Factors Affecting School Participation Among Children in Urban and Rural Households: The Case of Pasay City and Eastern Samar¹

Editor’s Notes
The research updates featured below are taken from the study of Dr. Tereso Tullao, Jr. and John Paolo Rivera, using the CBMS data of Pasay City and Eastern Samar, published in the Volume II of the 2010 AKI Policy Brief.

Universal access to primary education, is one of the United Nations’ Millennium Development Goals (MDG) that should be achieved in 2015. According to statistics from the Department of Education (DepEd), net enrolment rate increased during school year 2008-2009 compared to the previous school year but still below the target. The National Statistical Coordination Board (NSCB) noted that the number of Filipino children with no access to primary education has increased to 16.8 percent in 2007 from 15.6 percent in 2006 because of the high cost of living. Western Visayas region registered the highest number of children 6-11 years old who are not attending elementary school while the National Capital Region (NCR) has the lowest.

The primary aim of this study is to test the significance of several factors in determining elementary school participation rate and to draw policy implications that local government units (LGUs) and local government units (NGOs) can use to addressing school non-participation, which in turn can contribute in meeting the MDG education target.

In light of the MDG target on education, demand and supply factors are considered. Supply factors refer to the ability of the government to provide increasing resources to finance elementary education, including the hiring of teachers; construction of school facilities; and provision of books, school supplies, and other educational inputs. Meanwhile, from a strategic perspective, what is crucial in the to attain the MDG target on education, it is crucial to focus on the demand factors since the increasing trend of non-attendance and withdrawal from the school system is likely influenced by factors that include family income and opportunity cost-more than the capacity of public institutions to provide educational facilities.

Thus, it is important to understand the various factors that may influence school non-attendance, such as demographic, economic, and others that affect the school participation of children from urban and rural households. This is significant to policy makers in their attempt to answer the MDG on education, and is relevant to LGUs and NGOs since these institutions can undertake empirically based interventions to enhance school participation rate at the household level. This is considered more

effective than the usual increase in budgetary allocations.

Studies on the impact of various factors affecting school participation and educational attainment have been considered essential in fostering Adam Smith's view that education is as important as investments in physical plants and equipment in promoting growth and development for the entire economy.

Since education is an investment in human capital, factors that may increase the return to education will have an impact on the demand for education. In the past, estimation on the demand for education has been influenced by domestic factors, such as employability, domestic economic progress, rate of return, and availability of credits. Aside from family structures and the influence of parents' education, family size is also seen as a determinant demand for education.

The demand for children's education can be represented as a function of household income; market prices of inputs; unearned household income; and a set of child, household, and community characteristics. It is assumed that parents are altruistic and that imperfect capital markets exist.

Measuring the impact

To measure the impact of economic, demographic, and other factors on the school participation among children in urban and rural areas, the 2008 household data from Pasay City and the 2007 household data from Eastern Samar, which were available from the Community-Based Monitoring System (CBMS) Philippines were utilized. Given the framework of analysis, the functional relationship of the variables influencing the school participation in households for Pasay City and Eastern Samar is shown by the equation below.

\[
SP_{ri} = f(H_{ii}, NOFW_{i}, ESH_{Hi}, HSIZE_{i}, NELEM612_{i}, EHU_{Hi}, AGH_{Hi}, SHGR_{i}, DSW_{NEARi}, ELECT_{i}, TYPMAT_{i}, URBANI)
\]

The econometric analysis using ordinary least squares regression was undertaken to estimate the participation rate of school children in households in Pasay City and Eastern Samar.

Study results

Based on household data, it was empirically verified that the magnitude of household income does not significantly affect school participation. The same is true for the number of overseas Filipino workers (OFWs) who are household members. As the income of households increases, members will also increase their expenditures on normal and superior goods and services including education. However, Eastern Samar is a provincial area where primary education is publicly provided. Hence, income will be allocated to non-educational expenditures. Households, whether in Pasay City or Eastern Samar, may also base their decisions on whether to send their children to school or not on permanent income rather than on transitory income. The income reported by households when the survey was conducted may have been transitory income and may have been lower than what the household normally earns over a longer period. Another interesting result arising from the estimated regression is the impact of population growth on school participation. In both study areas, as family size increases, school participation declines. This result is a very strong argument for the need to manage the population growth of the country; otherwise, it may adversely affect the human capital formation at the household level in both urban and rural areas. Since school participation is influenced negatively by family size, the issue of rapid population growth can significantly impede the ability of the country to maintain its competitive edge in the production of highly educated and skilled workers in the future since poorer and bigger families are investing less in human capital. Hence, there is really a need to address the issue of population growth.

Another important result of the study is the positive impact of the employment

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Table 1. Definition of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
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<tbody>
<tr>
<td>SP_{ri}</td>
<td>School participation rate of household i, measured by the number of children in the household ranging from 6 to 12 years old who are attending grade school, divided by the total number of children in the household with age ranging from 6 to 12 years old.</td>
</tr>
<tr>
<td>H_{ii}</td>
<td>Household income that consists of earned family income, internal and external remittances, and other sources of income.</td>
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<tr>
<td>NOFW_{i}</td>
<td>Number of family members who are working overseas.</td>
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<tr>
<td>ESH_{Hi}</td>
<td>Employment status of the household head.</td>
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<tr>
<td>HSIZE_{i}</td>
<td>Household size.</td>
</tr>
<tr>
<td>NELEM612_{i}</td>
<td>Number of household members 6 to 12 years old who are attending elementary education.</td>
</tr>
<tr>
<td>EHU_{Hi}</td>
<td>Highest educational attainment of household head.</td>
</tr>
<tr>
<td>AGH_{Hi}</td>
<td>Age of household head.</td>
</tr>
<tr>
<td>SHGR_{i}</td>
<td>Dummy variable to indicate the state of hunger of a household, assumes a value of 1 if the household experienced hunger or food shortage.</td>
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<tr>
<td>DSW_{NEARi}</td>
<td>Distance of the household from the source of water, assumes a value of 1 if the distance of household from source of water is near and 0 otherwise.</td>
</tr>
<tr>
<td>ELECT_{i}</td>
<td>Dummy variable to indicate the presence of electricity in the household, assumes a value of 1 if the household has electricity and 0 otherwise.</td>
</tr>
<tr>
<td>TYPMAT_{i}</td>
<td>Dummy variable to indicate the strength and type of building materials used in the construction of the walls and roofs of the respective houses.</td>
</tr>
<tr>
<td>URBANI</td>
<td>Dummy variable to indicate the level of urbanization where the household is situated, assumes a value of 1 if the household is situated in the urban area and 0 otherwise.</td>
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Toward Developing Entrepreneurs and Creating Jobs for Unemployed Youth in Ethiopia

The community-based monitoring system (CBMS) was piloted this year in the sub-cities of Addis Ababa and Dire Dawa in Ethiopia to establish a baseline data needed for program and policy implementation. This project was implemented in partnership with Haramaya University led by Mr. Abel Mehari.

The primary aim of the CBMS in Ethiopia was to establish a local multi-dimensional poverty monitoring system and to fill the gaps of official statistics at the local or grassroots level. Aside from collecting poverty-related data, the CBMS census in Ethiopia also gathered data on the youth to identify youth unemployment problems and issues related to entrepreneurship development. Data collection started last September 23, 2015 in Dire Dawa and October 19, 2015 in Addis Ababa. About 6,000 households from both sites were covered by the census.

Before the rollout of the CBMS census in Ethiopia, 12 enumerators were trained on the concepts used in the three questionnaires-Household Profile Questionnaire (HPQ); Community Profile Questionnaire (CPQ); and the Youth Employment and Entrepreneurship (YEE) Rider Questionnaire, which was developed by the team. They were also trained on the use of android tablets for faster data collection. The tablets used were modified to incorporate and/or translate the questions from the questionnaires. For a better understanding of the questions included in the census, Amharic, the Semitic language spoken in Ethiopia, were used in the tablets.

As of October 31, 2015, a total of 2,970 core CBMS questionnaires were completed, according to the progress report submitted by the CBMS Ethiopia team. This number approximately covers 50 percent of the target households-50 percent of the households in Dire Dawa, and 35 percent in Addis Ababa. The total number collected for the YEE Rider questionnaire was 2,368-with 20 percent coming from Dire Dawa and 75 percent from Addis Ababa.

Some problems were encountered by the CBMS Ethiopia Team in the implementation of the project. One was when an enumerator assigned in Addis Ababa was reluctant to continue working with the team. Another was the issue on finance processes at Haramaya University, specifically on the length of processing a payment request. However, the major cause of project delay was the tedious and extended purchasing process of the institution. In Ethiopia, government purchases take a long time to process as these involve going through a long network. This was observed while the tablets were being purchased, causing much delay at the start of data collection.

CBMS Network Updates
September 2015
Although important, around 72.5 percent of workers in Togo do not benefit from social protection. This is mainly because the greater percentage of workers belong to the informal sector. Between 2008 and 2009, it is estimated that only 5.8 percent of the population 60 years old and above received pension. Also, only 4.5 percent of orphans were estimated to receive orphan benefits, and only 6 percent of families receive household benefits.

The situation is worse in the main cities of Togo. For example, in the capital city of Lomé, over 84 percent of workers are engaged in the informal sector resulting in the exclusion of the majority of the population from the social security system. That is why the community-based monitoring system (CBMS) was launched in Togo in 2014. The primary aim of CBMS was to establish a local monitoring system on the different dimensions of poverty and to complement the data coming from the country's official statistical system. The relevance of CBMS is centered on generating data on social protection.

The 2015 CBMS census in Togo aimed to (i) conduct a pilot test of CBMS in Tokoin-Wuiti situated in Lomé (urban area) and the other in Tsévié (rural area); (ii) prepare a community- and household-level poverty profile and maps of selected sites; (iii) produce data as inputs to the local development plans; (iv) prepare an analysis of CBMS data that will generate recommendations aimed at providing social protection to the informal sector; and (v) estimate the economic value for implementing a policy that will grant or include the informal sector workers in Togo in the social protection system of the Caisse Nationale de la Sécurité Sociale (CNSS).

Focusing on the informal sector, some of the survey questions aimed to measure the average educational level, access to health care, access to social protection, vulnerability, employment trend, and average income. The study also sought to know the activities that constitute the informal sector as well as the type of social protection program covering informal sector workers. Respondents were also asked about the value of social protection and their willingness to pay for it.

Data collection phase

The project was implemented at two localities of Togo—at Tokoin-Wuiti and at Tsévié. Tokoin-Wuiti is an urban area located in the capital Lomé. Tsévié represents a rural setting not far from Lomé. The data were collected in 7,845 households from 19 August 2015 to 25 September 2015. At Tokoin-Wuiti, the data were collected from 4,622 households. At Tsévié (Dalavé and Glainvié), the data were collected from 3,220 households.

The data showed that among the 5,283 workers, 4,510 belong to the informal sector. This translates to 85.4 percent of them being considered as informal sector workers.

More than half of the workers are self-employed at 77.4 percent, and only a small portion of workers is working under the private (15.5%) and the public sectors (5.9%).

1 CNSS stands for Caisse Nationale de la Sécurité Sociale. It is the structure that provides Togolese parastatal and private workers with social protection.
Activities at Tokoin-Wuiti

As part of the PEP-CBMS-Togo project, a team composed of 11 enumerators collected the data from 4,622 households at Tokoin-Wuiti from August 19 to September 25, 2015. Under the supervision of two team leaders—an editor and the project coordinator—the data collection was successfully carried out without major issues. The work was facilitated by the local administrative and traditional authorities, through their participation and support to the team. Their coordination allowed easy access to the households and the map of the area given to the team facilitated the movement and coverage. It also helped that the people generally accepted and liked the project. Hence, most of them were impatient to know the start of the registrations and to finally enjoy the services offered by the National Social Security Fund.

Activities at Tsevie

For both areas (Gblainvié and Dalavé) of Tsévié, the two teams were each composed of 5 enumerators, 1 supervisor, and 1 editor. Data were collected from 3,220 households with the support of the project coordinator and data collection operation took place without any incident. Contact with local traditional chiefs during the initial days allowed the teams to obtain the map of the localities. It was noted that it was necessary to emphasize good faith, dedication, and self-sacrifice among all the members of the team.

Although the respondents were very accommodating, some households showed some doubts and reservations in giving some information. The enumerators, however, were patient in order to elicit the needed responses. The distrust was due to the fact that they never had feedback from the previous projects. The previous data collection projects did not have a positive impact on their living conditions. The majority of households, however, were highly motivated as they expected to benefit from the social services, especially health insurance cards. Overall, the data collection was successfully completed.

Table 1. Distribution of workers by sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>Magnitude</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employment</td>
<td>4,091</td>
<td>77.4</td>
</tr>
<tr>
<td>Public Sector</td>
<td>313</td>
<td>5.9</td>
</tr>
<tr>
<td>Private Sector</td>
<td>818</td>
<td>15.5</td>
</tr>
<tr>
<td>Parastatal Sector</td>
<td>40</td>
<td>0.8</td>
</tr>
<tr>
<td>Others</td>
<td>21</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,283</strong></td>
<td>-</td>
</tr>
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Trainers’ training prepares DILG staff to implement CBMS APP

Training of trainers (TOT) workshops on the CBMS Accelerated Poverty Profiling (CBMS APP) covering Modules 1 and 2 were held last August 17-21, 2015 and September 7-11, 2015 at Subic Bay Travelers Hotel and Event Center.

The TOT workshops, which were hosted by the Bureau of Local Government Development (BLGD) of the Department of Interior and Local Government (DILG), were attended by 90 participants from the provincial and regional DILG offices. The workshops aimed to expand the pool of DILG trainers who are knowledgeable on the implementation of CBMS APP. In particular, it trained participants how to do tablet-based data collection, data processing, and poverty mapping.

Accredited CBMS trainers and several CBMS International Network staff served as resource persons for each whole week of the TOT workshops. Module 1 included (i) training participants on the use of the CBMS Scan and Portal, (ii) discussing the concepts and how to accomplish the Household Profile Questionnaire (HPQ) and the Barangay Profile Questionnaire (BPQ), and (iii) introducing a new tool called CBMS Deduplicator. This new software was developed to detect duplicate household control numbers (HCNs) that may arise during field operations. Topics on field operations were also discussed.

Module 2 topics included teaching participants how to import data into the Statsim, how to generate core poverty indicators using Statsim, and how to process other indicators using SQL syntax. Statsim is a software developed by the CBMS Network to simulate simple computations and tabulations usually done using statistical software like Stata. Participants were also trained in the use of Quantum Geographic Information System (QGIS) software which is used in editing shapefiles and for generating maps of poverty indicators at the purok, barangay, and municipal levels.

Concepts learned during these trainings will help these newly trained DILG personnel, once accredited by the CBMS Network, in building the capacities of the local government units (LGUs) that are and/or will be adopting CBMS in the next few months.

Another TOT workshop, which will focus on Barangay Planning and Budgeting using CBMS data, will be conducted in November 2015. The same set of participants is expected to attend this training.
The Community-Based Monitoring System (CBMS)-Philippines will hold its 12th national conference on February 29-March 2, 2016 at the Crowne Plaza Manila Galleria in Quezon City, Philippines.

To celebrate the 25th year of the passage of the local government code in the Philippines, the conference with the theme "Pursuing Meaningful Devolution through CBMS" will feature presentations from LGUs on good practices and lessons learned on implementing and using CBMS. Topics to be featured will include (i) fostering better transparency and accountability in governance, (ii) evidence-based planning and program implementation, (iii) program targeting and impact monitoring, (iv) bottom-up budgeting, (v) disaster risk reduction management and climate change adaptation, (vi) achieving the millennium development goals (MDGs)/sustainable development goals (SDGs), and (vii) community empowerment.

The conference is being organized by the PEP Asia-CBMS International Network Office of De La Salle University, in partnership with the Department of the Interior and Local Government (DILG), the National Economic and Development Authority (NEDA), and the Union of Local Authorities of the Philippines (ULAP).

The annual CBMS-Philippines national conference gathers partners and stakeholders from the national and local government units across the country to discuss current developments, findings, and best practices on the implementation and uses of the CBMS. The CBMS is an organized process of collecting, processing, and using information for local planning and other development processes using a structured set of tools and training modules developed by the CBMS Network.

In 2013, the CBMS International Network launched and deployed the CBMS Accelerated Poverty Profiling (APP) for use by its LGU partners in the country in response to the increasing demand from various CBMS users, particularly local government units. The CBMS APP served to fast track the generation of data for use in preparing development plans and budgets, and for various development program initiatives. The CBMS APP is an organized, systematic, and efficient use of latest information and communication technology tools (e.g., tablets); and the standard CBMS instruments for data collection (core household profile and village questionnaire), processing (STATSIM), poverty mapping, and data management tools. Data is transmitted and managed through the CBMS Portal.

Since the adoption of the CBMS by LGUs as a tool for local development planning in 2000, the coverage of CBMS in the Philippines has expanded to 76 provinces (32 of which are province-wide) covering 879 municipalities, 69 cities, and 23,697 barangays. At least 215 of LGUs have adopted the CBMS APP since its deployment.

Updates about the conference may be viewed at http://www.pep-net.org/12th-cbms-philippines-national-conference and in the CBMS International Network Facebook Group Page at https://www.facebook.com/groups/CBMSNetwork/
Research Results

Factors Affecting from page 2, ...

status and educational attainment of the household head to school participation. For the former, school participation can be assured if the household head is employed. For the latter, this emanates from the culture where educated parents raise more educated children. This is true in Pasay City and Eastern Samar where the estimated coefficients have shown significant impact on school participation, which confirms that the parent's educational attainment is indeed relevant, as suggested in the literature.

It was verified that there is a positive and significant relationship between household income and school participation in Eastern Samar. The negative impact of population on school participation and the positive impact of employment status and parent's highest educational attainment were also established. Lastly, it was also shown that variables, such as the need for sufficient public services, the state of hunger, availability of electricity, and housing services, have significant impacts on school participation. Thus, from the perspective of promoting universal access to primary education, interventions must consider such variables to improve school participation.

Promoting household economic status and employment, limiting family size, and providing access to quality basic public services will have positive impacts on children's school participation. Although intervention can be done using household income as an avenue, its impact on school participation is not as powerful as when intervention is done through the enhancement and provision of public services, such as food distribution, medical support, housing services, and employment generation.

Although the impact of household income is very small, it must not be ignored because of the probability that households will use the additional income received to augment the insufficiency of public services that can aid in increasing school participation. Ultimately, priority must be placed on addressing population growth. Notice that the impact of household size has the greatest magnitude in affecting school participation. There is really a need to control population.

Socioeconomic development can also influence school participation significantly. Urbanization, which can be deemed part of socioeconomic development, improves access and proximity to schools by improving transport and communication infrastructures. Urbanization also increases school and labor market opportunities and these consequences reinforce the decision of household heads to send their children to school. However, urbanization must be accompanied by the provision of job opportunities to provide households with a permanent employment status and permanent income; this will mitigate substitutability between education and other goods such as food, clothing, and shelter.