

# From global norms to national implementation: tackling poverty through human capital formation, the case of the Philippines.

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## Introduction

The Philippines has always prided itself with having a high functional literacy rate, having breached the 90 percent mark since late 1980s. The same cannot be said about health outcomes, where the bottomline is that average Filipino can expect to live shorter by 15 years than the average Singaporean. For Filipino males born in 2015, the life expectancy at birth is about 68 years, but the average head of the family in 2015, who is 50 years old, has a life expectancy of about 60 years only.

In late 2015, the NEDA conducted a study to determine the collective long-term aspirations of Filipinos – what they want to do, to be and to have, by 2040. The aspirations can be summed up into three<sup>2</sup>: (1) to enjoy strong relations with family and friends, (2) to live a comfortable lifestyle, and (3) to feel secure about the future. This is referred to as AmBisyon 2040<sup>3</sup>. The Duterte administration is committed to the progressive realization of these aspirations and to lay down the foundation so that all Filipinos can attain their AmBisyon.

A build-up of financial resources is necessary for individuals to do what they want to do, be what they want to be and obtain what they want to have. The hypothesis is that, given relative prices in 2015, per capita income needs to triple by 2040 for the AmBisyon to be realized. Right away, one finds that the poor (i.e., members of poor families) are most unlikely to achieve their AmBisyon. Therefore, eradicating poverty is the core developmental goal of government.

## Income and Human Capital

Increasing the real income of poor families, together with adequate social protection measures, is the robust strategy against poverty. The former requires expanding overall demand, and at the same time, facilitating access of the poor to the centers of growth. Ease of access can be by way of improving physical access to the markets, or access to finance or even technology, but basic to all these is building up the human capital of the poor, say, through education. For it is only with

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<sup>2</sup> In Filipino, the aspirations are summed up into: *matatag, maginhawa at panatag na buhay*.

<sup>3</sup> See also <http://2040.neda.gov.ph/wp-content/uploads/2016/04/A-Long-Term-Vision-for-the-Philippines.pdf>

improved human capital can the poor, or just about anybody, be expected to effectively participate in the market, learn management techniques and new technology.

Given below is the income-generating function estimated using the 2009 Family Income and Expenditure Survey (FIES). It posits that per capita income is a function of the quality and quantity of human capital of the family, given the demand for labor in the area and the ease of access of the family to the growth center. Ideally, the quality of human capital of the family should pertain to all adults in the family. However, the FIES contains only this information for the head of the family - educational attainment, age and sex of the head of the family. The quantity of potential labor supply, meanwhile, is inversely related to the number of young dependents. Demand for labor is implied by the Gross Regional Domestic Product; access to growth center is proxied by the location of residence of the family, whether in the urban areas or not.

$$(1) \text{Per capita\_income} = f(\text{educ of head of family, age of head of family, squared (age of head of family)}, \text{number of dependents} \mid \text{if residing in urban area, GRDP})$$

The model is estimated using OLS with robust variance estimators. Results are given in Table 1. As expected, the level of economic activity positively impacts the incomes of its residents. Those living in urban areas, possibly, the centers of economic activity, can expect to earn about 33 percent more than those in the rural areas, even with the same quantity and quality of human capital.

The estimates clearly demonstrate the importance of education. Computed at the mean, additional schooling worth one standard deviation will increase per capita income by about 48 percent. Given current profile where the average family head only has 5 years of schooling, one standard deviation adds 3 years. Experience also counts for much as evidenced by the positive coefficient for the variable age and still positive coefficient for the squared variable.

The coefficient on “male” has to be interpreted carefully. The model estimates reveal that if the head of the family is male, then income per capita is about 7 percent lower than if the head is female. It may very well be the case that the male spouse is an OFW, hence the family head is the female spouse.

Table 1. Estimate of Income-generating function of a family

Ln (per capita income)	Coef.	Robust Std. Err	t	P> t
Ln (GRDP)	.1436253	.0031471	45.64	0.000
If urban	.2843853	.0069995	40.63	0.000
Age of hh_head	.0181199	.0014834	12.21	0.000
Age of hh_head^2	-0.000098	.0000145	-6.77	0.000
Educ of hh_head	.108081	.0009815	110.12	0.000
If hh_head is male	-.0710124	.0085852	-8.27	0.000
Number of employed members	.1018836	.003344	30.47	0.000
Family size	-.1423369	.0016479	-86.37	0.000
_cons	6.75705	.0699318	96.62	0.000

Number of obs = 36547, F( 8, 36538) = 5077.68, Prob > F = 0.0000, R-squared = 0.5470

In a country with high functional literacy rate and when the economy does not grow fast enough for a long enough period of time, an individual who is functionally literate but nothing more, will not be able to land into a high-paying job.

The proportion of adults with at least some secondary education is given in Table 2 for the years 1990-2015. It shows that only about half of Filipino adults had at least some secondary education in the 90s until year 2000. It reached at least 60 percent only in 2010, and then, at least 70 percent in 2013. Not shown here is the fact that the poor are already disadvantaged in terms of educational attainment. In 2015, the head of an average poor family only finished elementary education while the head of an average nonpoor family finished at least three years of secondary education.

Table 2. Proportion of Filipinos, aged 25 years and over who finished at least some high school

Year	% of adults with at least some HS
1990	45.9
1995	51.1
2000	49.1
2005	59.7
2010	66.6
2011	68.1
2012	69.6
2013	70.1
2014	71.6
2015	71.6

The health status of an individual is, unarguably, an important determinant of per capita income, and most definitely, of lifetime income. The difficulty is in quantifying this importance. Perhaps equation (1) can be modified, pertaining to an individual, as:

$$(2) \textit{Lifetime\_income} = \sum_t f(\textit{educ}_t, \textit{age}_t | \textit{access\_to\_growth\_area}_t, \textit{GRDP}_t) \cdot P[t]$$

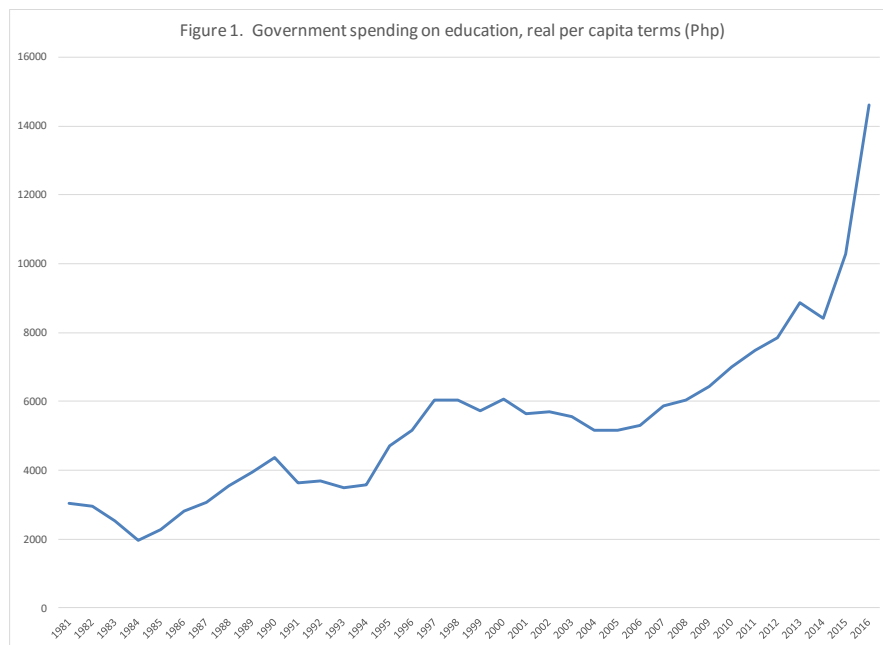
where  $P[t]$  is the probability that the individual is in a good state of health at time  $t$ .

Mathers et.al. (2000) computed the disability-adjusted life expectancy for the Philippines, and found that on average, 8 years were being deducted from Filipinos' life expectancy at birth due to disability.

Even more important is being able to identify and quantify the factors that affect  $P[t]$ . As with educational attainment, the health status of an individual is the cumulative result of past and present behavior like lifestyle choices, hygiene practices, sanitation, diet, preventive measures undertaken (immunization, vaccine, etc.) and curative procedures, if needed, genetic predisposition and given life expectancy at birth. Perhaps this is the reason why having access to quality health care should be considered a fundamental right – its impact is huge and sustained over a long period, yet cannot be easily quantified.

## Government spending on health and education

To be sure, government investment, or actually, under-investment in education, has a considerable role in producing the profile given in Table 2, but it would be difficult to correspond the profile of any given year to a particular administration. Note that the figures given are quality estimates of the stock of human capital. In the Philippines, one receives secondary education between the ages of 12 and 17. Hence, the impact of investment (public and private) on secondary education will take at least 8 years to figure in this profile. By extension, the low proportion of adults with at least secondary education in the 90s could be due to under-investment of government on education in the early 80s and late 70s.

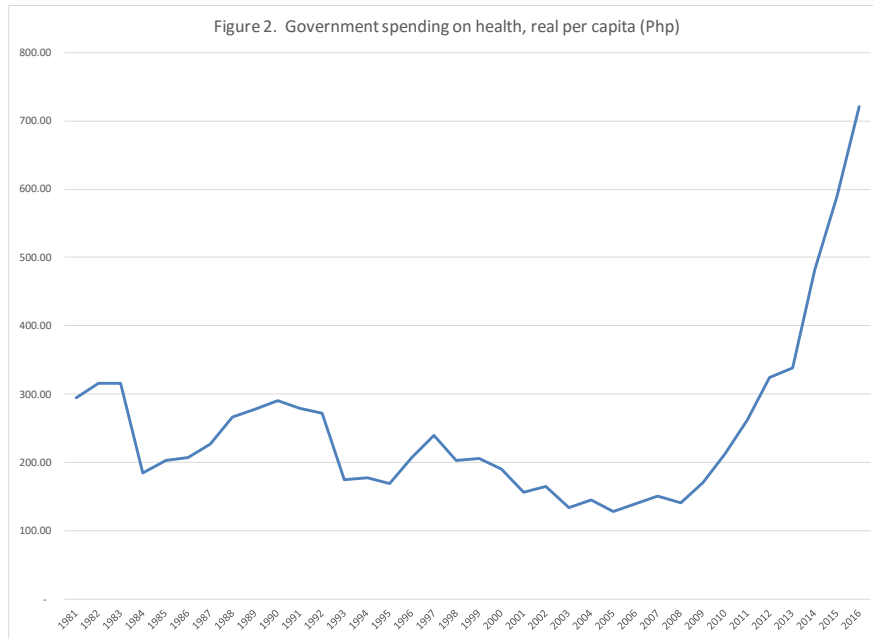


Source: BESF and NIA, Various years

Figure 1 above plots the government spending on education, in real per capita terms (year 2000=100). It appears that the budget for education is very much a function of political and economic stability, or lack thereof. There were three, and possibly four, instances when real per capita spending for education showed a declining trend: (a) from 1981-1984, (b) 1990-1994, (c) 2000-2004, and (d) 2013-2014. Each of these periods coincide with either a political crisis (c and d), an economic crisis (b), or both (a).

Government spending on health is even more volatile. It was generally on a downward trend from 1990 and reversed only beginning 2009. It should be noted that the period being considered began around the time that the governance structure for public health care services was changed; from being centralized, responsibility for primary care and secondary hospital care were devolved to local government units (LGUs). It soon became apparent that LGUs had varying levels of management competencies across LGUs and this resulted in uneven quality of health care delivery as well<sup>4</sup>.

<sup>4</sup> See Romualdez et.al. (2011) for a more complete description of the country's health care system.



Source: *BESF and NIA, Various years*

Figures 1 and 2 also reveal the increasing public investments on education health, beginning around 2009 and increasing to 3.8 and 0.9 percent of GDP, respectively, in 2016. For the health sector, the higher spending was financed by reforms in sin taxes (taxes in alcohol and tobacco). Beyond the figures, what is strategic is that the higher spending encompassed both demand and supply conditions, i.e., the interventions resulted in increased quantity of supply, improved quality of service and induced greater demand.

On education, by far the biggest reform is the K-12 program which increased the number of years of basic education from 10 to 13 (including kindergarten) and revised the curriculum. Content per subject is presented using a spiral approach. To illustrate, first year science now consists of introductory concepts in basic science, biology, chemistry and physics, each being taken up in one term. On the second year, it will be the same set of courses, but now consisting of more advanced topics, and so on. For senior high school, students take courses relevant to their desired fields of specialization (humanities, physical sciences, business, technical education, etc.) Students who finished the technical education track can take the qualifying examination, be certified and become employable immediately after graduation.

In addition, teachers were trained to implement the K-12 program. Teachers in higher education who would be negatively affected in the transition were offered scholarship programs, either to qualify as teachers in senior high schools or to take up graduate studies.

Infrastructure provision for education reduced classroom-to-pupil ratio from 1:39 in 2010 to 1:34 in 2014 for the primary level, and from 1:54 to 1:48 for the secondary level in in the same period.

There was also an infrastructure boost in the health sector. During the previous administration, total number of hospitals and healthcare facilities constructed or upgraded has reached 29,018 units, composed of 26,048 barangay health stations (BHSs), 2,626 rural health units/urban health centers, 234 district hospitals/LGU infirmaries, 27 provincial hospitals, 13 city hospitals, and 70 Department of Health (DOH) hospitals.

To induce demand, especially among the poor, availment of health care and education services are the two major conditions for beneficiary families of the Conditional Cash Transfer (CCT) programs to claim the cash transfer. Evaluation studies, indeed, reported higher school participation, reduced working hours for children and more frequent visits to a health care facility among CCT beneficiaries.

CCT beneficiary families and senior citizens were also provided health insurance coverage under the PhilHealth; the premium was paid by government using revenues from the sin tax. To cover out-of-pocket expenses of indigent patients, the Department of Health implemented the no-balance-billing program where all medical expenses while confined were shouldered by PhilHealth.

In good time, and provided that the above are sustained, these interventions will manifest into desirable health and education outcomes.

### Concluding remarks

Human capital is an important factor for the improvement of an individual's well-being. However, human capital development requires investments dating as far back as conception and continuing on to adult life. This means that it is not possible to exact accountability for the profile of human capital outcomes of a country at any point in time. Examples of these, in the case of education outcomes, are cohort survival rate, completion rate, proportion of adults with at least tertiary education, proportion of the unemployed with at least tertiary education, etc. In the case of health outcomes, examples are infant mortality rate, prevalence of stunting, maternal mortality rate, mortality rate, life expectancy at birth, etc. But this characteristic is also the reason why (some) governments under-invest in human capital development.

To guard against under-investment in human capital development, access to quality education and health care should be considered a fundamental right of every individual. What would be useful is to set standards of service or delivery (input), in terms of quantity and quality. At the very least, real per capita investment should be increasing over time, stabilizing only after it has reached the standard of care that is prescribed to ensure well-being. Examples of indicators are classroom to pupil ratio, teacher to pupil ratio, proportion of children who travel to school for more than 30 minutes, etc.; hospital bed to population ratio, medical personnel to population ratio, physician to population ratio, skilled birth attendant to adult female population ratio, proportion of the population with easy access to a health care facility, etc. There should also be indicators of quantity and quality of output, taking note that these indicators should correspond to current inputs. Examples are school participation rate at each level, dropout rate at each level, school achievement test results per level, etc.; incidence of communicable diseases, mortality rate due to communicable diseases, mortality rate due to preventable causes, etc. Data on these indicators need to be collected fairly regularly, and disaggregated to the lowest level of administrative unit and according to people groups.

Data on outcomes are still useful for policy and planning. Technical bureaucrats and especially the regulators need to be trained on how to make use of the data on outcomes to formulate policies and design programs, and then, to make use of the data on the quantity and quality of inputs and outputs for monitoring.

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