RESEARCH PAPER
SERIES No. 2015-01

Promoting Inclusive Growth through the 4Ps

Celia M. Reyes, Aubrey D. Tabuga, Christian D. Mina and Ronina D. Asis

PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

The authors are senior research fellow, supervising research specialists, and senior research specialist, respectively, at the Philippine Institute for Development Studies.

Promoting Inclusive Growth through the 4Ps

Celia M. Reyes, Aubrey D. Tabuga, Christian D. Mina and Ronina D. Asis

Research Paper Series No. 2015-01

PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

Copyright 2015
Philippine Institute for Development Studies

Printed in the Philippines. All rights reserved.

The views expressed in this paper are those of the authors and do not necessarily reflect the views of any individual or organization. Please do not quote without permission from the authors or PIDS.

Please address all inquiries to:

Philippine Institute for Development Studies
NEDA sa Makati Building, 106 Amorsolo Street
Legaspi Village, 1229 Makati City, Philippines
Tel: (63-2) 893-5705 / 894-2584
Fax: (63-2) 893-9589 / 894-2584
E-mail: publications@pids.gov.ph
Website: http://www.pids.gov.ph

ISSN 1908-3297
RP 04-15-600

Table of Contents

List of Tables and Figures		*iv*
List of Acronyms		*vii*
Abstract		*xi*
1	Introduction	1
2	Features of the Philippine 4Ps	3
3	Review of assessments conducted	7
	School enrollment	7
	Targeting	8
	Poverty	8
	Implementation	9
4	Design and implementation issues	11
	Design of CCT programs in Latin American countries	12
	Design issues of the 4Ps	16
	Implementation issues	21
5	Assessment of the 4Ps: Results from 2011 APIS	25
	Characteristics of 4Ps beneficiaries	25
	Impact of 4Ps on school attendance based on comparison of matched samples from 4Ps and non-4Ps families	42
6	Conclusions and recommendations	53
	Summary and conclusions	53
	Recommendations	55
References		61

List of Tables and Figures

Table

1	Selected characteristics of other CCT programs in terms of education component	13
2	Target beneficiaries of other CCT programs	14
3	Maximum duration of other CCT programs	15
4	Annual budget of the Philippine 4Ps, 2011–2012 (in PHP million)	23
5	Distribution of families, by size and by type (% to total)	27
6	Mean proportion of members in 4Ps and non-4Ps families, by highest educational attainment and by mode of labor force participation, 2011	28
7	Mean proportion of employed members in 4Ps and non-4Ps families, by type of occupation, by sector of employment, by class of worker, and by nature of employment in primary occupation, 2011 (in %)	29
8	Per capita income, by income decile, January–June 2011 (in PHP)	30
9	Mean proportion of 4Ps and non-4Ps families that own various assets, with access to basic amenities, and that live in makeshift housing or as informal settlers, 2011 (in %)	32
10	Proportion of 4Ps and non-4Ps families with access to various programs, 2011 (in %)	33
11	Proportion of children in 4Ps and non-4Ps families who are attending school, by single year of age, 2011	34
12	Proportion of children in 4Ps and non-4Ps families who are attending school, by age group and by region, 2011 (in %)	36
13	Proportion of children in 4Ps and non-4Ps families (in the bottom 40%) who are attending school, by single year of age, 2011 (in %)	37
14	Proportion of children in 4Ps families who are attending school, by age and by type of family, 2011 (in %)	37

15 Distribution of children aged 6–14 in 4Ps families who are not attending school, by family size, 2011 (% to total) 38
16 Reasons for not attending school among children in 4Ps families, by age group (% to total) 39
17 Specification used for the PS model 43
18 Comparison of school attendance rates of children in matched 4Ps and non-4Ps families, by age group, 2011 45
19 Comparison of school attendance rates of children in matched 4Ps and non-4Ps families, by single year of age, 2011 46

Figure

1 Number of family-beneficiaries of the Philippine 4Ps program, by year 4
2 Proportion of children attending school, by single year of age, 2007 and 2011 (in %) 16
3 Proportion of children attending school, by income group and by age group, 2007 (in %) 17
4 Proportion of children attending school, by income group and by age group, 2011 (in %) 18
5 Proportion of children attending school, by income group and by single year of age, 2011 (in %) 18
6 Proportion of children attending school, by gender and by single year of age, 2007 (in %) 19
7 Average daily wage of wage/salary workers, by educational attainment, 2011 (in PHP) 20
8 Budget allocation of the Philippine 4Ps, 2007–2013 (in PHP million) 22
9 Distribution of 4Ps beneficiaries and poor families, by region (% to total) 26
10 Distribution of 4Ps beneficiaries, by per capita income decile (% to total) 31
11 Reasons for not going to school among children aged 6–14 in 4Ps families who are not attending school (with no grade completed), by family size (% to total) 40
12a Distribution of 4Ps eligible children aged 6–11, by current grade level and by single year of age, 2011 (in %) 41

12b	Distribution of 4Ps eligible children aged 12–14, by current grade level and by single year of age, 2011 (in %)	42
13a	Proportion of children in matched 4Ps and non-4Ps families who are attending school (working or not), both sexes, by age, 2011 (in %)	47
13b	Proportion of children in matched 4Ps families who are attending school and/or working, both sexes, by age, 2011 (in %)	47
13c	Proportion of children in matched non-4Ps families who are attending school and/or working, both sexes, by age, 2011 (in %)	48
14	Distribution of children in matched 4Ps families who are both studying and working, both sexes, by age and by class of worker, 2011	49
15	Distribution of children in matched 4Ps families who are not studying but working, both sexes, by age and by class of worker, 2011	50
16	Proportion of children in matched 4Ps and non-4Ps families who are attending school and/or working, by gender and by age, 2011 (in %)	51

List of Acronyms

4Ps	–	*Pantawid Pamilyang Pilipino* Program
ADB	–	Asian Development Bank
APIS	–	Annual Poverty Indicators Survey
ARMM	–	Autonomous Region in Muslim Mindanao
ATM	–	automated teller machine
CAR	–	Cordillera Administrative Region
CBMS	–	community-based monitoring system
CCT	–	conditional cash transfer
CVS	–	Compliance Verification System
DID	–	difference-in-difference
DSWD	–	Department of Social Welfare and Development
FIES	–	Family Income and Expenditure Survey
HAF	–	Household Assessment Form
IT	–	information technology
IFPRI	–	International Food Policy Research Institute
LFS	–	Labor Force Survey
LGU	–	local government unit
MDGs	–	Millennium Development Goals
NCR	–	National Capital Region
NHTS-PR	–	National Household Targeting System for Poverty Reduction
NSCB	–	National Statistical Coordination Board
NSO	–	National Statistics Office
PMO	–	Project Management Office
PMT	–	proxy means test
PS	–	propensity score
PSM	–	propensity score matching
RD	–	regression discontinuity

RSBSA	–	Registry System on Basic Sectors in Agriculture
SAE	–	Small Area Estimates
TESDA	–	Technical Education and Skills Development Authority

Abstract

The *Pantawid Pamilyang Pilipino* Program (4Ps) of the Philippines marks its fifth year of implementation in 2013 since its inception in 2008. The first batch of 4Ps beneficiaries will graduate from the program in several months while the government continues to expand its implementation, devising along the way several variants that it deems necessary to address the many facets of poverty. The 4Ps is by far the largest poverty reduction and social development program the Philippine government has ever implemented. Approximately PHP 120 billion have already been allocated to the program up to 2013. The program's dual objectives are social assistance and social development. It provides cash assistance to poor families to alleviate their immediate needs and aims to "break the intergenerational poverty cycle through investments in human capital". As program graduation nears, many questions arise as to what to expect from this program. At this point, it may be fitting to draw together assessments that have been conducted so far and to look into some important issues in terms of design and implementation. This paper seeks to answer the question of whether expanding the program would likely yield better results. It discusses the outstanding issues raised against the program, most especially those that bear on the program's ability to facilitate inclusive growth.

1 Introduction

The *Pantawid Pamilyang Pilipino* Program (4Ps) is the Philippine government's most expensive social protection program to date. It is centered on two objectives—social assistance and social development. The program provides cash grants to poor families to help them meet immediate needs. At the same time, it aims to break the so-called "intergenerational poverty" by investing in human capital. The latter is achieved by imposing conditionalities in exchange for the cash assistance the program provides to beneficiaries. As of the end of December 2012, there are a total of 3.1 million families who have been assisted by the program. This is such a huge leap from a mere 340,391 beneficiaries in 2008. As of the end of 2013, an estimated amount of PHP 120 billion has already been expended for the program.

In 2013, it has been five years since the program has been formally rolled out. It is thus necessary to draw assessments that have been conducted so far and to look at some important issues such as those in terms of design and implementation. This study aims to assess the design, implementation and initial impacts of the program in the context of promoting inclusive growth. The specific objectives of the paper are as follows: (i) present a review of the assessments of the 4Ps in the past; (ii) discuss the design and implementation issues of the conditional cash transfer (CCT) programs in Latin American countries and of the Philippine 4Ps; (iii) assess the characteristics of 4Ps beneficiaries as well as the impact of the 4Ps on school attendance; and (iv) provide valuable insights that could help fine-tune the 4Ps and, at the same time, enhance other existing programs or craft new ones that could complement the 4Ps.

This paper starts with a brief description of the Philippine CCT program or the 4Ps, followed by a review of the assessments in terms of the impact of the 4Ps on school enrollment, targeting, and poverty. The next section discusses the design and implementation issues. The insights partly revolve around the experiences of Latin American countries from

which the 4Ps was modelled. The paper looks at the situation of Filipino children in terms of school participation, the salient features of the program design, and how best the 4Ps could be fine-tuned to achieve greater impact. An assessment of the characteristics of 4Ps beneficiaries based on the 2011 Annual Poverty Indicators Survey (APIS) is also presented. This is followed by an analysis of school attendance among children in 4Ps and non-4Ps families, their reasons for not attending school, and child labor, among others. The paper concludes with some recommendations.

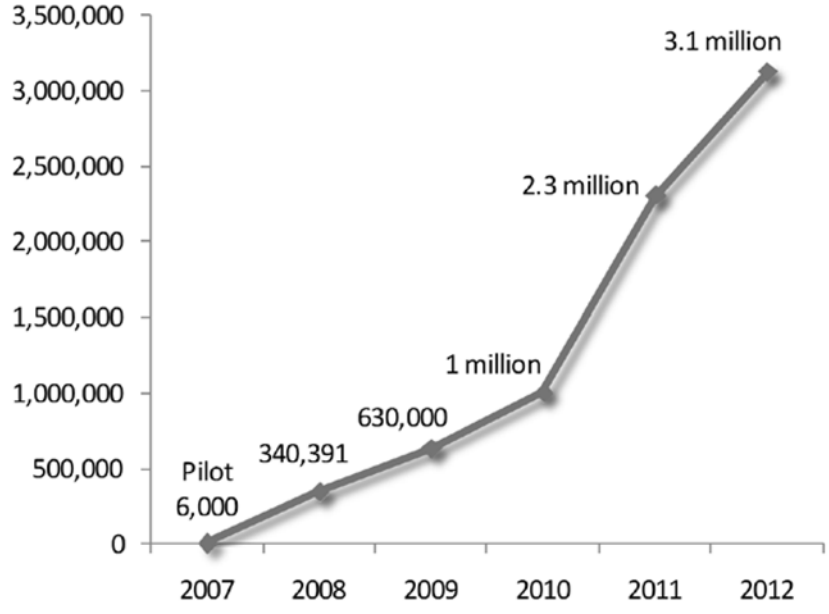
2 Features of the Philippine 4Ps

The 4Ps is a social program that entails monetary and nonmonetary transfers to the poor or poorest families that have school-age children on the condition that they meet certain terms that are aimed at improving their capacities (Cecchini and Madariaga 2011). Brazil and Mexico were the first countries to implement the concept of a CCT program. The main objective was to provide cash to families who were in extreme poverty in exchange for some education and health care commitments. Since then, many countries, including the Philippines through its 4Ps, have attempted to replicate their examples.

The 4Ps is the Philippines' version of the CCT program. Based on the Department of Social Welfare and Development's (DSWD) primer, the 4Ps is a poverty-reduction and social development strategy of the national government. It provides cash transfers to extremely poor households to help improve their health, nutrition, and education. The program specifically targets poor families with children 0–14 years old. The two main objectives of the program are social assistance and social development. The former objective aims to alleviate the poor's immediate needs, hence, it can be considered a short-term poverty alleviation measure. The latter objective aims to break the intergenerational poverty cycle by investing in human capital. The 4Ps helps in fulfilling the country's commitment in the Millennium Development Goals (MDGs) particularly in (i) eradicating extreme poverty and hunger, (ii) achieving universal primary education, (iii) promoting gender equality, (iv) reducing child mortality, and (v) improving maternal health.

The 4Ps has two components: health and education. Under the health component, the program provides PHP 6,000 annually (PHP 500 per month) to each family-beneficiary for their health and nutrition expenses. Under the education component, it provides PHP 3,000 per child for one school year (i.e., 10 months) to meet his/her educational expenses. Each family-beneficiary receives cash for up to a maximum of three children under the educational grant.

Figure 1. Number of family-beneficiaries of the Philippine 4Ps program, by year



Source: Department of Social Welfare and Development (DSWD)

In return, the family-beneficiaries have to commit themselves to the following conditionalities: (i) pregnant women must avail themselves of the prenatal and postnatal care and be attended during childbirth by a trained medical professional, (ii) parents must attend family development seminars, (iii) children aged 0–5 must undergo regular preventive health checks and receive vaccinations, (iv) children aged 3–5 must attend day care or preschool classes at least 85 percent of the time, (v) children aged 6–14 must enroll in elementary or high school and attend at least 85 percent of the time, and (vi) children aged 6–14 must receive deworming pills twice a year. The family-beneficiaries would receive the grant for at most five years, provided they complied with the conditionalities.

The eligible beneficiaries of the 4Ps are families (i) from the poorest municipalities, (ii) whose condition is equal to or below the provincial poverty threshold, (iii) with children aged 0–14 and/or a pregnant woman at the time of assessment, and (iv) that agree to meet the program's conditionalities. The DSWD has chosen the poorest municipalities based

on the results of the 2003 Small Area Estimates (SAE) generated by the National Statistical Coordination Board (NSCB). For municipalities with poverty incidence higher than 50 percent, all barangays are assessed. But for those with poverty rate lower than 50 percent, the criteria for selecting barangays are the "pockets of poverty" based on the available socioeconomic profile of the municipality.

To identify the poorest households within selected municipalities, the DSWD uses the National Household Targeting System for Poverty Reduction (NHTS-PR). The system employs a proxy means test (PMT) model to identify the poor families. The PMT model was estimated using data from the 2006 Family Income and Expenditure Survey (FIES) and the 2006 Labor Force Survey (LFS). The assessment is conducted by using certain proxy variables to predict income, such as ownership of assets, type of housing, education and employment of household head, and access to water and sanitation facilities. To verify compliance, the DSWD coordinates with the program's multisector Advisory Committee to conduct a monthly verification through the Compliance Verification System (CVS) developed for the program.

As of December 2012, the DSWD reported that 3,121,530 families have been reached and assisted by the 4Ps (Figure 1). From merely 340,391 beneficiaries in 2008, the number of beneficiaries increased by an average rate of 54 percent per year.

3 Review of assessments conducted

This section focuses on the assessments done so far on the implementation and impact of the 4Ps. The study closest to a rigorous assessment was conducted only in 2012, which is four years after a rapid expansion of the 4Ps has taken place. These assessments already conducted had empirical data support that pertains only to the 4Ps's impact on school attendance rate. The outcome of the targeting scheme was also discussed, including the challenges met by program implementers. An ex-ante analysis of the effects of 4Ps on poverty is briefly presented to provide a picture of the expectations before the implementation of the program.

School enrollment

The most recent study done in the Philippines is that by Chaudhury and Okamura (2012). The study documented the causal effect of the 4Ps on school participation. It used a small selective sample survey to determine the impact of 4Ps on the objective of increasing the school participation of children. Covering 900 households with children aged 9–17, in nine municipalities in all three major island groups (Luzon, Visayas, and Mindanao), the sample was split evenly between beneficiary (treatment) households and nonbeneficiary (control) households. The information on this came from their program status according to the 4Ps central database. Households were surveyed in 2008 through the Household Assessment Form (HAF) survey under the NHTS-PR for PMT purposes while the postintervention data came from their 2011 assessment (follow-up) survey.

To determine the effect of the 4Ps on school participation, the authors used difference-in-difference (DID) method. The net impact of the program is the difference between the enrollment of 4Ps children and non-4Ps children, before and after the 4Ps program implementation. The paper also used regression discontinuity (RD) methodology. The paper shows that results are not significant for the overall sample of children aged 9–17, but there was positive impact on school enrollment among children aged

9–12 as of 2011. These are the children who received educational grants under the 4Ps program throughout the period. Overall, the estimated program effect for the younger cohort ranges between 6 percent and 17 percent. This shows that 4Ps beneficiary households are more likely to send their younger children to school compared to non-4Ps households.

However, the program was found to have no impact on increasing the enrollment among older children aged 13–17. The majority of children aged 15–17 were not receiving 4Ps grants as of 2011 since the age limit for coverage is 14 years old. The authors attribute this to larger cost associated with sending older children to school and the higher opportunity cost because they can get employed instead. To address this issue, many CCT programs (i.e., those in Bangladesh, Brazil, Mexico, Honduras, and Turkey) provide larger cash transfers to older children in order to compensate for the higher implicit/explicit cost associated with schooling.

Younger children who came from households with relatively smaller number of school-age children seem to benefit more from the program, compared to those who came from households with larger numbers of school-age children. No significant impact was found among children coming from households with more than three school-age children.

Targeting

One of the most controversial aspects of the program involves targeting. Fernandez and Olfindo (2011) noted that this program was rolled out to the poorest households. In particular, the DSWD and partner agencies had implemented the pilot program and established the targeting system necessary for expansion. The authors also noted that the targeting system based on the PMT model has produced good results since about 90 percent of the beneficiaries belong to the bottom 40 percent of the population while 72 percent belong to the poorest 20 percent, based on the 2009 FIES. They also presented anecdotal evidence to show that the net education enrollment rates of children in the targeted households have increased while the number of children who have availed themselves of the health services had also increased.

Poverty

An ex-ante analysis of the Asian Development Bank (ADB) on the 4Ps education grants noted that if accurately targeted to children in all poor households nationwide, the education component alone could lift 31.1 percent of poor households out of poverty and could decrease the national poverty gap measure by 52.5 percent (ADB n.d.). The document further

noted that since the 4Ps has targeted the poor areas, then the impact would be much larger. The estimated increase in the total incomes of the poor and eligible households in the targeted areas, according to the World Bank, is 23 percent, where the poverty rate is expected to fall by 6.1 percentage points. To date, no study has been conducted to analyze the actual impact of the 4Ps on the poverty level.

Implementation

Fernandez and Olfindo (2011) noted key challenges in the implementation of the 4Ps. Due to the complexity of the administrative processes in implementing the program, the DSWD faced challenges in terms of availability of resources, such as personnel, equipment, and finances. These challenges were exacerbated by the rapid scaling up of the program even while the systems were still being developed. The study likewise noted that the "rigid institutional structure and weak procurement system" were constraints in the expansion of the program's human and capital resources. For instance, the staff positions at the national Project Management Office (PMO) was only 69 percent of the required number by the end of 2010 while the regional PMO had only 74 percent of the approved positions. Delays in implementation were also caused by the weak procurement system of the DSWD, which hampered the setting up of necessary information technology (IT) systems in the regions. The other key challenges involved the supply-side preparedness of the target areas. Because the program has been scaled up rapidly, some municipalities with a high concentration of the poor with inadequate education and health facilities have been included in the program. Spot-check surveys conducted by AusAID and the World Bank found poor state of day care centers and school infrastructure, as well as lack of teachers in schools where children of family-beneficiaries attend. This lack of facilities has a major implication on beneficiaries' compliance with the conditionalities of the 4Ps.

4 Design and implementation issues

Much of the controversies about the 4Ps stems from its design and implementation. In this section, several questions are raised to determine if there is a need to rethink the design and implementation should the program be extended or expanded in the future. More importantly, the analysis seeks to contribute to the debate on how programs of huge scale such as the 4Ps should be designed to deliver the intended objectives.

This section looked into the program intricacies and compared these to known approaches and designs of CCT programs popularized by other countries, particularly the model cases of *Oportunidades* in Mexico and *Bolsa Familia* in Brazil. A deeper look into the challenges of 4Ps in terms of human capital was also conducted to determine if the program was appropriately designed to address the current issues and what should be done to ensure optimal results from such a heavily funded program.

What are the salient features of the Latin American programs that are worth revisiting? How could these programs help in ensuring that optimal results for the 4Ps be achieved? For instance, in the design of the Oportunidades, the educational component was designed to solve issues in school attendance rates. Hence, its design took into account the deficiencies such as the low attendance rates among older children. One of the most important aspects is the attention given to addressing the gender gap. Girls have lower school participation rates than boys, hence, the program provided higher amount of cash assistance to girls. More importantly, the Oportunidades was designed to achieve long-term educational objectives, rather than short-lived improvement of educational indicators, and that is to see the children finish through at least high school.

In the Philippine case, data show that the challenges faced by the country are, in some cases, similar to those of Mexico. Older Filipino children also have lower attendance rates than younger ones, which is an understandable empirical fact. However, the Philippine 4Ps focuses on the younger age range, limiting the intervention to poor families with

children 14 years old and below. This is so despite the fact that school participation is higher among elementary school-age children than those of the older children.

The attendance rate of elementary school children (aged 6–11) was 94.4 percent in 2007 based on the APIS. In 2011, the rate went up to 97.1 percent. At this high rate, it is plausible to expect that the impact of the 4Ps on school attendance could not go that large as the maximum of 100 percent can be easily achieved. While it is desirable to achieve universal access of all children to basic education, the problem of non-attendance is more severe among older children. The school attendance rate of children aged 15–18, for instance, was only 62.9 percent in 2007 and 65.5 percent in 2011, based on the APIS. If this group had been targeted by the program, the chances of making a great difference would have been simply larger.

This section proceeds by going through each issue while providing examples and lessons learned from the cases of other countries that are implementing CCT programs.

Design of CCT programs in Latin American countries

The country can learn from the experience of other countries in designing the 4Ps. Table 1 shows the basic design of Mexico's Oportunidades, Brazil's Bolsa Familia, and Colombia's *Familias en Acción* in terms of the education component. These programs have several salient features to consider: (i) they targeted children up to 17 years old or those in senior year; (ii) they provided the differentiated amount of subsidy, with older children getting more than the younger ones; and (iii) gender disparity was taken into account, particularly by the Oportunidades, wherein the program provided more incentive for girls who had lower tendencies to go to school than boys.

The special attention provided by these programs to older children, at least in terms of subsidy amount, draws from the fact that there is a greater opportunity cost for older children to go to school. In Mexico, the data for 2000 show that children start to drop out when they reach middle school (CWDA 2010). The rate goes lower as children get older. Hence, the Oportunidades provides assistance from the third grade in elementary up to senior year in secondary. The assistance, therefore, covers 10 years of schooling at the maximum.

Both Bolsa Familia (Mourão and de Jesus 2012) and Familias en Acción target children up to 17 years old for the education component of the program. In 2001, the enrollment rate of children aged 8–11 in Brazil was 97 percent while that of 15-year-olds was only 87 percent. Hence, the

Table 1. Selected characteristics of other CCT programs in terms of education component

Program/Country	Age Range/Level	Amount of Assistance (per month)
Oportunidades (formerly *Progresa*), Mexico	Up to 22 years old/ between 3rd grade and senior year in high school (prior to 2001, the coverage was 3rd grade to 9th grade)	1. MXN 60–225 depending on the educational level, with those in higher levels (and women) getting more 2. economic incentive for students who finish high school before the age of 22 3. cash transfers to cover school supply
Bolsa Familia, Brazil	Up to 17 years old	BRL 32 per child aged 15 and below; BRL 38 per adolescent 16–17 years old (youth benefit)
Familias en Accion, Colombia	Up to 17 years old	Subsidy amount for secondary school children is twice that of primary school children

Sources: Fernald et al. (2008); Soares (2012); Attanasio et al. (2005)

Bolsa Escola program, renamed Bolsa Familia in 2003, was launched in 2001 to address this issue (Glewwe and Kassouf 2010).

Aside from this, Latin American CCT programs have other design features worth considering. For instance, pilot programs of several variations of the CCT program have been successful in Bogota, Colombia, where the approach of postponing a lump-sum payment to ensure enrollment in a higher level did not affect attendance rates. In addition to the standard CCT program, they implemented a savings CCT and graduation CCT. Mexico also provided incentive for those who finish high school before the age of 22.

This targeting not only of young but also of older children has a bearing on program impact—and that is, the program will likely lead to greater point percentages in school participation of children in the older age range. True enough, studies show that CCT programs have greater impact on older than on younger children. A study on the case of Colombia shows that the CCT program increased school participation of children 14–17 years old quite substantially—by 5 to 7 percentage points. On the other hand, the program had lower effect on the enrollment rate of younger children—only by about 1 to 3 percentage points (Attanasio et al. 2010).

In the case of Brazil, a study showed greater impact on the enrollment of older children (i.e., those in Grades 5 to 8) than of younger children (i.e., Grades 1 to 4) (Glewwe and Kassouf 2010). In Mexico, an International Food Policy Research Institute (IFPRI) study showed that the largest impacts were reported on children going to secondary school. An increase of over 20 percent in enrollment of girls and 10 percent for boys was observed.

An important element of these CCT programs is their targeting design. These programs target the extremely poor (Table 2). The Bolsa Familia of Brazil targets extremely poor households (i.e., those earning less than BRL 60 or USD 34 per capita monthly) regardless of the household composition; there is no conditionality required for childless, extremely poor households. This is in addition to the conditional monthly transfer that the program provides to poor families (i.e., those earning less than BRL 120 or USD 68 per capita) with children aged 0–17 and/or a pregnant woman with up to a maximum of three children (Soares et al. 2010). The Oportunidades (formerly known as *Progresa*) started in rural communities, targeting extremely poor households. It later expanded to cover the extremely poor in urban areas. Colombia also targeted extremely poor households in selected communities.

The duration of the programs vary (Table 3). In Mexico, there is a recertification every three years. If the beneficiary remains eligible, they continue with the program for four (for urban areas) or six (rural or semirural) more years. After this period, they are transferred to the

Table 2. Target beneficiaries of other CCT programs

Program/Country	Target Population	Coverage
Oportunidades (formerly Progresa), Mexico	Extremely poor households with children	Rural communities with less than 2,500 inhabitants; later expanded to urban areas
Bolsa Familia, Brazil	All extremely poor with per capita income below USD 30; all poor households with per capita income below USD 60 and children aged up to 17 or pregnant women	All municipalities
Familias en Accion, Colombia	Extremely poor households with children up to 17 years of age	Selected municipalities with less than 100,000 inhabitants and with adequate infrastructure

Sources: Bastagli (2007)

Table 3. Maximum duration of other CCT programs

Country	CCT	Exit from CCT
Brazil	Bolsa Familia	As long as eligibility criteria persist, beneficiaries are entitled to the Bolsa Familia. Beneficiary recertification is carried out every two years to determine whether eligibility persists.
Chile	Chile Solidario - Programa Puente	Has a clearly regulated maximum duration and exit strategy. Transfer "bono de proteccion" payments are paid in decreasing amounts for 24 months; after that a graduation bonus is paid for three years. Families graduate from program after five years. They automatically access the Subsidio Unico Familiar (SUF) and have preferential access to all social assistance programs.
Colombia	Familias en Accion (FA)	Beneficiary households are automatically graduated out of the FA after five years. They also exit the FA if they no longer satisfy the demographic eligibility requirements: i.e., if they only have one minor member that turns 18 years old.
Honduras	Programa de Asignacion Familiar (PRAF)	Program financing availability determines duration.
Mexico	Progresa - Oportunidades	Beneficiary recertification takes place for families after three years of benefit receipt. If eligibility criteria persist, they continue on the program until completing four years in urban areas and six years for rural or semi-urban locations. After this period, they are transferred to the Differentiated Support Scheme for three years (if they continue to comply with the conditionalities).
Nicaragua	Red de Proteccion Social (RPS)	Cash transfers are paid to beneficiary households for three years. After this period, they can continue to receive services for an additional two years.

Source: Bastagli (2007)

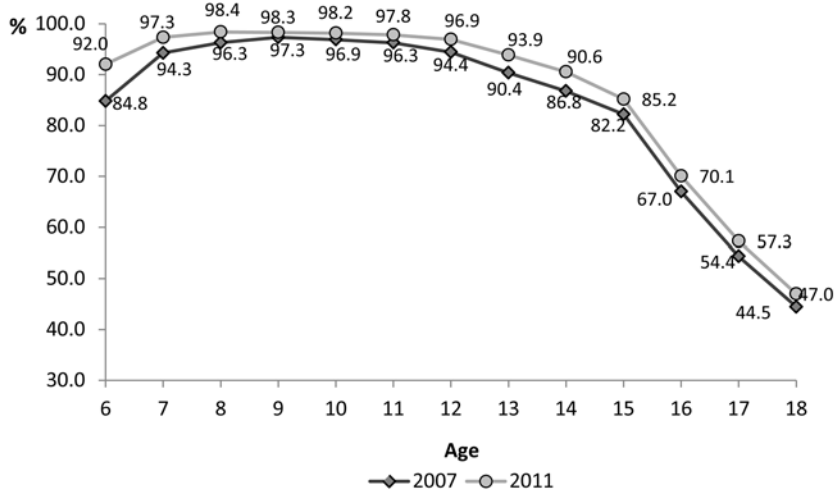
Differentiated Support Scheme for three years, subject to compliance with program conditionalities. In Brazil, the recertification is carried out every two years. As long as the beneficiaries meet the eligibility criteria, they are entitled to the grants provided by the Bolsa Familia.

Design issues of the 4Ps

Children beneficiaries as targets

The situation of school participation among children in the Philippines is not very different from the Latin American cases. Based on the APIS, school attendance rates were calculated by single year of age to illustrate that school attendance is more a problem of older children than younger ones. Figure 2 shows that for younger ones, those aged 6–12, the attendance rate is mostly above 90 percent. This rate starts to slide at age 13–14. Among children aged 15, only 82 percent are in school. Meanwhile, less than half, or 44 percent, of 18-year-olds go to school. The pattern in 2007 (pre-CCT period) and 2011 remains the same, which indicates that programs have not been effective in improving the school participation among older children.

Figure 2. Proportion of children attending school, by single year of age, 2007 and 2011 (in %)



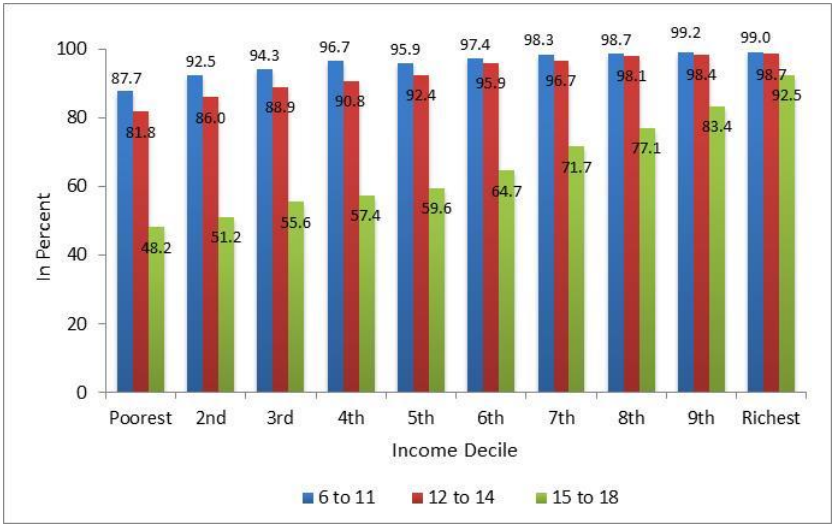
Source of basic data: Annual Poverty Indicators Survey (APIS) 2007 and 2011, National Statistics Office (NSO)

School participation of older children seems to be highly correlated with income. While Figure 2 describes the age-specific attendance rates, Figures 3 and 4 show that the low attendance rate of teens is more evident among low-income households, rather than all households in general. There is a substantial gap in the attendance rates of teenagers, aged 15–18, between the richest and the poorest groups. To illustrate, 93 out of 100 teenagers (aged 15–18) who belong to the richest income group go to school in 2011. On the other hand, only half of those in the same cohort belonging to the poorest income decile go to school.

Moreover, the differences in school attendance rates of children aged 7–12 across income groups are small, i.e., below 6 percent (Figure 5). The difference gets larger as age of children increases; from 9.3 percent at age 13 to 25.2 percent at age 18. This clearly demonstrates the need to target older children in government social development programs.

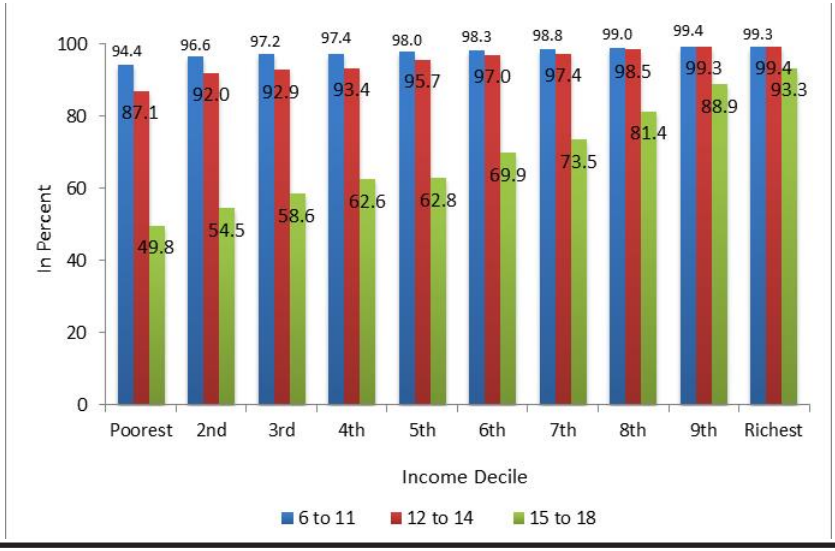
Meanwhile, contrary to Latin American experience where girls are less likely to go to school than boys, the proportion of boys attending school in the Philippines is relatively lower compared to that of girls. This is true for children aged 13 and above as shown by Figure 6. In 2007, 94 out of 100 girls aged 13 are attending school while only 87 boys are. Among 15-year-olds, roughly 87 percent go to school while only 77 percent of boys

Figure 3. Proportion of children attending school, by income group and by age group, 2007 (in %)



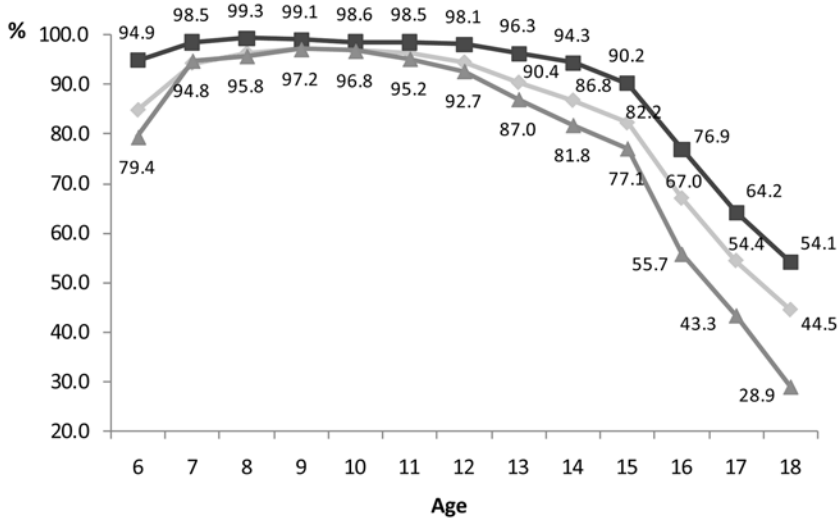
Source of basic data: APIS 2007, NSO

Figure 4. Proportion of children attending school, by income group and by age group, 2011 (in %)



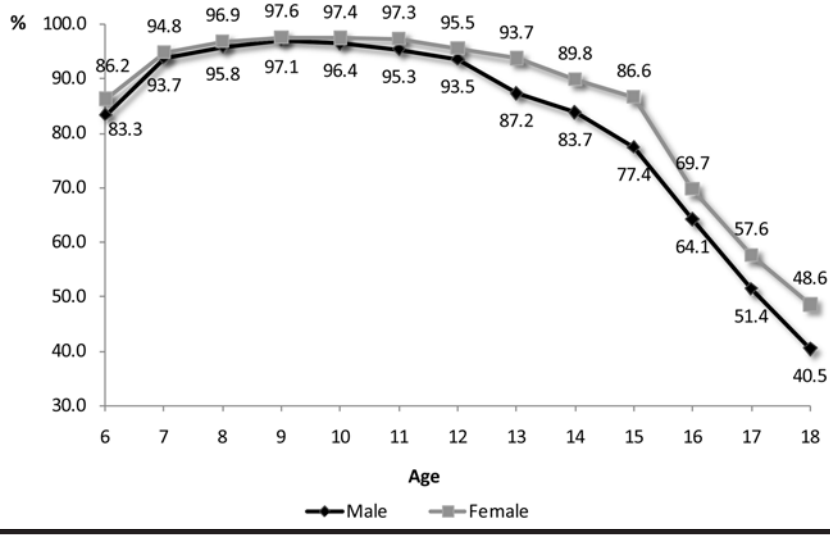
Source of basic data: APIS 2011, NSO

Figure 5. Proportion of children attending school, by income group and by single year of age, 2011 (in %)



Source of basic data: APIS 2011, NSO

Figure 6. Proportion of children attending school, by gender and by single year of age, 2007 (in %)



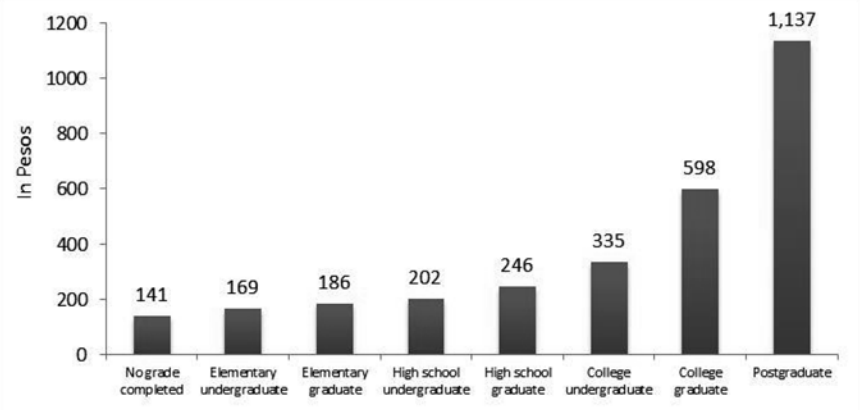
Source of basic data: APIS 2007, NSO

do. If government programs like the 4Ps address such a gap, it is sensible to provide larger sums to boys than girls given the same level of schooling.

The educational support structure of Oportunidades took into account the gender disparities in school attendance. Because girls have lower attendance rate than boys, the amount of grant or cash support was higher for girls beyond elementary level given the same level of schooling. For instance, a male beneficiary in the third year of middle school got USD 37.67 cash support while a girl received USD 43.22. This aspect was necessary as the program has included older children where disparity is wide. In the Philippine case, it is safe to assume that gender was not incorporated in the 4Ps design because the program limited the assistance to children up to age 14 only, where gender gap is not as evident as that for older children.

Why did the 4Ps target households with children aged 14 and below? The DSWD noted that their aim is for young children to finish at least elementary education. This paper posits that such target may not be able to bring about significant change in two ways: (i) the 4Ps is targeting young children but the attendance rate of young children is already high; and (ii) if the objective is to improve their future income-earning capacities,

Figure 7. Average daily wage of wage/salary workers, by educational attainment, 2011 (in PHP)



Source of basic data: Labor Force Survey (LFS), July 2011, NSO

interventions should ensure that children could go as high as possible up the education ladder. At the very minimum, children should be given the opportunity to finish, at least, high school.

In addition to the fact that school participation is more a predicament among older children than younger ones, finishing mere elementary level does not suffice to improve the earning capacities of children. Figure 7 shows the average daily wage earned by wage earners, sorted by their educational attainment. The average daily wage of workers who only had some years in elementary is PHP 169, which is 19.9 percent higher than the average daily wage of those who did not complete any grade. The difference in terms of wage income between those who are elementary graduates and those who only had some years in elementary, however, is relatively lower. On average, the wage earned by workers who finished elementary-level education is PHP 186, which is 10.1 percent higher than the average daily wage of those who only had some years in elementary. Meanwhile, the average daily wage of workers who are high school graduates (PHP 246) is higher by about 40 percent (i.e., 42.4% in 2010 and 45.6% in 2011) than the average daily wage of those who only had some years in elementary.

Therefore, poor children can potentially earn higher level of income if adequate support to finish at least high school is provided.

The ideal intervention is to prepare the children for a higher level of education as the expected wage income for those with college education

is way higher than those who just finished high school. In the meantime, as the latter may be something not feasible at this time, at least not on a large scale, ensuring that many of the poor can at least finish high school is very important.

Length of exposure in the program

The Oportunidades aimed to see children go through and finish high school. Hence, its scholarship covered children on the third grade elementary until the last year of high school. This constituted 10 years of schooling. In addition, as an incentive, it provided savings account for students who finish high school provided that they finish high school before the age of 22 and they open up their own bank accounts.

The length of exposure to the program is also essential to make sure it can yield a significant outcome. In the current design of the Philippine 4Ps, the education subsidy targets only poor households with children aged 6–14, thus many of these households do not actually stay in the program long enough to benefit from it. Children who are 14 years old and are selected to participate this year will have to cease to receive benefits once they reach the age of 15. In this case, the children's exposure to the program is only one year.

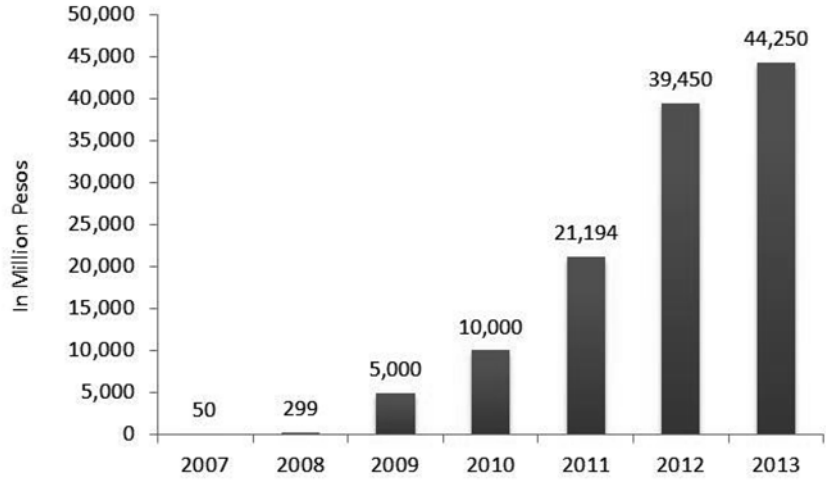
If only the program was designed to complete the five-year exposure of all children covered in the initial year of selection, the program may have a better chance of yielding significant effects. Assisting a 14-year-old now for a period of five years will help him or her finish high school. With the current design, children may need to drop out of school once they exit from the program. If there is a seamless way to integrate these children in other complementary programs of the government, the 4Ps may prove to be more effective in enhancing human capital.

Implementation issues

Targeting and collection of data for NHTS-PR

The DSWD has assessed 10.9 million households during the period 2008–2010 using the PMT model. From the assessed households, it has identified 5.2 million poor households, or 5.7 million poor families. There is an apparent overestimation in the number of poor families listed in the 4Ps. The 4Ps draws its list of poor households from the NHTS-PR designed by the DSWD. The NHTS-PR shows that there were 5.2 million poor households and 5.7 million families in 2009. However, these numbers largely differ from the NSCB's official poverty estimate in 2009 of 3.9

Figure 8. Budget allocation of the Philippine 4Ps, 2007–2013 (in PHP million)



Source of basic data: DSWD

million poor families based on the refined methodology. The PMT model of the NHTS-PR, thus, appears to be overestimating the number of poor families.

Also, this is rather different from the experience of Latin American countries from which the Philippine program is said to have been modeled. Mexico's Oportunidades and Colombia's Familias target the extremely poor families. Brazil's Bolsa Familia, though targeted for poor households, targets extremely poor families regardless of their composition.

Already, the overestimation in the number of poor families can be seen from the leakages shown by the number of families delisted. This may likewise be inferred from a study done by Fernandez and Olfindo (2011) using the 2009 FIES, which reveals that only 72 percent of the 4Ps beneficiaries in 2009 came from the bottom 20 percent of poor families. Similarly, when one looks at the official estimate of poverty incidence for the same year at 20.9 percent, this translates to 73 percent of the beneficiaries who can be classified as poor while 27 percent are nonpoor. Such extent of leakages suggests that there is a need to fine-tune the program's targeting scheme prior to the program's proposed further expansion.

The 4Ps did not seem to fully consider the fact that the poor are not a homogeneous group. Studies (e.g., Reyes et al. 2011) show that

Table 4. Annual budget of the Philippine 4Ps, 2011–2012 (in PHP million)

Budget Category	2011	2012
Total	21,194	39,450
Cash transfer/grant to beneficiaries	17,138	35,453
Implementation support	4,056	3,997
Trainings	1,625	703
Salaries and allowances for 1,800 new personnel	716	1,877
Bank service fee	171	346
Information, education, and advocacy materials; printing of manuals and booklets	649	252
Capital outlay	218	133
Monitoring, evaluation, and administration support	677	686
Share of cash transfer to total budget	80.86%	89.87%

Source: DSWD, see http://pantawid.dswd.gov.ph/index.php/pantawid-pamilya-financials

the poor consist of the chronically or persistently poor and the transient poor or those who become poor because of certain shocks. In fact, among those households classified as poor in 2009, more than half (52.6%) were transient poor who were moving in and out of poverty, and only 47.4 percent of poor households were considered to have been consistently or chronically poor since 2003.

Costs of the program

Since the 4Ps has been piloted in 2007, a total of PHP 75.99 billion have already been allocated for its implementation. By the end of 2013, this would roughly be around PHP 120 billion (Figure 8).

Budget data from the DSWD indicates a significant cost of administering the program (Table 4). In 2011, the administration cost was 19 percent of the total program cost. It is estimated to go down to 10 percent in 2012. The PHP 4-billion cost of running the program is equivalent to supporting 266,667 million families with three eligible children for one year.

5 Assessment of the 4Ps: Results from 2011 APIS

Characteristics of 4Ps beneficiaries

Of the 42,063 families included in the 2011 APIS, 3,066 are 4Ps beneficiaries or 7.3 percent of the total. Employing the weights that the National Statistics Office (NSO) uses, this results in 1.2 million 4Ps families or 27 percent of the total poor. Eight of 10 4Ps beneficiaries are from the rural areas.

To create a profile of 4Ps beneficiaries, available information from the APIS 2011 was tabulated. The information gives a picture of their characteristics as 4Ps beneficiaries but only for that particular period as the survey does not ask about their length of exposure to the program. This limits this paper in determining causation or program impact because the data is only a cross-section. Nonetheless, it provides important information that can be used in fine-tuning the program for it to achieve its objectives.

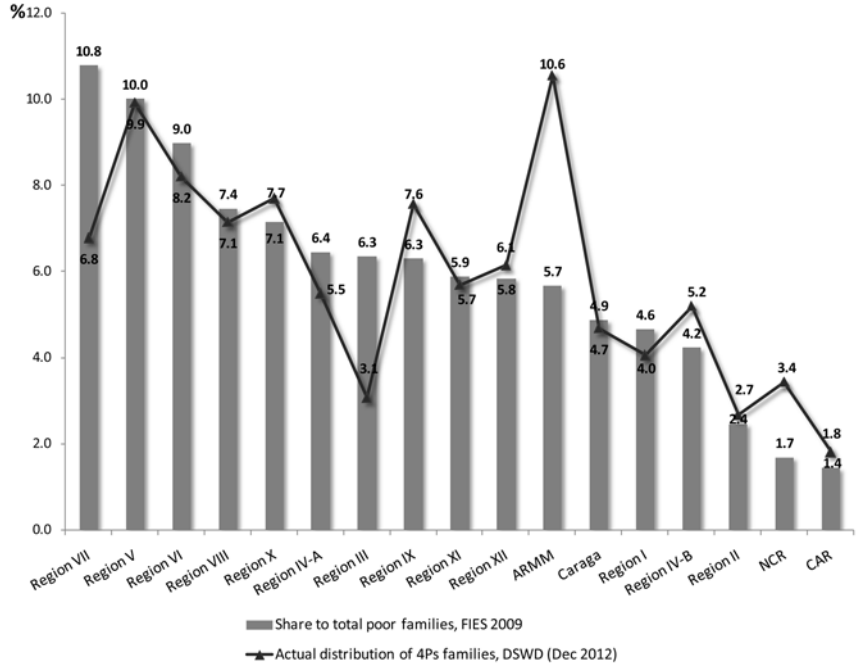
Location

The 4Ps beneficiaries are distributed variably in all 17 regions of the country. Based on DSWD[1] data as of December 26, 2012, the Autonomous Region in Muslim Mindanao (ARMM) has the highest share of beneficiary families at 10.6 percent. Region V (Bicol) follows at 9.9 percent and Region VI (Western Visayas) at 8.2. The shares of Cordillera Administrative Region (CAR) (1.8%), Region II (2.7%), and Region III (3.1%) are the lowest.

Figure 9 illustrates this regional allocation of 4Ps beneficiaries in comparison with the distribution of total poor families based on the latest FIES (2009). The chart gives a sense of the effectiveness of the targeting mechanism of the program. In 2009, the bulk of the poor families are in Region VII (10.8%), Region V (10%), and Region VI (9%). It is expected that

[1] Monitoring and Evaluation Unit (Planning, Monitoring, and Evaluation Division), DSWD.

Figure 9. Distribution of 4Ps beneficiaries and poor families, by region (% to total)



Sources of basic data: DSWD and FIES 2009, NSO

the distribution of 4Ps beneficiaries would be similar to the distribution of poor families across regions.

Actual and official data from the DSWD as of December 2012 show a distribution that is somewhat similar to that for the poor. Regions V and VI, two of the regions that have the highest shares of poor families, also have the highest share in 4Ps beneficiaries. The distribution of 4Ps families at the lower end also matches the regional poverty trend.

The significant deviations concern Regions VII, III, and ARMM. Future program expansions or modifications have to take into account that Region VII has the highest share of poor families and Region III, given its large population, also has a huge number of poor. On the other hand, ARMM and the National Capital Region (NCR) have disproportionately higher share of 4Ps beneficiaries. Their shares of beneficiaries are double their share of the poor. The deviations between the actual distribution of the poor and the current distribution of 4Ps beneficiaries can serve as the basis for prioritizing underserved areas in the next phases of 4Ps.

Table 5. Distribution of families, by size and by type (% to total)

Number of Members	4Ps	Non-4Ps
4 or less	20.7	55.0
5 to 7	55.9	36.1
8 to 10	20.1	7.9
More than 10	3.3	1.0
All	100.0	100.0

Source of basic data: APIS 2011, NSO

Family composition

In terms of family composition, a significant proportion of the program recipients (23%) has large family size (at least 8 members). In contrast, 9 percent of nonrecipients belong to this category. Meanwhile, 21 percent of 4Ps beneficiaries belong to smaller families (consisting of up to 4 members), just like the majority of nonrecipients (Table 5).

On average, 4Ps families have more members (6 persons), than non-4Ps families (4 persons). The former also have higher dependency ratio. Roughly half of the total members in 4Ps families are less than 15 years old while only one out of four members in non-4Ps families belong to this age group.

Educational attainment and employment profile of members

Table 6 shows that on average, there are relatively more members in 4Ps families who have lower educational attainment than in non-4Ps families. The difference is more evident among those who have some elementary education. Interestingly, this shows that the 4Ps is realizing one of its primary objectives—that is, increasing access to basic education. However, the disparity between the two groups becomes smaller in the next two levels (elementary graduate and high school undergraduate) and the pattern eventually reverses starting with the proportion of high school graduates. Table 6 shows that very few members in 4Ps families have higher levels of education. Less than 10 percent family members finished high school at most, only 2.6 percent were able to get some college units, while barely 1 percent managed to get a college degree. These findings show that there is really a need to improve the educational attainment of the poor. It is important that programs such as the 4Ps be implemented to help them reach higher education or finish at least high school.

Non-4Ps families have relatively higher proportion of working members, specifically those who have full employment (Table 6). On the other hand, 4Ps beneficiaries have higher proportion of members who are considered vulnerable workers. Some 44 percent of employed members in 4Ps families are self-employed while only 32 percent of non-4Ps members are self-employed (Table 7). Unpaid family workers comprised 15.1 percent of employed members in 4Ps families, which is more than twice that in non-4Ps families (6.7%). Meanwhile, 4Ps families also have relatively higher proportion of working members who have nonpermanent jobs.

It can also be observed from Table 7 that employed members in 4Ps families are more engaged in agriculture-related activities. The proportion of working members in 4Ps families whose sector of employment falls under agriculture/fishery/forestry is more than twice that in non-4Ps families. This finding is supported by looking at the disaggregation by type of occupation. While 34 percent of employed members in 4Ps families

Table 6. Mean proportion of members in 4Ps and non-4Ps families, by highest educational attainment and by mode of labor force participation, 2011

Group	4Ps	Non-4Ps
Highest educational attainment		
No grade completed	9.6	4.9
Elementary undergraduate	36.8	21.1
Elementary graduate	14.8	12.2
High school undergraduate	14.9	13.4
High school graduate	9.2	18.6
College undergraduate	2.6	12.0
College graduate	0.9	10.4
Postgraduate	0.0	0.1
Mode of labor force production		
Employed	36.2	44.1
Underemployed*	12.4	8.5
Unemployed	1.0	2.9
Not in the labor force	15.6	25.8

* Authors' estimates; defined as those who are either wanting more hours of work and/or looking for additional work.
Source of basic data: Matched files of the APIS 2011 and LFS, July 2011, NSO

Table 7. Mean proportion of employed members in 4Ps and non-4Ps families, by type of occupation, by sector of employment, by class of worker, and by nature of employment in primary occupation, 2011 (in %)

Group	4Ps	Non-4Ps
Type of occupation		
Officials/supervisors/managers	6.8	16.1
Professionals	0.6	4.9
Technicians/associate professionals	0.6	2.9
Clerks	1.0	5.7
Service workers/shop and market sales workers	4.6	10.2
Farmers/forestry workers/fishermen	34.4	15.8
Trades and related workers	6.2	8.5
Plant and machine operators and assemblers	3.9	6.9
Laborers and unskilled workers	41.6	28.5
Special occupations	0.3	0.5
Sector of employment		
Agriculture, forestry, and fishery	64.7	29.5
Industry	10.2	16.1
Services	25.1	54.4
Class of worker		
Wage workers	39.0	57.1
Private household workers	3.5	5.0
Private establishment workers	31.3	42.8
Government workers	4.2	9.1
Paid family workers	0.0	0.2
Own-account workers	46.0	36.2
Self-employed	43.9	32.1
Employers	2.1	4.0
Unpaid family workers	15.1	6.7
Nature of employment		
Permanent job	78.0	80.9
Short-term work	17.4	16.6
Different employers	4.6	2.5

Source of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

are farmers/forestry workers/fishermen, only 16 percent of those in non-4Ps families work under this category. Family members who assumed jobs classified under laborers/unskilled workers—the lowest-paying occupational group—are higher in proportion among 4Ps beneficiaries (42%) than among nonbeneficiaries (28%).

These findings on the employment profile of members of 4Ps families are not surprising since they have low levels of education. Very few of them finished at least high school, which is usually the level of education required by most of the higher-paying employers.

Income

The 4Ps beneficiaries have an average per capita income of PHP 8,522 based on data for the first semester of 2011. The poorest 10 percent of 4Ps recipients have a per capita income of PHP 4,788 while the richest ones have PHP 75,897. Without the cash grant, each person from 4Ps families has PHP 7,740 to cover his or her expenses for the entire six months. Meanwhile, the poverty threshold for one semester in 2011 is roughly at PHP 9,300. The average cash grant from 4Ps in 2011 was PHP 780 per person for one semester. This is equivalent to 9 percent of the total per capita income of beneficiaries.

Table 8. Per capita income, by income decile, January–June 2011 (in PHP)

Decile	All	4Ps			Non-4Ps
		Income Less Cash Grant	Cash Grant	Total	
1	4,793	4,141	647	4,788	4,794
2	7,345	6,484	766	7,249	7,366
3	9,467	8,576	853	9,427	9,473
4	11,780	10,728	941	11,669	11,788
5	14,576	13,425	887	14,316	14,587
6	18,132	16,507	1,204	17,712	18,141
7	22,998	21,677	908	22,584	23,001
8	30,584	29,040	754	29,794	30,589
9	44,506	44,327	708	45,035	44,504
10	103,405	73,339	2,558	75,897	103,447
Total	25,635	7,741	780	8,522	26,981

Note: Cash grant data were reported by respondents.
Source of basic data: APIS 2011, NSO

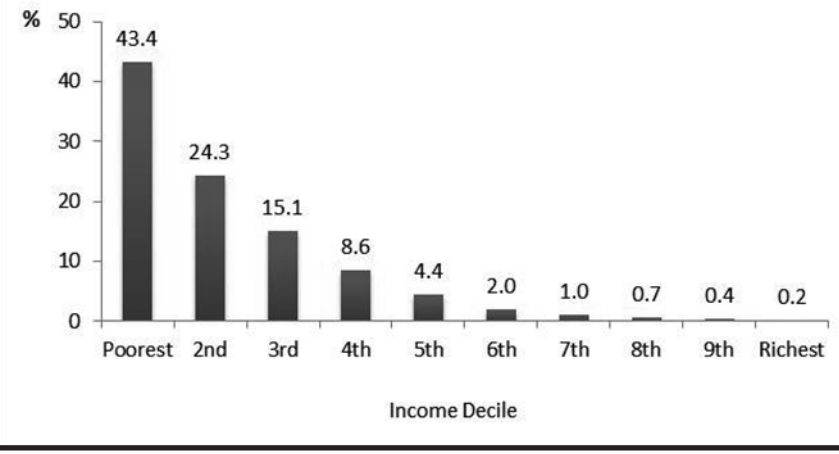
On the contrary, non-4Ps families have an average per capita income of PHP 26,981, which is more than three times that for 4Ps families (PHP 8,522). It is interesting to note that per capita income levels of the two groups are fairly comparable even up to the ninth income decile. The large disparity can only be found at the richest group of families where the mean income of non-4Ps is PHP 103,447 while that for the beneficiaries is only PHP 75,897.

In the first place, it is surprising to see some 4Ps families belonging to the richest income groups. Figure 10 shows the distribution of these families by income decile. Note that there are few families belonging to the seventh (1%), eighth (0.7%), ninth (0.4%), and richest (0.2%). If 4Ps families were perfectly targeted, i.e., all of them were classified as income poor, all should be categorized under the first three income deciles (poorest, second, and third).

Ownership of assets, access to basic amenities, and housing materials/tenure

Table 9 shows the proportion of families owning some types of assets. It is evident that more non-4Ps families have more assets compared to 4Ps beneficiaries. For instance, while around 4 out of 10 beneficiary families have a TV set, 76 percent of non-4Ps have. The most common types of

Figure 10. Distribution of 4Ps beneficiaries, by per capita income decile (% to total)



Source of basic data: APIS 2011, NSO

Table 9. Mean proportion of 4Ps and non-4Ps families that own various assets, with access to basic amenities, and that live in makeshift housing or as informal settlers, 2011 (in %)

Variable	4Ps	Non-4Ps
Own:		
Television set	39.2	76.5
VTR/CD/DVD player	22.7	51.3
Refrigerator	6.5	40.5
Washing machine	3.8	31.6
Airconditioner	0.3	9.6
Car/motor vehicle	10.7	27.5
Telephone/cellular phone	50.0	76.0
Computer	1.0	17.3
Stove with oven/gas stove	2.0	24.2
Have access to:		
Electricity	63.1	88.8
Sanitary toilet facility	75.3	93.1
Safe water	69.5	84.1
Living in/as:		
Urban areas	17.5	52.1
Makeshift housing	3.3	1.5
Squatters/informal settlers	5.5	4.1

Source of basic data: Matched files of APIS 2011 and LFS, July 2011, NSO

asset possessed by 4Ps families are telephone/cellular phone (50%) and television set (39.2%).

Aside from asset ownership, non-4Ps are also better-off in terms of some access indicators. At least 80 percent of these families have access to electricity (89%), safe water (84%), and sanitary toilet facilities (93%). On the other hand, only around 63 percent of 4Ps families have access to electricity, 69.5 percent have access to safe water, and 75 percent to sanitary toilet facilities.

In terms of housing materials and tenure, the proportion of 4Ps beneficiaries living in makeshift housing (3.3%) is relatively higher than that of non-4Ps (1.5%). On the other hand, the proportion of 4Ps beneficiaries living as informal settlers (5.5%) is slightly higher than that of non-4Ps (4.1%).

Table 10. Proportion of 4Ps and non-4Ps families with access to various programs, 2011 (in %)

Program	4Ps	Non-4Ps
PhilHealth	1.38	1.21
Training for Work Scholarship Program (TESDA program)	0.09	0.02
Agrarian Reform Community Development Program	0.06	0
Disability benefit	0.04	0.12
Scholar benefits and students financial assistance (government)	0.98	1.23
Scholar benefits and students financial assistance (private)	1.11	0.88

Source of basic data: APIS 2011, NSO

Access to social programs

The APIS is also an important source of data on access of Filipino families to social programs like the PhilHealth. The 2011 APIS shows that 1.4 percent of all 4Ps families have access to PhilHealth while only 1.2 percent of the non-4Ps families have access. Table 10 also shows that 4Ps beneficiaries have higher access to agrarian reform community development programs and Technical Education and Skills Development Authority (TESDA) program than non-4Ps beneficiaries.

School attendance

To determine the current status of the 4Ps with respect to its objective of improving school participation of children, the school attendance of children beneficiaries as well as children in non-4Ps families were examined based on the 2011 APIS. Table 11 shows that school attendance rates of children in 4Ps families are slightly higher in ages 6–11, slightly lower in ages 12–14, while largely lower between ages 15 and 18 (which is beyond the age group covered by the program). The school attendance rates among children aged 6–14 range from 90 to 99 percent, which means that only 10 percent (at most) of these children beneficiaries are not attending school. On the other hand, the proportion of children beyond 14 who are attending school are lower than 80 percent. In fact, the proportion goes down as the age of children goes up from 15 to 18.

Among the regions, it can be observed that the best performers in school participation rates of children beneficiaries (aged 6–14) are Ilocos Region, Northern Mindanao, Western Visayas, Central Visayas, and

Table 11. Proportion of children in 4Ps and non-4Ps families who are attending school, by single year of age, 2011

Age	4Ps	Non-4Ps
6	92.6	92.0
7	98.0	97.2
8	98.4	98.4
9	98.9	98.2
10	98.8	98.1
11	98.3	97.8
12	96.4	97.0
13	93.6	93.9
14	89.7	90.7
15	77.5	86.2
16	60.0	71.3
17	43.6	58.7
18	33.8	48.2

Source of basic data: APIS 2011, NSO

CAR with 97.5 percent each. Both CAR and Ilocos Region performed best for the youngest cohort since all the 4Ps children aged 6–11 in these regions are attending school. On the other hand, ARMM has the lowest proportion of children aged 6–11 who are attending school, with only 86 percent, although this is true for both 4Ps and non-4Ps groups. Among 4Ps children aged 12–14, Northern Mindanao, Ilocos Region, and Western Visayas also have the highest school participation rates. On the other hand, Davao Region, Cagayan Valley, and Central Luzon registered the lowest. In fact, school participation rates of 4Ps children aged 12–14 in these regions, together with CAR and Bicol Region, are around 7–8 percent lower than the rates of 4Ps children aged 6–11. Interestingly, ARMM is the only region with school participation rates higher for 4Ps children aged 12–14 than for those aged 6–11 (Table 12).

Meanwhile, school participation rates of children in the oldest cohort are lower among 4Ps beneficiaries in all regions except in NCR. Central Luzon, Ilocos Region, CALABARZON, and Northern Mindanao registered the largest difference (45%–50%) between school attendance rates of children aged 12–14 and children aged 15–18. In NCR, however, school

attendance rates of children aged 12–14 are only 19 percent higher than those of children aged 15–18, the lowest difference registered among the regions.

The school participation rates of children in 4Ps and non-4Ps families belonging to the bottom 40 percent were also compared (Table 13). The results show that the proportion of children attending school is higher for 4Ps beneficiaries at all ages except for 15 and 16 years old. The differences are less than 2 percentage points for ages 7–12. Big differences are observed for ages 6 (5.5 percentage points), 13 (4.9 percentage points), and 14 (4.1 percentage points).

The number of children within a family may have significant effect on the capability of families to send their children to school. As shown in Table 14, attendance rates of children in 4Ps families with fewer children are generally higher than those with more children. It is important to note that 8–9 percent of the children beneficiaries aged 6 and 14 who belong to smaller 4Ps families are not attending school. Also, roughly 23 percent of 15-year-old children, around 40 percent of 16-year-olds, around 60 percent of 17-year-olds, and 7 out of every 10 18-year-old children in 4Ps families do not go to school. It can be observed that gaps are relatively wider in the older, single-age cohorts. This supports the hypothesis that 4Ps families with more children tend to be more financially challenged and, thus, have lower propensity to invest in education. Albert et al. (2011) mentioned that the lack of school participation of children, especially among the secondary school-age ones, can be attributed to poverty.

Table 15 shows that even with conditionalities, some children are still not attending school and these largely comprised the six-year-olds and those in their early teens (i.e., 13 and 14). In particular, roughly half (48.5%) of all children belonging to 4Ps families who are out of school are aged 13 and 14. Even among smaller families, there are children who do not go to school and most of them are aged 6, 13, and 14. What could be the barriers or reasons that these children face in their ability to go to school?

Reasons for not attending school

Looking at the results of APIS 2011, this study found that the most commonly cited reason for not attending school among children in 4Ps families, regardless of whether they are working or not, is the lack of personal interest (Table 16). In fact, the majority of APIS respondents (even the non-4Ps families) have been citing this reason since 2008. One possible explanation for this finding, as noted in Maligalig and Albert (2008), is that "lack of personal interest" can be considered a catch-all

Table 12. Proportion of children in 4Ps and non-4Ps families who are attending school, by age group and by region, 2011 (in %)

Region	Age Group							
	6 to 14		6 to 11		12 to 14		15 to 18	
	4Ps	Non-4Ps	4Ps	Non-4Ps	4Ps	Non-4Ps	4Ps	Non-4Ps
Philippines	96.1	95.9	97.6	97.1	93.3	93.8	56.4	66.5
National Capital Region	96.0	97.4	97.6	98.1	93.2	96.0	74.5	72.8
Cordillera Administrative Region	97.7	97.3	100.0	98.5	93.0	94.9	59.3	73.9
Region I - Ilocos Region	98.7	97.3	100.0	98.2	97.1	95.7	49.8	66.8
Region II - Cagayan Valley	93.9	96.1	96.8	97.9	88.9	92.8	56.1	65.5
Region III - Central Luzon	95.6	96.4	98.0	98.1	89.4	93.3	38.6	63.9
Region IVA - CALABARZON	95.8	96.7	97.0	97.4	93.5	95.4	47.2	67.6
Region IVB - MIMAROPA	96.2	96.0	98.1	97.3	92.8	93.6	56.3	65.3
Region V- Bicol	97.0	97.1	99.3	98.6	92.3	94.3	56.8	67.6
Region VI - Western Visayas	97.8	96.5	98.5	97.4	96.4	94.6	66.6	68.7
Region VII - Central Visayas	97.5	95.5	99.6	97.1	93.6	92.3	58.3	65.2
Region VIII - Eastern Visayas	96.3	95.4	97.7	97.4	93.9	91.0	51.6	63.9
Region IX - Zamboanga Peninsula	95.9	93.9	98.1	95.5	91.6	91.3	55.0	63.2
Region X - Northern Mindanao	98.0	96.3	98.1	98.5	97.9	92.0	52.7	64.9
Region XI - Davao	93.3	95.9	95.6	96.7	88.7	94.5	57.3	64.8
Region XII - SOCCSKSARGEN	96.0	95.1	97.2	95.9	93.4	93.5	50.7	60.2
Region XIII - Caraga	97.1	97.0	98.3	98.2	94.6	94.8	59.0	62.8
Autonomous Region in Muslim Mindanao	87.7	87.0	86.6	86.0	90.9	88.9	63.8	67.8

Source of basic data: APIS 2011, NSO

Table 13. Proportion of children in 4Ps and non-4Ps families (in the bottom 40%) who are attending school, by single year of age, 2011 (in %)

Age	4Ps	Non-4Ps
6	92.9	87.4
7	97.6	95.7
8	98.9	97.2
9	98.8	97.1
10	99.0	97.1
11	97.9	96.6
12	96.6	95.1
13	94.1	89.2
14	88.2	84.1
15	76.5	78.2
16	59.1	59.5
17	42.6	41.5
18	31.0	30.5

Source of basic data: APIS 2011, NSO

Table 14. Proportion of children in 4Ps families who are attending school, by age and by type of family, 2011 (in %)

Age	Proportion of Children Aged 6–18 in 4Ps Families	
	3 or Less	4 or More
6	92.2	93.1
7	98.6	97.0
8	99.4	97.1
9	98.9	98.8
10	99.1	98.5
11	98.2	98.3
12	96.6	96.1
13	93.7	93.5
14	91.2	87.9
15	77.8	77.2
16	62.5	58.2
17	43.9	43.4
18	32.0	35.0

Source of basic data: APIS 2011, NSO

reason that includes household's financial difficulties and can be affected by a number of factors, such as the lack of parental support, necessity of working for the family, and other supply-side issues. This reason is more common among the younger cohorts of children, especially those who are working.

Another cited reason for non-attendance in school is the high cost of education. Since 4Ps families are classified as poor, they are usually the ones with less capability of sending their children to school. The largest share of their household budget might be spent on food and other daily basic needs with a smaller share being left for education. This particular reason is more common among the secondary school-age children, which implies that 4Ps families can send their children to school but only up to the elementary level. However, we also found that around 33 percent of those in the youngest cohort (6–11) who are working mentioned high cost of education as the main reason. Also, since their families do not have sufficient income to support their daily basic needs, there might be a pressure on the part of the children to earn for their families at a young age.

Illness/disability also appeared as one of the reasons for not attending school among children aged 6–14 who are not working. On the other hand,

Table 15. Distribution of children aged 6–14 in 4Ps families who are not attending school, by family size, 2011 (% to total)

Age	Share of Children in		
	Smaller Families (at most 3 eligible children)	Larger Families (4 or more eligible children)	All
6	19.4	18.5	19.1
7	6.8	3.9	5.8
8	3.1	6.9	4.4
9	3.0	3.2	3.1
10	3.5	3.8	3.6
11	5.6	5.0	5.4
12	10.9	8.9	10.2
13	21.2	17.8	20.0
14	26.6	32.1	28.5
All	100.0	100.0	100.0

Source of basic data: APIS 2011, NSO

Table 16. Reasons for not attending school among children in 4Ps families, by age group (% to total)

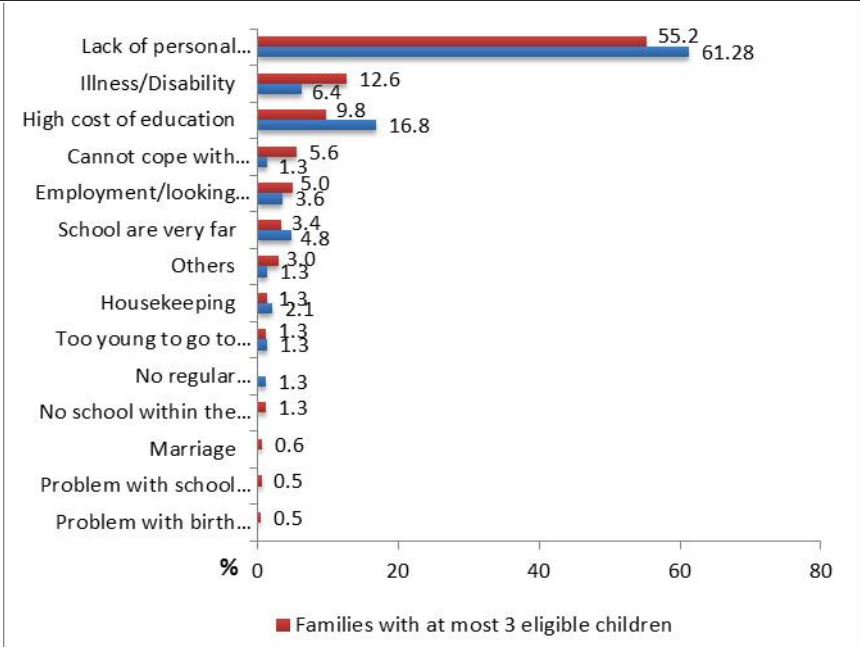
Reason	Not Working				Working			
	6 to 14	6 to 11	12 to 14	15 to 18	6 to 14	6 to 11	12 to 14	15 to 18
Lack of personal interest	57.4	57.6	57.2	34.4	57.0	66.7	56.3	38.2
High cost of education	9.6	9.2	10.0	35.2	19.2	33.3	18.1	25.1
Illness/disability	14.4	12.6	16.5	5.5	0.0	0.0	0.0	0.4
Employment/looking for work	0.6	1.1	0.0	4.4	14.7	0.0	15.8	25.7
Housekeeping/taking care of siblings	1.6	0.0	3.4	7.6	1.6	0.0	1.7	0.9
School is very far	4.8	7.7	1.4	0.6	1.3	0.0	1.4	1.9
No school within the barangay	1.1	2.1	0.0	0.0	0.0	0.0	0.0	0.1
No regular transportation	0.0	0.0	0.0	1.1	1.6	0.0	1.7	0.8
Cannot cope with school works	4.6	4.0	5.3	1.2	2.9	0.0	3.1	1.9
Problem with school record	0.5	0.0	1.1	0.7	0.0	0.0	0.0	0.5
Problem with birth certificate	0.4	0.8	0.0	0.5	0.0	0.0	0.0	0.4
Too young to go to school	1.8	3.2	0.0	0.0	0.0	0.0	0.0	0.0
Marriage	0.5	0.0	1.1	7.7	0.0	0.0	0.0	1.6
Finished schooling	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Others	2.7	1.6	4.0	0.5	1.7	0.0	1.8	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source of basic data: APIS 2011, NSO

children who are working, particularly those in the oldest cohort, reported employment as their primary reason for not attending school. There are also a few nonworking children who reported that they were not attending school because they were looking for work. Other reported reasons include housekeeping/taking care of siblings (which is more common in the oldest cohort), cannot cope with school works (which is more common among children aged 6–14), and supply-side factors like absence of school nearby or within the barangay (which is also more common in the youngest cohort).

Moreover, Figure 11 shows that regardless of family size, lack of interest appeared to be the most commonly cited reason for not attending school. More than half of children beneficiaries in both smaller and larger families are not attending school because of lack of interest. Among smaller families, about 13 percent of children noted illness or disability as a reason and roughly 10 percent cited high cost of education. Interestingly, the second most cited reason for non-attendance among those who belong to

Figure 11. Reasons for not going to school among children aged 6–14 in 4Ps families who are not attending school (with no grade completed), by family size (% to total)



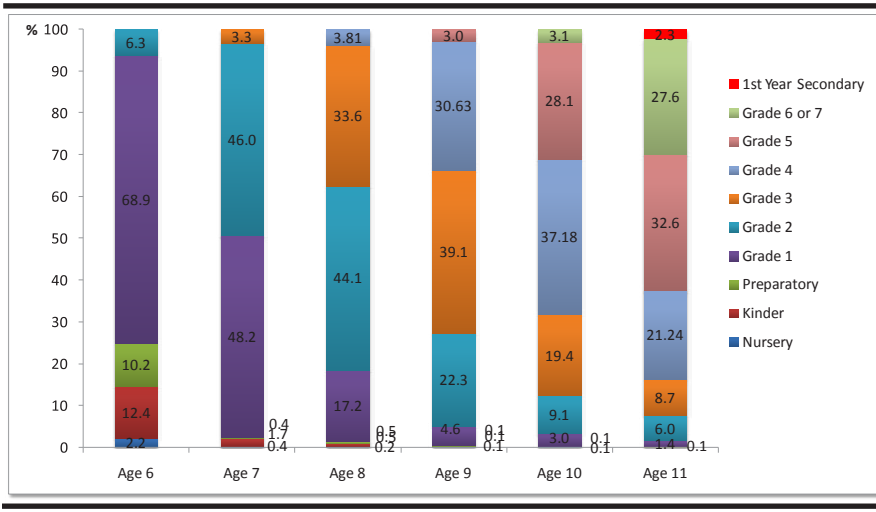
Source of basic data: APIS 2011, NSO

larger 4Ps families is high cost of education (16.8%), followed by illness (12.6%).

Timing of schooling

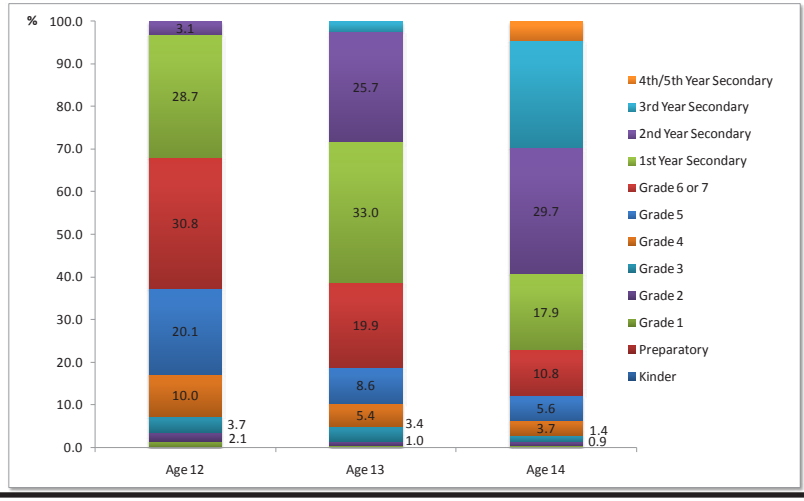
It is also interesting to examine the characteristics of children beneficiaries in terms of grade level to determine whether they are delayed or not in their schooling. Figure 12a shows that 68.9 percent of six-year-olds are attending first grade while about one-fourth are still in preschool. Meanwhile, over a third (37.5%) of all 4Ps eligible children aged 11 who are supposedly fifth graders at the least, are still in Grade 4 level or below. On the other hand, among those who are older, roughly 23 percent of 14-year-olds are still in the elementary level when they are supposedly in high school already (Figure 12b). This goes to show that there are significantly high proportions of children in CCT families who are delayed in their schooling.

Figure 12a. Distribution of 4Ps eligible children aged 6–11, by current grade level and by single year of age, 2011 (in %)



Source of basic data: APIS 2011, NSO

Figure 12b. Distribution of 4Ps eligible children aged 12–14, by current grade level and by single year of age, 2011 (in %)



Source of basic data: APIS 2011, NSO

Impact of 4Ps on school attendance based on comparison of matched samples from 4Ps and non-4Ps families[2]

To determine whether the differences between 4Ps (treated) and non-4Ps (comparison) families in terms of school attendance rates of children at various age groups are statistically significant, non-4Ps matches for 4Ps families were found using propensity score matching (PSM). To implement PSM, a propensity score (PS) model was estimated in order to compute for propensity scores. The propensity scores were then used as a basis for matching 4Ps beneficiaries with non-4Ps families. Thus, the matched 4Ps

[2] As of this writing, the 2011 APIS is the only available nationally representative household survey data that contains a variable on 4Ps indicator and is thus the only observational data that could be utilized by independent evaluators (who do not have access to the baseline survey data of the DSWD) in estimating the impact of 4Ps on school participation. In addition, the 2011 APIS has large samples and rich set of covariates, which are best for matching. Relevant variables from the July 2011 LFS were merged with the 2011 APIS since the member-level data of the latter only have two employment-related items (i.e., job/business indicator and class of worker). The merged data set was used both in the estimation of model of program participation and in matching. The downside, however, is that characteristics of 4Ps families that have been in the program in 2008 or 2009 might have been changed significantly. For instance, the male head has become an overseas contract worker or the spouse has obtained a job too, among others. Such cases, however, are assumed to be few and thus have no significant effect on the impact estimates.

and non-4Ps families are more comparable, or share similar household characteristics, after matching.

The covariates included in the PS model, although not exactly the same specification as the PMT model of the DSWD, are basically household characteristics that are considered as good correlates of poverty (Table 17). The estimated PS models found family size and composition, educational and employment profile of members, asset ownership, access indicators, housing characteristics, and location as the most important factors that can explain the probability of participating in the 4Ps. In particular, families with any of the following characteristics have very high probabilities of being 4Ps beneficiaries: large family size; located in areas with high poverty incidence such as Zamboanga Peninsula and Caraga; with high proportion of dependents (i.e., members aged 6–14); with low proportion of members who are at least high school graduates; or, without refrigerator. The following families were also found to have higher probability of participating in the 4Ps: located within MIMAROPA,

Table 17. Specification used for the PS model

Dependent variable: 4Ps family indicator

Independent variables:

Household head profile: sex; age; and square of age

Household composition: family size (natural logatrithm); proportion of members aged 6–14, 15–64, and above 64

Education of members: proportion of members who are currently attending school, elementary undergraduates, elementary graduates, high school undergraduates, high school graduates, college undergraduates, college graduates, and postgraduates

Employment of members: proportion of members who are employed, laborers and unskilled workers, agricultural workers, wage/salary workers, employers, self-employed, permanent workers, and overseas contract workers

Housing characteristics and tenure: single house, house made up of strong/predominantly strong materials; and house/lot owned/rented with owner's consent

Access to basic amenities: with access to safe water, sanitary toilet facility, and electricity

Ownership of asset: owns television set, VTR/CD/DVD player, refrigerator, washing machine, airconditioner, car/motor vehicle, telephone/cellular phone, computer, and microwave oven

Location: regional dummies; urban/rural classification

Authors' compilation

Bicol, or Northern Mindanao; residing outside Central Luzon, Cagayan Valley, Ilocos, or CALABARZON; rural dwellers; with high proportion of members who are agricultural workers; with low proportion of wage/salary workers, employers, or permanent workers; with high proportion of members who did not even finish high school; with low proportion of members who are currently studying; without microwave oven or washing machine; without access to sanitary toilet facility; living in single houses.

It is noted in the literature that the quality of matching significantly depends on the data structure (Zhao 2000). Thus, no matching method is best in all situations. In this study, different matching methods[3] were explored in order to find the best set of estimates of treatment effects. The different matching methods resulted in substantial reduction in bias in all covariates after matching, ranging from 92.3 to 97.6 percent.[4] This means that after matching, the treated samples are not significantly different from (or more comparable with) the comparison samples, in terms of the covariates defined in the estimated PS models. Aside from the balancing property, all the matching estimators satisfied the common support assumption[5] and all the matching estimates were found to be robust to possible unobserved selection bias.[6] For each age group, the "best" matching estimator—with lowest bias-adjusted robust and/or bootstrapped standard errors (or the most efficient) and with highest percent reduction in bias after matching—was selected.[7]

---

[3] The matching methods employed include the nearest neighbor (without replacement; one-to-one and one-to-two, with replacement), radius (caliper = 0.01), kernel (normal, bandwidth = 0.01; epanechnikov), and local linear regression (normal, bandwidth = 0.01; epanechnikov). Results of these different matching methods are available upon request from the authors.

[4] Other balancing tests were also clearly satisfied. Specifically, there were roughly 100 percent reductions in Pseudo R-square and Likelihood Ratio Chi-square statistics after matching. In addition, two-sample t-tests of means resulted in nonsignificant differences between treated and comparison samples in terms of the majority of the covariates. Results of different balancing tests are available upon request from the authors.

[5] Through limiting samples of analysis to treated observations whose propensity scores are within the range of propensity scores of the comparison samples.

[6] While the conditional independence assumption is not directly testable, sensitivity tests of hidden bias through Mantel-Haenszel bounds imply that treatment effect estimates are not sensitive to an unobserved selection bias. Results of sensitivity tests of hidden bias are available upon request from the authors.

[7] The following pairs of "best" matching estimators and age groups were found: kernel (normal, bandwidth = 0.01) for age groups 6–14, 15–18, 12, and 15; radius (caliper = 0.1) for age groups 6, 7, 10, 11, 13, 14, 16, and 18; kernel (epanechnikov) for age group 8; one-to-one matching without replacement for age group 9; and local linear regression (normal, bandwidth = 0.01) for age group 17.

Table 18. Comparison of school attendance rates of children in matched 4Ps and non-4Ps families, by age group, 2011

Age Group	4Ps	Non-4Ps	Difference	Significance (α = 0.05)
6–14	96.3	93.3	3.0	significant
6–11	97.8	95.5	2.3	significant
12–14	93.2	89.2	4.0	significant
15–18	57.2	55.1	2.1	not significant

Notes: Figures are estimates from kernel matching (normal, bandwidth = 0.01).
Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

Table 18 displays the treatment effect estimates of the "best" matching estimators at various age groups. It can be seen from the results that on average, school attendance rates of children in matched 4Ps families are significantly higher than those in matched non-4Ps families when looking at ages 6–14. The results also show that the mean difference between the school attendance rates of children aged 6–11 in matched treated and comparison families is 2.3 percent, while this is 4.0 percent when age group 12–14 is considered. This gives a mean difference of 3.0 percent between school attendance rates of children aged 6–14 in matched treated and comparison families. These differences in school attendance rates between 4Ps and non-4Ps children were found to be statistically significant. It is interesting to note that the largest magnitudes in the differences concern those at the top and tail end of the age category covered under the 4Ps, i.e., ages 6 and 14. Among the six-year-olds, the proportion of 4Ps children attending school is 5.3 points higher than that of children who have comparable level of well-being but are not 4Ps beneficiaries (Table 19). The gap is relatively higher at 7.6 points among the 14-year-olds. For ages 7–13, however, this study obtained a 1–3 percentage difference between the school attendance rates of matched 4Ps and non-4Ps children.

The above findings suggest that the 4Ps appears to be generating a significantly positive impact on school participation of children at the primary level. This is more evident among the youngest batch of children beneficiaries and among those who are in their last year of being in the program. On the other hand, the 4Ps does not seem to influence the participation of children beyond the age coverage of the program. For the age group 15–18 (and even for single year of age, i.e., 15, 16, 17, 18), the difference between the school participation rates of 4Ps and matched non-4Ps children is not statistically significant. In general, these findings,

Table 19. Comparison of school attendance rates of children in matched 4Ps and non-4Ps families, by single year of age, 2011

Age	4Ps	Non-4Ps	Difference	Significance (α = 0.05)
6	91.1	85.9	5.3	significant
7	98.0	96.5	1.5	significant*
8	98.4	97.3	1.1	significant*
9	98.6	96.3	2.3	significant
10	98.6	97.2	1.4	significant
11	98.1	96.2	1.9	significant
12	96.8	94.8	2.0	significant
13	93.3	90.2	3.1	significant
14	89.9	82.3	7.6	significant
15	77.3	74.5	2.8	not significant
16	59.9	56.5	3.5	not significant
17	44.4	46.7	-2.3	not significant
18	34.4	30.0	4.4	not significant

Notes: Figures are estimates from the radius (caliper = 0.01), one-to-one matching without replacement, kernel (epanechnikov), kernel (normal, bandwidth = 0.01), and local linear regression (normal, bandwidth = 0.01); * significant at 10-percent level.
Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

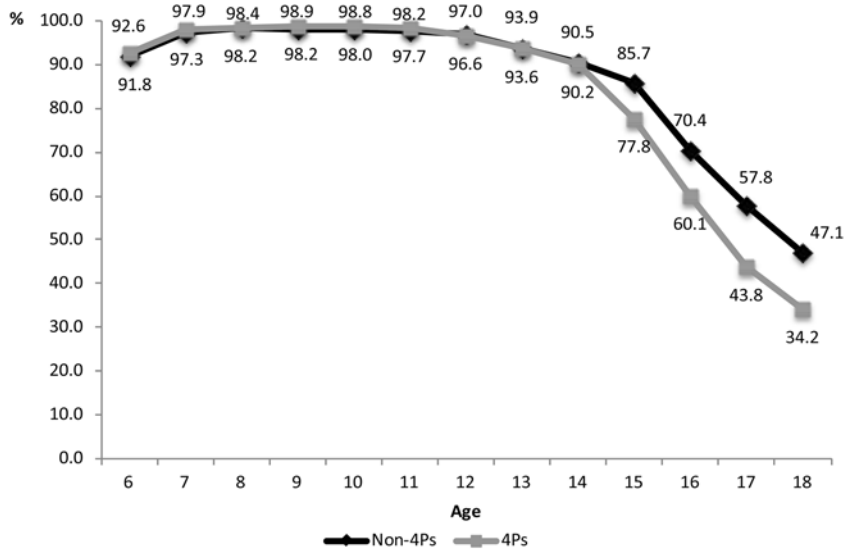
albeit slight differences in treatment effect estimates, confirm the findings in Chaudhury and Okamura (2012) that 4Ps increases school participation among younger children but appears to have no significant influence on school participation among older children.

To better understand the condition of children among 4Ps and non-4Ps families, the proportions of those attending school and/or working are mapped out in Figures 13a to 13c. To allow comparability of the data, only matched 4Ps and non-4Ps families were considered in this subsection.

The school participation rates of 4Ps children (aged 6–14, who are either working or not) are almost equivalent to those of non-4Ps children (Figure 13a). Going beyond age 14, it can be seen that school participation rates are higher among non-4Ps families. In fact, the proportion of children who are both out of school and working is higher among 4Ps families than among non-4Ps families, especially among teenagers (Figures 13b and 13c).

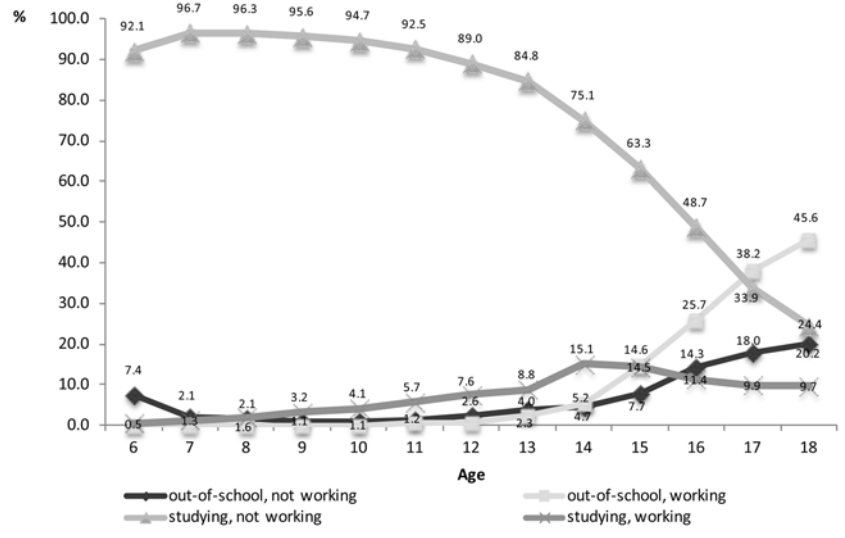
Among children in 4Ps families, those who are attending school started working at an early age of 6. The proportion of those who are both studying and working is higher among older children, with its peak

Figure 13a. Proportion of children in matched 4Ps and non-4Ps families who are attending school (working or not), both sexes, by age, 2011 (in %)



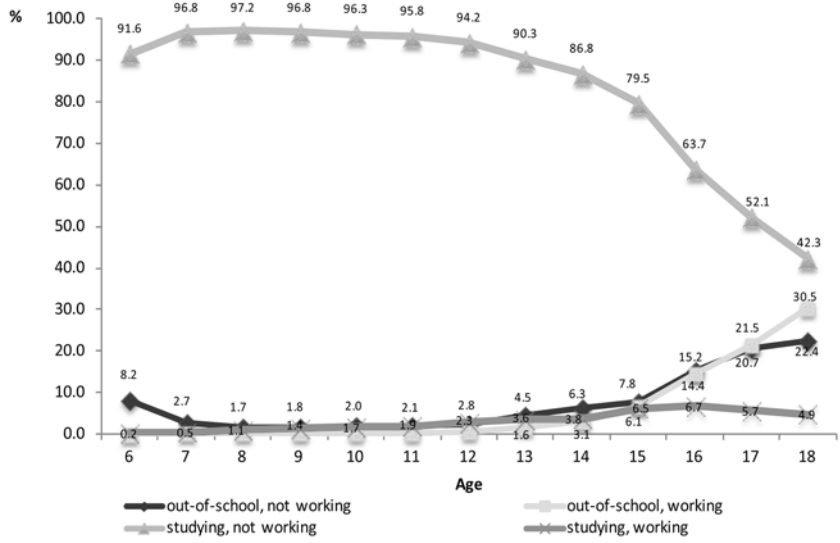
Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

Figure 13b. Proportion of children in matched 4Ps families who are attending school and/or working, both sexes, by age, 2011 (in %)



Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

Figure 13c. Proportion of children in matched non-4Ps families who are attending school and/or working, both sexes, by age, 2011 (in %)



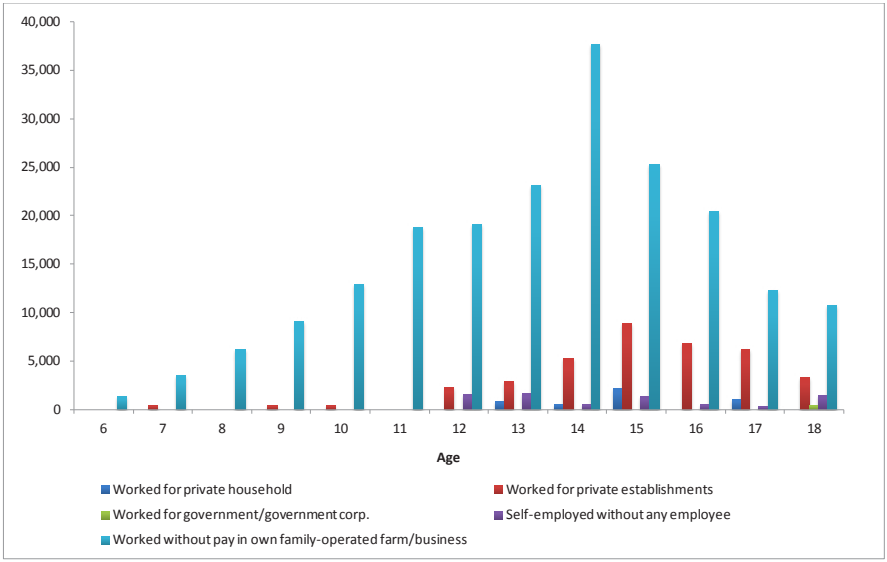
Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

at age 14. While this proportion declines after age 14, the proportion of those who are not attending school but are working takes off at age 15 (15%, from 5% at age 14). This implies that when children reach age 15, many of them start dropping out from school and focusing on employment. This pattern can also be observed among non-4Ps families but it is more evident among 4Ps families.

The majority of children in 4Ps families who are both attending school and working are helping out in their own family-operated farm/business without receiving any form of payment, as Figure 14 shows. A few young children work for private establishments, but many of them are at least 12 years old. On the other hand, children who are working but are not attending school are aged 10 and above, although very few of them are less than 13 years old (Figure 15).

Interestingly, as age goes up, the number of unpaid family workers decreases while the number of paid workers (those working in private establishments and in private households and those who are self-employed) increases. This pattern is more evident among secondary school-age children.

Figure 14. Distribution of children in matched 4Ps families who are both studying and working, both sexes, by age and by class of worker, 2011



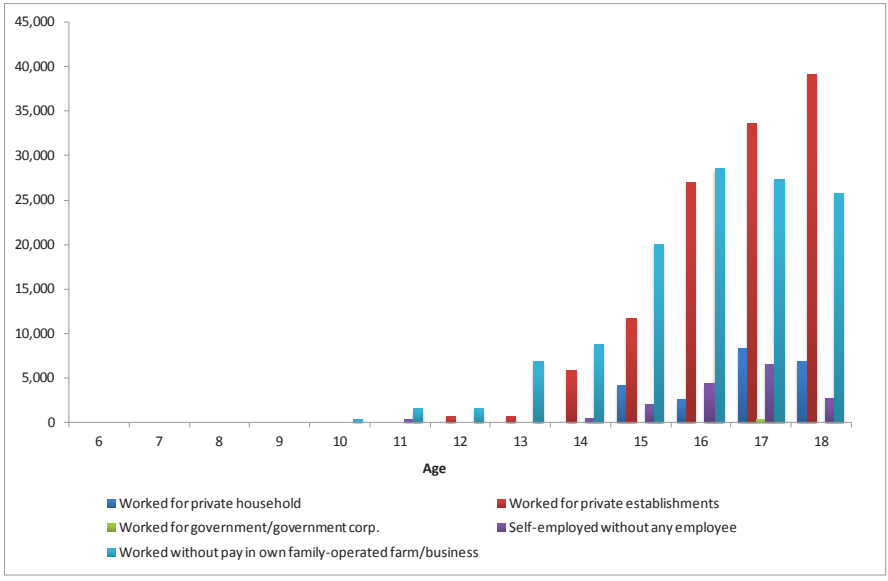
Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

These findings show that 4Ps families whose children are working but are not attending school tend to have relatively less capability to send their children to high school than those families whose children are working but are still studying. It can be said then that 4Ps is indeed an important intervention, particularly in addressing the low school participation rate yet high employment rate among the secondary school-age children.

In general, 4Ps families have lower proportion of children who are in school but have higher proportion of children who are working than non-4Ps families. For instance, while 21.5 percent of 15-year-old boys in 4Ps families are out of school and working, only 10.1 percent of those in non-4Ps are. Six out of ten male teens aged 18 belonging to 4Ps families are already employed; only four of ten of the same cohort from non-4Ps have a job/business. The observed disparity between these two types of families in terms of the proportion of children who are working applies not only for boys but also for girls (Figure 16).

It can be observed that boys are more at a disadvantage than girls, regardless of whether they belong to 4Ps or non-4Ps families. Some boys

Figure 15. Distribution of children in matched 4Ps families who are not studying but working, both sexes, by age and by class of worker, 2011

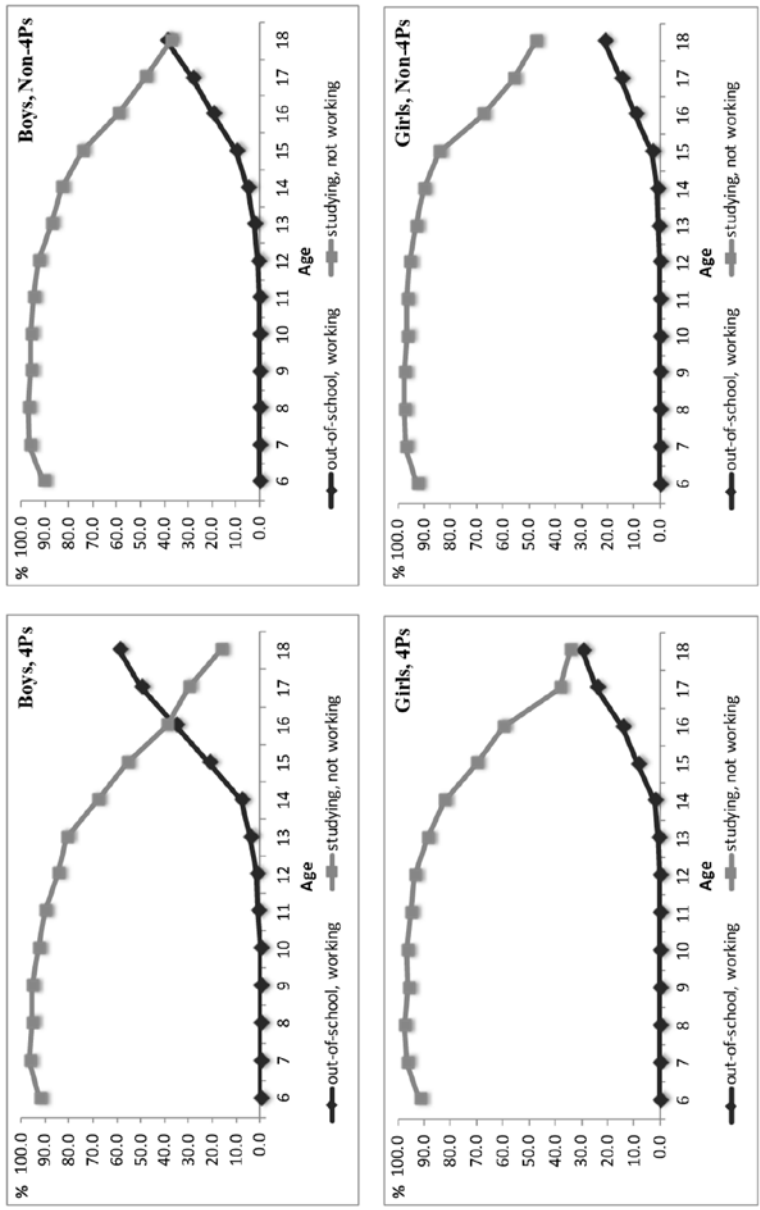


Sources of basic data: Matched files of the APIS 2011 and LFS July 2011, NSO

in 4Ps families started working at age 7 while attending school, while some boys who are not attending school started working at age 11. The proportions go up as children get older. In fact, about half (48.5%) of the boys aged 16 are already working while only about a quarter (23.8%) of the girls are. Also, there are twice as many boys aged 14 who are working than there are girls (26.4% versus 14%). This scenario is not unique to children in 4Ps families.

This reflects the opportunity cost of going to school being higher for boys than for girls. The variation in child labor between boys and girls has important policy and program implications. If the government chooses to intervene through the 4Ps program, a flat rate of transfer may not be the most effective approach. Holding other things equal, boys should therefore be provided greater amount of subsidy or scholarship money. This is the same strategy that the Mexican Oportunidades program has employed but the only difference is that girls got a higher amount because fewer girls tend to go to school in Mexico.

Figure 16. Proportion of children in matched 4Ps and non-4Ps families who are attending school and/or working, by gender and by age, 2011 (in %)



Sources of basic data: Matched files of the APIS 2011, and LFS, July 2011, NSO

6 Conclusions and Recommendations

This paper looked into the assessments that have been conducted on the 4Ps and into the various issues surrounding its design, implementation, and initial impacts in the context of promoting inclusive growth. The program can play a very important role in upgrading the country's human capital. To be able to do this, some modifications in the design and implementation of the program are suggested to facilitate inclusive growth and reduction of chronic poverty.

Summary and conclusions

i. The 4Ps program leads to an increase in the school participation rate by 3.0 percentage points among children aged 6–14.
   a. 96.3 percent of children of 4Ps families attend school, while the figure for non-4Ps families is 93.3 percent (using matched samples).
   b. As of 2011, this translates to about 100,000 more children attending school as a result of the cash transfer and the improvement in school facilities.

ii. The 4Ps program does not influence the participation of children beyond the age coverage of the program. There is no significant difference between the school participation rate of 4Ps children aged 15–18 and non-4Ps children (using matched samples).
   a. The same result is obtained by Chaudhury and Okamura (2012).
   b. Available data suggest that older children do not go to school for several reasons. The top reasons include "lack of personal interest" and "need to work". If the lack of personal interest can be addressed, this would take care of half of those who are not attending school. The need to work to augment family income can only be addressed if livelihood opportunities are made available to the family that will allow the older children to go to school.

iii. The current coverage by 4Ps of children 6–14 years old is intended to enable the child to finish elementary. However, the maximum five years of support may mean that a child who was six years old at the time the family first received the benefit may only complete Grade 5 by the time the family exits from the program. For younger children, this means lower grade levels achieved. Thus, for the very poor who rely solely on the assistance from 4Ps to send their children to school, their children may not finish elementary school.

iv. School attendance rate is lower among older children than among younger ones. In 2007, the pre-CCT period, only around 82 percent of 15-year-olds are in school while less than half (44%) of 18-year-olds go to school. In 2011, the rates slightly improved to 85 percent for 15-year-olds and 47 percent for 18-year olds. The school participation rate is higher among girls than boys, even among 4Ps children, with the gap more apparent from age 13 and above. The ARMM has the lowest school participation rate among the regions of the country.

v. There is not much disparity in terms of school attendance rates of 6- to 11-year-old children across income classes. In 2011, the proportion of this cohort attending school ranges from 94 percent, for the poorest families, to 99 percent, for the richest families. However, this is hardly the case for older children. In fact, there is a wide gap between the poorest families, where only 49.8 percent of their members aged 15–18 are attending school, and the richest ones, which can afford to send 93 percent of their teenagers to school. The same pattern can also be observed in 2007.

vi. The average daily wage of someone who has finished high school is around 40 percent higher than the wage of someone who has reached some years in elementary. Meanwhile, the average wage rate of one who has some elementary education is around 20 percent higher than that for one who did not complete any grade at all. Also, if the aim is just to finish elementary school, an average person will get a wage that is roughly 10 percent higher than what he/she would get had he/she been an elementary undergraduate only. This suggests that it makes sense from the poverty reduction point of view to make additional investment on the education of the child to ensure that he/she finishes high school. A high school graduate will have more employment opportunities and higher pay.

vii. Education builds up human capital gradually. Therefore, sustained investment is required to realize significant results. It is important then to ensure proper targeting so that those who will be assisted for five years really deserve to be given support.

a. The leakage rate in the 4Ps is estimated to be 29 percent (Fernandez and Olfindo 2011). This means that 29 out of every 100 beneficiaries are not poor and do not deserve to be in the program.
b. Data that were used in targeting were as old as 2003. Given that there are considerable movements in and out of poverty, this will lead to identifying as poor even those who have moved out of poverty by the time the program started, as well as excluding those who have moved into poverty since then.

Recommendations

Investments should be made to increase the access of the poor to primary and secondary education so they can take advantage of employment opportunities that are not available to most of the poor right now. It is crucial for the DSWD to reexamine the design and implementation of the 4Ps at this time before the programmed expansion in 2013. It is recommended that the 4Ps be redesigned so that it can increase the skills of the poor, which will enable them to find more jobs with higher wages. This can be done in the following ways:

i. Deepen the assistance rather than expand the coverage
Use the money allotted for expansion to provide longer assistance to current beneficiaries. Instead of expanding the number of beneficiary families, extend the assistance to current beneficiary families to ensure that these children of 4Ps families finish high school so that they have better chances at landing into higher-paying jobs and of breaking intergenerational poverty. This would mean (a) extending the coverage to children who are 16 or 18 years old (taking into account K+12) so that the 4Ps children can finish high school; and (b) increasing the duration of coverage from 5 to 10 years or even longer. Due to the financial burden of supporting the child until he/she finishes high school, it is also worthwhile to consider starting the education support at a higher grade.

ii. Improve the targeting system
It is imperative to improve the targeting system to reduce leakages to the nonpoor and the exclusion of the very poor.

Review the target number of eligible beneficiaries
The NHTS-PR identified 5.2 million poor families in 2012. Including all these families will lead to higher leakage rate because of the reason

that follows. The aforementioned figure is way above the estimated 4.2 million poor families based on the 2012 FIES. Moreover, not all of these poor families have members who are aged 0–18 and/or pregnant women. In fact, the number of poor families with members aged 0–18 is estimated at 3.9 million. One way to address the seemingly too large number of eligible beneficiaries being identified by the NHTS-PR is through the use of the most recent FIES data and revised estimates of the poverty thresholds.

Update the PMT model

Updating the estimates that are used as a basis for selecting beneficiaries is essential in order to maintain an effective targeting system. Ideally, the estimates should be updated every three years. FIES, which is a triennial nationally representative socioeconomic survey, can thus be utilized for this purpose. The benefit of using the updated PMT model is that it would be able to reflect more current weights for certain assets. For instance, owning certain household appliances may no longer be as significant in distinguishing between the poor and the nonpoor.

Move away from the strategy of focusing on "pockets of poverty"

Review the strategy of covering selected barangays in some of the municipalities. Limiting coverage to "pockets of poverty" in areas where poverty incidence is high based on the 2003 small area estimates may lead to significant exclusion. Data will show that there are poor even in areas that are not pockets of poverty. Moreover, relying on local social workers to identify pockets of poverty may be difficult, except for slum settlements in urban areas. Recognizing that the poor are not always clustered in certain areas suggest the need to do a census of the entire population if the aim is to identify and locate all the poor. This would have implications on the data collection costs. Similarly, limiting survey area to "poorest municipalities" to reduce data collection costs may not be the most appropriate way since this will lead to exclusion of some of the extremely poor.

Utilize data from a monitoring system rather than conduct a special survey to identify eligible beneficiaries

Conducting a survey specifically to determine eligible beneficiaries may lead to response bias. Survey respondents are likely to respond in a manner that will allow them to enjoy benefits. This is particularly true when the population knows that it is a survey being conducted

for a particular government agency in connection with a national government program. One way to reduce response bias is to obtain the information from a monitoring system that goes beyond collecting data for one program. Monitoring systems, such as the community-based monitoring system (CBMS), offer an alternative way of collecting data from the families and individuals on a regular basis. Partnering with local government units (LGUs) in implementing CBMS may be a more practical and cost-effective solution, and would facilitate convergence of national and local efforts to reduce poverty. Resources that would otherwise be used by the DSWD in collecting data can be used to strengthen the local monitoring system.

Under this arrangement, the program implementing agency, in this case, the DSWD, would still be the one to determine the PMT model to be used and apply this same PMT model to the data that have been collected. The national government agency would retain control of the identification of eligible beneficiaries while utilizing shared database with the LGUs.

iii. Unify data collection for NHTS-PR, RSBSA, and CBMS
The data collection for NHTS-PR and Registry System on Basic Sectors in Agriculture (RSBSA) cost PHP 2 billion each while that for CBMS is financed by the LGUs. Unifying the data collection for all these three can substantially reduce the data collection costs and, at the same time, facilitate convergence of poverty reduction efforts.

iv. Targeting the chronic poor would provide better focus to the program
Reyes et al. (2011) have shown that those who are categorized as poor at a given point in time actually consist of chronic and transient poor. They showed that about half of the poor are chronically poor while the other half are transient poor. The chronic poor generally are not able to move out of poverty because they have low levels of education that constrains opportunities for productive employment. The chronic poor would need more long-term assistance to allow them to move out of poverty. Thus, programs like the 4Ps would be better suited to them.

On the other hand, the transient poor, or those who were previously nonpoor but due to natural and man-made shocks have become poor, would need programs that tend to reduce risks as well as mitigate impacts of risks. For instance, farmers who have been affected by floods and have lost their crop would benefit from a crop insurance system that would allow them to plant again the next season.

Targeting the chronic poor would direct the program to those who need the assistance most. Moreover, this reduction in the coverage, from all poor to just the chronic poor, would give the fiscal space needed to extend the program coverage to enable the children to finish high school.

v. Improve implementation of the program
It is recommended that the cash grants be released regularly, preferably at monthly intervals. At present, cash grants are released every two or three months. Some are released through automated teller machines (ATMs) while others are still released in cash during an assembly of beneficiaries. For the very poor who rely on the cash grants for the food and transport allowances of their children in going to school, this can be problematic and has led some to borrow using the future cash grants as "collateral".

Moreover, it is suggested that the ATM accounts be converted to regular savings accounts to encourage the 4Ps beneficiaries to save even a small amount. The current practice is for the beneficiary to withdraw the full amount of the cash grant. The beneficiaries tend to spend the full amount within a few days after receiving the grant.

vi. Conduct impact assessment of Set 1 of the beneficiaries
The first batch of beneficiaries will be reaching its fifth year in 2012. It would therefore be timely to assess the impacts of the program by examining the situation of this group of families and whether the 4Ps has indeed improved their health, education, nutrition, and poverty conditions. This would also be an opportune time to see if the children would continue attending school or if the families would continue to seek regular medical check-ups even after they exit from the program. The results of this assessment would be useful in fine-tuning the program.

vii. Pilot test innovations before scaling up
The results of the assessments of the 4Ps being done by various groups are likely to point to the need for some changes in the program. However, it is critical that the innovations or possible modifications in the program are pilot tested first before they are scaled up. Some of the possible strategies that can be considered to help fine-tune the program are as follows: (a) Provide bigger grants to children in high school since school participation among older (secondary-age) children

is generally lower; (b) Provide bigger grants to boys since school participation among boys has been relatively lower than that among girls; (c) Provide grants to children-beneficiaries when they graduate from high school; and (d) Determine through careful analysis the maximum number of years for beneficiaries to stay in the program.

References

Albert, J.R.G., F. Quimba, and A.P. Ramos. 2011. Why are some Filipino children not in school? PIDS Policy Notes No. 2011-16. Makati City: Philippine Institute for Development Studies.

Asian Development Bank (ADB). n.d. Social Protection Support Project: Economic Analysis (RRP PHI 43407-01). Mandaluyong City: ADB. http://www.adb.org/Documents/RRPs/PHI/43407/43407-01-phi-ea.pdf.

Attanasio, O., E. Fitzsimons, A. Gomez, M. I. Gutierrez, C. Meghir, and A. Mesnard. 2010. *Children's schooling and work in the presence of a conditional cash transfer program in rural Colombia*. Chicago, IL: The University of Chicago. http://www.homepages.ucl.ac.uk/~uctpjrt/Files/edccfamilias.pdf (accessed on December 7, 2012).

Attanasio, O., L.C. Gómez, P. Heredia, and M. Vera-Hernández. 2005. The short-term impact of a conditional cash subsidy on child health and nutrition in Colombia. London: Centre for the Evaluation of Development Policies. http://www.ifs.org.uk/edepo/rs_fam03.pdf (accessed on December 7, 2012).

Bastagli, F. 2007. From social safety net to social policy? The role of conditional cash transfers in welfare state development in Latin America. London: London School of Economics. Preliminary draft, July. www.unifi.it/confsp/papers/pdf/Bastagli.doc (accessed on December 7, 2012).

Cecchini, S. and A. Madariaga. 2011. Conditional cash transfer programmes: The recent experience in Latin America and the Caribbean. Cuadernos de la CEPAL No. 95. Santiago, Chile: Unidad de Distribución de la CEPAL.

Chaudhury, N. and Y. Okamura. 2012. Conditional cash transfers and school enrolment: Impact of the conditional cash transfer program in the Philippines. Philippine Social Protection Note No. 6. Washington, D.C.: The World Bank.

County Welfare Directors Association of America (CWDA). 2010. *Oportunidades*: Mexico's conditional cash transfer program. http://www.cwda.org/downloads/tools/americanpoverty/OPORTUNIDADES.pdf (accessed on December 7, 2012).

Fernald, L., P.J. Gertler, and L.M. Neufeld. 2008. Role of cash in conditional cash transfer programmes for child health, growth, and development: An analysis of Mexico's Oportunidades. http://www.who.int/management/country/mex/RoleofCashConditionalCashTransferMexicosOportunidades.pdf (accessed on December 7, 2012).

Fernandez, L. and R. Olfindo. 2011. Overview of the Philippine's conditional cash transfer program: The *Pantawid Pamilyang Pilipino* Program (*Pantawid Pamilya*). Philippine Social Protection Note No. 2. Washington, D.C.: The World Bank.

Glewwe P. and A.L. Kassouf. 2010. The impact of the *Bolsa Escola/Familia* conditional cash transfer program on enrollment, drop out rates, and grade promotion in Brazil. http://faculty.apec.umn.edu/pglewwe/documents/BrBolsa6.pdf (accessed on December 7, 2012).

Maligalig, D.S. and J.R.G. Albert. 2008. Measures for assessing basic education in the Philippines. PIDS Discussion Paper Series No. 2008-16. Makati City: Philippine Institute for Development Studies.

Mourão, L. and A.M. de Jesus. 2012. Bolsa Família (family grant) programme: An analysis of Brazilian income transfer programme. http://factsreports.revues.org/1314 (accessed on December 7, 2012).

National Statistics Office (NSO). 2007. *Annual Poverty Indicators Survey 2007*. Manila: NSO.

———. 2009. *Family Income and Expenditure Survey 2009*. Manila: NSO.

———. July 2011. *Labor Force Survey* (*July 2011*). Manila: NSO.

———. 2011. *Annual Poverty Indicators Survey 2011*. Manila: NSO.

Reyes, C., A. Tabuga, C. Mina, R. Asis, and M. Datu. 2011. Dynamics of poverty in the Philippines: Distinguishing the chronic from the transient poor. PIDS Discussion Paper Series No. 2011-31. Makati City: Philippine Institute for Development Studies.

Soares, F.B., R.P. Ribas, and R.G. Osorio. 2010. Evaluating the impact of Brazil's Bolsa Familia: Cash transfer programs in comparative perspective. *Latin American Research Review* 45 (2):173–190. http://lasa-4.univ.pitt.edu/LARR/prot/fulltext/Vol45no2/Soar-Riba-Osor_173-190_45-2.pdf (accessed on December 7, 2012).

Soares, S. 2012. Bolsa Familia, its design, its impacts, and possibilities for the future. IPC-IG Working Paper No. 89. Brasilia: International

Policy Centre for Inclusive Growth. http://www.ipc-undp.org/pub/IPCWorkingPaper89.pdf (accessed on December 7, 2012).

Zhao, Z. 2000. Data issues of using matching methods to estimate treatment effects: An illustration with NSW data set. Beijing: China Centre for Economic Research.