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Profile of Out-of-School Children in the Philippines

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Profile of Out of School Children in the Philippines¹

by

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Andre Philippe E. Ramos & Jocelyn P. Almeda²**

Abstract:

The Philippines committed to Millennium Development Goals and Education for All (EFA) targets that include universal primary education. However, various data sources, including the Department of Education's Basic Education Information System, and household surveys conducted by the National Statistics Office, suggest that in 2008, a considerable magnitude of children were not in school. A description of these children is provided here, as well as that of children who are at risk of dropping out of primary and secondary levels of education. Reasons for children not being in school are discussed, together with the results of an econometric model that identifies correlates of non-attendance in school.

Key Words: out of school children (OOSC), school participation, school attendance, net enrolment rate (NER)

¹This discussion paper will get published as the first chapter of the report on the Philippine Country Study on Out of School Children (OOSC). The country study is undertaken together with the Department of Education (DepEd), and the United Nations Children's Fund (UNICEF).

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1. Overview and analysis of data sources

The Philippine Development Plan 2011-2016 identifies education as an important pillar for human development. Education is essential for inclusive growth: with more education, those at the lower end of income distribution are provided a pathway to move out of poverty. Benefits are not limited to individuals with their improved earning potentials. The country is also propelled in a more sustained path of economic performance with a more educated and productive workforce. In recognition of the significance of education in sustainable development, the global community, including the Philippines, committed to Education for All (EFA) targets and the Millennium Development Goals that include providing universal primary education (UPE), eliminating gender disparities in education, along with other lofty aims to improve the living standards and welfare of everyone, especially of marginalized sectors in society.

Traditionally, Filipino families put a high premium on having their members earn an education. In particular, basic education is viewed as a human right: the Philippine Constitution declares that primary education is compulsory and that the State shall establish and maintain a system of free public education in both primary and secondary levels.

While education is a key part of national development policy, rhetorics do not necessarily translate into resources and outcomes for the sector. Trends in basic education statistics suggest that the country faces challenges in meeting the EFA targets and Millennium Development Goals (MDGs) for basic education (e.g., Caoli-Rodriguez, 2007; Maligalig & Albert, 2008). The 2009 EFA Global Monitoring Report (UNESCO 2008) even identified the Philippines to be among the countries with decreased net enrolment rate from 1999 to 2006, and a considerable magnitude of out-of-school children (more than half a million). Figure 1 shows that the official net enrolment rate (NER)ⁱ in primary schools, sourced from the Basic Education Information System (BEIS) of the Department of Education (DepEd), strongly correlates with the country's public expenditures in education. That is, weakening public resources for education across the years are accompanied with deterioration in the primary school participation rates (see, e.g., Maligalig & Albert, 2008; Diokno, 2010; Manasan, 2010). The regression after 2000 is, however, not only due to minimal resources given to the education sector, especially DepEd, but also partly on account of changes in definition of these statistics. Prior to 1995, primary school age entry was 7, and in 1995, this school age entry was lowered to 6, together with the institutionalization of early childhood care and development (ECCD) programs, but NER continued to be computed up to the year 2000 for the population between the ages of 7 to 12. From 2001 onwards, the DepEd revised the definition of primary school age NER to scope children in the age group 6 to 11 years.

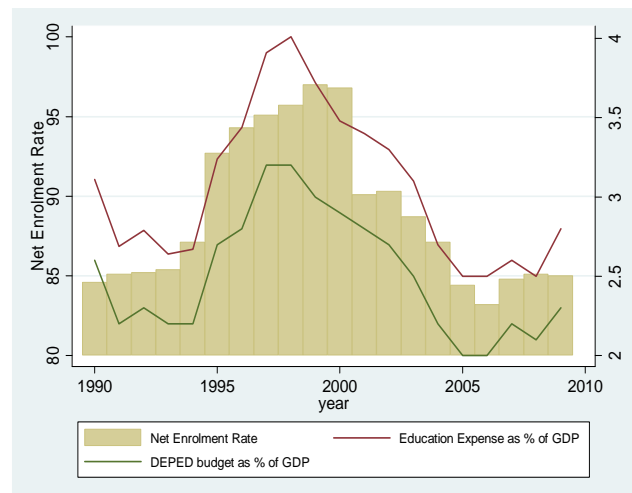


Figure 1. Primary School Net Enrolment Rate (NER) and Public Expenditures on Education

Sources: BEIS, DepEd; DBM.

It must also be noted that, since 1990 baseline figures for NER are already high, there would be diminishing returns in improving the rate of access of to primary school. Thus, it is not fair to suggest that this all points to a weakening sector. Other basic education statistics will be need examination to properly depict the basic education sector. For instance, figures on primary school gross enrolment ratio (GER)³ for schoolyears 2007-2008, 2008-2009, and 2009-2010, and 2010-2011, which have been recently revised at 106.2%, 106.8%, 107.2%, and 107.5%, respectively, suggests that there is a relatively high access to primary schools in the country. The gap between GER and NER indicates a considerable number of over-aged primary school enrollees.

If Filipinos and the government put importance to education, and yet there are children who are not in school, and there are also students at risk of dropping out (SARDO), then there are supply side and demand side factors that have to be examined. Children who are not in school are likely to be disadvantaged, and the conditions faced by these children can reinforce, if not exacerbate, existing socio economic inequalities. In this discussion paper, we provide an overview of data sourced from administrative reporting systems and household surveys, and make more effective use of these data sources to describe children excluded from the pre-primary, primary and secondary school systems. Note however that the data examined are from 2008, and 2009 at the latest, so that the effect of the current implementation of universal kindergarten on education statistics will have to await the availability of new data. From a policy and program intervention perspective, while it is important to examine characteristics and conditions of children not in school, it is also equally important to describe children in school who face risks of not completing their schooling, and/or not learning. The interventions for each set of excluded children may not necessarily be the same.

Out of school children (OOSC) may be viewed from a broader, equity-oriented view of exclusion from education than is addressed by the MDGs, with key implications concerning barriers and policy development. Five sets of children “excluded” from school (see Figure 2) are of particular interest:

- Children of pre-primary school age who are not in pre-primary or primary school (**Dimension 1**)
- Children of primary school age who are not in primary school or secondary school (**Dimension 2**)
- Children of secondary school age who are not in primary school or secondary education (**Dimension 3**)
- Children who are in primary school but at risk of dropping out (**Dimension 4**)
- Children who are in secondary school but who are at risk of dropping out (**Dimension 5**)

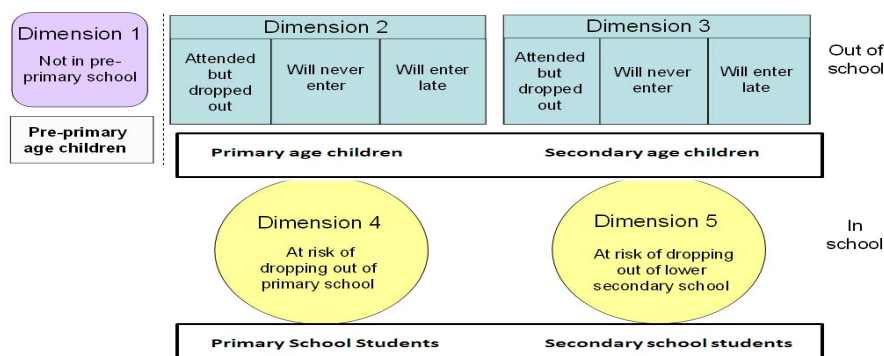


Figure 2. Five Dimensions of Exclusion (5DE) of OOSC

³ Gross Enrolment Rate refers to total enrolment in a given level of education, say primary, as a percentage of the population, which according to national regulations should be enrolled at this level, i.e., age 6-11 for primary (and 12-15 for secondary).

With the five dimensions of exclusion (5DE) model, there is recognition that not all OOSC are permanently excluded from education. That is, out-of-school children have various degrees of exposure to school that are visualized as sub-groups of Dimensions 2 and 3: they may have attended school in the past, but dropped out; those who have hitherto never entered school, may be late entrants, or they may never enter school. In addition, there is interest in children who are out of school (Exclusion Dimensions 1, 2 and 3) as well as in children who are at risk of dropping out (Exclusion Dimensions 4 and 5) who though currently in school are excluded within education, as they are marginalized as a result of practices or attitudes within school, the household, and society, in general.

Late entry into school implies that the child is overage, a risk factor for non-completion of primary or secondary education. If children at risk of dropping out (Dimensions 4 and 5) do in fact leave school they become part of the out-of-school population (Dimension 2 or 3). Children in primary school at risk (Dimension 4) who transfer to secondary education may continue to be at risk of dropping out and would then be part of Dimension 5. Lastly, OOSC of primary age who reach secondary age and remain out of school transfer from Dimension 2 of the framework to Dimension 3.

Although the BEISⁱⁱ provides indispensable information on the state of basic education in the country, including indirect estimates of the number of children that are not in school from the product of one minus the NER and the total population, there are limitations to what the BEIS and other administrative reporting systems can describe about OOSC. Aside from the age-sex distribution of children not in school by area, the BEIS does not provide any information on children that are not in the school system. More detailed information on the characteristics of children who are not in school must be obtained from other sources.

Several household surveys conducted by the Philippine National Statistics Office (NSO), namely, the Annual Poverty Indicators Survey (APIS) the Functional Literacy, Education and Mass Media Survey (FLEMMS) and the Labor Force Survey (LFS)ⁱⁱⁱ, give a proxy measure of NER, the proportion of children currently attending school. These household surveys have national coverage; they also provide a wealth of information on demographic, economic, and social characteristics of the sampled households as well as individual characteristics of household members, including children, whether or not they are in school. Sampled households from these surveys are chosen through a master sample design that enables information from the surveys to yield reliable estimates of population characteristics at the national and regional levels. Consequently, these household surveys play an important role in understanding the characteristics of children, particularly OOSC, and their households (Orbeta, 2010a; Orbeta, 2010b).

Table 1 lists the school attendance rates from the 2007 APIS, the 2008 APIS, the 2008 FLEMMS and the corresponding LFS rounds, together with the estimates of official NER of DepEd for 2007-2008 and 2008-2009. It can be readily observed that (a) there is considerable discrepancy regarding survey-based attendance rates and the administrative-based enrolment rates for pre-primary school age level; (b) school attendance rates for the primary and secondary age groups in the NSO sample surveys APIS, FLEMMS and the LFS are higher than the corresponding official NER figures from DepEd's BEIS, (c) results from the 2008 APIS and 2008 FLEMMS have a slight variation despite having been conducted in the same year (with only a three month difference in conduct), while figures sourced from the LFS rounds are equivalent.

Table 1. School Participation/ Attendance Rates in 2007 and 2008 by Age, and by Data Source

Age Group	2007			2008				
	BEIS	APIS	LFS July	BEIS	APIS	LFS July	FLEMMS	LFS Oct
Pre-primary age (5 yr old)	26.0 ^a	67.2	67.3	34.1 ^a	65.8	65.9	-	65.9
Primary age (6 to 11 yrs old)	87.8 ^b (88.7 ^c)	94.4 (89.8 ^d)	93.8	88.1 ^b (89.6 ^c)	95.2 (90.8 ^d)	94.9	92.3 (85.2 ^c)	94.8
Secondary age (12 to 15 yrs)	60.3	88.5 (65.8 ^d)	87.8	60.7	89.6 (66.3 ^d)	90.0	87.2 (60.1 ^c)	88.9

Notes: ^a= public school data only; ^b=based on new population projections; ^c=adjusted net enrolment rates (ANER) is the ratio of the number of children in an age range that is enrolled in the proper education tier or higher relative to the number of children of the school age range; ^d=adjusted net attendance rates (ANAR) is the ratio of the number of children in an age range that is attends the proper education tier or higher relative to the number of children of the school age range

The discrepancy between school attendance rates sourced from the 2008 APIS, the 2008 FLEMMS and their corresponding LFS rounds is on account of sampling and non-sampling errors.^{iv} The FLEMMS uses only half of the sample size of APIS, and consequently, FLEMMS is expected to have less precise estimates. The difference in survey periods between the APIS and FLEMMS further contributes to the discrepancy in attendance rates for the surveys. The latest waves of the APIS and FLEMMS were conducted three months apart: the 2008 FLEMMS was conducted as a rider to the October 2008 Labor Force Survey (LFS), while the 2008 APIS was a rider to the July 2008 LFS round. In addition, it must be pointed out that information on current school attendance was only asked in the FLEMMS for household members aged 6 to 24 years old. The LFS results are observed to be very close to the APIS and FLEMMS results.

The disagreement between the official NER and the survey-based attendance rates involve various measurement issues.

- Firstly, for both household surveys and administrative reporting systems, there are problems on the accuracy of age data reported. Household surveys may have response biases: only one respondent provides information about the ages of all household members (without birth records to assist the respondent in correctly reporting these ages). For BEIS, ages reported by schools may not correspond to the usual practice of identifying age as the legal age but may be based on the nearest birthday on a particular reference day.
- Secondly, school attendance rates are not equivalent to NER, the latter accounts for a specific school tier. Adjusted net attendance rates (ANAR) have been generated that count school aged children attending the expected level of schooling or higher. The ANAR results, as indicated in Table 1, appear to lower the discrepancy between NER and attendance rates.
- Finally, it must be pointed out that the accuracy of the NER statistics hinges on (a) data from the BEIS regarding the number of children enrolled or registered in school, as of June, the start of the school year, as well as (b) population age-group projections. The former are subject to coverage issues, while the latter are dependent on the population projection methodology. Regarding coverage, the DepEd compiles data from DepEd-supervised public schools, private schools, as well as state universities and colleges (SUCs) with primary/secondary levels. Compliance in submission of reports for the BEIS is assured among public schools. Information from private schools is, however, subject to imputations when these schools do not provide DepEd with required information for generating NER (and other performance indicators for the basic education sector). Currently, monitoring of response rates from private schools has not been fully documented in BEIS metadata. As regards population projections, the NSO did not generate projections by single-year age groups and by sex from the 2000 population census that

DepEd requires for calculating the denominator of the NER. The DepEd had to generate its own projections of the school age population based on parameters provided by the NSO. With the availability of new population data from the 2007 population census, the DepEd recently generated revised population projections^v based on growth rates from the 2000 to 2007 censuses. While the updated projections will lead to more realistic NER estimates for recent years, however, trends in the time series of the NER will not be easy to observe due to breaks for the periods 1990 to 2000, 2001 to 2006, as well as 2007 and beyond, resulting from the use of projections from different sources, viz., the 1990, 2000, and 2007 censuses, respectively. In practice, when definitions and estimation methodologies are revised, either the series based on the new definition or methodology is backtracked, or parallel runs of statistical series based on old and revised definitions or methodology are made to establish trends.

The UN has its own set of estimates of the NER in the country (see Table 2) that combine national enrolment statistics with population projection estimates of the UN Population Division (UNPD). The UN projections do not match the official population projections in the country as the former account for country and global trends, while the latter look into national and sub-national trends in population dynamics. The alternative UN estimates of NER, or those developed by Maligalig & Cuevas (2010), still indicate a decline in these education statistics from 1990 or 2000 baselines, but the decline may not be as severe as the official DepEd statistics on NER suggest.

Table 2. Performance of Selected Southeast Asian Countries on MDG2 Indicators.

Southeast Asia	NER in Primary Education, Total (%)			Proportion of pupils starting grade 1 who reach grade 5, Total (%) [*]			Literacy Rate of 15-24 Year Olds (%)		
	1991	2000	Latest year	1991	2000	Latest year	1990	2000	Latest year
Cambodia	69.5	91.1	88.6 (2008)	...	62.8	54.4 (2007)	...	76.3 ⁿ	87.5 (2008)
Indonesia	97.3	97.9	98.7 (2008)	83.6	95.3	80.1 (2007)	96.2	...	96.7 (2006)
Malaysia	94.0 ^a	96.9	96.1 (2007)	97.3	87.0 ^d	92.2 (2006)	95.6 ^e	97.2	98.4 (2008)
Philippines	96.5	92.3 ^b	92.1 (2008)	74.0	79.3 ^d	73.2 (2006)	96.6	95.1	94.8 (2008)
Thailand	75.8	...	90.1 (2009)	98.0	98.0	98.1 (2005)
Viet Nam	90.2	95.4	87.8 (2005)	80.0 ^b	85.7	92.1 (2005)	93.7 ^g	93.9 ^b	96.8 (2008)

Notes:^a refers to 1990; ^b, 1999; ^c, 2003; ^d, 2001; ^e, 1991; ^f, 1995; ^g, 1989; ^h, 1998.

^{*} The revised UN Official List of MDG Indicators, effective as of 15 January 2008, presents the "Proportion of pupils starting grade 1 who reach last grade of primary" as the MDG2, Target 2.A, Indicator 2.2. However, due to lack of baseline data (1990), data were obtained from 1991.

Sources: UNSD MDG Indicators website, available: <http://mdgs.un.org/unsd/mdg/Default.aspx>, downloaded 25 June, 2011; UNESCO Data Centre, available: <http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx>, downloaded 25 June 2011

Whether we consider BEIS, APIS, FLEMMS, LFS or the UN system as a data source for participation rates, we would still estimate a considerable number of school-age children (i.e. between ages of five and fifteen) in the Philippines that are not in school. What is crucial is to define what exactly we mean by the out of school and in school population.

Consistent with the Conceptual and Methodological Framework (CMF) of the Global Initiative on Out-of-School Children launched by the United Nation's Children's Fund (UNICEF) and the UNESCO Institute for Statistics (UIS), this discussion paper considers children as being in school if (i) they

Which children are counted as out of school?

There are two groups of school-age children who are considered out of school: (a) pre-primary, primary and secondary aged who are not in school; (b) primary-aged children or older who are either in pre-primary or

are of pre-primary age and are currently attending pre-primary education or higher levels of education; (ii) they are of primary or secondary school age and they currently participate in primary or secondary education. Thus, children of primary or secondary age who are in pre-primary and non-formal education^{vi} are viewed as out-of-school.

Figure 3 illustrates estimates of the magnitude of out-of-school children (OOSC) sourced from the latest (2008) wave of the APIS. Of an estimated 2.9 million children aged 5 to 15 years old in 2008 that are out-of-school, about 1.7 million are boys and a around 1.2 million are girls. About 65% of these children, whether boys or girls, reside in rural areas. One and a half million out of school children are between 5 and 6 years old: (0.7 million 5 year old children and 0.8 million 6 year old children).

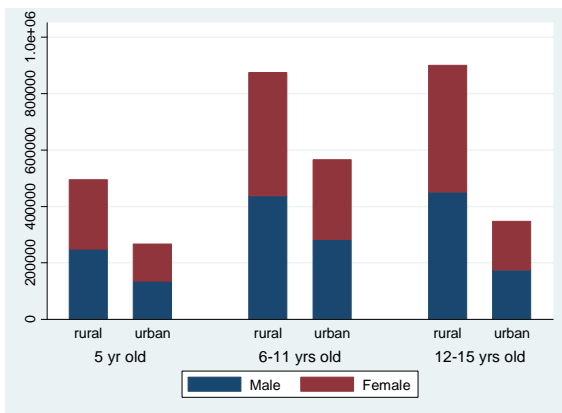


Figure 3. Distribution of Out-of-School Children in 2008 by (Urban/Rural) Location and by Sex
Source: 2008 APIS, NSO.

Thus, the OOSC phenomenon in the country is partly an issue of late entry in school, particularly the non-compliance to the DepEd official school age entry (6 years old) in primary school, coupled with the lack of participation in ECCD programs. Late enrolment is of great concern especially with the recent implementation by DepEd of universal kindergarten to commence the K–12 (“K to 12”) program. There is wide acceptance that late enrollees may not be fully maximizing their learning achievements in school and they may also be at risk of not completingw their schooling.

Disparities in school participation are readily observed across various sub-groups of the population. As Figure 4 illustrates, about half of the country’s regions, viz., the Autonomous Region of Muslim Mindanao (ARMM), CALABARZON, Western Visayas, Bicol, Central Visayas, Central Luzon, and the National Capital Region, each have over 200,000 OOSC. In some cases, such as CALABARZON, the National Capital Region, and Central Luzon, this is on account of the overwhelming school age population size in these regions, but in other regions, the magnitude of OOSC may point to interlocking demand and supply-side issues that reinforce socio-economic inequities and inequalities.

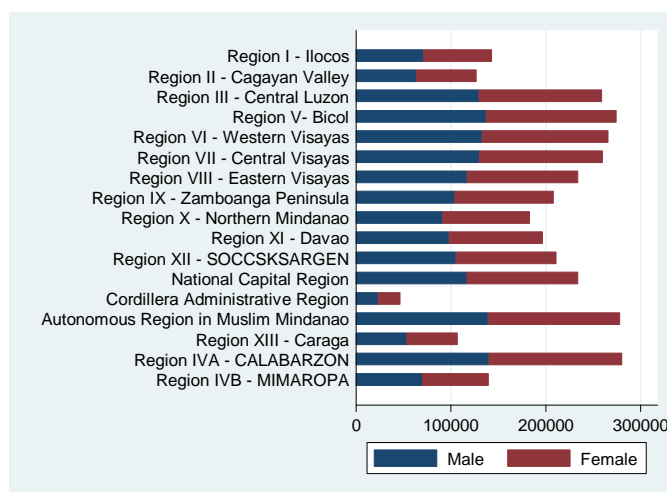


Figure 4. Distribution of Out-of-School Children in 2008 by Region and by Sex
Source: 2008 APIS, NSO.

- School participation is inversely related to income: statistics on ANAR for both primary and secondary levels are observed to be higher among higher income classes. Poor families tend to be headed by persons with low levels of

education, who themselves may not put as much premium on the schooling of children in the household. Albert (2011) examines panel data of APIS households and observes that children from families that experience income shocks tend to have a higher incidence of children who are not in school, suggesting that families cope with their income shocks by not sending their children to school. Children from poor families, especially at secondary-school age, are expected to contribute to family income, and often, these children have to sacrifice their schooling. Among the secondary-school age children that are not in school, both the two latest rounds of the APIS (conducted in 2007 and 2008) as well as the corresponding LFS rounds when these surveys were conducted indicate that about 0.4 million are engaged in labor (three fourths of whom are boys). Even among children aged 5 to 15 that are currently in school, 0.6 million are in economic activities and maybe at risk of not completing their schooling. Thus, government has been engaged in attempts to address demand-side issues through a number of interventions, such as a conditional cash transfer program called the *Programang Pantawid Pamilyang Pilipino* (4Ps).

- School participation is not just based on demand side but supply side issues. All other things being equal, a unit increase in pupil-to-teacher ratios (PTR) will reduce the odds of attending school for both primary-school aged and secondary-school aged children (Maligaliget *al.*, 2010). The PTR measures overcrowding in school, which, in turn, parents may equate with low-quality education. Parents may feel more encouraged in sending their children to schools that are considered not overcrowded.^{vii}

The APIS, as well as the FLEMMS, also asks survey respondents to provide the main reason why children in a household are not attending school (Table 3). Five and six year old children not in school are reported to be too young to be in school. Field work undertaken to complement these data suggests that this may be related to the issue of perceived lack of school readiness, coupled with the mistaken idea that school age entry in Grade 1 is 7 years old. Lack of personal interest is a major reason cited, as well as cost issues. While it may be tempting to view lack of personal interest as lack of parental interest to send their children to school, field work suggests that most parents interviewed would want their children to be in school, and complete their schooling, but that poverty is the heart of many of the most important cultural barriers to schooling, including the lack of interest.

Table 3. Reasons in 2008 for Non Attendance in School by Age Group.

Reason for Non Attendance	Five Year Old	Primary Aged Children		Secondary Aged Children	
Lack of Personal Interest	6.9%	31.68%	23.78%	47.19%	44.59%
High cost of Education	3.6%	11.52%	13.32%	24.93%	28.81%
Too young to go to school	80.5%	29.21%	34.86%	0.00%	0.07%
Illness/Disability	1.1%	9.48%	6.76%	6.13%	7.51%
Lack of Nearby Schools	3.8%	7.45%	7.66%	4.13%	5.41%
Employment		0.13%	0.09%	8.69%	7.28%
Other Reasons (incl. School Records, Marriage, Housekeeping)	4.1%	10.53%	13.53%	8.93%	6.33%
Data Source	APIS	APIS	FLEMMS	APIS	FLEMMS

Poverty also weighs significantly on the decision to enter, delay, or drop out of school, and it also affects academic performance. The routes of influence of poverty are rather numerous, including indirect effects in terms of overall pressures on the resources and time of parents who are poor.

The BEIS estimates the primary and secondary cohort survival rates in 2008-2009 at 75.4% and 79.7%, respectively, which suggests that a quarter of those who started grade 1 did not complete primary school on time (i.e., within the 6 year primary school period), while a fifth of those who started first year high school did not complete secondary school on time (i.e., within the 4 year high school period). The cohort survival rate in primary school is less for boys than for girls. For both the official primary school completion rate and a more appropriate measure of primary completion rate⁴, we find that boys have a lower completion rate than girls. Various data sources indicate gender disparities not only in education outcomes (such as participation and completion) but also in achievement, generally in favor of girls (David, Albert & Monterola, 2009; Tan, 2010a; Tan, 2010b). Boys are generally more likely to be at risk of exclusion from school than girls.

One consequence of, and possibly also, a reason for, non-participation in schools is lower literacy.

Figure 5 shows literacy rates, both simple and functional,⁵ for children aged 10 to 15 years varying across the regions, with such disparities mirroring the disparities in poverty conditions. That is, poorer regions have lower literacy rates. In addition, these measures of literacy are lower for 10 to 15 year old OOSC than for the corresponding children of the same age group that are in school.

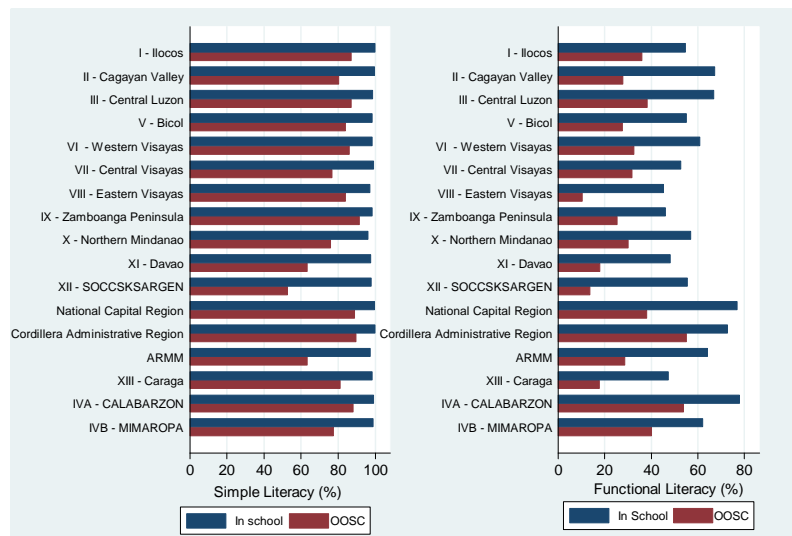


Figure 5. Simple and Functional Literacy Rates in 2008 by School Participation and by Region.

Source: 2008 FLEMMS. NSO.

⁴ The DepEd defines completion rate as the proportion of enrollees at the beginning grade or year who reach the final grade or year at the end of the required number of years of study. This is, however, an efficiency measure. Alternative measure of completion can be found through sample surveys by obtaining the number of persons of an age group say, 11 to 30 years old who completed the final grade or year in relation to the population who completed at least the beginning grade or year. For primary school, this estimate from APIS is 81% in 2008. With this measure, boys (78.1%) are found to have a lower completion rate than girls (84.6%) in primary school. The World Bank, in its World Development Indicators, defines primary completion rate as the percentage of students completing the last year of primary school. This is calculated by taking the total number of students in the last grade of primary school, minus the number of repeaters in that grade, divided by the total number of children of official graduation age. For the Philippines, the World Bank puts primary completion rate at 93.7%, with that for boys and girls at 90.9%, and 96.8%, respectively.

⁵ In FLEMMS, simple literacy is measured as the ability to read and write while functionally literacy is measured by having respondents answer the following questions: 1) Full name 2) Address 3) Complete date of birth 4) Highest educational attainment 5) If a kilo of rice costs P25.00, how much will two kilos cost? 6) If a kilo of sugar costs P38.00, how much will a half kilo cost? To measure the comprehension ability, each respondent was also asked to read a paragraph and answer a set of questions. Persons who completed high school or a higher level of education are also considered functionally literate. In the FLEMMS, simple and functional literacy rates are estimated for the population 10 to 64 years old, (<http://www.census.gov.ph/data/pressrelease/2010/pr10142tx.html>) but in this report, the functional literacy rates are computed for children aged 10 to 15 years old.

Table 4 shows that gender disparities are also observed in literacy: among OOSC, simple literacy rates for boys are lower than those for girls. For children currently in school, more girls (65.4%) are functionally literate compared to boys (58.7%), while among the OOSC, about a third of children, both boys and girls, are functionally literate.

Table 4. Simple and Functional Literacy Rates of 10-15 Year Old Children by Sex and by School Participation.

	Male			Female			Both Sexes		
	In School	OOSC	All Males	In School	OOSC	All Females	In School	OOSC	Total
Simple Literacy Rate	98.38	78.49	96.06	99.24	82.63	98.05	98.81	80.02	97.03
Functional Literacy Rate	58.73	30.83	55.51	65.43	31.67	63	62.11	31.14	59.2

Source: FLEMMS 2008, NSO.

Lower literacy among boys than girls suggests that learning outcomes are lesser for boys than for girls, and that boys may be more at risk of not completing their schooling as a result of poorer learning outcomes. Table 5 lists the results of the National Achievement Test, conducted by the DepEd's National Education Testing and Research Center (NETRC). It is easy to notice that, on average, boys in grade 6 are also underperforming (compared to girls in the same grade) across all topics, whether communication skills, numerical literacy, or analytical prowess.

Table 5. Mean Percentage Scores of Grade Six Students in the National Achievement Test, by Sex

Subject	2005-2006		2006-2007		2007-2008		2008-2009		2009-2010	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Filipino	58.00	63.52	65.04	68.98	72.05	74.77	70.32	73.46	73.11	76.83
Math	52.03	55.39	58.41	61.47	63.11	65.14	66.16	68.56	62.15	64.35
English	51.99	56.24	58.69	63.10	60.64	63.08	60.55	63.05	66.10	69.48
Science	46.08	47.64	51.47	52.99	57.56	58.75	58.25	59.47	62.47	63.81
Hekasi	56.35	60.11	59.33	62.53	66.53	68.84	66.62	69.05	69.42	72.32
Overall	52.89	56.58	58.59	61.81	63.98	66.12	60.55	63.05	66.65	69.36

Source: NETRC, DepEd

Information on who the OOSC are, on where they live, on what they do and on the characteristics of the households they belong to can provide a portrait of interlocking demand-side and supply-side relationships. The latter, in turn, can provide inputs on how school participation disparities may be addressed effectively with program and policy strategies and interventions. Ultimately, the final goal in describing OOSC is a vis children in school is not only to achieve UPE but also to ensure that schooling results in good learning outcomes.

2. Profiles of children in Dimension 1

Data on participation of pre-primary aged children sourced from administrative reporting systems suffers considerably from lack of reporting. Detailed (individual and household) information can, however, be generated from household surveys to describe OOSC. The latest wave of the APIS, conducted in 2008, estimates that about four out of ten pre-primary aged children are not in school. Disparities can be found between urban and rural areas in the country, with nearly three fifths (59.7%) of pre-primary aged children attending pre-primary or primary schools in rural areas, while the corresponding rate in urban areas is about three fourths (73.3%). Attendance of five year old boys is slightly lower (63.3%) than that of girls (68.8%) in the country. Whether within urban or rural areas, the attendance rate is lower for boys than for girls by about 5 percentage points. Figure 6 shows that the proportion of pre-primary aged children who are attending school in 2008 varies considerably across regions. Practically one in every ten pre-primary aged children (12.8%) is attending pre-primary or primary schools in ARMM. Aside from ARMM, two other regions, viz., Zamboanga Peninsula (46.1%) and MIMAROPA (56.3%) have school attendance rates of pre-primary aged children that are way below the national average (65.8%). Although NSO household surveys are at best reliable up to the regional disaggregation, it may be important to point out that two thirds of the fifteen provinces⁶ with the lowest estimated school attendance rates of pre-primary aged children are in Mindanao.

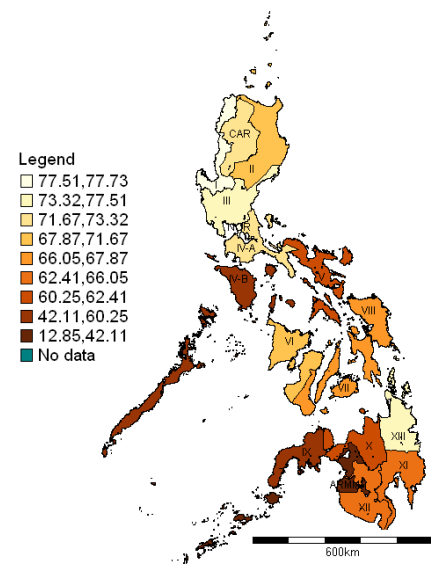


Figure 6. School Attendance Rate of Pre-Primary Aged Children across Regions (in Percent).

Source: APIS 2008, NSO.

Although pre-primary participation rates of girls are higher than that of boys (58.6%), the pattern in disparity is not uniform. We find only three regions, viz., MIMAROPA, Northern Mindanao and Central Luzon where the participation rate of pre-primary aged girls is significantly higher than the rate for the boy counterparts. In ARMM, the gender disparity is reversed: the advantage goes to pre-primary aged boys (18.0%) over pre-primary aged girls (6.45%). This is also observed for eight year old children, but for secondary-aged, especially 15 year old, children, the gender disparity in participation rates in ARMM is in favor of girls.

The participation of pre-primary aged children in either primary or secondary school depends on a number of factors, including household factors. Table 6 provides the school attendance rates in 2008 of pre-primary aged children across per capita income quintile and educational attainment of the household head. It can be readily observed that when a five year old child comes from a poor family, the more likely that the child is not sent to school. Households that have heads with more education appear to put more premium on a pre-primary aged child's participation in school.

⁶These provinces include Sulu (1.9%), Maguindanao (7.1%), Lanao del Sur (16.1%), Tawi-tawi (24.2%), Zamboanga del Norte (29.3%), Palawan (33.4%), Sultan Kudarat (38.8%), Basilan (38.9%), Davao Oriental (41.5%), Biliran (44.1%), Occidental Mindoro (44.4%), Apayao (44.6%), Catanduanes (46.0%), Zamboanga del Sur (48.5%), and Zamboanga Sibugay (51.9%).

Table 6. School Attendance Rates of Pre-Primary Aged Children, by Level of Highest Educational Attainment of Household Head and by Per Capita Income Quintile in 2008

Highest Educational Attainment of Household Head	Per Capita Income Quintile					All Quintiles
	Lowest	Lower Middle	Middle	Upper Middle	Richest	
At most Pre-Primary	21.1%	35.9%	30.5%*	100.0%*	100.0%*	21.1%
Some Primary Education	43.8%	54.6%	64.2%	83.3%	81.4%	43.8%
Some Secondary Education	54.9%	62.5%	74.0%	80.6%	90.5%	54.9%
Beyond Secondary Education	71.8%	67.4%	77.2%	83.7%	94.0%	71.8%
Total	47.2%	58.6%	70.9%	82.1%	92.0%	47.2%

Source: Calculations on APIS 2008, NSO.

Note * =Based on less than 10 sampled households

Although poverty is an issue for the lack of school attendance of pre-primary aged children, there is hardly any evidence from either the APIS or the LFS that five year-old children, whether boys or girls, are engaged in labor activities. (Work for primary age children is likewise a rare event). When households with OOSC are asked during the conduct of the APIS to report the reason why their children are not in school, a host of reasons are given, including financial reasons, distance of the nearest school, the child's lack of interest, health and other reasons.

Table 7 shows that in 2007 and in 2008, among pre-primary aged OOSC, four out of every five are considered as being too young to be in school. In 2007, about one out of twenty five pre-primary aged OOSC are reported to lack interest, with this rate increasing to one out of fifteen in 2008.

Table 7. Percentage of Pre-primary aged OOSC in 2007 and 2008 by Reason for Non-Attendance in School, by Urban and Rural Areas.

Reason for Non Attendance	2007			2008		
	Urban	Rural	All Areas	Urban	Rural	All Areas
Schools are very far	1.68%	4.62%	3.55%	0.3%	4.1%	2.7%
No schools within the <i>barangay</i>	0.59%	0.75%	0.69%	0.8%	1.0%	0.9%
No regular transportation	0.00%	0.45%	0.29%	0.4%	0.1%	0.2%
High cost of education	6.22%	3.55%	4.53%	6.4%	2.1%	3.6%
Illness/Disability	0.72%	0.44%	0.54%	1.5%	0.8%	1.1%
Lack of personal interest	2.23%	4.74%	3.83%	7.4%	6.7%	6.9%
Cannot cope with school work	0.94%	1.45%	1.26%	0.6%	1.6%	1.2%
Problem with birth certificate	0.00%	0.37%	0.23%	1.0%	0.5%	0.7%
Too young to go to school	85.47%	82.40%	83.52%	80.0%	80.7%	80.5%
Others	2.13%	1.24%	1.56%	1.7%	2.4%	2.2%

Source: APIS 2007 and APIS 2008, NSO.

The percentage distribution for the reasons for non-attendance of pre-primary aged children hardly varies by sex, but the distribution varies slightly across urban and rural areas. In both 2007 and 2008, (aside from being too young or lacking interest,) another prominent reason cited in urban areas is cost of schooling, while in rural areas, school accessibility (either schools being too far, no

schools within the village, or no regular transportation to school) is a prominent reason for non-attendance of pre-primary aged children.

3. Profiles of OOSC in Dimensions 2 and 3

According to the APIS 2008, about 2.2 million children in primary and secondary ages are out of school. This magnitude includes primary and secondary aged children that are still in pre-primary school. As was indicated in the previous sections, an issue regarding basic education and OOSC is late enrolment. Although the official age entry in primary schools is 6 years old, a substantial number of 6-year-olds are either not yet in school (14.5%) or still in pre-primary school (25.0%). Even among 7 year old children, about one in twenty (4.6%) are not in school, and another one in thirty (2.9%) are still in pre-primary school. A slightly bigger share of boys than girls are delayed in their school entry. Among secondary-aged boys, about a quarter (26.1%) are still in primary school and a fifth (20.5%) of secondary-aged girls are also still in primary school. A considerable number of these secondary aged children that are still in primary school are among the 12 year old children, although even among 15 year old children, about one in twenty-five (3.9%) are estimated to be still in primary school. School attendance rates among primary aged and secondary aged children are illustrated in Figure 7.

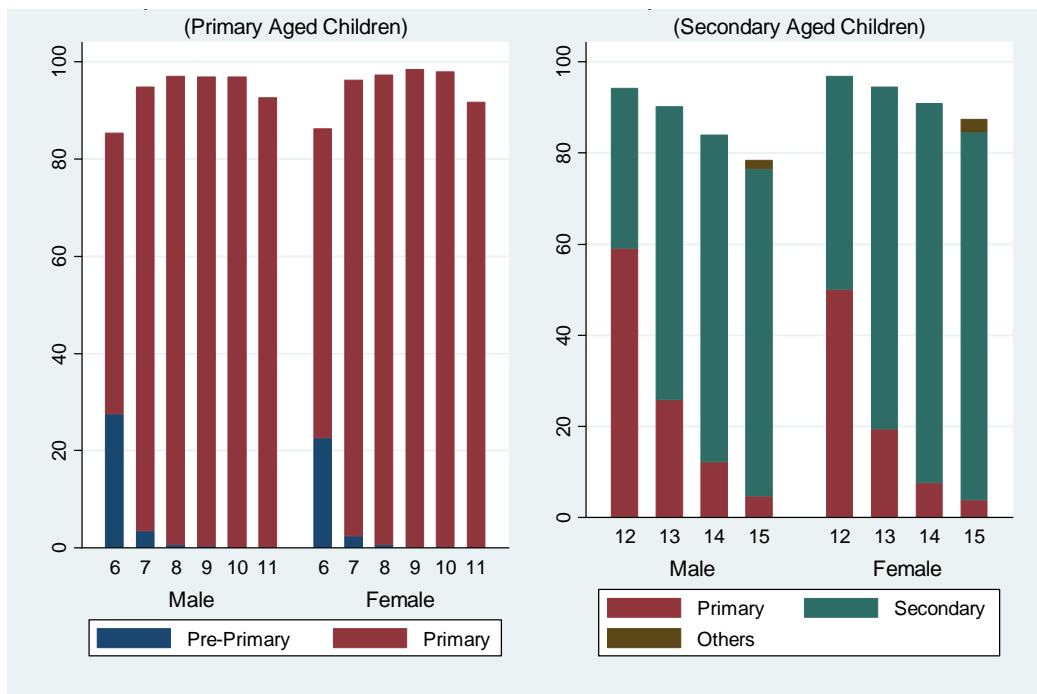


Figure 7. School Attendance Rate in 2008 among Primary Aged Children and among Secondary Aged Children.

Source: APIS 2008, NSO

The ANAR which, for primary aged children, represents the proportion of these children attending primary school or higher, while, for secondary aged children, represents the proportion these children in at least secondary education. When ANAR is generated for each of the regions, disparities in the statistics are very evident (see Table 8). Among all the regions, the ARMM has the

least participation rates among young children (21.4% and 76.4% for six and seven year old children, respectively) and these rates are much smaller than those in other regions. Participation rates of 6 year old children are also noticed to be rather low in Western Visayas (48.8%). In both the ARMM and Western Visayas, participation rates among primary-aged children are observed to be much higher for children 8 years and above than for younger children. This suggests that families residing in areas that are more at risk of having some conflict and/or terrorism may be delaying sending their children to school much more than families residing in areas with less likelihood of conflict. For decades, the ARMM has also been observed to be the region with the biggest proportion of poor and vulnerable households in the country (Albert and Ramos, 2010).

Table 8 ANAR (%)in 2008 among 6 year old children, 7 year old children, and 8 to 11 year old children, by Region.

Region	6 year old	7 year old	8to11 yrs old	All Primary Aged Children
Region I –Ilocos	73.58	96.04	98.03	93.91
Region II - Cagayan Valley	69.29	96.51	97.46	93.32
Region III - Central Luzon	75.47	98.46	98.32	94.94
Region V- Bicol	52.44	91.4	97.8	89.42
Region VI - Western Visayas	48.8	93.42	98.02	90.24
Region VII - Central Visayas	55.05	92.48	97.13	90.27
Region VIII - Eastern Visayas	57.91	89.86	95.39	89.52
Region IX - Zamboanga Peninsula	59.69	86.07	94.69	88.05
Region X - Northern Mindanao	55.91	88.86	97.01	89.63
Region XI – Davao	54.56	90.73	93.81	87.04
Region XII – SOCCSKSARGEN	52.56	87.4	95.18	87.07
National Capital Region	63.79	95.14	98.01	92.15
Cordillera Administrative Region	64.78	95.24	97.74	92.71
Autonomous Region in Muslim Mindanao	21.42	76.41	92.45	78.96
Region XIII - Caraga	59.25	91.3	97.03	90.57
Region IVA - CALABARZON	72.97	95.26	98.05	93.77
Region IVB - MIMAROPA	66.23	92.03	97.18	92.05
Total	60.48	92.49	97.01	90.78

Source: APIS 2008, NSO.

Table 9 lists the ANAR for primary aged children and secondary aged children across the regions, disaggregated by sex of the child. Very noticeably within regions, differences in the ANAR statistics between boys and girls are not substantial among primary school aged children, except in SOCCSARGEN (in favor of girls). Participation rates of secondary aged children are lowest in ARMM (47.5%) and highest in Metro Manila (77.8%). Gender disparities in school participation are evident for the secondary-school aged children, with girls having higher ANAR than boys across all regions. The participation of girls over boys gets larger with age. Very clear differences in ANAR between secondary aged girls and secondary aged boys are found in Zamboanga Peninsula (16.8 percentage points), Eastern Visayas (16.5 percentage points), Bicol (16.1 percentage points), SOCCSARGEN (16.0

percentage points), Caraga (15.2 percentage points), Davao (14.6 percentage points), Cordillera (14.2 percentage points), Northern Mindanao (13.5 percentage points), Central Visayas (13.1 percentage points), and ARMM (12.0 percentage points).

Table 9 ANAR in 2008 among Primary Aged Children and Secondary Aged Children, by Sex and by Region.

Region	Primary Aged			Secondary Aged		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Region I - Ilocos	92.8%	95.1%	93.9%	71.3%	79.5%	75.4%
Region II - Cagayan Valley	92.6%	94.1%	93.3%	64.0%	74.6%	69.5%
Region III - Central Luzon	93.6%	96.3%	94.9%	69.9%	75.3%	72.6%
Region V - Bicol	88.3%	90.7%	89.4%	56.8%	72.9%	64.9%
Region VI - Western Visayas	89.7%	90.9%	90.2%	57.9%	69.1%	63.3%
Region VII - Central Visayas	88.8%	91.8%	90.3%	57.0%	70.1%	63.8%
Region VIII - Eastern Visayas	87.2%	91.9%	89.5%	48.8%	65.3%	56.9%
Region IX - Zamboanga Peninsula	86.6%	89.6%	88.1%	47.2%	63.9%	55.8%
Region X - Northern Mindanao	88.9%	90.3%	89.6%	55.3%	68.8%	62.0%
Region XI - Davao	86.8%	87.3%	87.0%	50.7%	65.4%	57.7%
Region XII - SOCCSKSARGEN	82.7%	91.7%	87.1%	51.4%	67.5%	59.2%
National Capital Region	91.5%	92.9%	92.2%	74.6%	80.8%	77.8%
Cordillera Administrative Region	93.5%	91.8%	92.7%	64.8%	79.0%	72.1%
Autonomous Region in Muslim Mindanao	80.1%	77.8%	79.0%	41.6%	53.5%	47.5%
Region XIII –Caraga	90.1%	91.1%	90.6%	54.1%	69.3%	61.9%
Region IVA - CALABARZON	92.7%	94.8%	93.8%	70.4%	77.7%	74.0%
Region IVB - MIMAROPA	91.5%	92.6%	92.0%	57.9%	68.1%	62.7%
Total	89.7%	91.9%	90.8%	60.6%	71.9%	66.3%

Source: APIS 2008, NSO.

Using a template provided by UIS, an examination of APIS and BEIS data was made to breakdown the magnitude of OOSC by degree of exposure to school. This template involved making use of the trends in the distribution of children who dropped out, children who have never been in school and new entrants to primary school by single age. Of the 2.2 million primary and secondary aged OOSC, about half (49.4%) are late entrants; about nine out of twenty (46%) are found to have dropped out either temporarily or permanently, and about one in twenty (4.5%) are considered likely to never enter. When the figures are broken down by sex, we find no difference in the shares of OOSC by school exposure.

The disparity in school exposure of OOSC is more between primary age group versus secondary age group. Figure 8 illustrates that among an estimated 1.27 million primary aged OOSC in 2008, about 140 thousand (11%) dropped out either temporarily or permanently, about 1.1 million (87%) are expected to enter school by age 15, and about 28 thousand (2.2%) are considered likely to never enter school. For the corresponding secondary school aged OOSC population, of an estimated 980 thousand population, 893 thousand (91%) dropped out of basic education either temporarily or permanently, about 14 thousand (1.4%) are expected to enter schooling by age 15, and the remaining 72 thousand (7.4%) are likely to never enter schooling.

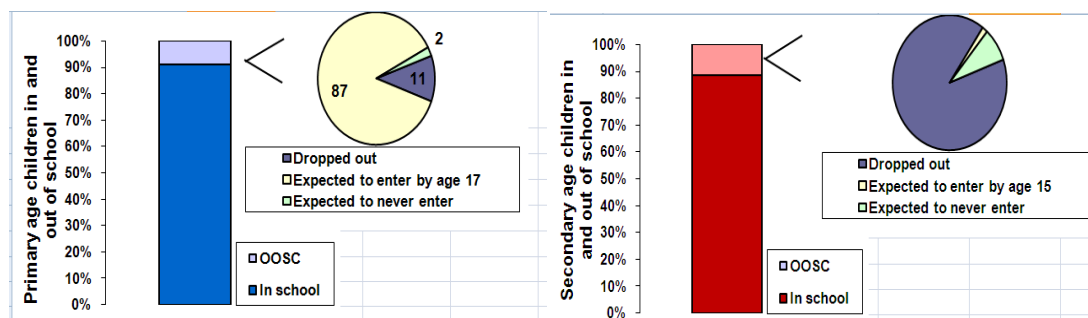


Figure 8. Primary Age and Secondary Age Children In and Out of School, with Breakdown of OOSC by Degree of Exposure to School in 2008.

Note: Calculations on APIS 2008 data using UIS template

According to both the APIS 2008 and FLEMMS 2008 (see Table 10), households report that about three fifths of primary aged children are not in school either because the children are thought of to be too young or because the children lack personal interest. About one in ten primary aged children are not in school because of cost issues, while one in twenty are not in school due to school accessibility issues. Practically half of secondary aged OOSC are reported to lack personal interest (47.2% in APIS and 44.6% in FLEMMS), while one in four (24.9% in APIS and 28.8% in FLEMMS) are not in school due to cost issues, one in ten is employed (8.7% in APIS and 7.3% in FLEMMS), and about one in twenty (4.1% in APIS and 5.4% in FLEMMS) mention school accessibility.

Table 10. Percentage of Primary aged and Secondary Aged Children OSSC in 2007 and 2008 by Reason for Non-Attendance in School, by Data Source.

Reason for Non Attendance	Primary Aged Children		Secondary Aged Children	
	APIS 2008	FLEMMS 2008	APIS 2008	FLEMMS 2008
Lack of Personal Interest	31.68%	23.78%	47.19%	44.59%
High cost of Education	11.52%	13.32%	24.93%	28.81%
Too young to go to school	29.21%	34.86%	0.00%	0.07%
Illness/Disability	9.48%	6.76%	6.13%	7.51%
Lack of Nearby Schools	7.45%	7.66%	4.13%	5.41%
Employment	0.13%	0.09%	8.69%	7.28%
Other Reasons (incl. School Records, Marriage, Housekeeping)	10.53%	13.53%	8.93%	6.33%

Source: APIS 2008 and FLEMMS 2008, NSO.

The term lack of personal interest could actually be a catch all reason that includes the lack of household financial resources which some respondents may not want to admit as the reason for not

attending school (Maligalig and Albert, 2008). That is, lack of interest may be a mere euphemism for lack of financial resources available to the household to send their children to school. This is supported by results of field interviews.

Undoubtedly, aside from constraints on household resources, there may be other factors that contribute to the lack of personal interest in going to school, such as the lack of parental support, the need to contribute to family income, and even supply side issues, such as low quality of schools available, and the distance of schools (Caoli-Rodriguez, 2007; Maligalig and Albert, 2008).

It can also be informative to perform an examination of the determinants of non-attendance based on econometric models such as a logistic regression model. As in the previous sections, the basic data source for the logistic regression⁷ analysis is the 2008 APIS, supplemented by average PTRs in the regions sourced from the 2008-2009 BEIS. Explanatory variables considered in the logistic regression, include: (i) individual characteristics such as sex and age of the child; (ii) household characteristics such as household per capita expenditure (in logarithmic terms), number of children, adults, and retired persons in the household; household residence (urban/rural location); age of the household head, sex of the household head, educational attainment of the child's mother; and, (iii) average PTR⁸ at the region. A separate regression was run for primary aged and for secondary aged children, with the latter model including in its list of explanatory variables an indicator on whether or not the child is engaged in labor. The results of the logistic regressions are found in Table 11.

Table 11. Log Odds of Logistic Regression Models for Non-attendance in School.

Explanatory Variables	Primary Aged	Secondary Aged
Log (per capita expenditure)	-0.498***	-0.873***
Indicator for Age = 6 (BASE)		
Indicator for Age = 7	-2.228***	
Indicator for Age =8	-3.086***	
Indicator for Age = 9	-3.476***	
Indicator for Age = 10	-3.412***	
Indicator for Age = 11	-3.223***	
Indicator for Age = 12 (BASE)		

⁷ Logistic regression is an econometric model employed to explain a binary outcome (here whether a child is an OOSC or the child is attending school) from a set of explanatory variables X_1, X_2, \dots, X_k , that may be binary, continuous, or a mix of any of these. The relationship between the binary response variable and the explanatory variables is given by :

$$\log\left(\frac{\theta}{1-\theta}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$

where θ and $1-\theta$ respectively represent the probability of being an OOSC and the probability of attending school. Note also that for categorical explanatory variables, a set of binary indicator variables are firstly generated to represent membership (or not) in the categories, with one of the indicator variables serving as base or reference to compare other categories with.

⁸As pointed out in Maligalig et al. (2010), the PTR serves as a proxy for parental perception of the quality of the school system. Overcrowding, represented by high PTR, is often equated to low quality. A parental perception of overcrowding may influence the decision to attend school.

Indicator for Age = 13		0.552***
Indicator for Age = 14		1.073***
Indicator for Age = 15		1.300***
Mean Pupil to Teacher Ratio in Region (Elementary Level)	0.035***	
Mean Pupil to Teacher Ratio in Region (High School Level)		0.005**
Indicator for Residing in Urban Area	0.064	-0.182**
Indicator for Female	-0.295***	-0.567***
Indicator for Mother Attaining At Most Primary (BASE)		
Indicator for Mother Attaining Secondary Education	-0.680***	-0.796***
Indicator for Mother Attaining Education Beyond Secondary Level	-0.538***	-1.451***
Indicator for Male household Head	-0.223*	-0.275**
Age of Household Head	0.006	0.007
Number of Children in Household	0.065***	0.006
Number of Adults in Household	0.016	-0.029
Number of Retired Persons in the Household	-0.085	-0.223
Child Engaged in Labor		1.956***
Memo Notes:		
Number of Observations	20809	14373
Pseudo Rsquared	0.2844	0.2517
AIC		

Source: Calculation on data from BEIS 2008-2009 and APIS 2008

The model suggests that assuming all other explanatory variables are constant (*ceteris paribus*), the following statements can be supported:

- Children who come from families that have more per capita expenditure are less likely to be OOSC. For primary aged children, every one percentage change in per capita expenditure is associated with a 0.50% decrease in the odds for not attending school. For secondary aged children, the decrease in odds for not attending school is 0.87%;
- Age matters.
 - Compared to six year old children, children aged 7 to 11 years old are less likely to be out of school;
 - Secondary-aged children in the age range 13 to 15 years are more likely to be OOSC than 12 year old children;
- Every unit increase in pupil to teacher ratio is associated with an increase in the odds of non-attendance in school by 3.5% in primary-aged children, and 0.5% in secondary aged children;
- Secondary aged children residing in urban areas are less at risk of being out of school compared to children residing in rural areas. Urban rural differentials are not evident for primary aged children;
- Boys are more at risk of being out of school. Primary-school aged girls are 1.3 times more likely to be in school than their boy counterparts; secondary aged girls are 1.8 times more likely to attend school (than the corresponding boys in their age range);
- Compared to children with mothers who have attained at most primary level of education, children with more educated mothers tend to be less prone in being out of school;
- Children belonging to families with many children are more at risk of being out of school;
- Secondary aged children who are not engaged in some labor activities are more likely to be in school. Those engaged in child labor are 7.07 times more likely to be out of school, and,

- Primary aged as well secondary aged children who are part of families where the household head is male tend to be less at risk of being OOSC.

The results above are not at all surprising although the last statement may require more detailed investigation.

4. OOSC and involvement in child labor

Children have a right to basic education but occasionally, they engage in some form of work activity. For children in school, involvement in some labor activity makes them more prone to dropping out of school. Child labor can thus be viewed as an obstacle to EFA goals. Understanding the interaction between OOSC and involvement in child labor is consequently relevant for efforts to eliminate child labor, as well as to achieve the EFA goals and MDGs in Education.

All of the recent waves of APIS and FLEMMS estimate that about one of every twenty children aged 5 to 15 years are involved in child labor (4.71% for APIS 2007, 4.54% for APIS 2008, and 5.10% for FLEMMS). Even though there are measurement differences in APIS, and FLEMMS as well as when these large scale surveys are compared to the LFS,⁹ yet we find that the survey estimates of these rates are quite close even with those estimates sourced from the LFS rounds when these APIS and FLEMMS were conducted: (4.59% for the July 2007 LFS, 4.15% for the July 2008 LFS, and 4.16% for October LFS). The estimated number of children in child labor by age from the APIS, FLEMMS and LFS is shown in Figure 9. Note that the FLEMMS estimates are the

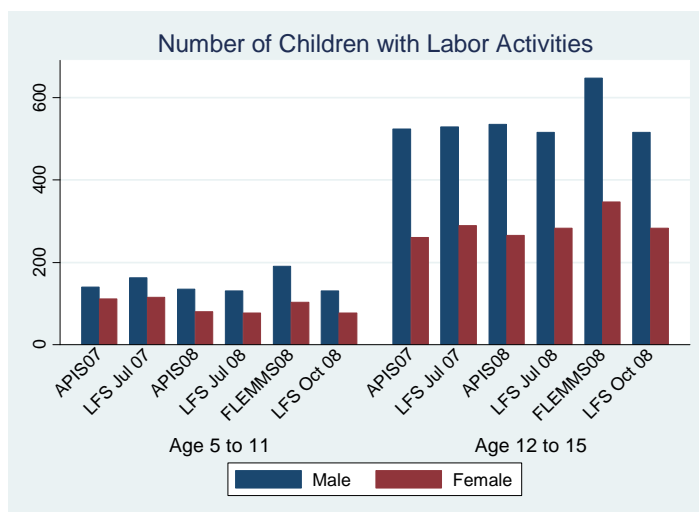


Figure 9. Estimated Number of Children in Child Labor by Age.

Sources: APIS 2007 , APIS 2008, FLEMMS 2008, July 2007 LFS, July 2008 LFS, Oct 2008 LFS, NSO

children that follows is largely based on results of APIS 2008, which suggests that 1.1 million

largest figures, and that it is more reasonable to consider the APIS and LFS estimates since FLEMMS only uses half the sample size of that used in the APIS and LFS, which makes the FLEMMS estimates less precise.

Since the estimates are close to each other regardless of the data source, but the most informative source of data for profiling children in child labor is found in the APIS, the description of these

⁹ APIS and FLEMMS both ask respondents information on whether or not each household member engaged in work with the following question: “Did ____ work or have job or business at anytime (during some reference period)?” with APIS referring to the six months prior to the survey period, while FLEMMS refers to a whole year prior to the survey. LFS asks the following question about household members: “Did ____ do any Work for at Least one Hour during the past week?”

children between 5 and 15 years old are in child labor. About two thirds (65.9%) of children engaged in child labor are unpaid family workers. Among OOSC in child labor, half (50.3%) are unpaid family workers, and about two in five (41.8%) are working outside the home. Children residing in rural areas and children coming from poor families are observed to have a higher risk of being exposed to child labor (aside from having more risks of being excluded from school as the previous sections reported). Certain regions in the country, such as Northern Mindanao (14.2%), Cordillera Administrative Region (10.8%) and Eastern Visayas (8.2%), also have proportions of children aged 5 to 15 years old that are in child labor which are much higher than the national rate.

The July 2007, July 2008 and October 2008 LFS round provide estimates of the total hours at work of secondary-aged children. OOSC aged 12 to 15 years old work around 40 hours or more, especially in urban areas, with girls having more work hours than boys (Figure 10). Even among children aged 12 to 15 years that are currently in school, hours at work are longer in urban areas, and girls tend to work more than boys.

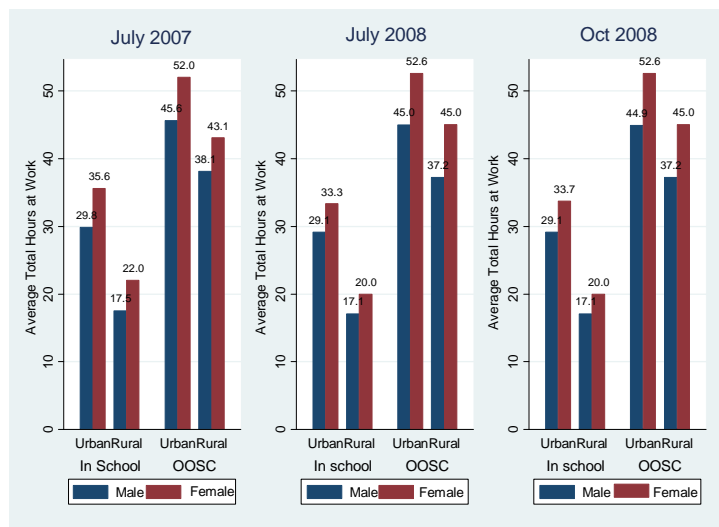


Figure 10. Average Total Hours at Work by Children in Child Labor, by Location and by School Participation.

Sources: July 2007 LFS, July 2008 LFS, Oct 2008 LFS, NSO

Working deters children from attending school, especially among secondary aged children (Table 12). School participation rates of boys engaged in economic activity are also lower (81.1% in primary ages and 29.8% in secondary ages) than those for girls in child labor (87.9% in primary ages and 51.6% in secondary ages).

Table 12. Adjusted Net Attendance Rate of Primary and Secondary Aged Children by Engagement in Economic Activity and by Sex.

Engagement in labor activity	Primary ANAR			Secondary ANAR		
	Males	Females	Both Sexes	Males	Females	Both Sexes
Engaged in labor	81.1%	87.9%	83.6%	29.8%	51.6%	37.4%
Not engaged in labor	89.9%	91.9%	90.9%	65.1%	73.4%	69.3%
Total	89.7%	91.9%	90.8%	60.6%	71.9%	66.3%

Source: Calculations on APIS 2008, NSO

The information here further establishes the link of child labor to exclusion from education. The rate of children engaged in labor activities is much higher for OOSC (11.7%) than for all children (4.5%). A bigger share of male OOSC (13.8%) are in child labor compared to female OOSC

(9.8%). Across the regions, ARMM has the highest proportion of OOSC aged 5 to 15 years old engaged in economic activity (24.2%). OOSC residing in rural areas are more likely to be in child labor than those in urban areas.

Labor is rarely an activity of children aged 5 to 11 years old. Practically one out of every fifty children (1.5%) of pre-primary and primary ages is involved in child labor. Among secondary-aged children, the rate of children in child labor is much larger: practically one of every ten children (9.6%) is engaged in some labor activity, with the rates twice higher for boys (12.5%) than for girls (6.7%).

Once children are engaged in economic activity, their propensity to participate in school gets lower. The results of the logistic regression model on nonparticipation in school, discussed in the previous section, indicated that, all other factors being equal, working children are 7.07 times more likely not to attend school. In consequence, working during ages 12 to 15 appears to be the most significant factor for the low ANER among secondary school-aged children, especially boys.

In the previous section, it was indicated that among secondary school aged-children, (91%) dropped out of basic education either temporarily or permanently. For some children, opportunity costs of staying in school and getting their future returns to education are much higher than getting receiving income for work at the present. According to the APIS 2008, nearly half (46.6%) of children in labor are in the poorest quintile of the per capita income distribution, which suggests that poverty is a major reason why children start to work at an early age, and why they do not complete their schooling. Programs such as the 4Ps that compensate families to offset for such opportunity costs are promising mechanisms for arresting lack of school of participation due to work, and for discouraging children from engaging in child labor.

5. Profiles of children at risk in Dimension 4 and 5

Counting OOSC is much more straightforward than estimating the number of children in school who are at risk of dropping out since the former is merely ex-post, while the latter involves an ex ante assessment of future conditions (that may or may not result). With the future still uncertain, all children in school face some degree of vulnerability of early school leaving. Some children though are more vulnerable to leaving school early than others, and the methodological challenge is to identify which children have the highest risk of dropping out.

One approach to counting children at risk of dropping out is to proxy these children excluded from school (dimensions 4 and 5) with the children aged seven to sixteen years old who are currently not in school, but who have had at least pre-primary education, i.e. children who dropped out of school. Seven to twelve year old children not in school but who have had at least pre-primary education represent the children in exclusion dimension 4, while the corresponding thirteen to sixteen year old children can proxy children in exclusion dimension 5.

Children who dropped out were previously at risk of dropout and for whom this risk was realized, and thus the characteristics of school leavers can be thought of as indicative of the

characteristics of children of dimension exclusions 4 and 5. An alternative approach¹⁰ to describing children in exclusion dimension 4 and 5 is to assume that the children aged seven to fifteen years old, who are over-aged for their respective grade or year levels are children of exclusion dimension 4 and 5, i.e., at risk of non-completion of primary or secondary education. We describe school leavers and over-aged children in this section.

School Leavers

All school leavers can, in theory, return to school in the future but there are a number of indications that many early school leavers do not return to continue their formal education. The BEIS consistently reports school leaver rates to be highest in primary schools at the grade 1 level (see Table 13), while for the secondary level, the school leaver rates were highest at the first year levels from school year 2006-2007 up to schoolyear 2009-2010. School leaver rates tend to be least among the higher grades and higher year levels in primary and secondary schools, respectively. Repetition rates are observed to be similarly highest in grade 1 and first year. Gender disparities in these statistics can be observed. Boys have higher school leaver rates and lower cohort survival rates than for girls for each grade and year level. School completion is also found to be lower among boys than girls.

Table 13. School Leaver Rates for Schoolyears 2005-2006 and 2009-2010 in Primary Education and Secondary Education by Grade and by Sex.

School Tier	Grade/Year	Schoolyear 2005-2006			Schoolyear 2009-2010		
		Male	Female	Both Sexes	Male	Female	Both Sexes
Primary education	1	5.95	4.67	5.36	5.26	3.85	4.61
	2	3.84	2.81	3.35	3.32	2.31	2.83
	3	4.02	2.68	3.37	3.42	2.33	2.89
	4	4.14	2.62	3.40	3.47	2.02	2.77
	5	4.72	2.95	3.83	3.80	2.35	3.08
	6	4.09	2.42	3.24	3.50	2.18	2.84
Secondary Education	1	9.50	1.70	5.49	15.76	7.74	11.87
	2	18.03	8.59	13.21	14.33	7.81	11.06
	3	15.95	9.04	12.33	12.42	7.79	10.01
	4	9.18	5.49	7.18	6.93	5.27	6.03

Source: BEIS, DepEd

To enrich the profile of school leavers, we look more into data from household surveys. According to the APIS 2008, about 1.7 million (6.89%) out of the 24.7 million children aged 6 to 16 years old left school early. Thus, we can surmise that of the 25.1 million children aged 5 to 15 years old, 6.89 percent of these children, i.e. about 1.73 million maybe at risk of being, or

¹⁰ A major issue about using overage as the single indicator of risk is inaccurate age data, which is a common problem for both administrative and household survey data as was pointed out in the first section. In addition, there are concerns about the assumption that being overage places children at greater risk of dropout. Since parents are allowed to decide when to enter their child into primary school, this can arguably reduce the risk of dropout especially if children may be deemed by parents as not being ready at a particular time to enter school. Children who repeat a grade (and who may be part of the over-aged children) should also not automatically be assumed to be at risk of dropout especially if repeating a grade may allow them to perform better and to catch up with other pupils, and consequently complete their schooling.

may already be part of, early school leavers. In 2008, an estimated 230 thousand children aged 6 to 12 years old left school early, three in five (61.8%) of whom are boys. As a proportion of all children in the same age range, the estimated dropout rate is 1.5%, with the rates slightly but not significantly different for boys (1.8%) and for girls (1.1%). Among children aged 13 to 16 years old, about 1.5 million left school early, of which 61% are boys. The estimated dropout rate for secondary aged children is 16.1%, with boys (19.7%) having a significantly higher rate than that for girls (12.6%). The distribution of children who leave school early by per capita income quintile and by sex is presented in Figure 11. It is very noticeable that most of the children who leave early are coming from poorer families, and as earlier pointed out, that boys are more at risk of dropping out of school than girls, especially among the secondary school aged children.

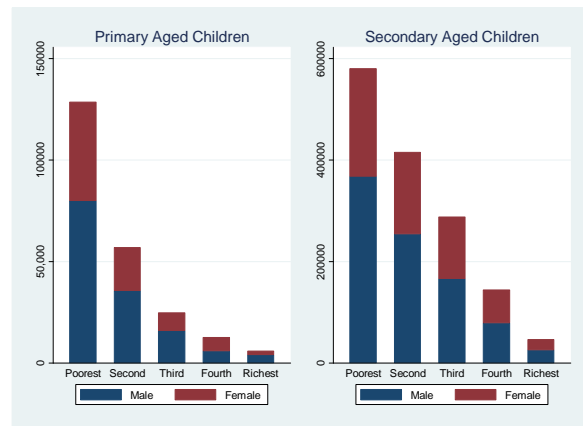


Figure 11. Distribution of Primary Aged and Secondary Aged School Leavers by Per Capita Income Quintile and by Sex.

Source: APIS 2008, NSO

Aside from poverty, there are a number of other factors, such as location where the child resides and mother's education that are interlocked with poverty. Such factors increase the likelihood of children not being able to complete their schooling.

A considerable share (73%) of the poor is residing in rural areas, and families in rural areas are more vulnerable to income poverty than those in the urban areas (Albert and Ramos, 2010). The mother of a child is typically the child's first informal teacher, and if she is not very well

educated, there is a tendency for her not to prioritize her children's education. Figure 12 illustrates the distribution of school leavers by mother's educational attainment, (urban/rural) location of residence and sex of the child. As is expected, most school leavers, whether boys or girls, have mothers that have very little education. The number of school leavers is also noticeably higher also in rural areas than in urban areas. In rural areas, the proportion of school leavers with mothers that have had at best a primary level of education is much higher (60.8%) compared to the corresponding rate of school leavers in urban areas (39.5%). This further

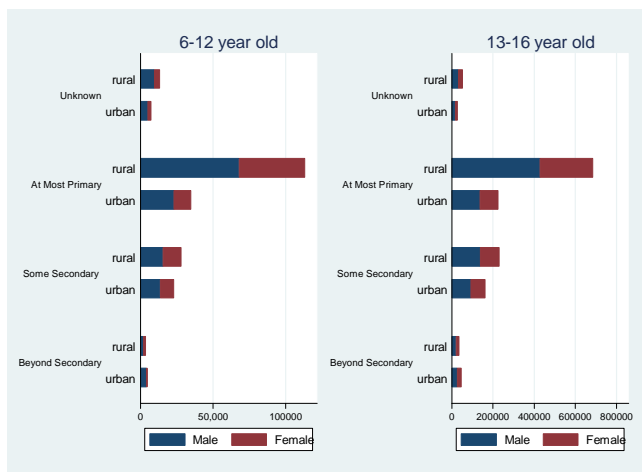


Figure 12. Distribution of Primary Aged and Secondary Aged School Leavers by the Mother's Educational Attainment, Location, and Sex of the Child.

Source: APIS 2008, NSO

suggests how mother's education, location and the inequities resulting from poverty may be a major issue why children leave school early.

Although only a few primary aged children are engaged in some labor activity (2.1%), when we look at primary-aged early school leavers, we find a substantially bigger share of them (15.6%) engaged in labor compared with all children of the same group, especially among boys (18.1%), which suggests once again that children engaged in child labor are a high risk group for non-completion of schooling. The share of school leavers engaged in child labor across the regions is provided in Table 14, which shows the disparities across the regions and the gender disparities in the profile of school leavers (with a bigger share of boys than girls engaged in child labor).

Table 14. Percentage of Early School Leavers Engaged in Labor.

Region	Primary-Aged Children			Secondary-Aged Children		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Region I – Ilocos	5.4%	0.0%	3.9%	46.7%	27.7%	38.9%
Region II - Cagayan Valley	0.0%	25.4%	5.5%	76.9%	49.3%	68.6%
Region III - Central Luzon	12.6%	10.2%	11.6%	44.2%	34.0%	39.7%
Region V- Bicol	13.0%	9.7%	11.6%	68.8%	37.8%	58.5%
Region VI - Western Visayas	21.0%	8.9%	16.4%	65.6%	43.7%	57.5%
Region VII - Central Visayas	14.1%	6.4%	10.0%	55.4%	39.8%	49.0%
Region VIII - Eastern Visayas	21.9%	6.2%	17.0%	65.7%	37.0%	54.9%
Region IX - Zamboanga Peninsula	0.0%	0.0%	0.0%	69.7%	24.7%	57.1%
Region X - Northern Mindanao	58.1%	42.5%	49.4%	68.3%	49.7%	60.4%
Region XI – Davao	13.1%	4.5%	8.8%	53.2%	28.6%	44.7%
Region XII - SOCCSKSARGEN	22.2%	22.4%	22.2%	62.1%	35.4%	51.2%
National Capital Region	0.0%	7.6%	3.6%	12.8%	4.4%	8.9%
Cordillera Administrative Region	30.2%	50.0%	33.7%	90.8%	78.5%	87.4%
ARMM	25.7%	9.5%	18.0%	76.5%	28.8%	58.1%
Region XIII – Caraga	50.1%	0.0%	38.7%	67.7%	33.4%	54.0%
Region IVA – CALABARZON	8.5%	8.7%	8.5%	46.6%	27.3%	37.6%
Region IVB – MIMAROPA	30.9%	9.9%	23.0%	65.1%	40.9%	54.3%
Total	18.1%	11.5%	15.6%	59.0%	34.2%	49.2%

Source: Calculations on APIS 2008, NSO

Examining Table 14 in detail, we find that school leavers in Metro Manila are less at risk of being in child labor. Relative risks for primary school aged school leavers getting into some labor activity are high in Cordillera. In about half of the regions, boys more than girls are engaged in labor among primary aged school leavers but this pattern is reversed in Cordillera and Cagayan Valley. Among secondary aged children, as was pointed out in the previous section, nearly one in every ten children is engaged in some labor, while among secondary aged school leavers, about half are engaged in labor activities. Boys, more than girls, are engaged in labor across the secondary aged population, but the disparity further widens among school leavers. The gender disparities in the rate of engagement in labor between boys and girls appear to be largest in ARMM as well as Zamboanga and least in Metro Manila. In Cordillera, nearly nine in ten

secondary aged school leavers are engaged in labor, while in Metro Manila only about one out of every ten school leavers are engaged in child labor.

Over Aged Children

Older children, especially those who are at least two years above the official age for a grade, may be more likely to drop out from school at higher rates than children at the age for grade. The distribution of over-aged children among 7 to 11 year old children in school, and among 12 to 15 year old, by sex and location is in Table 15. A large number of 12 to 15 year old children are over-aged for their year (23.0%) as compared to primary-aged children that are over-aged for their grade (15.1%). A bigger proportion of children are over-aged in rural than in urban areas. Boys tend to be more over-aged compared to girls.

Table 15. Distribution of Over-aged Children by (Urban/Rural) Location of Residence and by Sex of Child.

Location	7- 11 Years Old			12-15 Years Old		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Urban	341,267 (12.9%)	256,347 (10.0%)	597,614 (11.5%)	423,229 (20.9%)	297,847 (14.4%)	721,075 (17.6%)
Rural	686,482 (20.8%)	481,291 (15.3%)	1,167,772 (18.1%)	805,782 (30.1%)	612,232 (23.5%)	1,418,014 (26.8%)
Total	1027749 (17.3%)	737638 (12.9%)	1765386 (15.1%)	1229011 (26.2%)	910078 (19.4%)	2139089 (22.8%)

Source: Calculations on APIS 2008, NSO

Note: Percentages in Parentheses are Relative to Total Children of the Pertinent Age Group

Most of the over-aged children, especially primary-aged ones, come from poor families and have mothers with low levels of education, as shown in Table 16. This resonates with the description of children from exclusion dimensions 1 to 3 in previous sections of this report. Such information suggests the importance of establishing and, where they exist, maximizing synergies between education policies and poverty reduction strategies.

Table 16. Percentage Distribution of Over-aged Children by Household Per Capita Income Quintile and by Mother's Educational Attainment.

Per Capita Income Quintile	Mother's Education of Primary Aged Children				Mother's Education of Secondary Aged Children			
	At most Primary	Some Secondary	Beyond High School	All Levels	At most Primary	Some Secondary	Beyond High School	All Levels
Poorest	39.28	9.42	1.03	49.73	33.29	8.16	1.02	42.46
Second	15.75	8.49	1.48	25.73	16.49	7.81	1.69	25.99
Third	7.39	5.29	1.06	13.73	8.42	6.34	1.84	16.6
Fourth	2.13	2.41	1.69	6.24	2.63	3.9	2.4	8.93
Richest	0.53	0.87	3.17	4.58	1.07	1.64	3.31	6.02
Total	65.09	26.48	8.43	100	61.89	27.85	10.26	100

Source: Calculations on APIS 2008, NSO

Note: Percentages are in relation to population with known educational attainment of mothers.

6. Analytical summary

Despite the country's commitment to meet the EFA and MDGs, trends in education statistics, chiefly, the primary school participation rate, suggest that the Philippines faces challenges in meeting these goals and targets unless education strategies and policies can be synergized with data on children's lack of participation in schools. Data from the DepEd's BEIS for 2008-2009 suggests that about ten percent of children aged 6 to 11 year are not in primary school, and about 40 percent of children aged 12 to 15 are not in secondary school. However, there are also primary aged children who are in pre-primary or post primary levels, and there are secondary aged children who are in the pre-secondary or post-secondary levels. In this report, we view primary aged children or older that are in pre-primary and nonformal education as part of the out-of-school population. With this definition of out of school children, we can estimate (using APIS 2008) the number of out of school children in 2008 between the ages of 5 to 15 (in exclusion dimensions 1 to 3) to be 2.9 million (three fifths of whom are boys). Results of the APIS 2008 also suggest that another 1.7 million primary and secondary aged children may be in exclusion dimensions 4 and 5, i.e., at risk of dropping out of school (and about sixty percent of this magnitude are boys). About 3.9 million children between the ages of 7 to 15 are also currently over-aged for their grade or year level. A substantial share of OOSC, whether among those that are not in school (65.5%) or those at risk of dropping out (66.2%) reside in rural areas. School participation at the pre-primary, primary and secondary age groups varies across sub groups of the population.

Across the regions, the ARMM has the highest proportion of five year old children who are not in school (87.2%), and the highest share of the estimated 692 thousand pre-primary aged OOSC (12.0%). A bigger share of five year old boys (36.7%) compared to girls of the same age (31.5%) are not in school. About 55.1% of five year old children that are not in school are boys. About two out of every five (40.3%) pre-primary aged children residing in rural areas is not in school, compared to about one out of every four (26.7%) in urban areas. Among 5 year old OOSC, about two out of three (64.8%) reside in rural areas. Nearly half (45.7%) of OOSC in exclusion dimension 1 are coming from the bottom quintile of per capita income distribution. Respondents of APIS 2008 report that four in five of these five year old children are not in school because they are too young to be in school, while one in five are said to lack interest. Of those said to be young to be in school, about half (45.6%) of these five year old children are from the poorest quintile.

Of all the regions in the country, the ARMM has the biggest proportion of primary aged children that are not in school (21.0%) and this rate is very different from other regions, its estimated share of the 1.3 million OOSC aged 6 to 11 years is practically tied (10.4%) with Metro Manila (9.3%). While 10.3% of primary aged children residing in rural areas are out of school, the corresponding rate in urban areas is lower (7.9%). About three in five (61.6%) of OOSC of exclusion dimension 2 reside in rural areas. Lack of school participation among primary aged children is inherently a rural and poverty phenomenon with over half (56.4%) of the rural OOSC in the age group 6 to 11 years old coming from families in the poorest twenty percent of the income distribution, compared with 19.7% of primary aged OOSC in urban areas. Gender disparities further complicate the lack of participation in primary schools: boys (56.9%) outnumber girls (43.1%) among OOSC aged 6 to 11 years, even though in the population of primary-aged children, nearly half (51.2%) are boys.

Regions with the highest incidence of OOSC among secondary aged children include Eastern Visayas (16.1%), ARMM (14.1%), MIMAROPA (13.9%), Zamboanga (13.8%). Central Luzon (9.6%), CALABARZON (8.7%), Eastern Visayas (8.4%), Central Visayas (8.1%) have the highest share of OOSC of exclusion dimension 3. School attendance rates of secondary aged children are lower in rural areas (86.8%) than in urban (93.1%). Rural areas also have the higher share (71.0%) of secondary-aged OOSC. A higher rate of boys (13.3%) of secondary school age is out of school compared to girls (7.6%) in the same age group; about three out of every five (63.7%) OOSC aged 12 to 15 years old are boys. For secondary aged children, child labor is an issue that is confounded with poverty: while 46.5% of OOSC in the age group 12 to 15 belong to the poorest twenty percent of per capita income distribution, the rate is higher for those who are engaged in economic activities (52.5%). Thus, poverty and the need to contribute to family income are clearly issues confronting secondary school aged OOSC. These issues are further complicated by gender disparities. Across the bottom 80% of income distribution, about half of children who are not in school, especially boys, are reported to lack personal interest. A slightly lower rate is given for lack of personal interest among the richest (per capita) income quintile, with a fourth citing health issues. Among girls who are not in school, a third are not in school due to lack of interest, and another third due to cost of education.

The results of an econometric model suggest that socioeconomic characteristics as well as school resources (measured with the PTR) are determinants of nonparticipation in school. Children of poor families, with mothers that have little or no education are more likely to be OOSC. Boys are also at more at risk of nonparticipation in school (about 7 times more likely) than girls. Among primary aged children, younger children are more likely to be OOSC, while among secondary aged children, the older ones are less likely to be in school. Secondary aged children residing in urban areas are less at risk of being out of school compared to children residing in rural areas. Urban rural differentials are not evident for primary aged children. Children with more educated mothers tend to be less prone in being out of school. Children who are part of families where the household head is male tend to be less at risk of being OOSC. Working secondary school aged children, especially males, are also less likely to attend school. Every unit increase in pupil to teacher ratio is associated with an increase in the odds of non-attendance in school by 3.5% in primary-aged children, and 0.5% in secondary aged children.

The profile of early school leavers and children who are overage for the grade/year level they are in, just like the profile of children of exclusion dimensions 1 to 3, characterizes issues of poverty, intertwined with related factors such as local residence (rural areas having higher incidence of school leavers and overage children) as well as mother's education (a substantial share of such children have mothers with little or no education).

The description of individual characteristics and household characteristics of OOSC in this chapter serve as a means of further examining supply side and demand issues facing OOSC, which, in turn, will help examine whether strategies and programs currently in place to increase school attendance may be improved, and if new interventions may be designed not only to keep children in school but also to receive quality education and improve learning outcomes. For instance, since a considerable proportion of OOSC are said to lack interest, it is important to examine what causes them to lose interest in schooling and identify education strategies for reversing such attitudes. Secondly few strategies have been developed regarding the provision of continuing education for parents, particularly mothers, whose educational attainment is a clear determinant of children's lack of school participation. The 4Ps provides for monthly

continuing education sessions among parents through family development sessions, but the quality of instructions given in these sessions may need further strengthening. Thirdly, the considerable number of five and six year old children reportedly not in school because these children are too young suggests a need to considerably improve information campaigns regarding the official school age entry, as well as a need to reassess the policy on school age entry, and make changes to this policy, if necessary in the long run. In the short term, it may be important for DepEd to communicate uniform standards on school age entry given field data that suggests that some schools strictly implement age by start of the school year, but others are more lenient. The DepEd, together with DSWD, and stakeholders will need to have stronger campaigns for early childhood education. Late entry may make a child further at risk of not completing school. The DepEd will also need to work together with local government units who are critical in implementing child truancy. There may be a mistaken notion that gender disparities in education are not worth addressing, but they point to inequities in education. Lack of actions to improve school participation, whether for poor or nonpoor, boys or girls, will undoubtedly lead to future income inequalities and reinforce, if not exacerbate, current socio economic inequities.

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ⁱ The Net Enrolment Rate, also called participation rate, is the ratio of the enrolment in a school-age range (6 to 11 yearsold for primary school), to the total population of that age range.

ⁱⁱ The DepEd established BEIS in schoolyear 2002-2003 as a key instrument for monitoring and evaluation of the basic education sector. The BEIS data include information on education inputs, including the number of teachers, classrooms, other school facilities, as well as education performance indicators for assessing access, internal efficiency, and quality.

ⁱⁱⁱ The APIS, FLEMMS, and LFS estimate current school attendance rates based on the household respondents' report as to whether each child in the household is currently at school or not. The NSO conducts the LFS every quarter. The APIS is conducted on years when the triennial Family Income and Expenditure Survey is not conducted; while the FLEMMS is generally conducted every five years. The APIS and FLEMMS are riders to the LFS.

^{iv} For sample surveys, such as APIS and FLEMMS, there are errors arising in the estimation of a population parameter (such as true school attendance rate). Sampling error pertains to estimation errors that arise from the use of samples rather than the whole population: survey estimates would vary from sample to sample if the protocol of a probability-based selection were to be repeated. Sampling error diminishes when sample size increases. Non-sampling error pertains to the types of errors from sources apart from sampling fluctuations, which include measurement and response errors, coverage errors, processing errors. Even the conduct of a full enumeration census would not necessarily assure accuracy. Administrative reporting systems and censuses, while covering more than a sample survey, are not immune from non-sampling errors, and final estimates are not necessarily more accurate than those arising from sample surveys. When sample sizes increase, non-sampling errors do not necessarily diminish, and they may even increase.

^v The methodology employed by DepEd for population projection using data from the 2007 and the 2000 censuses of population was approved for use by the National Statistical Coordination Board Technical Committee on Population and Housing Statistics. Further refinements were adopted upon the advice of key staff of the NSO.

^{vi} While it may be true that pre-primary education is vital to a child's development, and that primary age children or older participating in pre-primary education are different from those not exposed to any schooling, it has to be pointed out that the educational properties of pre-primary education and the pedagogical qualifications of teaching staff in such programmes may not meet the criteria that are applied to primary education staff. The educational properties of non-formal education programmes and limited data availability are the main reasons to categorize children participating in non-formal education as out of school. In addition, non-formal education programmes are more often targeted at older age groups, including adults, than at younger age groups.

^{vii} For fiscal year 2011, the government has provided the DepEd a substantial increase in its budget to build new classrooms and to establish ten thousand new teaching positions. The latter is meant to partially address classroom and teacher shortages, although the DepEd estimates that nearly seven thousand classrooms and over a hundred thousand teacher items would be required for schoolyear 2011-2012 (on top of the new classrooms and teachers provided) to meet ideal conditions. (Albert, 2011b).