659	2,450	0.745	0.757	0.675	0.715
Quirino	65.1	70.7	8.0	8.5	10.7	12.8	57,052	65,980	2,380	2,753	0.733	0.742	0.696	0.741
Rizal	67.6	73.2	9.7	10.0	12.1	12.3	71,631	86,660	3,513	4,250	0.770	0.780	0.846	0.869
Romblon	63.9	69.5	7.6	8.0	12.1	12.1	35,588	45,481	1,537	1,965	0.713	0.723	0.658	0.699
Sarangani	65.3	71.0	5.5	6.1	10.4	10.7	29,181	48,700	1,194	1,993	0.735	0.746	0.478	0.533
Siquijor														
Sorsogon	64.8	70.5	7.9	7.8	12.1	12.8	40,452	51,812	1,641	2,102	0.728	0.739	0.682	0.676
South Cotabato	65.9	71.5	8.6	8.9	12.1	12.2	51,370	81,964	2,244	3,580	0.745	0.753	0.746	0.776
Southern Leyte	65.0	70.5	7.4	8.2	10.8	13.0	38,395	51,387	1,714	2,293	0.731	0.739	0.645	0.716
Sultan Kudarat	65.4	71.0	7.5	7.9	10.7	12.4	34,434	59,624	1,400	2,425	0.737	0.747	0.648	0.684
Sulu	56.5	61.8	4.7	4.5	10.9	11.6	30,876	36,690	1,262	1,500	0.600	0.605	0.412	0.391
Surigao del Norte	63.2	68.7	8.1	8.7	12.0	12.4	35,646	49,747	1,574	2,197	0.703	0.711	0.700	0.758
Surigao del Sur														
Tarlac	66.8	72.3	9.1	8.9	11.5	11.2	48,250	68,065	2,231	3,147	0.758	0.767	0.787	0.775
Tawi-Tawi														
Western Samar	64.7	70.0	7.0	7.8	10.9	12.2	38,427	51,000	1,481	1,966	0.727	0.731	0.609	0.680
Zambales	65.9	71.5	9.6	9.3	12.5	12.6	46,159	68,347	2,456	3,636	0.745	0.753	0.833	0.811
Zamboanga del Norte	65.0	70.6	6.5	7.0	10.8	11.3	27,631	45,164	1,160	1,896	0.731	0.740	0.565	0.603
Zamboanga del Sur *	65.6	71.5	7.9	8.4	11.2	12.2	50,526	71,005	1,962	2,757	0.739	0.754	0.684	0.727
Zamboanga Sibugay *	64.6	70.1	7.1	7.6	11.4	12.2	36,660	50,324	1,456	1,998	0.724	0.733	0.615	0.658

*Life expectancy of Compostela Valley and Zamboanga Sibugay is from Davao del Norte and Zamboanga del Sur, respectively.

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2009	GDI (International) 2009
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.837	0.746	0.822	0.791	0.883	0.852	0.440	0.705	0.512	0.564	0.768	0.867	0.542	0.537	0.712	0.710
0.869	0.781	0.798	0.784	0.857	0.845	0.192	0.453	0.433	0.509	0.727	0.851	0.270	0.468	0.551	0.661
0.855	0.801	0.723	0.687	0.776	0.739	0.084	0.275	0.393	0.470	0.669	0.757	0.129	0.428	0.403	0.601
0.755	0.753	0.684	0.728	0.734	0.784	0.276	0.442	0.452	0.497	0.742	0.758	0.340	0.474	0.576	0.643
0.668	0.652	0.604	0.599	0.648	0.645	0.092	0.225	0.388	0.445	0.672	0.647	0.130	0.415	0.384	0.565
0.885	0.797	0.778	0.769	0.836	0.828	0.248	0.397	0.442	0.485	0.709	0.832	0.305	0.462	0.565	0.648
0.773	0.726	0.681	0.682	0.731	0.734	0.106	0.208	0.388	0.431	0.722	0.733	0.141	0.409	0.421	0.600
0.831	0.801	0.772	0.784	0.829	0.844	0.112	0.355	0.388	0.475	0.742	0.837	0.170	0.427	0.473	0.642
0.828	0.814	0.811	0.833	0.871	0.897	0.359	0.550	0.482	0.526	0.752	0.884	0.434	0.503	0.661	0.694
0.809	0.905	0.727	0.766	0.781	0.824	0.109	0.268	0.412	0.474	0.739	0.802	0.155	0.441	0.451	0.639
0.766	0.739	0.720	0.732	0.773	0.788	0.207	0.345	0.428	0.472	0.743	0.781	0.259	0.449	0.532	0.638
0.779	0.709	0.676	0.663	0.726	0.714	0.167	0.379	0.426	0.494	0.739	0.720	0.231	0.457	0.497	0.624
0.750	0.727	0.683	0.691	0.733	0.744	0.199	0.270	0.428	0.453	0.742	0.739	0.229	0.440	0.501	0.623
0.779	0.763	0.686	0.713	0.736	0.768	0.137	0.166	0.406	0.418	0.718	0.752	0.150	0.412	0.433	0.606
0.782	0.739	0.763	0.750	0.820	0.808	0.215	0.297	0.457	0.484	0.763	0.814	0.249	0.470	0.537	0.663
0.761	0.714	0.690	0.699	0.741	0.752	0.252	0.529	0.445	0.517	0.712	0.747	0.341	0.478	0.566	0.633
0.793	0.723	0.722	0.698	0.775	0.752	0.194	0.326	0.428	0.471	0.736	0.764	0.243	0.448	0.515	0.632
0.799	0.730	0.727	0.713	0.780	0.768	0.191	0.311	0.419	0.459	0.718	0.774	0.237	0.438	0.509	0.625
0.809	0.765	0.796	0.775	0.854	0.835	0.367	0.437	0.498	0.515	0.783	0.845	0.399	0.506	0.641	0.694
0.800	0.754	0.803	0.778	0.862	0.838	0.259	0.441	0.457	0.508	0.747	0.850	0.326	0.481	0.592	0.673
0.735	0.699	0.704	0.706	0.756	0.761	0.179	0.360	0.424	0.483	0.751	0.759	0.239	0.452	0.514	0.636
0.734	0.793	0.715	0.767	0.767	0.825	0.342	0.427	0.479	0.501	0.737	0.795	0.380	0.490	0.606	0.660
0.831	0.763	0.839	0.814	0.900	0.877	0.481	0.625	0.538	0.566	0.775	0.888	0.544	0.552	0.721	0.724
0.830	0.745	0.739	0.722	0.794	0.777	0.137	0.232	0.413	0.450	0.718	0.785	0.173	0.431	0.460	0.624
0.712	0.661	0.583	0.593	0.626	0.639	0.076	0.263	0.375	0.452	0.740	0.633	0.118	0.410	0.381	0.577
0.824	0.789	0.750	0.730	0.805	0.787	0.184	0.292	0.423	0.460	0.733	0.796	0.226	0.441	0.509	0.636
0.828	0.753	0.786	0.765	0.844	0.823	0.288	0.580	0.470	0.540	0.749	0.833	0.385	0.503	0.622	0.680
0.737	0.805	0.689	0.759	0.740	0.817	0.164	0.288	0.429	0.473	0.735	0.777	0.209	0.450	0.492	0.636
0.729	0.767	0.687	0.724	0.738	0.780	0.126	0.367	0.399	0.482	0.742	0.758	0.188	0.436	0.473	0.626
0.748	0.715	0.555	0.529	0.596	0.569	0.093	0.148	0.383	0.409	0.602	0.582	0.114	0.396	0.342	0.518
0.819	0.764	0.757	0.761	0.813	0.820	0.138	0.273	0.416	0.467	0.707	0.816	0.183	0.440	0.473	0.633
0.785	0.690	0.786	0.731	0.844	0.787	0.258	0.447	0.469	0.521	0.763	0.815	0.327	0.494	0.588	0.674
0.744	0.753	0.673	0.716	0.723	0.771	0.165	0.284	0.407	0.450	0.729	0.746	0.208	0.427	0.484	0.615
0.852	0.776	0.843	0.793	0.905	0.854	0.238	0.450	0.484	0.543	0.749	0.879	0.312	0.511	0.590	0.696
0.737	0.698	0.645	0.649	0.693	0.699	0.062	0.229	0.370	0.444	0.736	0.696	0.097	0.404	0.368	0.591
0.770	0.755	0.726	0.741	0.779	0.798	0.280	0.475	0.450	0.501	0.746	0.788	0.352	0.474	0.592	0.653
0.783	0.753	0.694	0.704	0.745	0.758	0.148	0.278	0.405	0.452	0.729	0.752	0.193	0.427	0.473	0.616

Statistical Annex B4: Gender-related Development Index 2006

Province	Life expectancy at birth (years) 2006		Mean years of schooling 2004		Expected years of schooling 2004		Estimated earned income (NCR 2015 PPP pesos) 2006		Estimated earned income (US 2011 PPP $) 2006		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Metro Manila	68.5	74.0	10.4	10.4	12.8	13.1	79,916	95,309	4,106	4,897	0.784	0.792	0.906	0.906
Abra	64.2	69.6	8.7	8.8	11.8	13.5	34,483	54,214	1,456	2,289	0.719	0.725	0.754	0.766
Agusan del Norte	63.0	68.8	8.3	9.3	11.7	12.4	42,097	53,902	1,737	2,224	0.701	0.712	0.723	0.804
Agusan del Sur	61.5	66.3	7.0	7.7	10.9	12.5	35,674	39,995	1,569	1,759	0.677	0.673	0.609	0.668
Aklan	63.6	69.1	8.4	8.5	12.8	12.8	38,563	41,094	1,595	1,700	0.710	0.717	0.727	0.739
Albay	66.1	71.8	8.0	8.2	11.6	13.1	47,303	59,538	2,070	2,605	0.747	0.758	0.694	0.712
Antique	62.8	68.7	7.3	7.4	11.6	13.6	34,759	44,958	1,370	1,773	0.697	0.711	0.630	0.646
Apayao														
Aurora														
Basilan	60.3	65.8	6.2	5.3	11.3	11.5	33,769	47,510	1,366	1,917	0.659	0.666	0.537	0.457
Bataan	65.8	71.2	9.2	9.1	11.7	12.5	58,273	87,152	2,901	4,338	0.744	0.750	0.801	0.791
Batanes														
Batangas	67.5	73.4	8.5	8.7	11.5	12.5	54,876	77,316	2,421	3,411	0.769	0.783	0.740	0.751
Benguet	66.6	72.3	9.1	9.8	14.1	14.8	83,105	109,265	3,561	4,682	0.755	0.766	0.790	0.854
Biliran	63.6	68.8	7.7	8.5	11.1	12.4	57,648	55,704	2,318	2,240	0.709	0.713	0.668	0.736
Bohol	66.4	71.4	7.5	7.4	12.6	12.6	38,377	51,046	1,489	1,980	0.752	0.753	0.651	0.641
Bukidnon	64.6	69.7	7.0	7.8	11.0	11.1	38,471	41,046	1,771	1,890	0.724	0.727	0.612	0.675
Bulacan	68.1	73.4	9.0	8.9	11.8	12.0	65,116	95,901	2,878	4,238	0.778	0.784	0.783	0.773
Cagayan	66.1	71.4	7.9	7.9	11.9	13.1	49,491	62,665	2,080	2,634	0.748	0.752	0.685	0.689
Camarines Norte	63.3	68.5	7.7	8.2	10.0	11.3	36,418	47,474	1,594	2,078	0.704	0.707	0.669	0.715
Camarines Sur	66.5	71.5	8.2	8.3	11.2	12.4	32,537	46,410	1,428	2,037	0.754	0.754	0.709	0.722
Camiguin														
Capiz														
Catanduanes	63.2	69.0	7.7	7.9	11.3	12.5	34,288	86,477	1,471	3,711	0.703	0.715	0.668	0.684
Cavite	67.8	73.5	9.6	9.6	12.1	12.5	69,267	93,079	3,493	4,693	0.773	0.785	0.834	0.836
Cebu	67.3	72.8	8.1	8.2	12.0	12.3	51,726	64,747	2,134	2,672	0.766	0.773	0.703	0.712
Compostela Valley *	64.2	69.2	6.8	7.6	12.1	11.6	33,917	42,670	1,535	1,931	0.718	0.718	0.590	0.662
Davao del Norte *	64.5	69.6	7.7	8.2	12.4	12.7	36,148	54,155	1,757	2,632	0.722	0.725	0.672	0.713
Davao del Sur	66.1	71.1	8.3	8.8	11.5	12.1	51,554	79,506	2,242	3,457	0.748	0.748	0.724	0.766
Davao Oriental	65.1	70.3	6.1	6.4	10.1	11.5	30,840	35,966	1,363	1,590	0.732	0.735	0.532	0.554
Eastern Samar	63.1	68.3	7.0	7.6	11.4	12.2	37,109	46,644	1,625	2,043	0.702	0.704	0.604	0.660
Guimaras														
Ifugao	62.0	67.9	6.7	7.4	11.5	12.3	37,812	65,392	1,704	2,947	0.685	0.698	0.578	0.645
Ilocos Norte	67.3	73.1	8.6	8.9	11.8	12.4	54,195	79,992	2,385	3,520	0.766	0.778	0.745	0.775
Ilocos Sur	65.3	71.7	8.1	8.5	12.5	12.5	44,027	60,742	2,118	2,922	0.735	0.757	0.705	0.739
Iloilo	66.5	72.6	8.4	8.9	12.9	13.7	50,475	64,757	2,160	2,771	0.753	0.771	0.731	0.774
Isabela	66.1	71.4	7.9	8.0	11.5	12.4	43,151	60,518	1,938	2,718	0.748	0.753	0.682	0.697
Kalinga	61.9	67.7	6.8	6.7	11.4	12.8	38,218	77,935	1,555	3,170	0.684	0.696	0.590	0.586
La Union	67.1	72.9	9.0	8.8	12.3	13.4	50,055	82,690	2,035	3,362	0.763	0.775	0.785	0.765
Laguna	66.1	72.2	9.2	9.3	12.3	12.4	69,045	95,427	3,046	4,210	0.748	0.765	0.796	0.807

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2006	GDI (International) 2006
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.875	0.808	0.891	0.855	0.956	0.921	0.560	0.707	0.561	0.588	0.788	0.938	0.625	0.574	0.773	0.752
0.806	0.833	0.780	0.799	0.837	0.860	0.127	0.315	0.405	0.473	0.722	0.849	0.181	0.436	0.480	0.644
0.801	0.770	0.761	0.787	0.818	0.847	0.200	0.312	0.431	0.469	0.706	0.832	0.243	0.449	0.523	0.641
0.746	0.770	0.674	0.717	0.724	0.773	0.138	0.179	0.416	0.433	0.675	0.747	0.156	0.424	0.429	0.598
0.879	0.789	0.799	0.764	0.858	0.822	0.166	0.190	0.418	0.428	0.713	0.840	0.177	0.423	0.473	0.633
0.791	0.810	0.741	0.760	0.795	0.818	0.249	0.366	0.458	0.492	0.753	0.807	0.296	0.474	0.565	0.660
0.797	0.838	0.708	0.736	0.761	0.792	0.130	0.227	0.395	0.434	0.704	0.776	0.165	0.414	0.448	0.609
0.776	0.714	0.645	0.571	0.693	0.615	0.120	0.251	0.395	0.446	0.663	0.652	0.163	0.419	0.412	0.566
0.799	0.770	0.800	0.780	0.859	0.841	0.354	0.629	0.509	0.569	0.747	0.849	0.453	0.537	0.660	0.699
0.785	0.774	0.762	0.763	0.818	0.821	0.321	0.535	0.481	0.533	0.776	0.820	0.402	0.506	0.635	0.685
0.962	0.917	0.872	0.885	0.936	0.953	0.591	0.840	0.540	0.581	0.760	0.945	0.694	0.560	0.793	0.738
0.757	0.767	0.711	0.752	0.764	0.810	0.348	0.329	0.475	0.470	0.711	0.786	0.338	0.472	0.574	0.641
0.861	0.781	0.749	0.707	0.804	0.762	0.164	0.285	0.408	0.451	0.752	0.782	0.208	0.428	0.497	0.632
0.752	0.687	0.678	0.681	0.728	0.733	0.165	0.190	0.434	0.444	0.725	0.731	0.176	0.439	0.454	0.615
0.807	0.741	0.795	0.757	0.854	0.815	0.419	0.713	0.507	0.566	0.781	0.834	0.528	0.535	0.701	0.704
0.812	0.807	0.746	0.746	0.801	0.803	0.270	0.396	0.458	0.494	0.750	0.802	0.321	0.476	0.578	0.659
0.683	0.699	0.676	0.707	0.726	0.761	0.145	0.251	0.418	0.458	0.706	0.743	0.184	0.437	0.459	0.612
0.769	0.764	0.738	0.743	0.793	0.800	0.108	0.241	0.402	0.455	0.754	0.796	0.149	0.427	0.448	0.635
0.773	0.773	0.718	0.727	0.771	0.783	0.125	0.623	0.406	0.546	0.709	0.777	0.208	0.466	0.486	0.635
0.826	0.773	0.830	0.804	0.892	0.865	0.459	0.686	0.537	0.581	0.779	0.878	0.550	0.558	0.722	0.726
0.822	0.758	0.760	0.734	0.816	0.791	0.291	0.416	0.462	0.496	0.770	0.803	0.343	0.479	0.596	0.666
0.827	0.719	0.698	0.690	0.750	0.743	0.122	0.205	0.413	0.447	0.718	0.747	0.153	0.429	0.434	0.613
0.848	0.785	0.755	0.748	0.811	0.806	0.143	0.315	0.433	0.494	0.724	0.808	0.196	0.461	0.486	0.646
0.786	0.746	0.755	0.756	0.810	0.814	0.290	0.556	0.470	0.535	0.748	0.812	0.381	0.500	0.614	0.672
0.688	0.712	0.605	0.628	0.650	0.677	0.092	0.141	0.395	0.418	0.733	0.663	0.111	0.406	0.378	0.582
0.781	0.753	0.687	0.705	0.737	0.760	0.152	0.243	0.421	0.456	0.703	0.748	0.187	0.438	0.462	0.613
0.785	0.762	0.673	0.701	0.723	0.755	0.159	0.422	0.428	0.511	0.691	0.739	0.231	0.466	0.490	0.620
0.810	0.769	0.777	0.772	0.834	0.831	0.315	0.561	0.479	0.538	0.772	0.833	0.403	0.507	0.638	0.688
0.855	0.771	0.776	0.755	0.833	0.813	0.218	0.377	0.461	0.510	0.746	0.823	0.276	0.484	0.554	0.667
0.881	0.848	0.803	0.810	0.862	0.872	0.279	0.416	0.464	0.502	0.762	0.867	0.334	0.482	0.604	0.683
0.785	0.769	0.731	0.732	0.785	0.789	0.210	0.375	0.448	0.499	0.750	0.787	0.269	0.472	0.542	0.653
0.783	0.791	0.680	0.681	0.730	0.733	0.163	0.541	0.414	0.522	0.690	0.731	0.250	0.462	0.501	0.615
0.843	0.828	0.813	0.796	0.873	0.857	0.275	0.587	0.455	0.531	0.769	0.865	0.375	0.490	0.629	0.688
0.839	0.766	0.817	0.786	0.878	0.847	0.457	0.708	0.516	0.565	0.756	0.862	0.555	0.539	0.713	0.706

Statistical Annex B4: Gender-related Development Index 2006

Province	Life expectancy at birth (years) 2006		Mean years of schooling 2004		Expected years of schooling 2004		Estimated earned income (NCR 2015 PPP pesos) 2006		Estimated earned income (US 2011 PPP $) 2006		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Lanao del Norte	63.5	68.3	7.9	8.3	11.8	12.9	51,684	70,534	2,194	2,994	0.708	0.704	0.683	0.723
Lanao del Sur	58.6	63.8	6.7	6.3	12.3	12.7	30,984	37,011	1,390	1,661	0.632	0.636	0.582	0.549
Leyte	65.0	70.0	7.1	7.9	11.9	13.1	41,935	63,680	1,670	2,536	0.730	0.731	0.615	0.684
Maguindanao	59.0	63.0	6.1	5.4	8.8	9.6	30,586	40,650	1,297	1,727	0.639	0.623	0.528	0.470
Marinduque	62.7	68.6	7.4	7.7	12.0	12.6	37,076	59,137	1,462	2,333	0.696	0.709	0.646	0.671
Masbate	63.2	68.6	6.9	7.4	11.8	12.1	31,743	31,886	1,283	1,289	0.704	0.709	0.595	0.642
Misamis Occidental	66.8	69.6	7.8	8.4	11.9	13.6	38,917	46,848	1,541	1,856	0.758	0.725	0.677	0.732
Misamis Oriental	65.8	71.1	8.7	9.2	12.1	13.3	52,233	62,903	2,163	2,604	0.743	0.747	0.754	0.797
Mt. Province	62.8	68.8	7.0	7.1	13.5	14.1	37,522	52,250	1,762	2,453	0.696	0.713	0.609	0.614
Negros Occidental	65.2	71.2	7.8	8.3	11.7	12.3	40,759	55,934	1,614	2,214	0.733	0.749	0.676	0.723
Negros Oriental	64.8	69.4	6.4	6.8	10.3	12.0	31,643	45,832	1,371	1,985	0.728	0.722	0.558	0.588
North Cotabato	64.9	70.2	7.2	7.8	9.6	11.3	38,369	42,086	1,555	1,706	0.730	0.734	0.627	0.674
Northern Samar	62.7	68.4	7.1	7.6	10.9	12.2	35,253	58,798	1,456	2,428	0.696	0.706	0.615	0.662
Nueva Ecija	66.6	71.9	8.3	8.4	11.3	11.6	42,565	48,298	2,002	2,272	0.756	0.760	0.717	0.725
Nueva Vizcaya														
Occidental Mindoro	62.5	67.9	7.3	7.9	11.8	11.7	40,270	49,087	1,610	1,963	0.692	0.699	0.638	0.683
Oriental Mindoro	64.2	69.2	7.3	7.7	11.7	12.1	34,713	51,538	1,417	2,104	0.718	0.718	0.637	0.673
Palawan	62.3	67.7	7.4	7.6	11.8	12.9	40,732	57,718	1,583	2,244	0.689	0.695	0.639	0.662
Pampanga	68.1	73.8	9.0	8.9	11.2	12.1	68,671	87,265	3,102	3,941	0.779	0.789	0.782	0.772
Pangasinan	65.6	71.1	9.3	9.1	11.8	12.3	39,359	60,513	1,718	2,641	0.739	0.747	0.804	0.787
Quezon	65.0	70.8	7.3	7.7	10.9	11.6	35,266	47,756	1,466	1,985	0.730	0.743	0.637	0.668
Quirino	64.2	69.2	7.2	7.7	11.5	12.9	49,315	75,029	2,057	3,130	0.719	0.718	0.623	0.666
Rizal	67.5	72.9	9.8	9.5	12.9	13.0	71,154	105,454	3,489	5,171	0.769	0.775	0.848	0.820
Romblon	62.7	68.6	7.0	7.5	12.3	13.1	30,608	32,582	1,322	1,408	0.695	0.709	0.608	0.648
Sarangani	65.0	70.4	5.2	5.3	9.0	10.3	29,597	34,634	1,211	1,417	0.730	0.736	0.452	0.461
Siquijor														
Sorsogon	64.9	70.6	7.5	7.9	11.6	12.6	35,107	48,617	1,425	1,973	0.730	0.740	0.655	0.682
South Cotabato	65.6	70.4	8.4	8.7	12.3	12.3	44,449	56,241	1,941	2,456	0.739	0.737	0.733	0.753
Southern Leyte	64.2	69.5	6.9	7.3	12.0	12.7	39,111	49,603	1,745	2,214	0.718	0.723	0.597	0.634
Sultan Kudarat	64.2	69.4	7.1	7.4	11.4	11.8	32,108	39,073	1,306	1,589	0.718	0.722	0.618	0.641
Sulu	54.8	59.4	4.9	4.2	11.2	11.2	29,934	44,584	1,224	1,823	0.574	0.568	0.424	0.366
Surigao del Norte	62.0	68.6	8.0	8.9	12.4	13.3	38,344	39,522	1,694	1,746	0.685	0.710	0.698	0.769
Surigao del Sur														
Tarlac	66.3	71.5	9.0	8.6	11.4	12.1	50,063	65,401	2,315	3,024	0.751	0.753	0.777	0.748
Tawi-Tawi														
Western Samar	63.5	68.2	6.6	7.4	11.0	12.7	43,044	59,424	1,659	2,290	0.708	0.703	0.572	0.642
Zambales	65.5	70.4	9.0	8.3	11.6	13.0	41,846	88,680	2,226	4,718	0.738	0.737	0.785	0.722
Zamboanga del Norte	64.3	69.9	6.4	6.8	10.2	10.7	30,149	40,859	1,266	1,715	0.721	0.729	0.559	0.591
Zamboanga del Sur *	64.5	70.7	7.7	7.8	11.5	12.5	51,311	61,833	1,992	2,401	0.723	0.742	0.670	0.676
Zamboanga Sibugay *	63.9	69.8	7.2	7.2	10.8	12.5	41,507	68,627	1,648	2,725	0.713	0.728	0.624	0.621

*Life expectancy of Compostela Valley and Zamboanga Sibugay is from Davao del Norte and Zamboanga del Sur, respectively.

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2006	GDI (International) 2006
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.809	0.799	0.743	0.760	0.798	0.818	0.291	0.471	0.466	0.513	0.706	0.808	0.360	0.489	0.590	0.653
0.843	0.783	0.700	0.656	0.752	0.706	0.094	0.151	0.398	0.424	0.634	0.728	0.116	0.411	0.376	0.574
0.816	0.807	0.709	0.743	0.761	0.800	0.198	0.405	0.425	0.488	0.730	0.780	0.266	0.455	0.533	0.637
0.605	0.596	0.565	0.529	0.607	0.570	0.090	0.186	0.387	0.430	0.631	0.588	0.121	0.408	0.355	0.533
0.820	0.779	0.728	0.723	0.781	0.779	0.152	0.362	0.405	0.476	0.703	0.780	0.214	0.438	0.489	0.621
0.809	0.750	0.694	0.693	0.745	0.747	0.101	0.102	0.386	0.386	0.706	0.746	0.101	0.386	0.377	0.588
0.813	0.841	0.742	0.785	0.797	0.845	0.169	0.245	0.413	0.441	0.741	0.820	0.200	0.427	0.495	0.638
0.830	0.826	0.791	0.811	0.850	0.874	0.296	0.398	0.464	0.492	0.745	0.862	0.340	0.478	0.602	0.675
0.920	0.872	0.749	0.732	0.804	0.788	0.156	0.296	0.433	0.483	0.705	0.796	0.204	0.457	0.486	0.635
0.798	0.763	0.734	0.743	0.789	0.800	0.187	0.332	0.420	0.468	0.741	0.794	0.239	0.443	0.520	0.639
0.708	0.740	0.629	0.659	0.675	0.710	0.100	0.235	0.395	0.451	0.725	0.692	0.140	0.422	0.413	0.596
0.660	0.700	0.643	0.687	0.691	0.740	0.164	0.199	0.415	0.429	0.732	0.715	0.180	0.421	0.455	0.604
0.744	0.753	0.676	0.706	0.726	0.760	0.134	0.359	0.405	0.482	0.701	0.743	0.195	0.440	0.467	0.612
0.772	0.718	0.744	0.722	0.799	0.777	0.204	0.259	0.453	0.472	0.758	0.788	0.228	0.462	0.515	0.651
0.806	0.724	0.717	0.703	0.770	0.757	0.182	0.266	0.420	0.450	0.695	0.763	0.216	0.434	0.486	0.613
0.802	0.746	0.715	0.708	0.767	0.763	0.129	0.290	0.400	0.460	0.718	0.765	0.179	0.428	0.461	0.617
0.804	0.795	0.717	0.726	0.769	0.782	0.187	0.349	0.417	0.470	0.692	0.775	0.243	0.442	0.507	0.619
0.767	0.746	0.774	0.759	0.831	0.817	0.453	0.630	0.519	0.555	0.784	0.824	0.527	0.536	0.698	0.702
0.807	0.759	0.805	0.773	0.865	0.832	0.173	0.375	0.430	0.495	0.743	0.848	0.237	0.460	0.531	0.662
0.744	0.715	0.688	0.691	0.739	0.744	0.134	0.254	0.406	0.451	0.737	0.742	0.176	0.427	0.458	0.616
0.785	0.799	0.700	0.729	0.751	0.786	0.268	0.514	0.457	0.520	0.718	0.768	0.353	0.486	0.579	0.645
0.885	0.804	0.866	0.812	0.930	0.875	0.477	0.804	0.537	0.596	0.772	0.902	0.599	0.565	0.747	0.732
0.843	0.813	0.716	0.726	0.769	0.782	0.090	0.109	0.390	0.399	0.702	0.775	0.098	0.395	0.377	0.599
0.613	0.636	0.526	0.542	0.565	0.583	0.080	0.128	0.377	0.401	0.733	0.574	0.099	0.388	0.346	0.547
0.792	0.782	0.720	0.731	0.773	0.787	0.133	0.262	0.401	0.450	0.735	0.780	0.176	0.424	0.466	0.624
0.843	0.758	0.786	0.755	0.844	0.814	0.222	0.334	0.448	0.484	0.738	0.828	0.267	0.465	0.546	0.658
0.823	0.784	0.701	0.705	0.752	0.759	0.171	0.271	0.432	0.468	0.721	0.756	0.210	0.449	0.485	0.626
0.779	0.732	0.694	0.685	0.745	0.738	0.104	0.171	0.388	0.418	0.720	0.741	0.129	0.402	0.410	0.599
0.769	0.692	0.571	0.504	0.613	0.542	0.084	0.223	0.378	0.439	0.571	0.576	0.122	0.406	0.342	0.511
0.848	0.820	0.770	0.794	0.826	0.855	0.164	0.175	0.427	0.432	0.697	0.840	0.169	0.430	0.463	0.631
0.779	0.746	0.778	0.747	0.836	0.805	0.276	0.422	0.475	0.515	0.752	0.820	0.333	0.494	0.590	0.673
0.755	0.784	0.657	0.709	0.705	0.764	0.209	0.365	0.424	0.473	0.705	0.734	0.265	0.447	0.516	0.614
0.793	0.805	0.789	0.762	0.847	0.821	0.197	0.644	0.469	0.582	0.737	0.834	0.302	0.519	0.570	0.683
0.698	0.660	0.624	0.624	0.670	0.672	0.086	0.188	0.383	0.429	0.725	0.671	0.118	0.405	0.385	0.582
0.786	0.775	0.725	0.724	0.779	0.780	0.287	0.388	0.452	0.480	0.732	0.779	0.330	0.466	0.573	0.643
0.737	0.774	0.678	0.693	0.728	0.747	0.194	0.453	0.423	0.499	0.720	0.737	0.272	0.458	0.524	0.624

Statistical Annex B5: Gender-related Development Index 2003

Province	Life expectancy at birth (years) 2003		Mean years of schooling 2002		Expected years of schooling 2002		Estimated earned income (NCR 2015 PPP pesos) 2003		Estimated earned income (US 2011 PPP $) 2003		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Metro Manila	68.0	73.0	10.4	10.2	13.2	13.2	80,162	100,424	4,119	5,160	0.777	0.777	0.902	0.882
Abra	63.2	68.3	7.9	7.8	12.6	13.5	42,893	59,969	1,811	2,532	0.703	0.705	0.688	0.676
Agusan del Norte	61.3	67.0	8.0	8.3	12.6	12.7	41,286	69,030	1,703	2,848	0.674	0.685	0.698	0.723
Agusan del Sur	60.5	65.1	7.4	7.8	11.8	12.4	32,851	50,389	1,445	2,216	0.662	0.655	0.641	0.679
Aklan	62.4	67.6	7.8	8.5	12.7	14.1	35,479	43,937	1,468	1,818	0.691	0.693	0.679	0.736
Albay	66.0	71.6	8.1	8.4	12.0	12.3	40,366	58,035	1,766	2,539	0.747	0.755	0.705	0.730
Antique	61.1	67.2	7.3	7.7	12.6	13.7	36,446	65,144	1,437	2,568	0.671	0.687	0.636	0.672
Apayao														
Aurora														
Basilan	59.2	64.4	5.6	4.8	11.1	10.9	33,073	39,324	1,339	1,589	0.642	0.644	0.487	0.419
Bataan	65.5	70.7	9.2	8.9	12.4	12.8	53,875	83,426	2,682	4,153	0.738	0.741	0.801	0.769
Batanes														
Batangas	67.4	73.6	8.4	8.3	11.8	12.9	57,992	77,878	2,558	3,435	0.768	0.786	0.725	0.719
Benguet	66.5	72.0	9.1	9.3	14.6	14.5	73,507	115,906	3,150	4,967	0.753	0.761	0.788	0.803
Biliran	62.4	67.4	7.2	7.8	11.0	13.2	40,090	67,530	1,612	2,715	0.690	0.690	0.625	0.674
Bohol	66.7	71.2	6.6	6.7	11.4	13.7	37,922	55,334	1,471	2,146	0.757	0.750	0.572	0.579
Bukidnon	64.4	69.3	7.1	7.0	10.9	12.1	33,573	51,939	1,546	2,391	0.721	0.719	0.613	0.611
Bulacan	68.3	73.3	8.7	8.3	11.4	12.3	65,788	83,303	2,907	3,681	0.781	0.782	0.751	0.717
Cagayan	65.8	70.5	7.2	7.3	12.2	12.9	44,338	58,980	1,863	2,479	0.743	0.738	0.623	0.631
Camarines Norte	62.0	66.8	8.1	8.2	12.2	12.8	36,053	38,598	1,578	1,690	0.685	0.681	0.703	0.712
Camarines Sur	67.2	71.6	7.3	7.4	11.5	12.2	33,405	60,499	1,466	2,656	0.764	0.756	0.634	0.643
Camiguin														
Capiz														
Catanduanes	62.4	68.2	7.4	7.8	11.7	13.3	72,453	87,342	3,109	3,748	0.690	0.703	0.643	0.674
Cavite	67.7	73.5	9.4	8.9	12.9	12.5	66,421	93,221	3,349	4,701	0.773	0.785	0.812	0.773
Cebu	67.9	73.1	7.7	7.5	12.1	12.4	51,091	74,350	2,108	3,068	0.775	0.779	0.667	0.650
Compostela Valley *	63.4	67.9	7.3	7.6	11.2	12.7	34,634	35,305	1,567	1,598	0.706	0.699	0.633	0.663
Davao del Norte *	63.5	68.2	7.3	7.6	11.2	12.7	42,293	79,977	2,056	3,888	0.708	0.702	0.633	0.663
Davao del Sur	66.0	70.4	8.2	8.3	11.5	12.6	50,558	74,752	2,198	3,250	0.746	0.738	0.715	0.719
Davao Oriental	64.8	69.4	7.1	7.3	12.0	12.5	27,536	35,844	1,217	1,584	0.728	0.722	0.619	0.634
Eastern Samar	61.7	66.7	6.3	7.3	11.6	13.0	33,615	63,355	1,472	2,775	0.680	0.679	0.549	0.632
Guimaras														
Ifugao	59.5	65.5	6.1	6.0	12.9	14.4	40,763	56,507	1,837	2,546	0.647	0.661	0.532	0.522
Ilocos Norte	67.4	73.1	8.4	8.3	12.1	13.1	49,190	83,998	2,062	3,521	0.767	0.778	0.730	0.719
Ilocos Sur	64.1	71.1	8.4	8.3	11.5	12.6	40,703	63,984	1,865	2,932	0.717	0.747	0.727	0.718
Iloilo	66.2	72.3	8.2	8.5	12.9	14.0	43,226	67,248	1,849	2,877	0.750	0.766	0.712	0.742
Isabela	66.2	71.1	8.1	8.1	12.2	13.0	43,505	57,052	1,954	2,563	0.749	0.748	0.700	0.705
Kalinga	59.9	65.7	7.3	7.5	12.7	13.5	35,256	51,793	1,434	2,107	0.652	0.665	0.632	0.654
La Union	67.6	73.4	8.4	8.6	11.3	12.5	59,713	61,522	2,312	2,382	0.770	0.784	0.728	0.749
Laguna	65.2	71.6	9.3	9.2	12.5	12.7	73,619	107,190	3,248	4,729	0.734	0.756	0.805	0.800

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2003	GDI (International) 2003
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.902	0.819	0.902	0.850	0.968	0.915	0.563	0.756	0.562	0.596	0.777	0.941	0.645	0.578	0.778	0.751
0.859	0.834	0.769	0.751	0.825	0.809	0.207	0.370	0.438	0.488	0.704	0.817	0.266	0.461	0.535	0.643
0.859	0.787	0.774	0.754	0.831	0.812	0.192	0.456	0.428	0.506	0.679	0.821	0.270	0.464	0.532	0.637
0.805	0.768	0.718	0.722	0.771	0.777	0.111	0.279	0.403	0.468	0.658	0.774	0.159	0.433	0.433	0.604
0.868	0.875	0.768	0.802	0.824	0.864	0.136	0.217	0.406	0.438	0.692	0.844	0.168	0.421	0.461	0.627
0.823	0.762	0.762	0.746	0.818	0.803	0.183	0.352	0.434	0.489	0.751	0.811	0.241	0.460	0.527	0.654
0.863	0.845	0.741	0.754	0.795	0.812	0.146	0.419	0.403	0.490	0.679	0.804	0.216	0.442	0.490	0.622
0.761	0.677	0.609	0.532	0.654	0.573	0.113	0.173	0.392	0.418	0.643	0.611	0.137	0.404	0.378	0.542
0.850	0.791	0.825	0.780	0.886	0.840	0.312	0.594	0.497	0.563	0.740	0.862	0.409	0.528	0.639	0.696
0.804	0.795	0.764	0.756	0.820	0.815	0.351	0.541	0.490	0.534	0.777	0.817	0.426	0.511	0.647	0.687
1.000	0.900	0.888	0.850	0.953	0.916	0.499	0.904	0.521	0.590	0.757	0.934	0.643	0.553	0.769	0.731
0.755	0.814	0.687	0.741	0.738	0.798	0.180	0.442	0.420	0.499	0.690	0.767	0.256	0.456	0.514	0.623
0.783	0.849	0.669	0.701	0.718	0.755	0.160	0.326	0.406	0.463	0.754	0.736	0.214	0.433	0.492	0.622
0.747	0.748	0.677	0.676	0.727	0.728	0.118	0.293	0.414	0.479	0.720	0.727	0.169	0.444	0.445	0.615
0.782	0.759	0.766	0.738	0.823	0.795	0.426	0.593	0.509	0.545	0.782	0.809	0.495	0.526	0.679	0.693
0.833	0.799	0.720	0.710	0.773	0.765	0.221	0.361	0.442	0.485	0.741	0.769	0.274	0.462	0.538	0.641
0.834	0.789	0.766	0.750	0.822	0.807	0.142	0.166	0.417	0.427	0.683	0.815	0.153	0.422	0.440	0.617
0.784	0.754	0.705	0.696	0.757	0.750	0.117	0.375	0.406	0.495	0.760	0.753	0.178	0.446	0.467	0.634
0.803	0.820	0.719	0.743	0.772	0.800	0.489	0.631	0.519	0.547	0.696	0.786	0.551	0.533	0.671	0.663
0.881	0.773	0.846	0.773	0.908	0.833	0.432	0.687	0.530	0.582	0.779	0.869	0.530	0.555	0.710	0.721
0.828	0.769	0.743	0.707	0.798	0.761	0.285	0.507	0.460	0.517	0.777	0.779	0.365	0.487	0.605	0.666
0.764	0.786	0.695	0.721	0.746	0.777	0.128	0.135	0.416	0.419	0.703	0.761	0.131	0.417	0.413	0.607
0.764	0.786	0.695	0.721	0.746	0.777	0.201	0.561	0.457	0.553	0.705	0.761	0.296	0.500	0.542	0.645
0.785	0.779	0.749	0.748	0.805	0.806	0.280	0.511	0.467	0.526	0.742	0.805	0.362	0.495	0.600	0.666
0.819	0.775	0.712	0.701	0.765	0.755	0.061	0.140	0.378	0.417	0.725	0.760	0.085	0.396	0.360	0.602
0.791	0.807	0.659	0.714	0.708	0.769	0.119	0.402	0.406	0.502	0.680	0.737	0.183	0.449	0.451	0.608
0.882	0.887	0.685	0.681	0.736	0.733	0.187	0.337	0.440	0.489	0.654	0.734	0.240	0.463	0.487	0.606
0.825	0.813	0.776	0.764	0.833	0.823	0.267	0.599	0.457	0.538	0.773	0.828	0.370	0.494	0.618	0.681
0.785	0.780	0.755	0.748	0.811	0.806	0.186	0.408	0.442	0.510	0.732	0.808	0.256	0.474	0.533	0.654
0.881	0.869	0.792	0.803	0.851	0.864	0.210	0.439	0.441	0.507	0.758	0.857	0.284	0.472	0.570	0.674
0.832	0.801	0.763	0.751	0.819	0.809	0.213	0.342	0.449	0.490	0.749	0.814	0.263	0.469	0.543	0.659
0.869	0.833	0.741	0.738	0.796	0.795	0.134	0.292	0.402	0.460	0.659	0.795	0.184	0.429	0.458	0.608
0.771	0.773	0.749	0.761	0.804	0.819	0.368	0.385	0.474	0.479	0.777	0.812	0.376	0.477	0.619	0.670
0.853	0.785	0.828	0.792	0.889	0.853	0.500	0.820	0.526	0.583	0.745	0.871	0.622	0.553	0.739	0.710

Statistical Annex B5: Gender-related Development Index 2003

Province	Life expectancy at birth (years) 2003		Mean years of schooling 2002		Expected years of schooling 2002		Estimated earned income (NCR 2015 PPP pesos) 2003		Estimated earned income (US 2011 PPP $) 2003		Life Expectancy Index		Mean Years Index	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Lanao del Norte	62.4	66.6	8.0	8.4	12.5	13.4	41,864	72,315	1,777	3,070	0.691	0.678	0.696	0.729
Lanao del Sur	56.5	61.4	5.9	5.4	11.5	12.4	42,940	40,665	1,927	1,825	0.600	0.599	0.509	0.473
Leyte	64.4	69.0	7.0	7.6	12.1	12.9	39,927	58,508	1,590	2,330	0.722	0.716	0.612	0.656
Maguindanao	57.0	59.6	6.7	6.2	10.5	11.4	31,233	35,226	1,331	1,506	0.608	0.571	0.580	0.534
Marinduque	62.2	68.4	7.4	7.6	13.2	13.4	34,888	48,716	1,376	1,922	0.687	0.706	0.640	0.657
Masbate	62.3	67.4	6.2	6.7	11.2	11.5	33,969	48,114	1,373	1,945	0.690	0.691	0.537	0.582
Misamis Occidental	67.8	68.6	8.1	8.5	12.5	13.7	38,088	50,899	1,509	2,016	0.774	0.709	0.699	0.737
Misamis Oriental	65.5	70.5	9.0	9.0	12.7	13.1	50,752	71,866	2,101	2,975	0.739	0.738	0.784	0.785
Mt. Province	60.4	66.7	7.2	7.4	13.5	14.5	32,244	38,471	1,514	1,806	0.660	0.680	0.624	0.642
Negros Occidental	65.0	71.1	7.3	7.5	12.1	12.4	42,454	64,101	1,681	2,538	0.730	0.748	0.635	0.654
Negros Oriental	64.4	68.1	6.7	7.1	10.1	10.9	30,393	35,447	1,317	1,536	0.721	0.702	0.583	0.620
North Cotabato	64.4	69.4	7.4	7.6	11.7	13.0	38,093	45,005	1,544	1,824	0.722	0.721	0.644	0.663
Northern Samar	61.4	67.5	6.5	6.9	11.9	13.3	33,753	38,803	1,394	1,602	0.675	0.693	0.568	0.600
Nueva Ecija	66.5	71.4	8.0	7.8	11.5	11.7	44,114	49,107	2,075	2,310	0.754	0.752	0.693	0.681
Nueva Vizcaya														
Occidental Mindoro	61.4	66.8	7.2	7.5	11.7	13.0	45,214	44,133	1,808	1,765	0.676	0.682	0.621	0.648
Oriental Mindoro	63.2	67.8	7.1	7.2	11.7	12.1	41,049	55,267	1,676	2,256	0.704	0.696	0.617	0.624
Palawan	60.6	66.0	7.8	8.3	12.0	13.1	38,520	54,162	1,497	2,105	0.663	0.669	0.680	0.723
Pampanga	68.2	73.8	8.7	8.4	11.8	12.8	63,664	76,168	2,875	3,440	0.779	0.790	0.756	0.732
Pangasinan	65.3	70.8	8.7	8.5	12.6	12.4	45,536	63,021	1,893	2,620	0.736	0.743	0.756	0.734
Quezon	64.0	69.9	8.0	8.4	12.0	12.4	38,126	61,420	1,585	2,554	0.715	0.730	0.692	0.731
Quirino	63.4	67.6	7.1	7.7	11.6	13.7	53,917	54,341	2,249	2,267	0.706	0.694	0.620	0.670
Rizal	67.3	72.5	9.9	9.7	12.4	13.3	68,516	91,359	3,360	4,480	0.767	0.770	0.861	0.843
Romblon	61.5	67.6	7.7	7.7	13.1	13.9	33,191	39,630	1,434	1,712	0.677	0.694	0.670	0.672
Sarangani	64.6	69.8	5.8	5.7	9.7	10.1	29,519	27,071	1,208	1,108	0.725	0.727	0.501	0.498
Siquijor														
Sorsogon	65.1	70.7	7.5	7.5	11.7	13.3	40,897	51,761	1,660	2,100	0.732	0.742	0.647	0.654
South Cotabato	65.2	69.4	8.6	8.8	12.2	12.3	50,891	56,972	2,223	2,488	0.734	0.721	0.746	0.762
Southern Leyte	63.4	68.5	6.9	7.5	11.6	13.4	36,153	36,780	1,613	1,641	0.706	0.708	0.603	0.654
Sultan Kudarat	63.0	67.8	8.1	8.3	12.2	13.5	30,819	46,283	1,253	1,882	0.699	0.697	0.703	0.721
Sulu	53.1	57.0	4.4	3.9	11.4	11.9	32,716	37,138	1,338	1,518	0.548	0.531	0.384	0.343
Surigao del Norte	60.8	68.6	7.2	7.4	12.4	12.9	36,205	48,724	1,599	2,152	0.666	0.709	0.627	0.639
Surigao del Sur														
Tarlac	65.9	70.6	8.0	7.9	11.3	12.1	52,764	67,043	2,440	3,100	0.744	0.740	0.691	0.685
Tawi-Tawi														
Western Samar	62.3	66.4	6.2	6.6	9.4	12.6	37,264	60,609	1,436	2,336	0.689	0.676	0.541	0.577
Zambales	65.0	69.3	9.3	8.8	13.1	12.9	42,441	61,221	2,258	3,257	0.731	0.720	0.803	0.767
Zamboanga del Norte	63.6	69.1	7.4	7.5	12.3	13.0	26,183	33,165	1,099	1,392	0.710	0.718	0.639	0.655
Zamboanga del Sur *	63.5	69.9	7.3	7.4	12.1	12.7	46,161	62,444	1,792	2,424	0.707	0.729	0.637	0.645
Zamboanga Sibugay *	63.1	69.5	7.3	7.4	12.1	12.7	35,479	76,478	1,409	3,037	0.702	0.723	0.637	0.645

*Life expectancy of Compostela Valley and Zamboanga Sibugay is from Davao del Norte and Zamboanga del Sur, respectively.

Expected Years Index		Geometric Mean of Mean Expected Years of Schooling		Education Index		Income Index		Income (PPP US 2011$) Index		Aggregate Life Expectancy Index	Aggregate Education Index	Aggregate Income Index	Aggregate Income (PPP US 2011$) Index	GDI 2003	GDI (International) 2003
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						
0.857	0.828	0.772	0.777	0.829	0.837	0.197	0.488	0.435	0.517	0.685	0.833	0.281	0.472	0.543	0.646
0.786	0.764	0.632	0.601	0.679	0.647	0.208	0.186	0.447	0.439	0.599	0.663	0.196	0.443	0.427	0.560
0.827	0.801	0.711	0.725	0.764	0.780	0.179	0.356	0.418	0.476	0.719	0.772	0.238	0.445	0.509	0.627
0.716	0.706	0.644	0.614	0.692	0.661	0.096	0.134	0.391	0.410	0.589	0.676	0.112	0.400	0.354	0.542
0.900	0.831	0.759	0.739	0.815	0.796	0.131	0.263	0.396	0.446	0.697	0.805	0.175	0.420	0.461	0.617
0.765	0.709	0.641	0.642	0.688	0.692	0.122	0.257	0.396	0.448	0.690	0.690	0.165	0.420	0.429	0.585
0.855	0.850	0.773	0.792	0.830	0.852	0.161	0.283	0.410	0.454	0.740	0.841	0.206	0.431	0.504	0.645
0.871	0.811	0.827	0.798	0.888	0.859	0.282	0.484	0.460	0.513	0.739	0.873	0.356	0.485	0.612	0.679
0.924	0.898	0.759	0.760	0.815	0.818	0.106	0.165	0.410	0.437	0.670	0.817	0.129	0.423	0.413	0.614
0.830	0.769	0.726	0.709	0.780	0.764	0.203	0.409	0.426	0.488	0.739	0.772	0.271	0.455	0.537	0.638
0.692	0.676	0.635	0.647	0.682	0.697	0.088	0.136	0.389	0.413	0.711	0.690	0.107	0.401	0.374	0.581
0.799	0.807	0.717	0.731	0.770	0.788	0.161	0.227	0.413	0.439	0.722	0.779	0.189	0.426	0.473	0.621
0.817	0.821	0.681	0.702	0.731	0.756	0.120	0.168	0.398	0.419	0.684	0.743	0.140	0.408	0.414	0.592
0.787	0.724	0.738	0.702	0.793	0.756	0.219	0.266	0.458	0.474	0.753	0.774	0.240	0.466	0.519	0.648
0.802	0.805	0.706	0.722	0.758	0.777	0.229	0.219	0.437	0.434	0.679	0.767	0.224	0.435	0.489	0.610
0.801	0.746	0.703	0.682	0.755	0.735	0.190	0.325	0.426	0.471	0.700	0.745	0.239	0.447	0.500	0.615
0.821	0.809	0.747	0.765	0.803	0.824	0.165	0.315	0.409	0.460	0.666	0.813	0.217	0.433	0.490	0.617
0.810	0.790	0.783	0.760	0.841	0.819	0.405	0.525	0.507	0.534	0.785	0.830	0.457	0.521	0.668	0.697
0.863	0.765	0.807	0.749	0.867	0.807	0.232	0.399	0.444	0.493	0.739	0.836	0.294	0.467	0.566	0.661
0.819	0.767	0.753	0.749	0.809	0.806	0.162	0.384	0.417	0.489	0.722	0.807	0.228	0.451	0.510	0.641
0.796	0.847	0.702	0.754	0.754	0.811	0.312	0.316	0.470	0.471	0.700	0.782	0.314	0.471	0.556	0.636
0.846	0.823	0.853	0.833	0.916	0.897	0.452	0.669	0.531	0.574	0.768	0.907	0.539	0.552	0.722	0.727
0.896	0.860	0.775	0.760	0.832	0.818	0.115	0.176	0.402	0.429	0.686	0.825	0.139	0.415	0.428	0.617
0.663	0.625	0.576	0.558	0.619	0.601	0.080	0.056	0.376	0.363	0.726	0.610	0.066	0.370	0.308	0.547
0.798	0.825	0.719	0.735	0.772	0.791	0.188	0.292	0.424	0.460	0.737	0.781	0.229	0.441	0.509	0.633
0.834	0.761	0.789	0.762	0.847	0.820	0.283	0.341	0.468	0.486	0.727	0.833	0.310	0.477	0.573	0.661
0.793	0.829	0.692	0.736	0.743	0.793	0.143	0.149	0.420	0.423	0.707	0.767	0.146	0.421	0.429	0.611
0.835	0.832	0.766	0.775	0.823	0.834	0.092	0.239	0.382	0.443	0.698	0.828	0.133	0.410	0.425	0.619
0.780	0.738	0.547	0.503	0.588	0.542	0.110	0.152	0.392	0.411	0.539	0.564	0.128	0.401	0.339	0.496
0.848	0.796	0.729	0.713	0.782	0.768	0.143	0.263	0.419	0.464	0.687	0.775	0.185	0.440	0.462	0.616
0.771	0.750	0.730	0.717	0.784	0.772	0.301	0.437	0.483	0.519	0.742	0.778	0.357	0.500	0.590	0.661
0.645	0.777	0.590	0.670	0.634	0.721	0.153	0.376	0.403	0.476	0.682	0.675	0.218	0.436	0.465	0.586
0.896	0.801	0.848	0.784	0.911	0.844	0.203	0.382	0.471	0.526	0.726	0.876	0.265	0.497	0.552	0.681
0.840	0.803	0.732	0.725	0.786	0.781	0.048	0.114	0.362	0.398	0.714	0.784	0.067	0.379	0.335	0.596
0.825	0.783	0.725	0.711	0.778	0.765	0.238	0.394	0.436	0.482	0.718	0.772	0.297	0.458	0.548	0.633
0.825	0.783	0.725	0.711	0.778	0.765	0.136	0.527	0.400	0.516	0.712	0.772	0.217	0.450	0.492	0.628

Statistical Annex C1: Inequality-adjusted Human Development Index 2015

Province	HDI 2015	Index			Atkinson Index		
		Life expectancy	Education	Income	Life expectancy	Education	Income
Metro Manila	0.849	0.820	0.994	0.749	0.072	0.148	0.206
Abra	0.569	0.777	0.866	0.274	0.106	0.176	0.185
Agusan del Norte	0.597	0.787	0.889	0.303	0.088	0.169	0.263
Agusan del Sur	0.478	0.725	0.803	0.187	0.079	0.184	0.250
Aklan	0.657	0.777	0.868	0.422	0.101	0.153	0.253
Albay	0.606	0.758	0.892	0.329	0.090	0.165	0.227
Antique	0.708	0.778	0.877	0.520	0.103	0.193	0.386
Apayao	0.570	0.773	0.837	0.286	0.088	0.173	0.231
Aurora	0.763	0.784	0.913	0.621	0.085	0.150	0.426
Basilan	0.454	0.721	0.713	0.182	0.060	0.276	0.135
Bataan	0.793	0.768	0.913	0.712	0.084	0.133	0.230
Batanes	0.758	0.788	0.728	0.758	0.121	0.178	0.312
Batangas	0.731	0.772	0.911	0.556	0.085	0.154	0.200
Benguet	0.850	0.770	1.000	0.798	0.078	0.163	0.191
Biliran	0.772	0.773	0.920	0.646	0.102	0.179	0.359
Bohol	0.622	0.749	0.868	0.370	0.109	0.169	0.243
Bukidnon	0.451	0.740	0.809	0.153	0.078	0.179	0.243
Bulacan	0.757	0.778	0.911	0.612	0.081	0.157	0.177
Cagayan	0.671	0.779	0.884	0.439	0.096	0.163	0.225
Camarines Norte	0.546	0.774	0.886	0.237	0.088	0.158	0.218
Camarines Sur	0.534	0.734	0.895	0.232	0.088	0.152	0.196
Camiguin	0.624	0.775	0.932	0.336	0.109	0.171	0.288
Capiz	0.612	0.786	0.803	0.363	0.099	0.201	0.162
Catanduanes	0.548	0.746	0.878	0.252	0.102	0.153	0.275
Cavite	0.748	0.781	0.934	0.574	0.074	0.153	0.181
Cebu	0.668	0.748	0.899	0.444	0.085	0.163	0.249
Compostela Valley	0.501	0.764	0.817	0.201	0.084	0.152	0.151
Davao del Norte	0.552	0.778	0.860	0.251	0.084	0.163	0.214
Davao del Sur	0.728	0.766	0.902	0.558	0.081	0.176	0.254
Davao Oriental	0.557	0.759	0.792	0.288	0.089	0.187	0.210
Eastern Samar	0.531	0.773	0.860	0.226	0.104	0.164	0.281
Guimaras	0.682	0.768	0.991	0.417	0.100	0.162	0.155
Ifugao	0.532	0.804	0.811	0.231	0.085	0.222	0.200
Ilocos Norte	0.735	0.769	0.927	0.558	0.106	0.150	0.173
Ilocos Sur	0.683	0.787	0.931	0.435	0.104	0.160	0.184
Iloilo	0.661	0.774	0.928	0.402	0.100	0.164	0.226
Isabela	0.648	0.756	0.875	0.411	0.088	0.164	0.203
Kalinga	0.609	0.783	0.895	0.322	0.087	0.191	0.266
La Union	0.722	0.746	0.937	0.538	0.097	0.161	0.225
Laguna	0.799	0.792	0.916	0.702	0.076	0.145	0.213

Inequality Adjusted HDI (IHDI) 2015		Inequality Adjusted Life Expectancy Index 2015		Inequality Adjusted Education Index 2015		Inequality Adjusted Income Index 2015	
Value	Overall Loss due to inequality, %	Value	Loss due to inequality, %	Value	Loss due to inequality, %	Value	Loss due to inequality, %
0.726	14.4	0.760	7.2	0.847	14.8	0.595	20.6
0.480	15.6	0.695	10.6	0.713	17.6	0.224	18.5
0.491	17.7	0.718	8.8	0.738	16.9	0.224	26.3
0.395	17.4	0.668	7.9	0.655	18.4	0.141	25.0
0.545	17.1	0.698	10.1	0.735	15.3	0.315	25.3
0.508	16.2	0.690	9.0	0.745	16.5	0.254	22.7
0.540	23.7	0.698	10.3	0.707	19.3	0.320	38.6
0.475	16.6	0.705	8.8	0.692	17.3	0.220	23.1
0.583	23.6	0.717	8.5	0.776	15.0	0.356	42.6
0.381	16.2	0.678	6.0	0.516	27.6	0.157	13.5
0.673	15.1	0.704	8.4	0.791	13.3	0.548	23.0
0.600	20.8	0.693	12.1	0.599	17.8	0.521	31.2
0.623	14.8	0.706	8.5	0.771	15.4	0.445	20.0
0.727	14.5	0.710	7.8	0.837	16.3	0.646	19.1
0.601	22.1	0.694	10.2	0.756	17.9	0.414	35.9
0.513	17.6	0.667	10.9	0.721	16.9	0.280	24.3
0.374	17.0	0.682	7.8	0.664	17.9	0.116	24.3
0.652	13.9	0.716	8.1	0.768	15.7	0.504	17.7
0.561	16.3	0.704	9.6	0.739	16.3	0.340	22.5
0.460	15.6	0.706	8.8	0.746	15.8	0.185	21.8
0.456	14.6	0.670	8.8	0.759	15.2	0.187	19.6
0.504	19.3	0.691	10.9	0.773	17.1	0.239	28.8
0.517	15.5	0.708	9.9	0.642	20.1	0.304	16.2
0.450	18.0	0.669	10.2	0.744	15.3	0.182	27.5
0.645	13.7	0.723	7.4	0.791	15.3	0.470	18.1
0.556	16.9	0.684	8.5	0.752	16.3	0.333	24.9
0.436	13.0	0.700	8.4	0.693	15.2	0.171	15.1
0.466	15.6	0.713	8.4	0.720	16.3	0.197	21.4
0.601	17.4	0.704	8.1	0.743	17.6	0.416	25.4
0.466	16.4	0.692	8.9	0.644	18.7	0.227	21.0
0.432	18.6	0.692	10.4	0.719	16.4	0.162	28.1
0.587	13.9	0.692	10.0	0.830	16.2	0.353	15.5
0.441	17.1	0.736	8.5	0.630	22.2	0.184	20.0
0.630	14.4	0.687	10.6	0.787	15.0	0.462	17.3
0.580	15.0	0.705	10.4	0.782	16.0	0.355	18.4
0.552	16.5	0.697	10.0	0.776	16.4	0.311	22.6
0.549	15.3	0.689	8.8	0.731	16.4	0.328	20.3
0.497	18.5	0.716	8.7	0.724	19.1	0.236	26.6
0.605	16.3	0.674	9.7	0.786	16.1	0.417	22.5
0.682	14.6	0.731	7.6	0.783	14.5	0.553	21.3

Statistical Annex C1: Inequality-adjusted Human Development Index 2015

Province	HDI 2015	Index			Atkinson Index		
		Life expectancy	Education	Income	Life expectancy	Education	Income
Lanao del Norte	0.599	0.769	0.879	0.317	0.077	0.199	0.341
Lanao del Sur	0.248	0.738	0.789	0.026	0.057	0.248	0.127
Leyte	0.564	0.765	0.831	0.281	0.095	0.176	0.226
Maguindanao	0.377	0.754	0.720	0.098	0.056	0.241	0.167
Marinduque	0.660	0.721	0.889	0.449	0.110	0.162	0.246
Masbate	0.462	0.755	0.801	0.163	0.087	0.188	0.184
Misamis Occidental	0.591	0.742	0.904	0.308	0.100	0.167	0.253
Misamis Oriental	0.708	0.765	0.930	0.500	0.085	0.155	0.259
Mt. Province	0.493	0.808	0.805	0.184	0.097	0.218	0.175
Negros Occidental	0.578	0.747	0.850	0.304	0.093	0.186	0.227
Negros Oriental	0.492	0.766	0.786	0.198	0.099	0.190	0.247
North Cotabato	0.480	0.763	0.787	0.184	0.079	0.218	0.220
Northern Samar	0.484	0.753	0.840	0.179	0.088	0.179	0.290
Nueva Ecija	0.603	0.772	0.854	0.332	0.089	0.152	0.185
Nueva Vizcaya	0.655	0.788	0.879	0.405	0.088	0.175	0.179
Occidental Mindoro	0.607	0.744	0.841	0.358	0.083	0.219	0.351
Oriental Mindoro	0.630	0.773	0.838	0.386	0.085	0.176	0.262
Palawan	0.699	0.770	0.859	0.516	0.079	0.206	0.273
Pampanga	0.765	0.781	0.919	0.624	0.082	0.142	0.177
Pangasinan	0.643	0.755	0.903	0.389	0.094	0.151	0.194
Quezon	0.592	0.780	0.823	0.323	0.087	0.160	0.203
Quirino	0.566	0.775	0.794	0.295	0.086	0.177	0.189
Rizal	0.795	0.782	0.943	0.681	0.072	0.148	0.216
Romblon	0.632	0.750	0.900	0.374	0.105	0.162	0.321
Sarangani	0.407	0.755	0.713	0.125	0.073	0.215	0.252
Siquijor	0.426	0.765	0.916	0.110	0.128	0.149	0.157
Sorsogon	0.481	0.729	0.845	0.181	0.094	0.161	0.192
South Cotabato	0.661	0.771	0.915	0.410	0.076	0.180	0.278
Southern Leyte	0.547	0.762	0.852	0.252	0.112	0.160	0.264
Sultan Kudarat	0.494	0.785	0.793	0.194	0.074	0.219	0.301
Sulu	0.325	0.666	0.763	0.068	0.059	0.250	0.069
Surigao del Norte	0.577	0.727	0.899	0.294	0.095	0.158	0.245
Surigao del Sur	0.541	0.729	0.882	0.247	0.093	0.170	0.238
Tarlac	0.644	0.783	0.886	0.386	0.090	0.145	0.202
Tawi-Tawi	0.471	0.656	0.743	0.214	0.061	0.254	0.064
Western Samar	0.545	0.775	0.810	0.257	0.092	0.187	0.302
Zambales	0.652	0.773	0.926	0.388	0.089	0.144	0.187
Zamboanga del Norte	0.459	0.758	0.781	0.163	0.090	0.204	0.244
Zamboanga del Sur	0.642	0.775	0.882	0.387	0.081	0.187	0.241
Zamboanga Sibugay	0.551	0.745	0.871	0.257	0.080	0.172	0.206
Philippines	0.676	0.785	0.893	0.441	0.082	0.174	0.264

Inequality Adjusted HDI (IHDI) 2015		Inequality Adjusted Life Expectancy Index 2015		Inequality Adjusted Education Index 2015		Inequality Adjusted Income Index 2015	
Value	Overall Loss due to inequality, %	Value	Loss due to inequality, %	Value	Loss due to inequality, %	Value	Loss due to inequality, %
0.471	21.3	0.710	7.7	0.704	19.9	0.209	34.1
0.211	14.8	0.696	5.7	0.593	24.8	0.023	12.7
0.469	16.8	0.692	9.5	0.685	17.6	0.218	22.6
0.317	15.8	0.712	5.6	0.546	24.1	0.082	16.7
0.545	17.5	0.642	11.0	0.744	16.2	0.339	24.6
0.391	15.4	0.689	8.7	0.651	18.8	0.133	18.4
0.487	17.6	0.668	10.0	0.753	16.7	0.230	25.3
0.589	16.9	0.700	8.5	0.786	15.5	0.371	25.9
0.412	16.5	0.730	9.7	0.630	21.8	0.152	17.5
0.479	17.0	0.677	9.3	0.692	18.6	0.235	22.7
0.403	18.1	0.690	9.9	0.637	19.0	0.149	24.7
0.396	17.5	0.703	7.9	0.616	21.8	0.144	22.0
0.392	19.0	0.687	8.8	0.689	17.9	0.127	29.0
0.517	14.3	0.704	8.9	0.724	15.2	0.271	18.5
0.558	14.9	0.719	8.8	0.725	17.5	0.333	17.9
0.470	22.5	0.682	8.3	0.657	21.9	0.232	35.1
0.518	17.8	0.707	8.5	0.690	17.6	0.285	26.2
0.566	19.0	0.709	7.9	0.682	20.6	0.375	27.3
0.662	13.5	0.717	8.2	0.789	14.2	0.513	17.7
0.548	14.7	0.684	9.4	0.767	15.1	0.313	19.4
0.502	15.1	0.712	8.7	0.691	16.0	0.257	20.3
0.480	15.2	0.708	8.6	0.653	17.7	0.239	18.9
0.678	14.7	0.725	7.2	0.804	14.8	0.534	21.6
0.505	20.1	0.671	10.5	0.755	16.2	0.254	32.1
0.332	18.4	0.700	7.3	0.560	21.5	0.094	25.2
0.365	14.5	0.668	12.8	0.780	14.9	0.093	15.7
0.409	15.0	0.661	9.4	0.709	16.1	0.146	19.2
0.541	18.2	0.713	7.6	0.751	18.0	0.296	27.8
0.448	18.1	0.677	11.2	0.716	16.0	0.185	26.4
0.393	20.3	0.727	7.4	0.619	21.9	0.135	30.1
0.283	13.0	0.626	5.9	0.573	25.0	0.063	6.9
0.480	16.8	0.658	9.5	0.757	15.8	0.222	24.5
0.450	16.9	0.661	9.3	0.732	17.0	0.188	23.8
0.550	14.7	0.713	9.0	0.758	14.5	0.308	20.2
0.409	13.1	0.616	6.1	0.554	25.4	0.201	6.4
0.437	19.8	0.704	9.2	0.658	18.7	0.180	30.2
0.560	14.1	0.704	8.9	0.792	14.4	0.315	18.7
0.375	18.2	0.690	9.0	0.622	20.4	0.123	24.4
0.531	17.2	0.712	8.1	0.717	18.7	0.294	24.1
0.466	15.4	0.685	8.0	0.721	17.2	0.204	20.6
0.557	17.7	0.721	8.2	0.738	17.4	0.324	26.4

Statistical Annex D1: Inequality in Consumption (Share in Consumption)

	Poorest 10%							Poorest 20%							Richest 20%					
Province	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012
Metro Manila	2.54	2.49	2.78	2.93	2.90	2.88	3.04	6.40	6.28	6.89	7.21	7.08	7.20	7.40	48.31	48.84	49.80	46.63	46.66	44.38
Abra	2.41	2.98	3.03	3.89	2.93	3.64	4.24	6.02	7.33	7.38	9.11	7.73	8.81	10.65	61.40	49.61	43.16	39.77	40.95	41.21
Agusan del Norte	2.33	2.13	2.75	2.55	2.85	2.82	2.41	5.73	5.32	6.82	6.59	6.80	6.80	6.32	58.45	55.49	45.20	46.33	45.79	44.65
Agusan del Sur	2.79	3.25	3.26	2.42	3.09	2.82	3.29	6.80	7.79	7.62	6.14	7.45	6.68	7.85	53.01	44.96	46.23	45.64	44.41	46.31
Aklan	1.96	2.15	3.36	3.10	2.66	2.92	3.07	5.21	5.65	8.09	7.47	7.07	7.20	7.07	62.02	62.11	42.35	44.27	46.41	48.47
Albay	2.68	2.33	2.57	2.51	2.45	2.58	2.89	5.80	5.96	6.47	6.43	6.69	6.53	7.44	63.36	55.75	49.86	49.10	46.64	48.27
Antique	2.67	2.27	2.45	2.83	2.74	2.66	2.37	6.18	5.93	6.42	8.08	6.91	7.02	5.81	63.86	54.16	50.67	41.20	45.24	42.11
Apayao	4.10	4.14	4.39	4.68	3.51	3.43	3.03	8.81	9.92	10.49	9.90	8.44	8.29	8.40	44.09	42.99	33.30	41.79	44.19	40.43
Aurora	3.39	3.09	4.12	2.81	4.13	5.06	2.33	8.06	7.78	8.98	7.03	9.48	9.07	6.99	45.22	45.75	35.94	38.76	36.95	43.34
Basilan	4.25	3.86	4.16	4.20	4.08	4.14	4.87	9.22	9.68	9.39	9.60	9.23	9.65	11.28	33.66	33.77	41.26	48.95	43.55	49.02
Bataan	3.21	3.01	3.18	3.32	3.06	3.40	3.14	8.14	7.80	7.80	7.66	8.11	7.99	7.31	42.84	42.95	39.99	43.30	42.76	40.01
Batanes	2.35	2.97	2.67	3.37	5.79	4.88	2.73	5.71	7.47	7.20	6.05	10.71	7.94	6.22	54.86	38.77	44.81	32.14	27.84	35.83
Batangas	2.48	2.48	2.86	2.94	2.90	2.49	2.89	6.49	6.56	7.13	7.13	7.25	6.23	7.08	44.50	53.62	44.01	42.80	43.04	45.95
Benguet	2.25	1.82	2.80	2.91	3.03	3.09	3.17	5.25	5.20	6.91	7.11	7.52	7.42	7.93	58.21	44.13	43.43	42.07	40.96	40.74
Biliran	2.59	3.25	3.04	2.51	2.60	2.82	2.44	7.06	7.42	7.00	6.16	6.13	6.97	5.96	47.97	48.32	50.49	50.58	51.12	44.95
Bohol	2.45	2.31	2.51	2.51	2.50	2.31	2.26	6.67	5.74	6.39	6.28	6.15	6.15	5.86	51.45	60.50	49.37	48.50	51.92	47.32
Bukidnon	2.38	2.38	2.54	2.88	2.71	2.97	2.90	6.11	5.96	6.40	6.80	6.66	7.31	7.10	57.87	52.51	45.93	43.53	48.55	45.97
Bulacan	3.36	4.61	3.49	3.31	3.22	3.06	3.29	9.20	10.11	8.46	8.04	8.05	7.80	8.09	36.44	37.45	40.31	40.40	39.11	42.64
Cagayan	3.64	3.47	3.20	2.73	2.84	2.89	2.54	8.48	8.07	7.83	7.02	7.04	7.37	6.79	47.42	48.13	43.13	47.09	46.62	42.42
Camarines Norte	2.93	1.83	2.86	3.16	3.36	3.20	3.11	6.72	5.15	7.02	7.50	8.01	8.04	7.71	58.51	60.43	52.36	47.63	45.81	42.41
Camarines Sur	2.44	2.53	2.81	3.04	2.84	3.04	3.33	6.31	5.94	6.81	7.38	7.15	7.46	8.04	61.63	60.45	49.98	43.57	45.51	46.10
Camiguin	2.76	2.44	2.38	1.46	3.17	3.17	2.43	6.90	6.33	5.63	3.99	8.01	8.10	6.06	43.99	49.02	49.95	66.93	42.67	41.93
Capiz	2.43	2.51	2.96	2.87	2.36	2.13	3.72	5.66	6.45	7.41	6.77	6.20	5.73	8.67	61.93	59.00	45.70	48.58	47.81	48.47
Catanduanes	2.47	2.22	2.47	2.81	3.07	2.59	2.49	6.26	5.27	6.69	6.91	6.79	7.30	7.04	68.59	79.95	48.46	44.51	46.07	41.59
Cavite	2.26	2.96	3.42	3.28	3.24	2.96	3.16	7.19	7.17	8.24	7.99	7.88	7.41	7.51	43.75	50.58	39.63	40.02	40.41	40.81
Cebu	1.24	1.43	2.09	2.09	2.12	2.40	2.36	3.69	3.89	5.54	5.55	5.85	6.23	6.28	63.35	60.95	48.76	44.55	43.91	43.58
Compostella Valley			3.22	3.04	2.93	3.10	3.49			7.44	7.76	7.47	7.50	8.67			43.11	40.84	41.59	43.40
Davao del Norte	2.35	2.42	2.45	3.14	2.18	3.36	3.14	6.19	6.09	6.09	7.29	6.10	7.93	7.62	59.37	61.98	48.93	42.71	44.09	39.66
Davao del Sur	2.14	2.35	2.16	2.66	2.76	2.61	2.66	4.91	6.00	5.54	6.52	6.80	6.68	6.70	54.68	48.75	47.55	42.89	41.98	41.51
Davao Oriental	2.11	2.18	3.50	3.07	3.65	3.02	3.27	5.81	4.87	8.76	7.81	8.99	7.71	7.84	67.87	61.78	38.47	42.14	42.14	42.59
Eastern Samar	3.19	1.43	2.65	2.14	2.41	2.96	3.15	6.05	4.45	6.58	5.47	6.51	7.10	7.46	97.13	73.83	49.95	56.06	48.34	49.69
Guimaras	2.75	2.73	4.24	3.68	5.29	3.21	3.70	7.28	7.06	9.72	9.52	11.62	7.29	7.86	50.93	53.39	35.77	37.64	33.22	41.45
Ifugao	1.77	1.65	3.35	2.98	2.29	2.61	2.64	4.98	4.43	8.12	7.07	5.87	6.65	6.77	84.71	91.25	43.32	39.34	44.59	48.29
Ilocos Norte	3.44	3.01	3.12	2.58	2.89	2.23	3.29	7.75	7.18	7.46	6.74	6.95	5.88	8.00	52.97	47.85	43.13	44.94	43.07	46.18
Ilocos Sur	3.14	2.56	2.99	2.86	3.21	2.48	3.12	7.20	6.38	7.42	7.50	7.92	6.48	7.60	55.20	52.79	42.20	43.65	41.62	44.96
Iloilo	2.18	2.05	2.47	2.52	2.60	2.37	2.98	5.56	5.30	6.31	6.31	6.56	5.94	7.50	56.32	62.73	48.13	46.47	45.83	47.66
Isabela	2.72	2.45	3.30	3.40	3.08	3.20	3.26	6.88	6.21	7.90	8.21	7.67	8.20	8.24	53.67	56.87	44.56	43.44	44.37	40.68
Kalinga	2.82	2.28	3.56	2.59	2.69	2.99	3.36	6.76	5.62	8.51	6.73	6.85	7.33	8.35	51.38	44.32	40.19	48.02	46.08	45.46
La Union	2.47	2.44	2.98	2.81	2.85	2.08	2.35	5.76	5.90	7.30	6.83	7.00	5.60	6.24	59.18	54.87	45.86	46.22	44.12	47.04
Laguna	2.34	2.83	2.91	2.81	3.40	3.00	3.04	5.86	6.86	7.31	7.21	8.15	7.18	7.51	47.66	42.05	42.22	44.22	38.96	40.34
Lanao del Norte	2.03	2.01	2.18	2.19	2.46	2.11	2.56	5.14	4.86	5.17	5.29	6.04	5.35	6.15	58.87	58.91	58.21	57.12	49.86	54.49
Lanao del Sur	5.00	6.16	3.61	4.64	4.28	4.33	4.74	11.37	12.79	8.20	10.41	9.87	9.72	11.09	33.48	32.68	41.65	36.21	38.96	39.34

	Richest 10%							Richest 20% to Poorest 20%							Richest 10% to Poorest 10%						
2015	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012	2015
42.92	34.75	34.83	33.14	30.66	30.94	28.86	27.46	7.55	7.78	7.23	6.46	6.59	6.16	5.80	13.68	13.96	11.94	10.46	10.65	10.03	9.02
35.15	48.05	30.40	27.60	25.87	26.72	26.99	21.78	10.20	6.77	5.85	4.37	5.30	4.68	3.30	19.97	10.20	9.10	6.65	9.13	7.41	5.14
46.47	38.99	37.15	29.15	29.29	30.57	28.04	30.04	10.21	10.43	6.62	7.03	6.73	6.57	7.36	16.71	17.44	10.62	11.47	10.73	9.95	12.45
45.92	36.59	29.13	31.14	29.17	28.65	29.58	32.27	7.80	5.77	6.07	7.43	5.96	6.94	5.85	13.10	8.97	9.57	12.07	9.29	10.48	9.80
45.55	41.59	41.99	26.35	27.44	32.00	31.37	31.53	11.90	10.99	5.24	5.92	6.56	6.73	6.44	21.18	19.55	7.83	8.86	12.03	10.76	10.28
44.60	43.27	36.51	33.55	33.62	30.56	31.63	28.43	10.93	9.35	7.71	7.63	6.97	7.39	5.99	16.14	15.68	13.04	13.39	12.45	12.28	9.84
55.54	45.62	32.68	35.08	26.99	27.88	25.70	37.77	10.34	9.14	7.89	5.10	6.55	6.00	9.56	17.08	14.38	14.30	9.52	10.19	9.65	15.90
42.07	28.69	29.94	18.75	27.08	27.79	26.54	26.20	5.01	4.33	3.18	4.22	5.23	4.88	5.01	7.00	7.23	4.27	5.79	7.91	7.73	8.66
35.73	30.04	30.07	20.07	21.03	20.31	28.41	22.98	5.61	5.88	4.00	5.51	3.90	4.78	5.11	8.87	9.74	4.87	7.50	4.91	5.62	9.86
32.68	20.40	20.19	27.31	35.00	28.37	34.98	20.20	3.65	3.49	4.39	5.10	4.72	5.08	2.90	4.80	5.24	6.56	8.34	6.95	8.44	4.15
44.35	27.48	27.52	23.98	27.18	28.05	25.48	28.90	5.26	5.51	5.13	5.65	5.28	5.01	6.06	8.56	9.15	7.53	8.20	9.17	7.49	9.21
50.58	35.50	22.10	19.04	21.62	14.29	19.27	32.91	9.60	5.19	6.22	5.31	2.60	4.51	8.13	15.11	7.45	7.14	6.42	2.47	3.95	12.07
41.54	27.64	37.09	28.52	26.23	27.20	30.37	26.20	6.85	8.18	6.17	6.00	5.93	7.37	5.87	11.15	14.98	9.96	8.92	9.38	12.22	9.05
38.18	40.41	26.37	26.54	26.73	26.08	25.53	23.30	11.08	8.49	6.29	5.91	5.45	5.49	4.81	17.92	14.52	9.47	9.17	8.61	8.27	7.36
50.59	34.05	30.77	32.00	34.57	35.98	29.07	35.00	6.80	6.51	7.21	8.22	8.34	6.45	8.48	13.16	9.48	10.51	13.79	13.83	10.33	14.32
48.93	35.84	43.79	33.70	31.72	36.39	30.55	32.11	7.71	10.55	7.73	7.72	8.44	7.69	8.34	14.61	18.93	13.43	12.63	14.57	13.22	14.22
46.91	39.46	35.62	28.68	27.65	32.16	32.04	31.57	9.47	8.81	7.17	6.40	7.29	6.29	6.60	16.58	14.96	11.31	9.61	11.88	10.79	10.89
41.49	21.40	23.76	25.41	25.59	24.11	28.24	25.94	3.96	3.70	4.77	5.03	4.86	5.46	5.13	6.37	5.16	7.27	7.72	7.49	9.22	7.88
45.59	30.92	31.34	27.77	31.17	31.36	26.81	29.27	5.59	5.96	5.51	6.71	6.62	5.76	6.72	8.50	9.03	8.68	11.42	11.05	9.28	11.51
40.45	43.05	41.54	37.49	31.78	30.97	27.69	24.82	8.70	11.73	7.46	6.35	5.72	5.27	5.25	14.68	22.70	13.13	10.04	9.23	8.64	7.99
43.28	43.20	41.19	34.09	28.66	29.49	31.09	28.17	9.77	10.17	7.34	5.90	6.37	6.18	5.38	17.69	16.29	12.14	9.42	10.39	10.23	8.45
49.69	29.57	32.87	27.98	49.57	26.80	28.63	32.75	6.38	7.75	8.88	16.78	5.32	5.18	8.20	10.73	13.46	11.76	33.94	8.46	9.04	13.48
42.33	45.18	41.13	30.44	31.84	30.95	31.22	27.36	10.94	9.15	6.17	7.17	7.71	8.45	4.88	18.58	16.36	10.27	11.08	13.11	14.68	7.35
45.09	42.85	63.37	32.00	31.14	28.89	24.72	30.20	10.96	15.17	7.24	6.44	6.78	5.70	6.41	17.35	28.56	12.96	11.07	9.42	9.53	12.14
39.88	26.79	32.99	24.31	24.63	25.47	25.56	24.80	6.09	7.06	4.81	5.01	5.13	5.51	5.31	11.87	11.14	7.11	7.51	7.85	8.63	7.86
43.98	42.81	41.26	31.79	29.09	27.64	28.70	27.77	17.17	15.65	8.81	8.03	7.51	6.99	7.00	34.48	28.83	15.22	13.95	13.07	11.94	11.76
38.50			27.54	26.06	26.23	27.57	22.95			5.79	5.27	5.57	5.79	4.44			8.56	8.58	8.95	8.90	6.57
42.93	39.25	40.55	33.99	26.97	29.29	25.04	26.42	9.60	10.17	8.03	5.86	7.23	5.00	5.64	16.72	16.77	13.86	8.58	13.44	7.45	8.43
43.49	37.26	32.07	31.83	27.45	26.46	26.29	28.98	11.14	8.12	8.58	6.57	6.17	6.21	6.49	17.45	13.63	14.77	10.31	9.60	10.08	10.89
43.52	50.41	39.76	24.55	27.84	28.36	26.13	28.72	11.67	12.69	4.39	5.40	4.69	5.52	5.55	23.84	18.27	7.01	9.06	7.78	8.66	8.77
46.38	79.15	52.67	34.80	41.48	31.18	32.94	31.48	16.06	16.58	7.59	10.25	7.43	6.99	6.22	24.85	36.93	13.12	19.37	12.96	11.14	10.01
37.68	34.83	38.38	21.90	20.54	17.77	23.28	22.02	7.00	7.56	3.68	3.95	2.86	5.68	4.79	12.64	14.07	5.16	5.58	3.36	7.25	5.95
42.49	62.53	75.57	26.57	24.34	28.49	32.95	26.55	17.00	20.62	5.34	5.57	7.60	7.26	6.27	35.31	45.76	7.92	8.18	12.42	12.62	10.07
38.76	34.98	29.86	27.90	29.13	27.26	30.84	23.40	6.83	6.66	5.78	6.67	6.20	7.85	4.85	10.18	9.93	8.94	11.28	9.44	13.85	7.12
43.11	38.11	34.39	25.01	27.78	26.44	29.45	25.99	7.67	8.28	5.69	5.82	5.25	6.94	5.68	12.13	13.45	8.36	9.72	8.24	11.88	8.33
40.28	38.25	43.20	32.05	29.96	30.16	31.87	24.64	10.13	11.83	7.62	7.36	6.99	8.02	5.37	17.57	21.06	13.00	11.89	11.58	13.43	8.27
39.74	37.51	39.14	29.47	28.29	29.72	26.07	25.42	7.80	9.16	5.64	5.29	5.79	4.96	4.82	13.77	15.96	8.93	8.33	9.65	8.14	7.81
41.51	34.89	27.76	23.73	32.85	29.60	29.50	26.27	7.60	7.89	4.72	7.14	6.72	6.20	4.97	12.37	12.19	6.66	12.68	11.00	9.87	7.82
46.95	36.67	36.62	30.90	30.07	28.07	30.62	31.71	10.27	9.30	6.28	6.77	6.30	8.40	7.53	14.83	15.00	10.38	10.70	9.84	14.75	13.50
39.97	30.39	25.95	26.81	28.67	23.65	26.80	24.27	8.14	6.13	5.77	6.13	4.78	5.62	5.32	12.98	9.16	9.21	10.21	6.95	8.95	7.98
48.44	39.26	39.63	41.73	39.06	32.45	37.57	32.05	11.44	12.11	11.25	10.79	8.26	10.18	7.88	19.35	19.70	19.16	17.82	13.20	17.79	12.51
34.93	20.40	20.08	26.92	22.17	24.55	24.14	21.88	2.95	2.56	5.08	3.48	3.95	4.05	3.15	4.08	3.26	7.46	4.78	5.74	5.57	4.62

Statistical Annex D1: Inequality in Consumption (Share in Consumption)

	Poorest 10%							Poorest 20%							Richest 20%					
Leyte	1.82	1.34	2.59	2.53	2.42	2.39	2.89	4.32	3.50	6.36	6.37	6.13	6.01	7.15	74.15	72.91	51.03	49.32	49.13	51.98
Maguindanao	4.02	2.82	3.99	4.43	4.35	5.06	4.78	8.65	7.30	9.23	10.51	10.59	11.63	10.95	52.25	52.07	39.06	32.43	33.01	29.22
Marinduque	2.46	3.44	2.87	2.89	2.91	2.42	2.84	6.05	8.02	7.22	7.19	7.11	6.41	6.90	57.51	53.80	44.81	45.22	44.60	47.77
Masbate	2.92	2.82	2.97	2.95	3.23	3.28	3.52	6.94	7.30	7.24	7.30	7.72	8.43	8.88	63.23	65.19	48.51	45.62	48.42	40.26
Misamis Occidental	2.05	2.35	2.79	2.81	3.10	3.18	2.40	5.23	5.90	6.99	6.70	7.63	7.61	6.28	64.35	62.70	48.34	51.27	42.82	42.99
Misamis Oriental	1.81	2.55	2.25	2.09	2.02	2.28	2.67	4.52	6.29	5.67	5.68	5.19	6.00	6.35	55.25	49.56	49.77	46.56	48.88	44.33
Mt. Province	2.68	2.64	2.76	2.57	2.55	3.17	2.96	6.90	6.33	6.96	6.67	6.79	7.90	7.32	45.90	57.24	42.89	46.98	38.15	41.80
Negros Occ	2.32	2.33	3.13	2.93	2.99	2.38	2.99	5.84	5.67	7.42	7.09	7.49	6.10	7.26	61.18	62.40	47.01	44.95	45.11	46.97
Negros Oriental	2.27	2.28	1.99	2.12	2.44	2.30	2.88	5.71	5.15	5.21	5.46	6.12	6.06	7.28	64.26	60.48	53.65	52.28	50.60	46.81
North Cotabato	3.01	3.31	3.69	3.41	3.36	3.06	3.66	6.91	7.93	8.96	8.34	8.29	7.69	8.44	51.55	50.20	35.29	42.21	41.54	40.30
Northern Samar	1.83	2.87	3.24	2.44	3.51	3.23	2.89	4.67	7.28	8.21	6.28	8.26	7.92	7.16	63.63	69.04	41.82	48.86	44.86	43.15
Nueva Ecija	2.68	2.83	3.48	3.38	3.52	3.21	3.44	6.36	7.45	8.46	8.32	8.49	7.98	8.72	53.27	54.50	39.41	42.56	41.08	41.40
Nueva Vizcaya	3.85	3.17	2.82	2.74	2.56	2.92	2.88	8.75	7.93	6.65	6.76	6.58	7.42	7.52	41.76	46.62	49.35	48.95	45.07	42.67
Occ Mindoro	3.29	2.98	2.53	3.43	3.06	2.24	2.78	7.83	7.94	6.19	8.29	7.38	6.20	6.77	41.22	43.79	50.35	42.52	46.69	48.57
Oriental Mindoro	2.82	3.19	3.29	3.17	3.12	2.71	2.71	6.79	7.00	7.85	7.59	7.83	7.01	6.50	39.79	50.52	45.02	42.47	44.55	45.12
Palawan	2.85	2.68	3.00	2.58	2.88	2.70	2.90	7.12	6.83	7.24	6.80	7.31	6.66	7.14	50.61	45.19	43.35	43.69	41.92	43.33
Pampanga	4.61	3.56	3.68	3.18	3.82	3.12	3.47	11.14	8.23	8.57	7.82	8.76	8.06	8.27	35.82	41.95	41.09	39.70	37.75	40.01
Pangasinan	2.43	3.03	3.40	3.32	3.31	3.01	2.99	6.11	7.51	8.09	8.22	8.03	7.71	7.54	57.05	50.32	41.80	41.60	41.11	42.30
Philippines	2.55	2.55	2.99	2.94	2.97	2.86	3.03	6.28	6.31	7.29	7.23	7.33	7.17	7.44	54.80	54.64	45.08	44.36	43.72	43.53
Quezon	1.93	1.83	2.97	3.16	3.11	3.30	3.13	4.54	5.04	7.38	7.98	7.82	8.35	7.59	67.26	51.69	42.87	43.16	41.84	39.07
Quirino	3.17	3.62	3.07	3.76	3.72	3.29	2.73	7.43	8.35	7.42	8.83	8.61	8.44	7.36	53.86	53.58	49.25	44.51	40.39	43.29
Rizal	3.45	3.01	3.30	3.04	3.10	2.71	3.14	7.84	7.05	7.74	7.37	7.58	7.06	7.53	41.88	42.56	42.76	41.68	40.69	38.15
Romblon	2.87	2.74	2.98	2.64	3.01	2.68	2.66	6.10	6.33	7.44	7.06	7.75	6.34	6.41	75.37	83.60	46.35	45.76	45.22	49.76
Sarangani	2.96	2.69	3.38	4.63	3.94	3.08	2.87	7.75	7.21	8.00	9.81	9.41	7.70	7.25	50.04	54.48	40.31	38.64	40.06	44.42
Siquijor	2.52	1.76	3.27	2.01	1.99	1.73	2.86	5.99	4.94	7.61	4.65	5.32	4.30	7.52	57.27	55.10	46.85	50.53	54.12	55.66
Sorsogon	2.88	2.70	3.35	3.43	3.10	3.36	3.22	6.88	6.89	8.14	8.42	8.07	8.29	8.12	58.79	58.17	43.74	42.10	41.44	42.50
South Cotabato	2.53	2.37	2.41	3.19	2.43	2.58	2.98	5.42	5.46	6.12	7.54	6.15	6.56	7.26	55.73	55.00	46.23	39.56	43.84	41.11
Southern Leyte	3.02	3.09	3.15	2.99	2.89	3.06	3.49	8.16	7.83	7.19	7.28	7.27	7.14	7.88	49.04	54.46	49.45	45.51	42.79	47.15
Sultan Kudarat	2.73	3.13	4.07	3.96	3.84	3.09	3.00	6.32	7.46	9.06	9.01	8.81	7.75	6.26	56.14	56.73	43.08	43.84	41.73	45.45
Sulu	5.18	6.28	5.16	5.76	5.74	5.95	6.06	11.71	13.64	11.78	12.69	12.40	13.35	12.38	35.57	32.26	32.85	30.54	31.33	26.90
Surigao del Norte	2.46	3.25	2.66	2.75	2.47	2.63	2.71	6.37	6.94	6.69	6.79	6.24	6.64	7.24	53.72	52.76	45.60	46.77	50.71	47.05
Surigao del Sur	2.34	2.81	3.39	3.38	3.21	3.16	3.15	5.71	6.54	8.08	7.63	7.72	7.64	7.65	48.85	51.98	46.19	45.25	45.15	45.26
Tarlac	2.44	2.16	2.94	2.92	3.05	2.63	3.11	5.49	6.79	7.09	6.99	7.51	6.65	7.26	51.51	51.58	43.57	45.06	42.96	44.41
Tawi-tawi	3.38	3.85	4.12	4.03	5.22	7.08	7.12	7.72	8.25	9.52	10.28	11.12	15.21	14.91	41.54	43.01	36.70	43.09	28.02	28.26
Western Samar	2.92	2.94	3.09	2.57	3.09	3.02	2.49	7.30	7.34	7.56	6.49	7.48	7.44	6.32	54.11	53.16	48.38	47.85	46.09	42.12
Zambales	3.66	2.32	3.08	2.50	2.79	2.88	2.51	8.76	6.06	7.48	6.37	7.46	7.35	7.42	45.18	51.44	41.00	46.70	40.43	41.16
Zamboanga del Norte	2.10	1.71	2.18	2.34	2.34	1.97	2.37	5.52	4.84	5.55	5.44	5.92	5.77	6.11	70.96	66.33	53.39	55.46	52.66	51.38
Zamboanga del Sur	2.22	2.10	2.08	2.21	2.45	2.58	2.38	5.47	5.24	5.47	5.76	6.11	6.43	6.19	55.00	59.24	52.32	50.88	49.26	48.84
Zamboanga Sibugay			2.63	3.26	2.67	2.63	2.97			6.77	7.66	7.01	6.98	7.47			50.68	45.90	49.98	48.92

	Richest 10%							Richest 20% to Poorest 20%							Richest 10% to Poorest 10%						
47.24	52.58	51.11	35.09	32.61	33.30	34.83	32.07	17.16	20.82	8.02	7.74	8.01	8.65	6.61	28.86	38.17	13.55	12.90	13.74	14.57	11.09
36.63	33.57	35.62	25.78	20.43	22.35	18.26	23.53	6.04	7.13	4.23	3.09	3.12	2.51	3.35	8.36	12.61	6.46	4.61	5.14	3.61	4.92
42.93	40.04	36.49	30.38	27.76	28.95	31.98	27.78	9.51	6.71	6.20	6.29	6.27	7.45	6.22	16.30	10.61	10.57	9.61	9.97	13.23	9.78
38.94	46.64	52.33	33.25	30.76	35.14	26.37	24.89	9.11	8.93	6.70	6.25	6.27	4.78	4.38	15.96	18.56	11.20	10.42	10.88	8.04	7.07
45.98	46.22	43.44	31.41	35.82	27.08	27.77	29.46	12.31	10.63	6.92	7.65	5.61	5.65	7.32	22.50	18.50	11.24	12.75	8.74	8.73	12.29
42.74	39.20	32.28	33.07	29.52	31.76	28.49	27.05	12.21	7.88	8.78	8.19	9.43	7.39	6.73	21.62	12.68	14.70	14.12	15.71	12.48	10.13
40.71	30.05	42.29	27.60	31.40	23.09	27.00	25.65	6.65	9.04	6.16	7.04	5.62	5.29	5.56	11.21	15.99	9.99	12.21	9.04	8.51	8.68
44.88	44.11	44.50	31.07	28.71	28.97	30.63	29.55	10.48	11.01	6.34	6.34	6.02	7.71	6.18	19.01	19.06	9.91	9.79	9.68	12.88	9.89
44.56	47.74	42.50	37.59	37.00	34.46	31.05	30.27	11.25	11.73	10.30	9.58	8.27	7.73	6.12	20.99	18.68	18.93	17.47	14.15	13.47	10.50
39.71	35.97	33.67	22.89	26.83	26.92	25.05	25.48	7.46	6.33	3.94	5.06	5.01	5.24	4.71	11.97	10.18	6.20	7.86	8.02	8.18	6.97
49.27	44.57	52.27	26.96	31.72	29.69	28.08	35.11	13.63	9.48	5.10	7.78	5.43	5.45	6.88	24.36	18.24	8.33	12.98	8.46	8.69	12.13
38.84	35.97	36.92	24.15	27.56	26.24	26.32	23.85	8.38	7.32	4.66	5.12	4.84	5.19	4.45	13.44	13.05	6.94	8.16	7.45	8.20	6.94
40.61	24.78	29.36	34.88	32.19	27.67	25.66	25.18	4.77	5.88	7.42	7.24	6.85	5.75	5.40	6.44	9.28	12.38	11.74	10.79	8.80	8.76
46.56	25.55	29.62	35.75	26.89	31.00	34.80	30.25	5.26	5.52	8.13	5.13	6.33	7.83	6.88	7.77	9.94	14.14	7.85	10.13	15.52	10.88
45.94	25.63	32.44	29.11	26.52	30.18	28.57	29.87	5.86	7.22	5.73	5.59	5.69	6.44	7.07	9.08	10.17	8.85	8.36	9.67	10.53	11.04
43.50	34.34	28.86	28.59	28.86	26.69	28.10	28.87	7.11	6.62	5.99	6.43	5.73	6.50	6.09	12.04	10.76	9.54	11.18	9.27	10.41	9.97
35.33	23.01	26.28	25.35	24.35	23.71	24.71	20.00	3.21	5.10	4.80	5.08	4.31	4.97	4.27	4.99	7.39	6.89	7.66	6.21	7.92	5.76
42.32	37.68	33.22	26.64	26.41	25.90	27.17	27.11	9.33	6.70	5.17	5.06	5.12	5.49	5.61	15.53	10.98	7.83	7.95	7.82	9.02	9.07
42.66	38.07	37.87	29.48	28.76	28.32	28.24	27.33	8.73	8.66	6.19	6.14	5.96	6.07	5.73	14.93	14.84	9.86	9.79	9.53	9.87	9.02
41.22	46.95	34.81	28.11	27.73	27.62	24.64	25.86	14.81	10.26	5.81	5.41	5.35	4.68	5.43	24.30	18.98	9.47	8.78	8.87	7.48	8.27
41.23	36.71	36.60	33.91	28.88	23.59	27.88	26.15	7.25	6.42	6.64	5.04	4.69	5.13	5.60	11.57	10.11	11.04	7.68	6.34	8.48	9.59
43.94	27.49	26.39	27.83	27.15	25.74	23.14	28.17	5.34	6.04	5.53	5.66	5.37	5.40	5.83	7.97	8.77	8.42	8.94	8.30	8.52	8.96
46.79	55.00	67.36	31.11	32.19	30.41	34.12	29.63	12.35	13.20	6.23	6.48	5.84	7.84	7.30	19.15	24.62	10.44	12.19	10.10	12.74	11.14
42.45	34.70	33.89	24.63	24.63	25.78	29.62	25.97	6.45	7.56	5.04	3.94	4.26	5.77	5.86	11.71	12.58	7.29	5.32	6.55	9.62	9.04
39.87	37.92	37.01	27.51	30.52	35.48	38.18	23.14	9.55	11.16	6.16	10.87	10.16	12.93	5.30	15.03	21.04	8.40	15.15	17.81	22.02	8.09
42.06	39.50	41.50	29.39	26.59	26.15	26.97	28.29	8.55	8.44	5.38	5.00	5.13	5.13	5.18	13.73	15.38	8.77	7.75	8.42	8.04	8.79
45.19	33.46	37.61	30.39	26.07	28.17	26.42	31.16	10.29	10.07	7.55	5.25	7.13	6.26	6.23	13.25	15.86	12.62	8.18	11.58	10.24	10.44
46.38	34.76	37.11	34.73	28.48	26.45	34.19	32.19	6.01	6.96	6.87	6.25	5.88	6.61	5.88	11.49	12.00	11.03	9.53	9.15	11.16	9.23
48.94	38.89	38.35	28.71	27.33	26.63	29.26	33.01	8.89	7.60	4.76	4.87	4.74	5.86	7.82	14.25	12.24	7.05	6.91	6.93	9.48	11.00
30.95	22.47	19.14	19.70	17.68	18.45	14.78	18.89	3.04	2.37	2.79	2.41	2.53	2.01	2.50	4.33	3.05	3.81	3.07	3.21	2.48	3.12
44.18	36.21	34.85	29.27	31.44	35.33	31.39	27.89	8.43	7.60	6.82	6.89	8.13	7.09	6.10	14.70	10.71	10.99	11.43	14.29	11.95	10.28
41.80	32.76	32.72	30.69	30.25	29.98	29.92	27.11	8.56	7.95	5.72	5.93	5.85	5.93	5.46	13.99	11.62	9.05	8.95	9.35	9.46	8.59
43.04	33.68	34.11	26.83	28.76	26.58	28.29	28.41	9.38	7.59	6.14	6.45	5.72	6.68	5.93	13.78	15.78	9.11	9.85	8.72	10.76	9.14
28.80	27.49	28.25	21.94	26.89	15.33	15.20	17.24	5.38	5.21	3.86	4.19	2.52	1.86	1.93	8.14	7.34	5.33	6.68	2.94	2.15	2.42
53.05	36.99	36.62	32.84	31.51	29.96	26.73	37.45	7.41	7.25	6.40	7.37	6.16	5.66	8.40	12.67	12.47	10.64	12.25	9.68	8.86	15.06
38.74	28.63	33.12	24.96	31.64	24.03	25.09	25.82	5.16	8.48	5.48	7.33	5.42	5.60	5.22	7.83	14.28	8.11	12.64	8.63	8.72	10.28
50.43	52.93	50.36	37.97	39.63	38.88	36.88	33.79	12.86	13.71	9.63	10.19	8.89	8.91	8.25	25.23	29.45	17.39	16.96	16.58	18.74	14.25
48.10	35.07	38.59	35.60	34.48	32.67	32.86	32.48	10.06	11.31	9.56	8.84	8.06	7.59	7.77	15.76	18.37	17.14	15.57	13.33	12.74	13.63
42.87			37.38	27.71	35.59	33.13	27.22			7.49	5.99	7.13	7.01	5.74			14.20	8.50	13.31	12.62	9.18

Statistical Annex D2: Inequality in Income (Share in Income)

	Poorest 10%							Poorest 20%							Richest 20%					
Province	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012
Metro Manila	2.23	2.30	2.57	2.60	2.72	2.54	2.70	5.58	5.69	6.25	6.31	6.56	6.41	6.64	51.55	51.10	54.35	49.91	48.88	46.77
Abra	1.88	2.24	2.37	2.96	2.54	3.16	3.87	4.48	5.15	5.88	6.84	6.01	7.39	9.16	72.02	57.80	51.07	47.08	48.48	48.17
Agusan del Norte	2.04	1.84	2.39	2.15	2.31	2.35	2.13	4.79	4.66	5.94	5.72	5.66	5.80	5.57	62.19	60.11	48.77	48.99	51.94	49.87
Agusan del Sur	2.23	2.96	2.65	2.00	2.43	2.19	2.72	5.66	7.10	6.35	5.32	6.14	5.64	6.57	59.05	52.17	52.98	51.76	49.08	52.57
Aklan	1.82	2.00	2.89	2.62	2.39	2.25	2.37	4.62	4.83	7.01	6.43	6.17	5.92	5.81	66.24	67.80	48.18	48.13	51.05	54.11
Albay	2.00	2.18	2.10	2.03	2.31	2.09	2.62	5.00	5.41	5.43	5.12	6.05	5.46	6.71	72.14	60.82	54.29	56.45	49.70	52.90
Antique	2.00	2.05	1.75	2.41	2.45	2.07	1.69	4.85	4.98	4.71	6.48	6.07	5.44	3.76	70.67	61.96	58.00	48.09	49.69	49.02
Apayao	2.90	3.49	4.32	2.92	2.57	2.96	2.43	8.05	8.18	9.86	6.54	5.92	6.86	6.50	57.91	53.71	37.97	49.50	55.91	50.59
Aurora	2.82	2.45	3.58	1.95	3.18	2.73	1.37	6.79	6.03	7.65	5.12	7.16	6.12	3.15	50.67	52.75	40.40	51.12	40.88	57.37
Basilan	3.20	3.78	3.52	3.90	3.56	4.06	4.95	7.28	9.60	8.17	8.60	8.13	9.49	12.12	42.92	35.27	47.10	55.00	51.23	49.88
Bataan	2.75	2.59	2.79	2.97	2.67	2.75	2.59	6.77	6.33	6.85	6.91	6.52	6.83	6.66	47.88	48.43	43.70	48.17	48.50	44.43
Batanes	1.72	3.03	3.07	3.22	4.70	4.46	3.64	4.19	6.60	7.24	5.58	9.51	7.21	7.68	66.27	43.51	40.03	35.50	31.18	35.22
Batangas	2.00	2.28	2.32	2.46	2.40	2.02	2.48	5.55	5.83	6.03	6.10	6.07	5.33	6.25	49.12	50.82	47.72	45.98	47.75	47.57
Benguet	1.86	1.75	2.41	2.42	2.35	2.63	2.77	4.83	5.06	5.97	5.84	6.03	6.18	6.85	62.29	49.60	45.65	46.81	45.40	45.91
Biliran	2.34	2.86	2.23	1.94	1.83	2.46	2.09	5.89	6.76	5.13	4.90	4.34	6.31	5.03	56.79	53.13	58.21	57.23	60.03	49.06
Bohol	2.06	1.81	2.11	1.97	2.11	1.83	1.79	5.42	4.75	5.30	4.96	5.32	5.07	5.01	55.41	70.08	52.58	53.58	55.37	54.00
Bukidnon	1.97	1.86	2.09	2.17	2.35	2.41	2.57	4.87	4.49	5.44	5.40	5.77	6.09	6.11	63.42	62.36	50.28	48.13	51.53	51.03
Bulacan	3.02	4.07	3.31	2.98	2.85	2.80	2.92	8.12	9.23	8.05	7.36	7.23	6.95	7.37	41.84	40.12	40.77	43.32	41.58	46.62
Cagayan	2.89	2.59	2.66	2.34	2.31	2.32	2.17	7.25	6.54	6.47	5.87	5.83	6.16	5.76	54.76	55.28	50.12	50.81	53.11	48.41
Camarines Norte	2.37	1.78	2.33	2.96	3.15	2.81	2.71	5.88	4.45	5.93	7.24	7.19	7.39	6.74	60.26	64.60	57.54	52.08	51.25	46.16
Camarines Sur	2.21	2.00	2.36	2.67	2.50	2.61	3.03	5.59	4.96	5.79	6.50	6.20	6.54	7.25	64.60	68.57	54.94	47.31	49.93	50.90
Camiguin	2.52	2.18	1.88	1.30	2.78	2.57	2.15	6.59	5.54	4.60	3.64	7.00	6.64	5.60	45.84	53.82	54.12	66.00	51.34	49.59
Capiz	2.17	2.10	2.63	2.33	1.94	1.85	3.83	5.17	5.53	6.50	5.77	4.98	5.07	8.75	62.29	64.71	50.77	54.92	52.88	54.31
Catanduanes	2.20	1.67	1.37	2.18	1.92	2.29	2.06	5.50	4.11	3.65	4.92	4.51	6.42	5.93	70.24	80.00	72.88	53.74	61.12	48.72
Cavite	2.20	2.56	3.09	3.00	3.15	2.73	2.92	6.43	6.40	7.46	7.30	7.68	6.97	7.32	46.79	53.68	42.30	42.81	41.02	42.93
Cebu	1.08	1.14	1.74	1.73	1.78	1.94	1.85	3.23	3.24	4.87	4.87	5.02	5.22	5.06	67.05	64.30	51.19	46.44	47.77	46.78
Compostella Valley			2.66	3.01	2.72	2.52	3.33			6.43	6.85	6.73	6.11	8.40			45.73	44.21	46.71	50.47
Davao del Norte	1.65	2.03	1.82	2.69	1.95	2.77	2.93	4.74	4.94	4.68	6.36	5.24	6.89	7.13	69.42	66.16	56.72	45.73	46.35	42.57
Davao del Sur	1.99	1.98	1.92	2.15	2.34	2.03	2.33	4.97	5.02	5.02	5.47	5.88	5.38	5.88	56.64	51.89	50.69	45.64	45.59	46.57
Davao Oriental	1.93	1.81	3.26	2.71	3.26	2.55	3.31	5.09	4.05	7.81	6.91	8.01	6.62	7.56	69.63	63.93	43.30	47.95	45.56	47.75
Eastern Samar	2.27	1.35	2.36	1.78	2.17	2.53	2.44	5.29	3.70	5.85	4.45	5.48	6.04	6.24	105.68	95.14	53.41	63.08	53.17	54.71
Guimaras	2.50	2.40	3.75	3.13	4.86	2.23	3.22	6.10	6.17	8.30	8.57	11.17	5.28	7.11	56.56	58.17	42.64	42.02	37.49	48.44
Ifugao	1.29	1.11	2.63	2.44	1.85	1.54	2.41	3.64	3.50	6.54	6.12	5.10	3.83	5.75	94.96	105.58	47.89	43.70	47.64	64.52
Ilocos Norte	2.72	2.50	2.75	2.37	2.63	1.91	3.44	5.92	6.02	6.53	6.14	6.34	5.15	8.07	58.83	52.92	48.21	48.81	45.77	50.76
Ilocos Sur	2.55	2.13	2.38	2.45	2.86	1.78	2.90	5.84	5.19	5.98	6.26	7.09	4.94	7.03	63.92	59.31	48.04	50.98	45.58	50.76
Iloilo	1.73	1.64	2.01	2.19	2.26	1.79	2.39	4.27	4.26	5.27	5.39	5.74	4.73	6.25	62.74	66.51	52.09	50.08	49.40	53.53
Isabela	2.18	1.98	2.60	2.77	2.32	2.69	2.77	5.42	5.05	6.28	6.63	5.80	6.77	6.97	61.23	62.29	50.27	48.45	52.25	47.86
Kalinga	2.61	2.18	2.73	1.98	2.15	2.48	2.55	6.07	5.56	6.48	5.03	5.52	6.13	6.23	55.20	52.31	47.71	54.90	52.43	49.86
La Union	1.92	1.58	2.32	2.29	2.05	1.98	2.02	4.49	4.37	5.74	5.72	5.20	4.84	5.36	63.22	60.09	51.42	50.04	53.81	51.05
Laguna	1.81	2.25	2.33	2.57	2.99	2.52	2.57	4.86	5.76	5.94	6.51	7.28	6.43	6.40	49.08	46.83	47.45	46.64	41.85	43.92
Lanao del Norte	1.57	1.63	1.74	1.80	1.88	1.71	2.15	4.02	4.01	4.25	4.28	4.79	4.25	5.09	64.40	64.32	62.04	62.20	56.47	60.17

	Richest 10%							Richest 20% to Poorest 20%							Richest 10% to Poorest 10%						
2015	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012	2015	1997	2000	2003	2006	2009	2012	2015
45.53	37.71	36.80	38.28	33.55	33.07	30.98	29.20	9.23	8.98	8.70	7.91	7.45	7.30	6.86	16.94	16.01	14.88	12.91	12.15	12.21	10.81
41.90	59.81	37.66	35.26	31.71	32.38	33.83	27.46	16.08	11.23	8.69	6.89	8.07	6.52	4.57	31.88	16.79	14.87	10.71	12.74	10.71	7.10
50.71	43.09	41.72	32.05	31.12	37.34	33.10	33.99	12.98	12.91	8.21	8.57	9.18	8.60	9.11	21.13	22.71	13.40	14.50	16.16	14.08	15.93
52.75	41.15	34.58	36.64	34.85	33.11	36.36	38.16	10.43	7.34	8.35	9.73	7.99	9.32	8.03	18.41	11.69	13.81	17.43	13.63	16.57	14.02
58.54	44.93	47.79	32.02	30.79	35.35	36.64	46.40	14.33	14.02	6.87	7.49	8.28	9.14	10.08	24.71	23.90	11.08	11.74	14.79	16.31	19.62
48.09	53.19	44.30	38.33	42.28	33.38	36.40	31.54	14.42	11.23	9.99	11.03	8.21	9.69	7.16	26.56	20.33	18.27	20.87	14.48	17.39	12.04
69.28	50.49	40.33	41.62	30.45	32.94	31.12	57.10	14.56	12.45	12.32	7.43	8.19	9.01	18.43	25.23	19.63	23.77	12.61	13.46	15.04	33.86
50.94	44.16	42.21	23.73	31.91	37.69	37.86	33.17	7.19	6.57	3.85	7.57	9.44	7.37	7.84	15.22	12.10	5.50	10.92	14.64	12.78	13.68
58.38	34.59	36.47	24.32	35.54	20.90	39.36	45.93	7.46	8.75	5.28	9.97	5.71	9.38	18.51	12.25	14.88	6.79	18.19	6.58	14.42	33.47
32.82	29.78	21.64	31.59	42.71	37.02	36.10	19.29	5.90	3.68	5.77	6.40	6.30	5.26	2.71	9.31	5.72	8.97	10.96	10.40	8.89	3.90
49.97	31.20	32.82	27.16	31.41	32.51	27.96	35.51	7.08	7.65	6.38	6.97	7.44	6.51	7.50	11.33	12.67	9.74	10.59	12.17	10.16	13.70
46.12	49.16	28.77	17.07	21.52	19.52	17.73	31.73	15.80	6.59	5.53	6.37	3.28	4.88	6.01	28.55	9.48	5.57	6.68	4.16	3.97	8.71
44.39	31.75	34.30	32.18	29.37	31.20	31.28	29.11	8.85	8.72	7.92	7.53	7.87	8.92	7.10	15.85	15.04	13.85	11.95	12.98	15.48	11.72
40.88	44.65	32.59	29.16	31.57	29.99	30.19	26.03	12.90	9.80	7.64	8.02	7.52	7.43	5.97	23.96	18.61	12.09	13.02	12.74	11.47	9.40
56.12	41.55	37.43	39.03	39.87	44.77	33.22	38.47	9.64	7.86	11.34	11.68	13.82	7.78	11.16	17.77	13.09	17.52	20.60	24.50	13.49	18.45
52.75	37.62	52.64	36.16	35.64	39.99	36.93	35.75	10.22	14.74	9.92	10.80	10.41	10.64	10.54	18.24	29.01	17.13	18.08	18.96	20.15	20.01
52.39	44.51	46.74	33.17	32.93	34.66	36.66	36.61	13.03	13.90	9.24	8.91	8.94	8.38	8.58	22.63	25.16	15.85	15.16	14.73	15.19	14.22
43.21	24.92	26.30	25.19	27.74	26.17	32.64	28.21	5.15	4.35	5.06	5.89	5.75	6.71	5.87	8.26	6.46	7.61	9.30	9.18	11.66	9.65
50.98	36.14	39.43	34.71	33.85	37.78	32.04	34.94	7.56	8.45	7.74	8.65	9.11	7.86	8.85	12.51	15.20	13.02	14.44	16.32	13.83	16.10
46.23	46.66	46.61	42.71	36.17	36.35	31.43	30.39	10.25	14.53	9.71	7.19	7.13	6.25	6.86	19.66	26.21	18.29	12.23	11.55	11.19	11.23
46.50	45.70	50.23	38.08	31.58	33.92	34.74	31.22	11.55	13.83	9.50	7.28	8.05	7.78	6.42	20.71	25.17	16.16	11.82	13.56	13.30	10.30
49.23	29.62	38.51	31.19	46.86	29.68	34.89	32.09	6.95	9.72	11.75	18.11	7.33	7.47	8.79	11.75	17.63	16.57	36.05	10.67	13.57	14.89
42.72	43.32	46.28	36.35	38.12	37.63	37.76	28.08	12.05	11.71	7.81	9.53	10.62	10.71	4.88	19.92	22.00	13.82	16.33	19.36	20.38	7.33
50.27	48.17	63.44	58.34	40.39	48.43	28.73	35.73	12.77	19.45	19.96	10.93	13.54	7.58	8.48	21.87	38.09	42.49	18.52	25.21	12.56	17.34
39.83	29.36	35.29	26.62	26.62	25.97	27.50	24.29	7.28	8.38	5.67	5.86	5.34	6.16	5.44	13.35	13.80	8.61	8.86	8.23	10.06	8.31
48.05	46.65	45.40	34.28	30.70	30.99	30.30	32.04	20.74	19.84	10.50	9.54	9.52	8.96	9.49	43.29	39.83	19.65	17.70	17.40	15.61	17.35
40.96			29.94	29.36	31.88	34.57	25.54			7.11	6.45	6.94	8.25	4.88			11.25	9.76	11.72	13.74	7.67
45.16	51.05	44.14	43.67	30.43	30.42	27.35	28.25	14.64	13.40	12.12	7.19	8.84	6.18	6.33	31.00	21.72	24.00	11.31	15.57	9.87	9.64
47.02	38.43	34.60	34.81	29.74	30.00	30.68	31.86	11.39	10.34	10.10	8.34	7.76	8.65	7.99	19.33	17.45	18.18	13.83	12.82	15.10	13.68
47.46	45.71	40.51	28.96	32.33	30.59	31.98	33.12	13.68	15.79	5.55	6.94	5.69	7.22	6.28	23.67	22.34	8.87	11.91	9.40	12.56	10.01
52.34	89.05	78.24	37.76	48.80	35.23	37.33	37.87	19.97	25.73	9.14	14.18	9.70	9.06	8.39	39.18	58.16	15.97	27.47	16.25	14.75	15.55
42.43	40.24	42.42	28.86	24.24	21.49	27.79	26.72	9.27	9.43	5.14	4.90	3.36	9.17	5.96	16.07	17.69	7.69	7.76	4.42	12.48	8.30
46.80	69.28	86.33	29.85	27.85	30.65	51.90	30.44	26.10	30.18	7.33	7.14	9.34	16.82	8.14	53.84	77.99	11.33	11.41	16.58	33.64	12.61
41.03	42.37	34.12	32.94	33.66	29.24	32.31	24.86	9.94	8.79	7.38	7.95	7.22	9.86	5.09	15.56	13.64	11.96	14.19	11.11	16.93	7.23
44.65	46.38	39.69	31.12	33.76	29.73	34.35	28.06	10.95	11.42	8.04	8.14	6.43	10.28	6.35	18.17	18.60	13.07	13.80	10.38	19.33	9.68
44.31	43.16	47.18	35.55	33.24	33.01	36.50	29.59	14.70	15.62	9.89	9.29	8.61	11.32	7.09	24.90	28.76	17.70	15.16	14.63	20.38	12.38
46.70	44.37	43.09	34.31	32.32	37.03	33.53	31.48	11.29	12.33	8.01	7.30	9.01	7.07	6.70	20.34	21.75	13.19	11.67	15.93	12.47	11.36
45.79	36.83	36.03	30.13	37.52	35.59	32.87	27.45	9.09	9.41	7.36	10.92	9.50	8.13	7.35	14.11	16.54	11.02	18.95	16.52	13.24	10.78
51.62	40.44	41.29	36.62	33.29	38.34	34.35	37.03	14.07	13.75	8.95	8.75	10.34	10.54	9.63	21.07	26.12	15.81	14.53	18.68	17.32	18.30
43.89	31.22	30.33	31.68	30.89	26.32	29.67	27.92	10.09	8.13	7.99	7.16	5.75	6.83	6.86	17.22	13.48	13.57	12.03	8.80	11.77	10.87
53.69	45.10	44.47	45.86	43.83	40.55	43.89	36.92	16.03	16.04	14.60	14.54	11.79	14.15	10.54	28.71	27.26	26.33	24.41	21.60	25.61	17.15

Statistical Annex D2: Inequality in Income (Share in Income)

	Poorest 10%							Poorest 20%							Richest 20%					
Lanao del Sur	4.93	4.34	3.05	3.81	3.61	4.06	4.27	11.28	10.12	6.88	8.66	8.35	8.90	9.90	39.95	37.98	47.99	43.01	46.14	44.43
Leyte	1.68	1.09	2.15	2.00	1.87	1.89	2.76	3.87	2.97	5.32	5.05	4.62	4.95	6.75	80.70	81.50	55.15	55.17	59.14	57.49
Maguindanao	3.40	2.24	3.59	3.59	3.64	4.64	3.98	7.45	5.54	8.03	8.55	9.42	10.52	9.13	57.00	61.28	44.71	39.33	35.68	32.45
Marinduque	2.19	3.18	2.67	2.60	2.46	2.24	2.51	5.50	7.23	6.43	6.53	6.24	5.79	6.11	59.92	59.35	49.71	48.70	49.98	52.74
Masbate	2.70	2.77	2.39	2.30	3.14	2.89	3.30	6.24	6.89	5.69	5.95	7.46	7.27	8.25	70.99	70.19	55.62	52.30	50.28	44.63
Misamis Occidental	1.86	1.82	2.33	2.37	2.70	2.83	2.21	4.57	4.61	6.10	5.93	6.81	6.84	5.65	68.56	68.04	53.82	55.44	48.33	46.79
Misamis Oriental	1.17	2.02	1.97	1.71	1.53	1.88	2.40	3.32	5.03	4.92	4.65	4.11	4.78	5.82	58.29	55.63	52.61	51.96	53.15	46.20
Mt. Province	1.94	2.01	2.24	1.91	2.32	2.83	2.74	5.03	4.65	5.40	4.77	5.93	6.95	6.74	52.29	65.80	52.64	55.51	45.73	46.49
Negros Occ	1.97	2.06	2.73	2.76	2.79	2.28	2.63	4.90	5.00	6.53	6.70	6.91	5.68	6.41	68.85	68.76	51.21	47.31	47.73	50.75
Negros Oriental	2.30	1.96	1.74	1.90	1.93	1.90	2.26	5.37	4.97	4.53	4.95	4.97	4.67	5.78	68.23	63.77	56.71	55.75	56.09	55.36
North Cotabato	2.38	2.53	3.24	2.85	2.80	2.02	2.92	5.67	6.28	7.64	7.11	6.59	5.27	6.91	60.14	58.49	42.97	45.74	44.41	49.76
Northern Samar	1.58	2.15	2.83	2.14	3.06	2.44	2.13	4.23	5.52	7.23	5.34	7.01	6.42	5.32	74.20	80.10	45.21	53.64	51.09	50.92
Nueva Ecija	1.97	2.16	3.03	2.85	2.75	2.55	2.65	5.00	6.17	7.44	6.79	6.54	6.14	6.73	61.00	62.45	42.51	48.53	48.09	48.82
Nueva Vizcaya	3.17	2.85	2.08	2.61	2.10	2.29	2.82	7.54	6.81	5.10	6.12	5.36	5.82	6.91	48.54	50.66	59.20	52.49	50.89	47.29
Occ Mindoro	2.91	2.53	1.80	2.89	2.66	1.86	2.22	7.07	6.52	4.41	6.85	6.31	5.03	5.56	44.79	50.32	61.83	48.00	51.36	53.94
Oriental Mindoro	1.92	2.51	2.82	2.70	2.84	2.20	2.20	5.29	5.92	6.80	6.64	6.98	6.08	5.74	46.34	52.85	47.83	47.74	47.60	51.54
Palawan	2.42	2.16	2.66	2.25	2.41	2.46	2.64	6.01	5.97	6.42	5.87	6.45	6.04	6.43	52.74	50.21	47.79	48.11	45.39	47.00
Pampanga	3.49	2.62	3.29	2.82	3.56	2.88	2.96	8.90	6.53	7.76	7.18	8.19	7.30	7.17	40.26	46.52	43.40	42.22	40.04	43.57
Pangasinan	1.79	2.23	2.71	2.92	2.59	2.57	2.73	4.63	5.58	6.66	7.21	6.45	6.76	6.80	60.62	54.93	45.30	44.88	48.11	46.07
Quezon	1.51	1.65	2.67	2.97	2.17	2.84	2.87	3.78	4.33	6.64	7.44	5.45	6.99	7.06	72.13	54.06	46.88	45.88	57.94	45.16
Quirino	2.05	3.01	2.39	3.32	2.75	2.98	2.94	4.98	6.86	5.94	7.80	7.23	7.75	7.51	62.85	64.27	55.19	45.74	43.92	44.77
Rizal	2.67	2.80	2.94	2.71	2.77	2.12	2.78	6.40	6.22	6.92	6.78	6.77	5.58	6.82	48.15	44.21	46.63	43.88	44.13	42.71
Romblon	2.07	2.40	2.73	2.42	2.60	2.24	2.29	5.34	5.33	6.91	6.55	6.52	5.46	5.37	90.16	100.57	47.86	48.47	51.32	54.42
Sarangani	2.81	2.35	2.73	4.07	3.28	2.60	2.51	6.32	5.29	7.07	8.86	7.86	6.26	5.95	56.45	65.12	44.17	41.17	47.77	51.19
Siquijor	2.28	1.61	3.00	1.48	2.26	1.35	2.34	5.33	4.56	6.97	3.55	6.14	3.51	6.55	60.96	60.44	50.77	59.24	51.53	63.78
Sorsogon	2.43	2.34	3.01	3.11	2.79	2.98	2.94	5.52	5.76	7.02	7.47	6.90	7.47	7.37	67.83	64.95	49.07	46.37	47.61	46.43
South Cotabato	1.62	1.62	1.58	2.53	1.95	2.13	2.38	3.79	3.79	4.04	6.43	4.98	5.59	5.94	66.00	69.11	60.63	45.83	48.50	45.08
Southern Leyte	2.49	2.57	2.35	2.32	2.44	2.41	3.03	5.96	6.46	5.97	6.06	6.09	5.92	6.26	58.62	62.44	55.61	51.68	51.17	50.82
Sultan Kudarat	2.62	2.72	3.22	2.97	3.35	2.70	2.26	5.84	6.16	7.66	7.61	7.81	6.56	5.07	64.89	65.16	47.34	45.46	46.67	52.74
Sulu	4.31	5.29	4.84	4.90	5.02	5.70	5.87	9.75	11.39	11.03	11.13	11.47	13.14	12.20	42.22	39.88	37.45	35.05	33.23	27.75
Surigao del Norte	2.10	2.54	2.23	2.14	2.05	2.39	2.36	4.90	6.18	5.48	5.27	5.27	6.18	6.28	62.69	59.66	52.04	56.79	54.19	49.89
Surigao del Sur	1.94	2.30	2.98	2.78	2.49	2.62	2.81	5.19	5.22	7.24	6.55	6.02	6.40	6.76	55.04	61.50	49.58	52.63	55.52	51.96
Tarlac	1.59	1.72	2.57	2.46	2.58	1.94	2.44	4.24	5.13	6.28	5.98	6.55	4.98	6.24	57.87	55.03	44.70	48.83	45.33	50.59
Tawi-tawi	2.96	3.60	3.84	3.36	4.73	6.32	6.17	6.89	7.52	8.85	8.61	10.22	12.09	15.86	53.48	50.54	41.09	44.66	30.90	32.23
Western Samar	2.54	2.60	2.37	2.23	2.50	2.60	1.79	6.15	6.53	6.02	5.38	6.00	6.22	4.68	60.58	57.41	56.96	55.14	52.00	48.15
Zambales	2.23	1.78	2.62	1.92	2.50	2.88	2.17	5.73	4.60	6.37	4.94	6.76	7.31	6.45	51.84	55.54	42.60	55.63	45.00	42.42
Zamboanga del Norte	1.39	1.21	1.68	1.84	1.90	1.70	2.71	3.75	3.36	4.37	4.50	4.99	4.83	6.60	80.77	74.82	59.19	60.69	56.34	55.67
Zamboanga del Sur	1.55	1.62	1.62	1.68	1.91	2.33	2.38	3.96	4.29	4.21	4.45	4.83	5.85	5.87	64.96	65.79	57.29	56.90	54.76	51.77
Zamboanga Sibugay			1.83	2.19	2.23	2.27	2.80			4.60	5.40	5.71	5.88	7.10			64.56	57.59	56.53	53.63
Philippines	2.11	2.17	2.58	2.53	2.58	2.43	2.65	5.29	5.40	6.31	6.28	6.39	6.15	6.57	59.84	59.08	49.44	48.19	47.81	47.63

	Richest 10%								Richest 20% to Poorest 20%							Richest 10% to Poorest 10%						
40.35	26.62	23.47	32.27	28.14	30.65	30.08	27.00	3.54	3.75	6.98	4.97	5.52	4.99	4.08	5.40	5.41	10.57	7.38	8.49	7.40	6.33
49.07	58.87	60.71	39.03	38.62	43.94	39.34	33.94	20.83	27.42	10.37	10.93	12.79	11.62	7.27	35.08	55.63	18.19	19.33	23.55	20.84	12.32
40.88	38.78	43.68	32.51	27.10	24.45	20.52	28.05	7.65	11.06	5.57	4.60	3.79	3.09	4.48	11.40	19.51	9.07	7.54	6.72	4.43	7.05
48.52	42.56	41.62	37.57	31.36	33.42	34.93	32.47	10.89	8.21	7.73	7.46	8.01	9.10	7.94	19.45	13.07	14.06	12.04	13.57	15.56	12.96
42.83	55.16	55.77	39.62	37.94	36.82	30.60	29.66	11.37	10.19	9.78	8.79	6.74	6.14	5.19	20.42	20.11	16.60	16.51	11.72	10.61	8.99
49.89	52.14	46.10	35.82	39.10	31.28	29.84	30.98	15.01	14.76	8.82	9.35	7.10	6.84	8.83	27.96	25.31	15.37	16.53	11.60	10.54	13.99
44.82	40.99	35.17	35.57	35.74	35.71	30.03	29.33	17.53	11.06	10.68	11.18	12.93	9.68	7.70	35.08	17.43	18.03	20.95	23.31	15.97	12.20
43.02	33.51	48.20	34.65	39.76	29.92	31.54	26.88	10.39	14.15	9.76	11.64	7.71	6.69	6.39	17.26	23.93	15.47	20.83	12.92	11.15	9.80
50.07	51.12	50.63	35.30	30.55	31.82	34.31	34.84	14.06	13.75	7.84	7.06	6.91	8.93	7.81	25.90	24.52	12.92	11.05	11.40	15.05	13.26
50.69	51.91	44.62	40.35	39.85	39.61	38.54	37.42	12.71	12.82	12.52	11.27	11.29	11.85	8.76	22.53	22.82	23.16	20.98	20.48	20.34	16.56
42.96	42.32	42.78	27.74	31.30	30.08	34.63	28.15	10.61	9.32	5.62	6.43	6.74	9.44	6.22	17.76	16.89	8.56	10.98	10.73	17.13	9.63
58.39	53.81	60.94	28.84	35.86	35.47	35.55	44.50	17.53	14.51	6.26	10.04	7.29	7.93	10.98	34.00	28.37	10.18	16.73	11.59	14.59	20.85
46.58	45.01	44.97	26.59	32.81	31.76	32.56	30.59	12.20	10.13	5.71	7.15	7.35	7.95	6.93	22.80	20.83	8.78	11.52	11.54	12.76	11.56
43.73	31.67	32.74	45.76	36.23	34.53	30.80	27.76	6.44	7.44	11.61	8.57	9.49	8.13	6.32	10.01	11.48	21.95	13.87	16.43	13.47	9.85
54.31	29.80	36.88	49.31	32.17	34.83	38.43	38.12	6.33	7.72	14.03	7.01	8.13	10.73	9.77	10.26	14.57	27.33	11.13	13.10	20.66	17.16
51.74	32.31	33.77	31.68	30.42	32.57	35.02	36.04	8.76	8.93	7.03	7.19	6.82	8.48	9.01	16.81	13.47	11.23	11.27	11.46	15.90	16.38
49.24	34.64	32.72	33.26	33.88	29.54	31.22	36.18	8.77	8.41	7.45	8.19	7.04	7.78	7.65	14.31	15.17	12.52	15.03	12.26	12.71	13.70
41.50	24.76	27.96	27.24	26.83	25.49	28.39	26.37	4.53	7.13	5.60	5.88	4.89	5.97	5.79	7.08	10.68	8.27	9.52	7.16	9.86	8.91
46.84	40.38	37.22	28.94	29.48	33.09	30.92	31.55	13.10	9.84	6.80	6.22	7.46	6.81	6.89	22.57	16.71	10.68	10.10	12.80	12.05	11.55
43.76	50.88	33.62	32.56	30.57	46.71	29.95	28.03	19.11	12.50	7.06	6.17	10.62	6.46	6.20	33.66	20.40	12.21	10.30	21.52	10.56	9.76
43.12	45.43	45.52	36.79	32.58	26.78	29.74	27.44	12.62	9.37	9.29	5.86	6.08	5.77	5.74	22.13	15.10	15.39	9.82	9.74	9.99	9.34
46.39	34.44	28.21	31.02	28.84	27.84	27.91	31.04	7.52	7.10	6.74	6.47	6.52	7.66	6.80	12.89	10.06	10.54	10.66	10.03	13.15	11.18
55.24	73.13	84.97	32.90	35.03	37.19	39.15	37.78	16.87	18.86	6.93	7.40	7.87	9.97	10.29	35.40	35.41	12.04	14.49	14.30	17.45	16.49
48.76	37.42	40.79	28.70	26.31	32.86	35.37	34.14	8.93	12.30	6.25	4.65	6.08	8.18	8.19	13.33	17.38	10.52	6.47	10.01	13.61	13.62
45.03	41.73	42.03	31.85	41.92	33.43	44.90	26.16	11.44	13.26	7.29	16.71	8.40	18.18	6.87	18.27	26.03	10.60	28.33	14.78	33.29	11.20
45.65	50.04	47.60	35.02	30.33	32.10	31.07	31.13	12.30	11.27	6.99	6.21	6.90	6.21	6.19	20.59	20.35	11.62	9.74	11.52	10.43	10.59
51.83	48.27	52.39	48.16	32.73	32.96	29.48	37.05	17.40	18.24	15.01	7.12	9.74	8.06	8.73	29.81	32.37	30.58	12.95	16.86	13.86	15.53
52.93	40.05	42.75	41.24	32.12	34.97	36.03	37.85	9.84	9.66	9.31	8.53	8.40	8.59	8.46	16.08	16.62	17.58	13.87	14.35	14.95	12.50
57.54	48.24	44.00	32.44	28.89	31.33	37.69	41.58	11.12	10.58	6.18	5.97	5.98	8.04	11.34	18.41	16.16	10.06	9.74	9.36	13.96	18.43
34.76	28.18	26.26	24.03	21.67	20.06	14.60	22.80	4.33	3.50	3.39	3.15	2.90	2.11	2.85	6.54	4.97	4.96	4.42	4.00	2.56	3.88
48.62	43.50	41.83	33.87	42.20	39.50	34.53	30.86	12.80	9.65	9.49	10.78	10.28	8.07	7.75	20.72	16.45	15.17	19.76	19.24	14.47	13.09
48.86	35.35	41.24	34.64	36.97	41.59	36.44	33.72	10.60	11.78	6.85	8.03	9.23	8.11	7.23	18.23	17.97	11.63	13.28	16.73	13.91	11.99
45.80	41.06	35.57	27.48	32.75	28.51	34.04	29.26	13.65	10.72	7.12	8.16	6.92	10.16	7.34	25.80	20.65	10.68	13.33	11.05	17.52	12.01
26.38	36.16	34.99	27.10	30.95	18.11	18.71	15.69	7.77	6.72	4.64	5.18	3.02	2.67	1.66	12.21	9.72	7.05	9.22	3.83	2.96	2.54
61.69	41.09	39.71	42.01	39.41	35.44	33.11	48.35	9.86	8.79	9.47	10.26	8.67	7.74	13.18	16.16	15.29	17.70	17.64	14.16	12.76	27.08
42.67	35.15	34.18	25.97	40.79	27.91	26.01	28.48	9.05	12.08	6.68	11.27	6.65	5.80	6.61	15.77	19.21	9.90	21.23	11.17	9.02	13.14
51.89	63.35	51.07	43.69	44.06	43.22	40.78	35.98	21.52	22.25	13.54	13.50	11.29	11.53	7.87	45.59	42.07	26.00	24.01	22.73	23.92	13.28
51.38	44.46	44.79	39.80	39.82	37.66	35.52	35.21	16.40	15.34	13.60	12.78	11.33	8.85	8.75	28.74	27.62	24.56	23.72	19.77	15.24	14.80
48.09			53.21	39.94	41.59	36.67	30.81			14.03	10.66	9.90	9.11	6.77			29.15	18.22	18.64	16.17	11.01
46.48	42.78	41.73	33.77	32.29	32.18	31.88	30.96	11.32	10.95	7.83	7.67	7.49	7.75	7.08	20.25	19.25	13.10	12.76	12.48	13.14	11.68

Statistical Annex D3: Provincial Gini Coefficients

Province	2003	2006	2009	2012	2015
Metro Manila	0.417	0.413	0.403	0.403	0.393
Abra	0.444	0.421	0.419	0.388	0.334
Agusan del Norte	0.423	0.424	0.477	0.435	0.442
Agusan del Sur	0.446	0.449	0.422	0.447	0.434
Aklan	0.403	0.424	0.428	0.458	0.516
Albay	0.473	0.512	0.426	0.463	0.396
Antique	0.509	0.411	0.431	0.445	0.609
Basilan	0.321	0.388	0.360	0.347	0.276
Bataan	0.367	0.402	0.398	0.375	0.422
Batanes	0.389	0.398	0.290	0.366	0.398
Batangas	0.413	0.405	0.412	0.426	0.379
Benguet	0.393	0.423	0.411	0.405	0.386
Bohol	0.464	0.471	0.482	0.470	0.469
Bukidnon	0.473	0.458	0.442	0.451	0.442
Bulacan	0.331	0.369	0.359	0.393	0.367
Cagayan	0.428	0.446	0.456	0.409	0.434
Camarines Norte	0.493	0.421	0.408	0.386	0.403
Camarines Sur	0.457	0.417	0.422	0.431	0.373
Camiguin	0.483	0.565	0.419	0.424	0.469
Capiz	0.435	0.476	0.463	0.483	0.339
Catanduanes	0.613	0.499	0.560	0.409	0.455
Cavite	0.35	0.365	0.345	0.365	0.345
Cebu	0.460	0.454	0.446	0.440	0.447
Davao del Norte	0.529	0.425	0.439	0.401	0.386
Davao del Sur	0.464	0.434	0.431	0.446	0.439
Davao Oriental	0.357	0.394	0.357	0.404	0.407
Eastern Samar	0.460	0.562	0.459	0.454	0.442
Ifugao	0.404	0.407	0.429	0.601	0.411
Ilocos Norte	0.414	0.416	0.387	0.453	0.348
Ilocos Sur	0.417	0.434	0.385	0.450	0.372
Iloilo	0.458	0.460	0.440	0.502	0.426
Isabela	0.431	0.421	0.467	0.417	0.400
Kalinga	0.410	0.513	0.463	0.435	0.412
La Union	0.453	0.440	0.480	0.458	0.451
Laguna	0.413	0.397	0.363	0.413	0.407
Lanao del Norte	0.553	0.544	0.516	0.542	0.515
Lanao del Sur	0.425	0.355	0.378	0.361	0.303
Leyte	0.484	0.496	0.534	0.503	0.417
Maguindanao	0.400	0.364	0.349	0.310	0.340
Marinduque	0.428	0.407	0.437	0.447	0.424

Province	2003	2006	2009	2012	2015
Masbate	0.496	0.449	0.406	0.391	0.367
Misamis Occidental	0.450	0.462	0.404	0.403	0.432
Misamis Oriental	0.470	0.480	0.503	0.488	0.437
Mt. Province	0.457	0.525	0.415	0.396	0.346
Negros Occ	0.437	0.414	0.404	0.446	0.428
Negros Oriental	0.508	0.504	0.503	0.522	0.440
North Cotabato	0.385	0.387	0.400	0.468	0.394
Northern Samar	0.373	0.495	0.426	0.435	0.499
Nueva Ecija	0.348	0.411	0.403	0.424	0.385
Nueva Vizcaya	0.528	0.437	0.458	0.414	0.352
Occ Mindoro	0.566	0.432	0.423	0.477	0.488
Oriental Mindoro	0.398	0.396	0.386	0.431	0.444
Palawan	0.426	0.437	0.393	0.443	0.456
Pampanga	0.355	0.366	0.327	0.372	0.375
Pangasinan	0.381	0.375	0.421	0.389	0.392
Quezon	0.398	0.372	0.543	0.395	0.394
Quirino	0.478	0.377	0.372	0.367	0.356
Rizal	0.39	0.408	0.394	0.462	0.404
Romblon	0.404	0.410	0.436	0.470	0.495
Western Samar	0.492	0.494	0.456	0.445	0.552
Siquijor	0.406	0.572	0.461	0.564	0.375
Sorsogon	0.424	0.375	0.390	0.383	0.382
South Cotabato	0.589	0.434	0.484	0.448	0.473
Southern Leyte	0.484	0.433	0.450	0.489	0.437
Sultan Kudarat	0.380	0.372	0.380	0.448	0.481
Sulu	0.259	0.237	0.227	0.211	0.233
Surigao del Norte	0.458	0.522	0.492	0.434	0.424
Surigao del Sur	0.416	0.428	0.478	0.437	0.419
Tarlac	0.381	0.423	0.391	0.450	0.407
Tawi-tawi	0.320	0.316	0.322	0.298	0.229
Zambales	0.374	0.490	0.386	0.346	0.386
Zamboanga del Norte	0.534	0.537	0.497	0.483	0.439
Zamboanga del Sur	0.509	0.501	0.477	0.443	0.437
Aurora	0.341	0.466	0.378	0.454	0.596
Biliran	0.507	0.507	0.540	0.427	0.487
Guimaras	0.357	0.343	0.265	0.454	0.366
Sarangani	0.374	0.324	0.384	0.447	0.461
Apayao	0.286	0.427	0.487	0.444	0.443
Compostella Valley	0.395	0.364	0.403	0.427	0.339
Zamboanga Sibugay	0.571	0.510	0.471	0.446	0.402
Philippines	0.474	0.472	0.459	0.462	0.444

Statistical Annex E1: Provincial Mobility Indicators

Province	Proportion of people in transient poverty (%)	Proportion of people in chronic poverty (%)	Proportion of people who stayed in the same income decile (%)	Proportion of people who frequently experienced upward (decile) mobility (%)	Proportion of people who experienced upward (decile) mobility at least once (%)	Proportion of people who frequently experienced downward (decile) mobility (%)	Proportion of people who experienced downward (decile) mobility at least once (%)	Inequality of longitudinally-averaged income
Abra	0.261	0.241	0.106	0.018	0.513	0.165	0.747	0.308
Agusan del Norte	0.131	0.395	0.140	0.097	0.615	0.091	0.565	0.324
Agusan del Sur	0.215	0.631	0.148	0.068	0.551	0.049	0.678	0.360
Aklan	0.179	0.305	0.068	0.065	0.691	0.047	0.688	0.333
Albay	0.185	0.295	0.204	0.110	0.561	0.065	0.534	0.405
Antique	0.106	0.514	0.199	0.056	0.591	0.041	0.392	0.433
Apayao	0.383	0.277	0.038	0.016	0.550	0.227	0.889	0.204
Aurora	0.236	0.530	0.169	0.031	0.483	0.042	0.647	0.376
Basilan	0.305	0.283	0.099	0.105	0.630	0.109	0.554	0.244
Bataan	0.052	0.027	0.096	0.051	0.599	0.021	0.624	0.330
Batanes	0.056	0.052	0.101	0.108	0.732	0.141	0.684	0.323
Batangas	0.118	0.255	0.150	0.049	0.621	0.062	0.636	0.334
Benguet	0.084	0.038	0.130	0.097	0.619	0.060	0.636	0.410
Biliran	0.086	0.223	0.188	0.041	0.670	0.042	0.509	0.381
Bohol	0.175	0.478	0.109	0.144	0.636	0.067	0.537	0.311
Bukidnon	0.116	0.491	0.224	0.082	0.601	0.041	0.486	0.399
Bulacan	0.075	0.047	0.211	0.101	0.558	0.115	0.515	0.320
Cagayan	0.192	0.130	0.071	0.111	0.712	0.087	0.553	0.342
Camarines Norte	0.288	0.300	0.141	0.184	0.653	0.058	0.431	0.373
Camarines Sur	0.139	0.427	0.089	0.023	0.639	0.072	0.685	0.355
Camiguin	0.126	0.385	0.190	0.132	0.615	0.042	0.392	0.306
Capiz	0.180	0.173	0.150	0.070	0.460	0.133	0.651	0.344
Catanduanes	0.061	0.469	0.310	0.078	0.295	0.139	0.595	0.468
Cavite	0.082	0.095	0.168	0.058	0.556	0.055	0.587	0.336
Cebu	0.112	0.338	0.178	0.047	0.582	0.072	0.614	0.391
Compostela Valley	0.179	0.396	0.078	0.085	0.615	0.094	0.683	0.295
Cotabato (North Cotabato)	0.243	0.281	0.089	0.099	0.715	0.014	0.637	0.290
Cotabato City	0.895	0.542	0.593	0.953	0.962	1.000	0.764	0.000
Davao del Norte	0.186	0.383	0.137	0.016	0.615	0.073	0.728	0.342
Davao del Sur	0.098	0.255	0.111	0.059	0.497	0.104	0.668	0.409
Davao Oriental	0.100	0.655	0.114	0.018	0.498	0.076	0.642	0.263
Eastern Samar	0.196	0.453	0.141	0.072	0.477	0.118	0.792	0.443
Guimaras	0.194	0.086	0.048	0.229	0.817	0.069	0.501	0.356
Ifugao	0.132	0.313	0.087	0.025	0.603	0.041	0.773	0.381
Ilocos Norte	0.113	0.191	0.196	0.071	0.531	0.068	0.577	0.294
Ilocos Sur	0.232	0.116	0.080	0.085	0.687	0.118	0.673	0.287
Iloilo	0.174	0.205	0.073	0.114	0.726	0.074	0.533	0.344
Isabela	0.161	0.238	0.104	0.088	0.644	0.080	0.693	0.381
Isabela City	0.677	0.690	1.000	0.911	0.888	1.000	0.864	0.000
Kalinga	0.187	0.375	0.110	0.011	0.676	0.037	0.725	0.332
La Union	0.110	0.197	0.088	0.147	0.604	0.110	0.583	0.374
Laguna	0.040	0.085	0.172	0.039	0.399	0.117	0.646	0.335

Province	Proportion of people in transient poverty (%)	Proportion of people in chronic poverty (%)	Proportion of people who stayed in the same income decile (%)	Proportion of people who frequently experienced upward (decile) mobility (%)	Proportion of people who experienced upward (decile) mobility at least once (%)	Proportion of people who frequently experienced downward (decile) mobility (%)	Proportion of people who experienced downward (decile) mobility at least once (%)	Inequality of longitudinally-averaged income
Lanao del Norte	0.158	0.433	0.241	0.048	0.561	0.044	0.634	0.368
Lanao del Sur	0.228	0.403	0.236	0.022	0.245	0.228	0.712	0.286
Leyte	0.211	0.353	0.100	0.161	0.716	0.045	0.495	0.331
Maguindanao	0.331	0.427	0.067	0.123	0.646	0.087	0.614	0.163
Manila	0.232	0.039	0.417	0.047	0.792	0.176	0.600	0.412
Marinduque	0.324	0.244	0.031	0.011	0.741	0.048	0.732	0.295
Masbate	0.231	0.609	0.173	0.099	0.689	0.040	0.470	0.344
Misamis Occidental	0.108	0.425	0.167	0.111	0.649	0.153	0.535	0.385
Misamis Oriental	0.105	0.297	0.144	0.117	0.570	0.058	0.586	0.307
Mountain Province	0.202	0.331	0.082	0.108	0.755	0.045	0.636	0.325
Ncr, 2Nd District	0.188	0.025	0.325	0.038	0.613	0.180	0.663	0.348
Ncr, 3Rd District	0.351	0.058	0.340	0.053	0.603	0.341	0.663	0.318
Ncr, 4Th District	0.035	0.039	0.421	0.047	0.524	0.138	0.534	0.321
Negros Occidental	0.173	0.301	0.160	0.085	0.556	0.080	0.580	0.340
Negros Oriental	0.155	0.536	0.244	0.123	0.538	0.068	0.446	0.340
Northern Samar	0.216	0.309	0.124	0.041	0.582	0.080	0.629	0.364
Nueva Ecija	0.181	0.270	0.079	0.058	0.620	0.083	0.709	0.370
Nueva Vizcaya	0.186	0.043	0.035	0.044	0.519	0.158	0.757	0.314
Occidental Mindoro	0.039	0.632	0.218	0.042	0.573	0.038	0.578	0.403
Oriental Mindoro	0.188	0.342	0.106	0.090	0.697	0.059	0.558	0.352
Palawan	0.149	0.427	0.171	0.042	0.607	0.066	0.522	0.366
Pampanga	0.122	0.042	0.134	0.099	0.650	0.077	0.566	0.335
Pangasinan	0.183	0.247	0.049	0.108	0.730	0.086	0.594	0.320
Quezon	0.193	0.398	0.093	0.096	0.594	0.110	0.644	0.345
Quirino	0.203	0.190	0.088	0.038	0.558	0.048	0.717	0.308
Rizal	0.056	0.080	0.151	0.028	0.460	0.130	0.654	0.354
Romblon	0.064	0.700	0.227	0.076	0.570	0.025	0.487	0.379
Samar (Western Samar)	0.202	0.296	0.051	0.101	0.637	0.045	0.692	0.370
Sarangani	0.117	0.627	0.099	0.095	0.733	0.052	0.511	0.311
Siquijor	0.250	0.442	0.205	0.140	0.719	0.069	0.453	0.333
Sorsogon	0.151	0.411	0.108	0.065	0.649	0.043	0.665	0.388
South Cotabato	0.163	0.355	0.100	0.089	0.718	0.083	0.632	0.330
Southern Leyte	0.085	0.284	0.029	0.161	0.710	0.046	0.433	0.411
Sultan Kudarat	0.216	0.443	0.100	0.123	0.658	0.096	0.581	0.304
Sulu	0.241	0.594	0.147	0.037	0.646	0.062	0.589	0.142
Surigao del Norte	0.146	0.586	0.192	0.084	0.556	0.054	0.571	0.355
Surigao del Sur	0.183	0.473	0.117	0.099	0.590	0.076	0.620	0.386
Tarlac	0.162	0.143	0.038	0.061	0.654	0.106	0.779	0.275
Tawi-Tawi	0.179	0.694	0.093	0.000	0.489	0.138	0.818	0.210
Zambales	0.178	0.178	0.125	0.103	0.629	0.080	0.639	0.250
Zamboanga del Norte	0.133	0.669	0.360	0.073	0.452	0.015	0.385	0.351
Zamboanga del Sur	0.130	0.348	0.242	0.051	0.593	0.034	0.544	0.434
Zamboanga Sibugay	0.688	0.477	0.528	0.094	0.785	0.595	0.796	0.007