Philippine Institute for Development Studies
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

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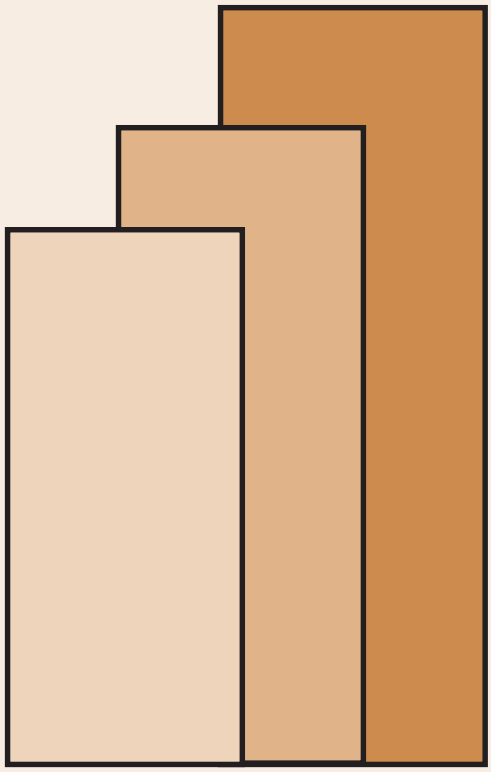
Celia M. Reyes, Aubrey D. Tabuga, Christian D. Mina, and Ronina D. Asis

DISCUSSION PAPER SERIES NO. 2013-09



January 2013

For comments, suggestions or further inquiries please contact:
The Research Information Staff, Philippine Institute for Development Studies
5th Floor, NEDA sa Makati Building, 106 Amorsolo Street, Legaspi Village, Makati City, Philippines
Tel Nos: (63-2) 8942584 and 8935705; Fax No: (63-2) 8939589; E-mail: publications@pids.gov.ph
Or visit our website at http://www.pids.gov.ph

Promoting Inclusive Growth through the 4Ps

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Abstract

The year 2013 marks the fifth year of the *Pantawid Pamilyang Pilipino* Program (4Ps) implementation in the country since its inception in 2008. The first batch of beneficiaries will be graduating from the program in several months time. Meanwhile, the government continues to expand the 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 conceived. Approximately 120 billion pesos 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 of what to expect of this program. It is rather fitting at this point to draw together assessments that have been conducted so far and to look into some important issues in terms of design and implementation. The paper seeks to answer whether expanding the program would likely yield better results or not. It discusses the outstanding issues most especially those on the aspects that have a bearing on the program's ability to facilitate inclusive growth.

Keywords: *Pantawid Pamilyang Pilipino* Program, 4Ps, Proxy Means Test, PMT, Propensity Score Matching, PSM, conditional cash transfer program, Philippines, poverty, social assistance, education, school attendance

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DRAFT: For comments only

1. Introduction

The year 2013 marks the fifth year of the 4Ps implementation in the country since its inception in 2008. The first batch of beneficiaries will be graduating from the program in several months time. Meanwhile, the government continues to expand the implementation, devising along the way, several variants that it deems necessary to address the many facets of poverty. As program graduation nears, many questions arise of what to expect of the most expensive and infamous social protection program of the Philippine government. It is rather fitting at this point to draw together assessments that have been conducted so far and to look into some issues that the program has encountered.

By framing the issues, we can achieve two objectives. First, we would know what things to look out for in fine-tuning this program if necessary. Second, we can come up with concrete bases, useful insights that can be utilized to modify or enhance existing programs to function in complement to the 4Ps or create new ones, if necessary, to serve the same purpose. This chapter proceeds by providing a comprehensive review of the literature on the Philippines' 4Ps experience followed by listing the outstanding issues not only in terms of the design and implementation of the program but most importantly on the aspects that have a bearing on its ability to help the poorest of the poor with respect to enhancing human capital.

The paper starts with a brief description of the Philippine CCT – the 4Ps. A review of the assessments that have been conducted so far in terms of impact on school enrolment, targeting, and poverty follows. The next section discusses the design and implementation issues. The insights partly revolve around the experience of Latin American countries' experiences from where the 4Ps is supposed to be modelled from. The paper also 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 for it to achieve greater impact. After this, an assessment of the characteristics of 4Ps beneficiaries based on the 2011 Annual Poverty Indicators Survey (APIS) is presented. This is followed by an analysis of school attendance of children in 4Ps and non-4Ps families, the reasons for not attending school, and child labour, among others.
The paper concludes with some recommendation.

2. Features of the 4Ps (the Philippine CCT)

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

The *Pantawid Pamilyang Pilipino* Program, or 4Ps, is the Philippines' version of the conditional cash transfer. Based on the Department of Social Welfare and Development Studies (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 targeted poor families with children aged 0-14. The two main objectives of the program are social assistance and social development. The former aims to alleviate the poor's immediate needs, hence it can be termed as a short-term poverty alleviation measure. The latter, however, aims to break the intergenerational poverty cycle by investing in human capital. Meanwhile, the 4Ps helps in fulfilling the country's commitment in the Millennium Development Goals particularly in: (1) eradicating extreme poverty and hunger; (2) achieving universal primary education; (3) promoting gender equality; (4) reducing child mortality; and, (5) improving maternal health.

The 4Ps has two components, namely: health and education. Under the health component, the program provides PhP6,000 annually (PhP500 per month) to each family-beneficiary for their health and nutrition expenses. Under the education component, it provides PhP3,000 per child for one school year (i.e., 10 months) for meeting educational expenses. Each family beneficiary shall receive for up to a maximum of 3 children under the educational grant.

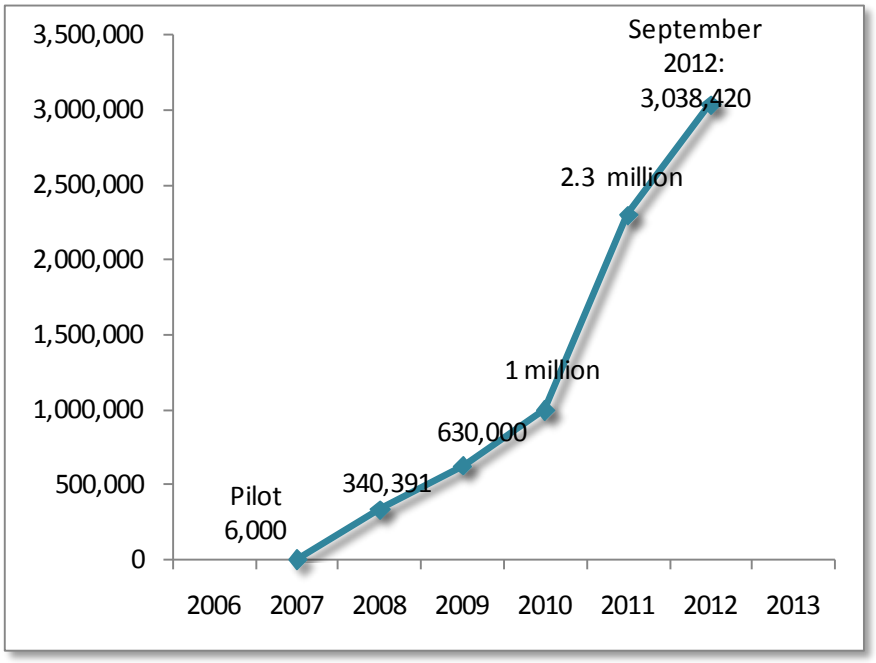
In return, the family-beneficiaries have to commit themselves to the following conditionalities: (1) pregnant women must avail of the pre- and post-natal care and be attended during childbirth by a trained medical professional; (2) parents must attend family development seminars; (3) children aged 0-5 must undergo regular preventive health checks and receive vaccines; (4) children aged 3-5 must attend day care or preschool classes at least 85 percent of the time; (5) children aged 6-14 must enroll in elementary or high school and attend at least 85 percent of the time; and, (6) children aged 6-14 must receive de-worming pills twice a year. The family-beneficiaries will receive the grant for at most five years, provided that they comply with the conditionalities.

The eligible beneficiaries of the 4Ps are families: (1) from the poorest municipalities; (2) whose condition is equal to or below the provincial poverty threshold; (3) with children aged 0-14 and/or a pregnant woman at the time of assessment; and, (4) that agree to meet the program's conditionalities. The Department of Social Welfare and Development (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%, all barangays are assessed. But for those with poverty rate lower than 50%, 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 the 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 FIES and the 2006 Labor Force Survey (LFS). The assessment is conducted by using certain proxy variables like ownership of assets, type of housing, education and employment of household head, and access to water and sanitation facilities to predict income. To verify compliance, the DSWD coordinates with the program's multi-sectoral Advisory Committee to conduct monthly verification through the Compliance Verification System (CVS) developed for the program.

As of September 2012, the DSWD reported a total of 3,038,420 families that were reached and assisted by the 4Ps. From merely 340,391 beneficiaries in 2008, the number of beneficiaries increased by a rate of 54 percent per year, on the average.

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



Source: Department of Social Welfare and Development

3. Review of assessments conducted

This section focuses on assessments that have been done on the implementation and impact of 4Ps. The study closest to a rigorous assessment was recorded to have been conducted only this year, 2012, which is four years after the rapid expansion of the 4Ps has taken place. The following assessments conducted so far which have empirical data support pertain only so far to 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 enrolment

The most recent study done in the Philippines is that by Chaudhury and Okamura (2012). The study documented the causal effect of the 4Ps program on school participation. It used a small selective sample survey to determine the impact of 4Ps on the objective of increasing school participation. Covering 900 households, with children aged 9-17, in 9 municipalities in all 3 major island groups, the sample was split evenly between beneficiary (treatment) households and non-beneficiary (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 post-intervention data came from their 2011 assessment survey (follow-up).

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 enrolment 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. There was positive impact on school enrolment among children in the younger cohort 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 to 17 percent. 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 enrolment among the older cohort of 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 4Ps 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-aged children seem to be benefiting more from the program, compared to those who came from larger households. No significant impact was found among children coming from households with more than 3 school-aged 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 marked 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 that the net education enrolment rates of children in the targeted households have increased while the number of children who have availed of the health services has also increased.

Poverty

An ex-ante analysis[1] 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 claims 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 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 yet that analyzes 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 involved in implementing a 4Ps program, the DSWD faced challenges in terms of available resources for the program such as personnel, equipment and financial resources. These challenges were exacerbated by the rapid scaling up of the program which happened when 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 staffing for the national Project Management Office (PMO) was only 69 percent of the positions needed by the end of 2010 and that for the regional PMO, only 74 percent of the approved positions. Delays in implementation were also caused by weak procurement system of the DSWD which hampered the necessary

[1] An ADB project document obtained online from: http://www.adb.org/Documents/RRPs/PHI/43407/43407-01-phi-ea.pdf

information technology (IT) systems in the regions. Moreover, key challenges involved the supply-side preparedness of the target areas. Because the program has been scaled up in a rapid pace, 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 the 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 conditionalities.

4. Design and implementation issues

Much of the controversies about the 4Ps program stems from the design and implementation aspects. In this section, several questions are posted with the objective of seeking whether or not 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.

The section dwells on the program intricacies as compared to known approaches and designs of 4Ps programs popularized by other countries particularly the model cases of *Oportunidades* of Mexico and *Bolsa Familia* of Brazil. At the same time, looking deeper into the challenges in the Philippines, in terms of human capital, is a critical aspect to determining whether the program was designed to address the current issues or not and what should be done to ensure optimal results from such a heavily-funded program.

What are the salient features of Latin American programs that are worth revisiting? Why are these necessary in ensuring that the program brings about optimal results in pursuing the objectives of the 4Ps program? Perhaps the key element in the design of the *Oportunidades*, on the educational component of the program in particular, is that it was designed to solve the important issues in school attendance rates. In particular, its design took into account the deficiencies like the low attendance rates among older children. One of the most important aspects is the attention they have put in addressing the gender gap. Girls had lower school participation than boys, hence the program provided higher amount of cash assistance to girls. More importantly, it 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 shows that the challenges we face as a country are similar to those of Mexico in some cases but different in others. Older Filipino children also have lower attendance rates than younger ones, which is an understandable empirical fact. However, the 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 children than older ones.

The school attendance rate of elementary children (aged 6-11) was 94.42 percent in 2007 based on the APIS. In 2011, the estimate increased to 97.13 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 is just around the corner. While we would certainly like to achieve universal access to basic education, the problem of non-attendance is more severe among older children. The attendance rate of children aged 15-18, for instance, was only 62.85 percent in 2007 and 65.47 percent in 2011, based on the APIS. If such group would have 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 4Ps-implementing countries.

4.1 Design of the 4Ps program in Latin American countries

The country can learn from the experience of other countries in terms of designing the 4Ps program. The table below 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: (1) they targeted children aged up to 17 or senior year; (2) they provided differentiated amount of subsidy, with older children getting more than younger ones; and, (3) gender disparity was taken into account, particularly by the *Oportunidades*, wherein the program provided more incentive for girls who have 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 shows 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 3rd grade in elementary up to senior year. 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 aged up to 17 for the education component of the program. In 2001, enrolment rate of children aged 8-11 in Brazil was 97 percent while that of 15-year-olds was only 87 percent. Hence, the *Bolsa Escola* program, renamed *Bolsa Familia* in 2003, was launched in 2001 to address this (Glewwe and Kassouf 2010).

Table 1. Selected characteristics of other 4Ps programs in terms of the education component

Program/Country	Age range/level	Amount of assistance (per month)
Oportunidades (formerly Progresa), Mexico	Up to 22 years old/ between 3rd grade to senior year in high school (prior to 2001, the coverage was 3rd grade to ninth grade)	1. 60 to 225 Mexican Pesos 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 ,Bolsa Familia, Brazil	Up to17 years old	R$32 per child aged 15 and below; R$38 per adolescent 16 to 17 years old (youth benefit)
Familias en Acción, Colombia	Up to17 years old	Subsidy amount for secondary school children is twice that of primary school children

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

Aside from these, Latin American 4Ps programs have other design features that are worth considering. For instance, pilot programs of several variation of 4Ps have been successful in Bogota, Colombia where the approach of postponing a lump-sum payment to ensure enrolment in a higher level did not affect attendance rates. In addition to the standard 4Ps

program, they implemented a savings 4Ps and graduation 4Ps. Mexico also provided incentive for finishing high school before the age of 22.

This perspective in targeting not only young but also older children has a bearing on what impacts to expect – and that is, the program will likely lead to greater impact in terms of point percentages on school participation of children in the older age range. True enough, studies show that 4Ps programs have greater impact on older than younger children. A study on the Colombian case shows that the 4Ps increased school participation of 14- to 17-year-old children quite substantially, by 5 to 7 percentage points. On the other hand, the program had lower effect on the enrolment rate of younger children, only about 1 to 3 percentage points (Attanasio et al. 2010).

A study on the Brazil's case also showed greater impact on enrolment of older children (i.e., those in Grades 5 to 8) than in 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 enrolment of girls and 10 percent for boys was observed.

An important element of these 4Ps 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 R$60 or US$34 per capita monthly) regardless of the household composition; there is no conditionality for the 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 R$120 or US$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.

Table 2. Target beneficiaries of other 4Ps programs

Program	Target Population	Coverage
Oportunidades / Progresa	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 US$30; all poor households with per capita income below US60 and children aged up to 17 or pregnant woman	all municipalities
Familias , Colombia	Extremely poor households with children up to 17 years of age	selected municipalities with less than 100,000 inhabitants and with adequate infrastructure

Source: Bastagli 2007

Moreover, the duration of the program varies (Table 3). In Mexico, there is a recertification every three years. If the beneficiary remains eligible, they continue with the program for 4 (for urban areas) or 6 (rural or semi-rural) more years. After this period, they are

transferred to the Differentiated Support Scheme for 3 years subject to compliance to 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*.

Table 3. Maximum duration of other 4Ps 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 3 years. Families graduate from programme after 5 years. They automatically access the SUF and have preferential access to all social assistance programmes.
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)	Programme 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 programme until completing 4 years in urban areas and 6 years for rural or semi-urban locations. After this period, they re transferred to the Differentiated Support Scheme for 3 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

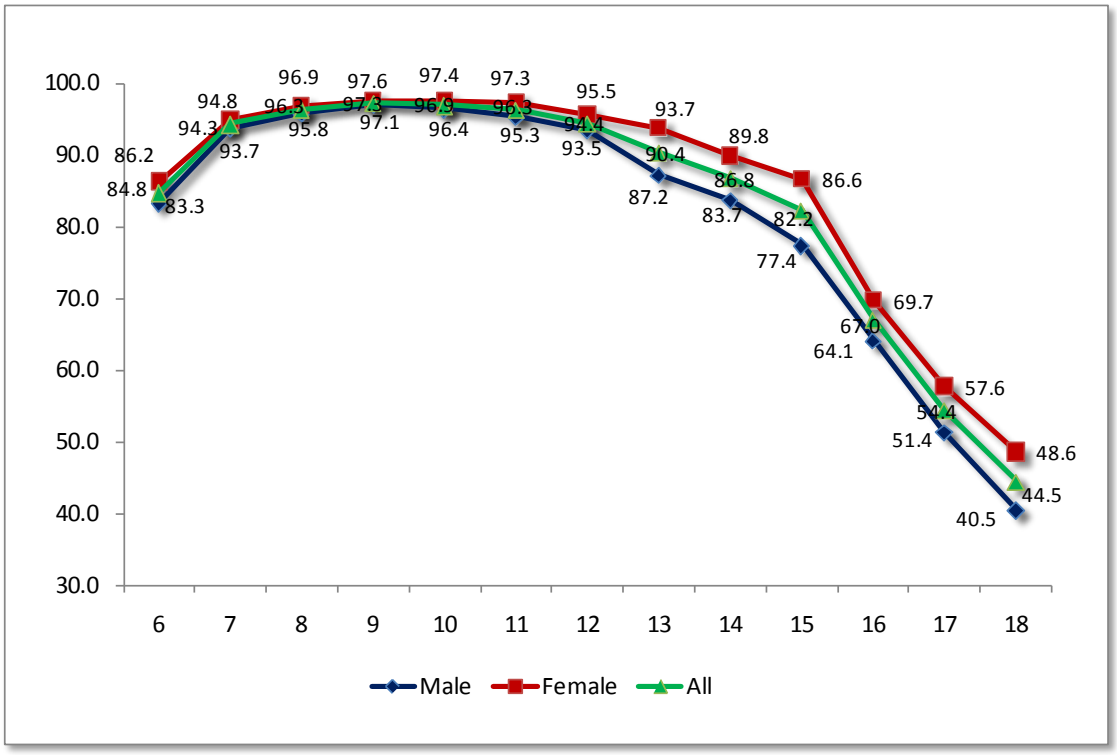
4.2 Design issues of the 4Ps

Target children beneficiaries

The situation of school participation in the Philippines is not very different from the Latin American case. We have calculated from the APIS the school attendance rates by single

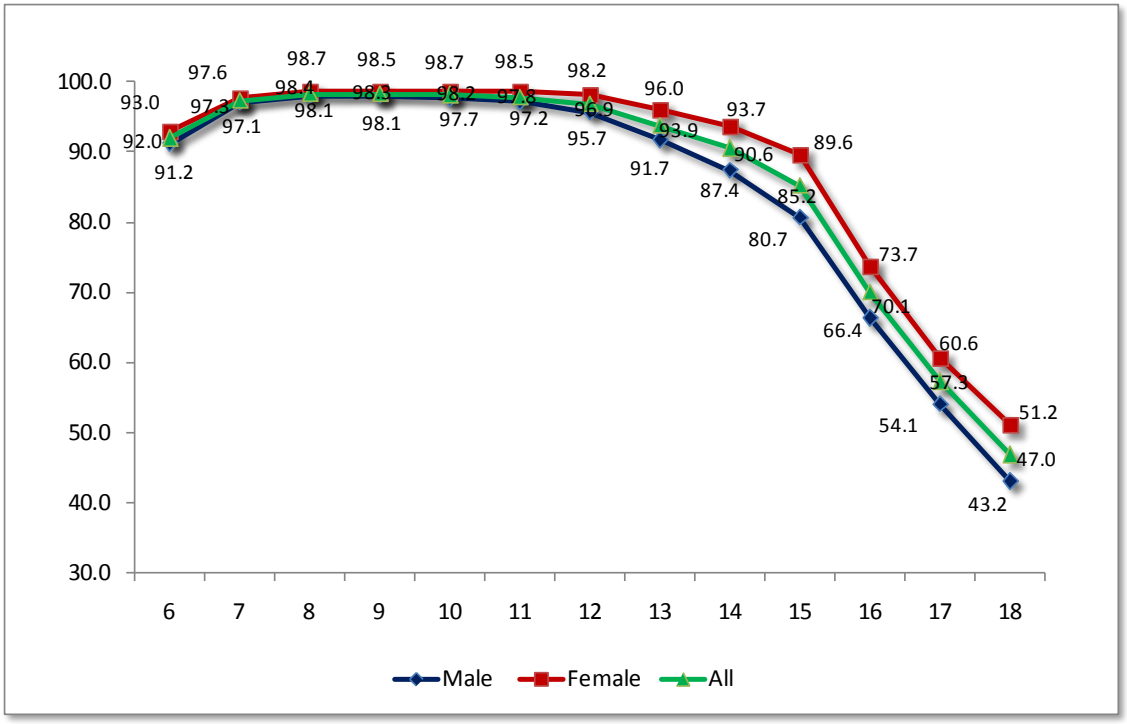
year of age to illustrate that attendance is more a problem of older children. Attendance rate starts to slide at age 13 to 14. At 15, only around 82 percent are in school. Less than half, 44%, of 18-year-olds go to school. The figure below shows this predicament being an issue that has not changed or improved through time. The pattern in 2007 (pre-CCT period) and 2011 remains the same, which indicates that programs have not been effective in as far as improving the school participation of older children is concerned.

Figure 2. Proportion of children attending school, by gender and by single year of age, 2007



Source of basic data: APIS 2007, NSO

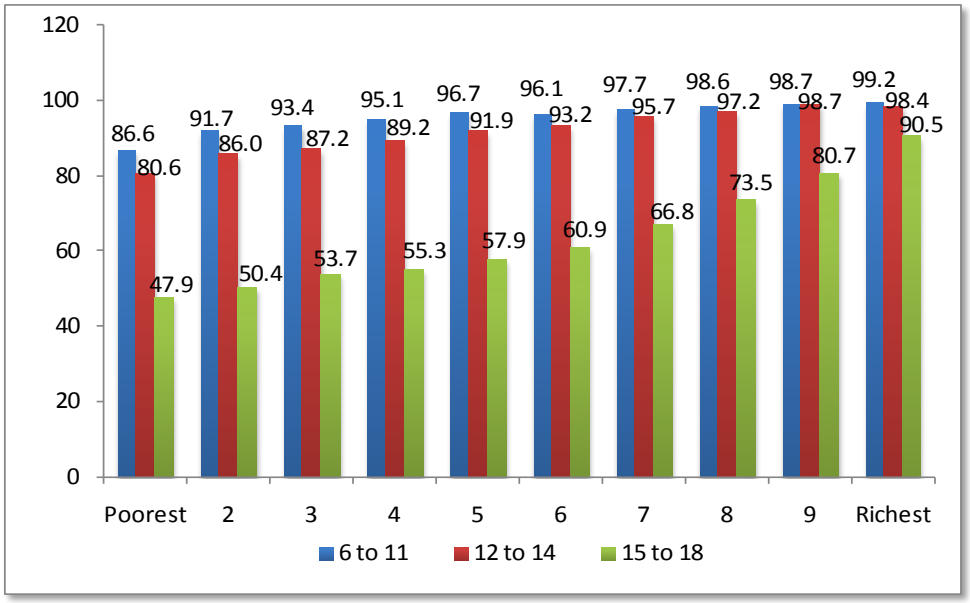
Figure 3. Proportion of children attending school, by gender and by single year of age, 2011



Source of basic data: APIS 2011, NSO

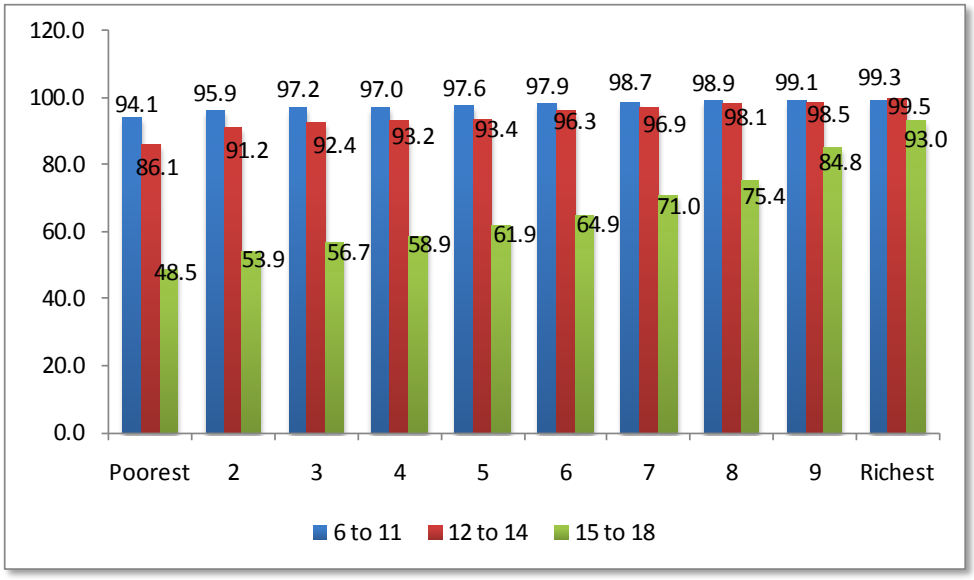
The figures below show the school attendance rates of children by income group based on the APIS. It is shown that roughly 90.3 percent of children aged 6-11 in the poorest 3 groups were already attending school in 2007 while only half of those aged 15-18 are. The gap between the richest households and the poorest ones are much wider for the older children (42.6 percentage points in 2007) than for the younger ones (12.6 points in 2007). Moreover, the gap among 15- to 18-year-olds has in fact widened from 2007 (42.6 points) to 2011 (44.5 points).

Figure 4. Proportion of children attending school, by income group and by age group, 2007



Source of basic data: APIS 2007, NSO

Figure 5. Proportion of children attending school, by income group and by age group, 2011



Source of basic data: APIS 2011, NSO

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 is 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 $37.67 while a girl received $43.22. This aspect was necessary as the program have 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. We posit that such target may not be able to bring about significant change in two ways: (1) the 4Ps is targeting young children but the attendance rate of young children is already high; and, (2) if the objective is improving their future income-earning capacities, interventions should therefore ensure that children can 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.

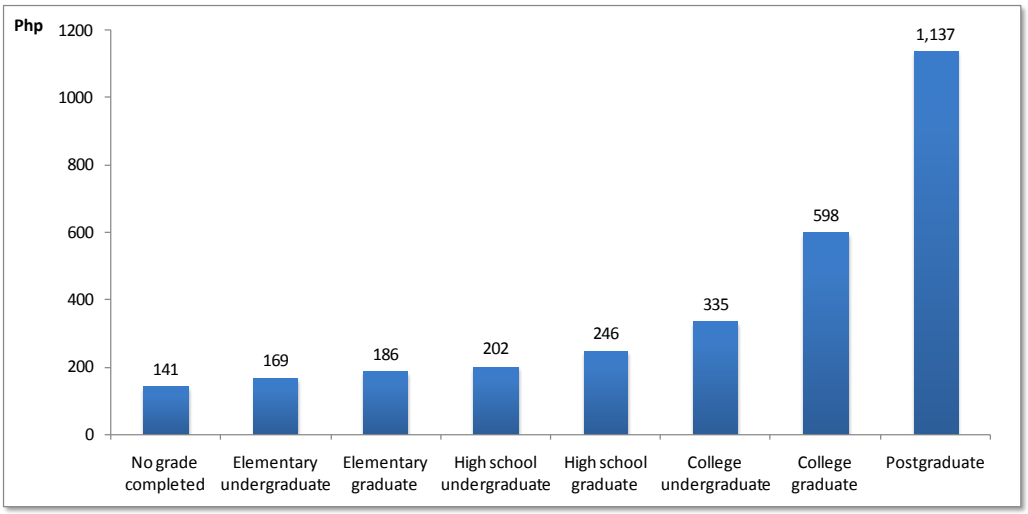
In addition to the fact that school participation is more a predicament among older children than younger ones, finishing mere elementary level does not suffice to improve the earning capacities of children. The figure below shows the average daily wage earned by wage earners, sorted by their educational attainment. The difference in terms of wage income between having finished several years in elementary and being an elementary graduate is not that significant. The average daily wage earned by a worker who have only some years in elementary school is around PhP165, while that for one who have finished elementary is about PhP177. The difference between these is only PhP12.

However, graduating from high school has a huge leap from mere having an elementary education. If poor children are given adequate support for them to finish at least high school, the mean wage that they can potentially earn would be higher by over 40 percent than that if they only have some years in elementary level.

Indeed, the ideal intervention is to prepare the children to go to higher learning because the expected wage income for those who have college education is way higher than just finishing high school. In the meantime, as the latter may be something not feasible at this

time, at least not in a large scale, ensuring that many of the poor can at least finish high school is very important.

Figure 6. Average daily wage of wage/salary workers, by educational attainment, 2011



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

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 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 given that they finish high school before the age of 22 and they open up their own bank accounts.

The length of the exposure to the program is also essential to make sure it can yield a significant outcome. With the current design of the 4Ps where the education subsidy targets only poor households with children aged 6-14, many of these do not actually stay in the program long enough to benefit from it. Those children aged 14 who are selected through their families this year; they will cease to receive benefits once they reach the age of 15. In this case, the children's exposure is only a year.

If only the program were designed to complete the 5-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 5 years will help him or her finishes high school. With the current design, however, it is unavoidable that the children may 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.

4.3 Implementation issues

Targeting and collection of data for NHTS

The DSWD has assessed 10.9 million households during the period 2008-2010. Using the PMT model, it has identified 5.2 million poor households, or 5.7 million poor families, from the list of assessed households. 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 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 from. Mexico's *Oportunidades* and Colombia's *Familias* are targeted to extremely poor families. Brazil's *Bolsa Familia*, though targeted poor households, target extremely poor families regardless of their composition.

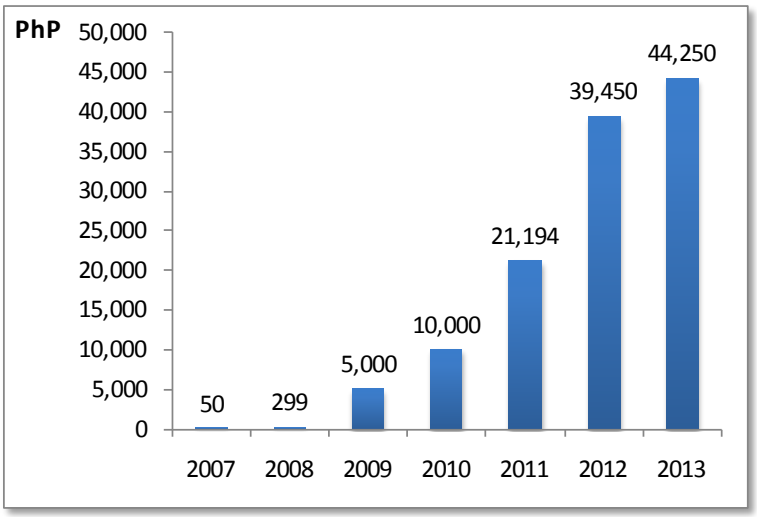
Already, this can be seen from the leakages shown by the number of families delisted. This may likewise be inferred from a study done by Fernandez and Olfindo (2011) using the 2009 FIES which reveals that only 72 percent of the 4Ps beneficiaries in 2009 come from the bottom 20 percent of the families. Similarly, when one looks at the official estimate of poverty incidence for the same year at 20.9 percent, this translates to about 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 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 program has been piloted in 2007, a total of PhP75.993 billion has already been allocated for its implementation. By the end of 2013, this would roughly be around PhP120 billion.

Figure 7. 4Ps' budget allocation, in million PhP, 2007-2013



Source of basic data: DSWD

Budget data from the DSWD indicates a significant cost of administering the program. 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 PhP4-billion cost of running the program is equivalent to supporting 266,667 million families with three eligible children for one year.

Table 4. Annual budget of the Philippine 4Ps Program (4Ps), in million PhP, 2011-2012

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, available online http://pantawid.dswd.gov.ph/index.php/pantawid-pamilya-financials

5. Assessment of the 4Ps: Results from 2011 APIS

5.1 Characteristics of 4Ps beneficiaries

Out of the 42,063 families included in the 2011 APIS, about 3,066 are 4Ps beneficiaries, or 7.29 percent of the total. Employing the weights that the NSO uses, we arrived at about 1.2 million 4Ps families or about 27 percent of the total poor. Eight of ten 4Ps beneficiaries are from the rural areas.

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

Location

4Ps beneficiaries are distributed variably in all 17 regions of the country. Based on DSWD[2] data as of December 26, 2012, ARMM has the highest share of beneficiary families at 10.6 percent. Shares of Regions V (Bicol) and VI (Western Visayas) follow at 9.9 percent and 8.2, respectively. The shares of CAR (1.8%), Region II (2.7%), and Region III (3.1%) are the lowest.

The figure below illustrates this regional allocation of 4Ps beneficiaries in comparison with the distribution of total poor families based on the latest FIES (i.e. 2009 round). 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 VI (9%) and Region V (10%).

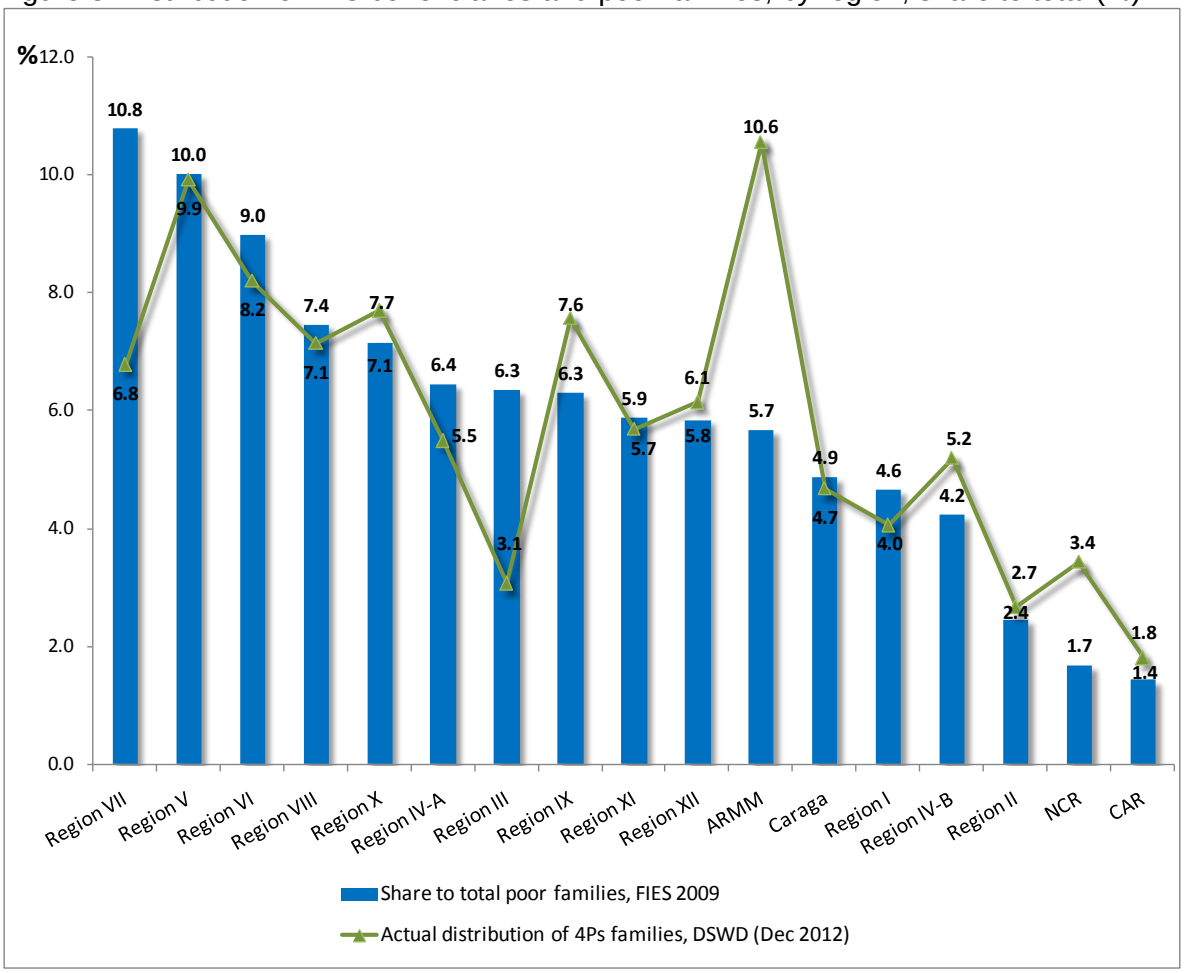
[2] Monitoring and Evaluation Unit (Planning, Monitoring, and Evaluation Division), Department of Social Welfare and Development (DSWD)

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

Actual and official data from DSWD as of December 2012 show a distribution that is somewhat similar with 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 the 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 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 beneficiaties can serve as the basis for prioritizing underserved areas in the next phases of 4Ps.

Figure 8. Distribution of 4Ps beneficiaries and poor families, by region, share to total (%)



Sources of basic data: DSWD and FIES 2009, NSO

Family composition

In terms of family composition, a significant proportion of the program recipients (23%) have large family size (at least 8 members). In contrast, about 9 percent of non-recipients belong to this category. While 21 percent of 4Ps beneficiaries belong to smaller families (that is, consisting of up to 4 members), majority of non-recipients do.

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

No. of members	4Ps	Non-4Ps
4 or less	20.7	55
5 to 7	55.9	36.1
8 to 10	20.1	7.9
More than 10	3.3	1
All	100	100

Source of basic data: APIS 2011, NSO

On the average, 4Ps families have more members, roughly 6, than non-4Ps families with only around 4. The former also have higher dependency ratio. Roughly half of the total members in 4Ps families are less than 15 years old while only 1 out of 4 members in non-4Ps families belong to this age group.

Educational attainment and employment profile of members

Table 6 shows that on the 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. Interestingly, this shows that 4Ps is already on its way to 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 at most high school graduates. The table shows that very few members in 4Ps families have higher levels of education. Less than 10 percent finished at most high school, only around 2.6 percent were able to get some college units while barely 1 percent managed to get a college degree. These findings tell us 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.

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
College graduate	0.9	10.4
Postgraduate	0	0.1
Mode of labor force participation		
Employed	36.2	44.1
Underemployed*	12.4	8.5
Unemployed	1	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 APIS 2011 and LFS July 2011

Non-4Ps families have relatively higher proportion of working members; specifically those who have full employment (see Table 6). 4Ps beneficiaries, on the other hand, have higher proportion of members who are considered as vulnerable workers. Around 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 of that in non-4Ps (6.7%). Meanwhile, 4Ps families also have relatively higher proportion of working members who have non-permanent 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 of that in non-4Ps families. This finding is supported when we look at the disaggregation by type of occupation. While 34 percent of the employed 4Ps members are farmers/forestry workers/fishermen, only 16 percent of the non-4Ps are. Aside from this, members who assumed jobs classified under laborers/unskilled workers are higher in proportion among beneficiaries (42%) than in non-beneficiaries (28%).

These findings on the employment profile of members of 4Ps families are not surprising since they have low level 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.

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

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 & market sales workers	4.6	10.2
Farmers/forestry workers/fishermen	34.4	15.8
Trades & related workers	6.2	8.5
Plant & machine operators and assemblers	3.9	6.9
Laborers & 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 APIS 2011 and LFS July 2011

Income

In terms of income, 4Ps beneficiaries have an average per capita income of PhP8,522 based on data for the first semester of 2011. The poorest 10 percent of 4Ps recipients have a per capita income of PhP4,788 while the richest ones have PhP75,897. Without the cash grant, each person from 4Ps families had about PhP7,740 to cover his or her expenses for the entire six months. To compare, the poverty threshold for one semester in 2011 is roughly at PhP9,300. The average amount of cash grant from the 4Ps in 2011 is P780 per person for one semester. This is equivalent to 9 percent of the total per capita income of beneficiaries.

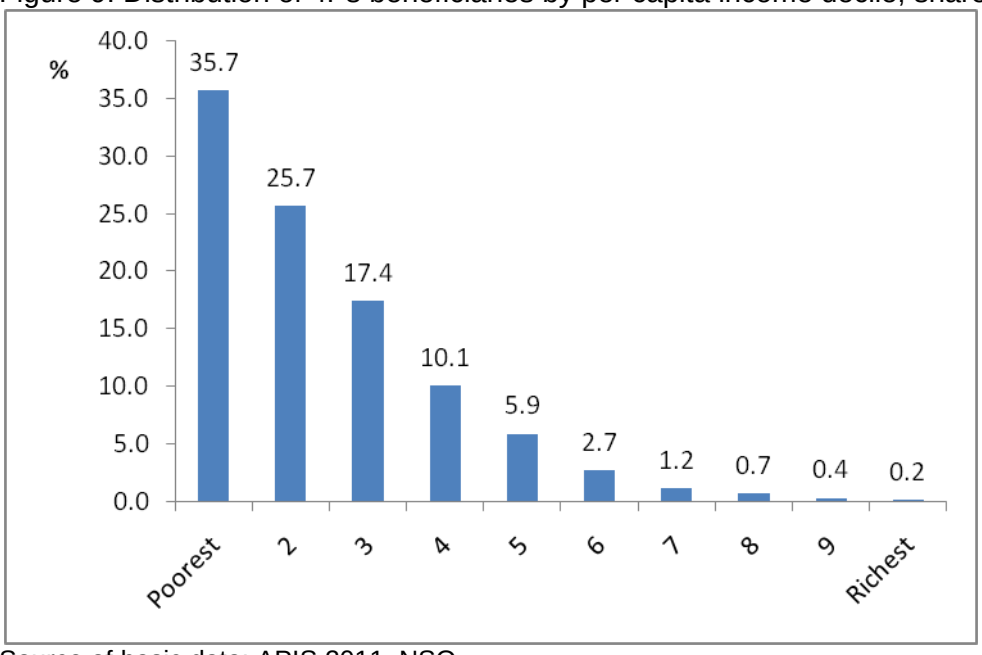
Table 8. Per capita income by income decile (January-June 2011)

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

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

On the contrary, non-4Ps families have P26,981 on the average, which is three times that for the 4Ps. However, it is interesting to find that per capita income levels of the two groups are fairly comparable up to even the 9th income decile. The large disparity can only be found at the richest group of families where the mean income of non-4Ps is PhP103,447 while that for the beneficiaries is only PhP75,897. In the first place, it is surprising to see some 4Ps families belonging to the richest income groups when all of them are supposed to be poor, that is, they should belong to the poorest 3 groups (see Figure 4.9).

Figure 9. Distribution of 4Ps beneficiaries by per capita income decile, share to total (%)



Source of basic data: APIS 2011, NSO

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 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 asset possessed by 4Ps families are telephone/cellular phone, where 50 percent of families have it, 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. The 4Ps families with access to safe water and sanitary toilet facilities are estimated at only 69.5 percent and 75 percent, respectively.

In terms of housing materials and tenure, the proportion of beneficiaries that are 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 who are living as informal settlers (5.5%) is slightly higher than that of non-4Ps (4.1%).

Table 9. Mean proportion of families who own various assets, have access to basic amenities, and live in makeshift housing or as informal settlers, by type, 2011

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	76
Computer	1	17.3
Stove with oven/gas stove	2	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

Access to social programs

The APIS is also an important source of data in terms of access to social programs like the Philhealth. The 2011 APIS shows that 1.38 percent of all 4Ps families have access to Philhealth while only 1.21 percent of the non-beneficiaries do. The table below also shows that 4Ps beneficiaries have higher access to agrarian reform community development program, and TESDA program than the non-4Ps.

Table 10. Proportion of families with access to various programs, by type

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

5.2 School attendance of children in 4Ps and non-4Ps families

To determine the current status of the 4Ps program with respect to its objective in improving school participation, 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 to 11, slightly lower in ages 12 to 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 at most 10 percent of these children beneficiaries are not attending school. On the other hand, the proportions of children beyond 14 who are attending school are lower than 80 percent. In fact, the proportion goes down as age of children goes up from 15 to 18.

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

Among the regions, we can observe that the best performers in terms of school participation rates of children beneficiaries (aged 6-14) are Ilocos Region, Northern Mindanao, Western Visayas, Central Visayas, and CAR; all with at least 97.5 percent. Both CAR and Ilocos Region performed best when we consider the youngest cohort since all of 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.

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 (around 45-50%) between school attendance rates of children aged 12-14 and those of 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.

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

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

The school participation rates of children in 4Psand non-4Ps families belonging to the bottom 40 percent were also compared. 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 to 12. Big differences are observed for ages 6 (5.5 percentage points), 13 (4.9 percentage points) and 14 (4.1 percentage points).

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

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

In order to determine whether the differences between 4Ps (treated) and non-4Ps (comparison) families in terms of school attendance rates of children at various ages are statistically significant or not, non-4Ps matches for 4Ps families were found using Propensity Score Matching (PSM). To implement PSM, a Proxy Means Test (PMT) was estimated in order to compute for propensity scores. The propensity scores, together with the condition that the family has at least one child who is aged 0-18[3], were then used as a basis for matching 4Ps beneficiaries with non-4Ps families. Thus, the matched 4Ps and non-4Ps families are more comparable, or share similar household characteristics, after matching.

The set of covariates defined in the PMT model are basically household characteristics and are considered as good correlates of poverty (Table 14). Essentially, the 4Ps mainly targets poor households and the government employed a PMT model in selecting the 4Ps beneficiaries. As shown in the estimated model, households with dependency ratio or proportion of members who are aged below 15 appeared to be the most important factor in explaining household poverty status. Households with higher number of dependents have higher probability of being poor. On the other hand, factors that have largest positive effect on poverty status are higher educational attainment of head and ownership of computer. Households with heads that are at least college graduates and those owning computer tend to have higher probability of being nonpoor.

Table 14. Estimated Proxy Means Test (PMT) model

[3] Since the program has been implementing since 2008, this age group was used to be able to capture family-beneficiaries with children whose ages are between 11 and 14 in 2008 (for the educational component) as well as those children aged 0-5 in 2011 (for the health component).

Dependent variable: Poverty status	**Coef.**	**Std. Err.**	**P>|z|**
Independent variables:			
HH head profile			
Age	-0.0020	0.0001	0.0000
Education*			
Elementary graduate	0.2575	0.0021	0.0000
Some high school	0.3461	0.0025	0.0000
High school graduate	0.6318	0.0024	0.0000
Some college	0.9336	0.0039	0.0000
At least college graduate	1.5542	0.0075	0.0000
Kind of business	0.4822	0.0018	0.0000
HH composition			
Family size	-0.8931	0.0015	0.0000
Squared of family size	0.0391	0.0001	0.0000
Dependency ratio**	-2.2665	0.0044	0.0000
Asset ownership			
Television set	0.5036	0.0022	0.0000
VTR/CD/DVD player	0.5165	0.0021	0.0000
Refrigerator	0.9717	0.0028	0.0000
Washing machine	1.1279	0.0035	0.0000
Airconditioner	0.9318	0.0106	0.0000
Car/motor vehicle	0.7842	0.0029	0.0000
Telephone/cellular phone	0.7478	0.0018	0.0000
Computer	1.6273	0.0131	0.0000
Microwave oven	1.2139	0.0177	0.0000
Access to electricity	0.2426	0.0023	0.0000
Type of toilet facility	0.0990	0.0006	0.0000
Location (urban/rural)	0.4951	0.0018	0.0000
Constant term	2.8442	0.0062	0.0000

* base category: no formal education and some elementary
** proportion of members aged below 15
Notes: The 2009 FIES data was used to estimate the PMT model; All independent variables are highly significant at 5% level of significance.

It is noted in the literature that the quality of matching significantly depends on the data structure. Thus, no matching method is best in all situations. In this study, different matching methods[4] were explored in order to find the best set of estimates of treatment effects. The different matching methods resulted in substantial reduction in bias after matching, ranging from 82 to 93.5 percent. 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 PMT model. The nearest neighbor matching with replacement is among the matching methods that provided good set of results for all groups of samples.

We can see from the results that on the average, school attendance rates of children in matched 4Ps families are significantly higher than those in matched non-4Ps families when we look at ages 6 to 14. The table below shows us that the mean difference between the

[4] i.e., nearest neighbor (without and with replacement), radius, kernel (normal/epanechnikov), local linear regression (normal/epanechnikov), and mahalanobis

school attendance rates of children aged 6-11 in matched treated and comparison families is around 2.83 percent, while it is around 4.13 percent when we consider the age group 12-14. This gives us a mean difference of around 3.47 percent between school attendance rates of children aged 6-14 in matched treated and comparison families. At ages 6 and 14, we are getting around 8 percentage difference between the school attendance rates of matched 4Ps and non-4Ps children. For ages 7 to 13, we are getting around 2-4 percentage difference between the school attendance rates of matched 4Ps and non-4Ps children. These findings tell us that 4Ps seems to be generating a 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, school attendance rates of children who are beyond 14 years old in matched 4Ps and non-4Ps families have smaller gap (i.e., 3% or less, on the average) and thus do not significantly differ.

Table 15. Comparison of school attendance rates of children in matched 4Ps and non-4Ps families, by age group, 2011

Age group	Treated	Comparison	Difference	Significance (α=0.05)
Aged 6-14	96.3	92.8	3.5	significant
Aged 6-11	97.8	95.0	2.8	significant
Aged 12-14	93.1	89.0	4.1	significant
Aged 15-18	57.1	54.3	2.8	not significant

Notes: Figures are estimates from the nearest neighbour matching with replacement[5]; Matched files of APIS 2011 and LFS July 2011 were used.

Table 16. Comparison of school attendance rates of children in matched 4Ps and non-4Ps families, by single year of age, 2011

[5] Except for the nearest neighbor and mahalanobis matching, both with replacement, other matching methods revealed T-stat slightly above 1.96, which implies significant difference between treated and comparison samples, although not "highly significant". One possible reason for this is that the set of matched samples varies with the age of children being considered. For instance, when we consider the age group 15-18, a CCT family with a 15-year-old child may be matched with a non-CCT family having a 17-year-old child, provided that their PMT scores are closer than other non-CCT families having 15-year-old children.

Sample	Treated	Comparison	Difference	Significance (α=0.05)
Aged 6	91.2	83.5	7.7	significant
Aged 7	98.2	95.5	2.7	significant
Aged 8	98.4	96.9	1.6	significant
Aged 9	98.7	96.0	2.7	significant
Aged 10	98.6	96.3	2.3	significant
Aged 11	98.1	95.8	2.3	significant
Aged 12	96.6	94.1	2.5	significant
Aged 13	93.3	89.3	4.0	significant
Aged 14	89.5	81.6	7.9	significant
Aged 15	76.9	76.7	0.3	not significant
Aged 16	59.7	56.5	3.2	not significant
Aged 17	44.2	43.8	0.4	not significant
Aged 18	34.0	32.0	2.0	not significant

Notes: Figures are estimates from the nearest neighbor matching with replacement; Matched files of APIS 2011 and LFS July 2011 were used.

The number of children within a family may have significant effect on the capability of the family to send their children to school. As shown in the table below, attendance rates of children in 4Ps families with fewer children are generally higher than those with more children. It is important to note that around 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 our 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-aged ones, can be attributed to poverty.

Table 17. Proportion of children in 4Ps families who are attending school, by single year of age and by type of family, 2011

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

5.3 Reasons for not attending school

Looking at the results of APIS 2011, we 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. 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 as a catch-all 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 smaller share being left to education. This particular reason is more common among the secondary school-aged children, which implies that 4Ps families can send their children to school but only up to elementary. However, we also found that around 33 percent of those in the youngest cohort (6-11) mentioned high cost of education. Apparently, these younger children might have perceived education as a costly good since their families cannot afford to send them to school. Also, since their families do not have sufficient income to support their daily basic needs, there might be a pressure on their part to earn income for their families.

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, 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 non-working 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); supply-side

factors like absence of school nearby or within the barangay (which is also more common in the youngest cohort); among others.

Table 18. Reasons for not attending school among children in 4Ps families, by age group, share 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

Moreover, the following table shows the distribution of eligible 4Ps children who are not attending school (in fact, have not completed any grade) and who belong to smaller families or those with at most 3 eligible children. The majority of them are aged 6 (42%) and 7 (17%). Among larger families, the pattern is about the same as those in smaller ones, except that there is larger share of those aged 10 and below (83%) who are not attending school compared to smaller families (72%).

Table 19. Distribution of children aged 6-14 in 4Ps families who are not attending school (with no grade completed), by family size, share to total (%)

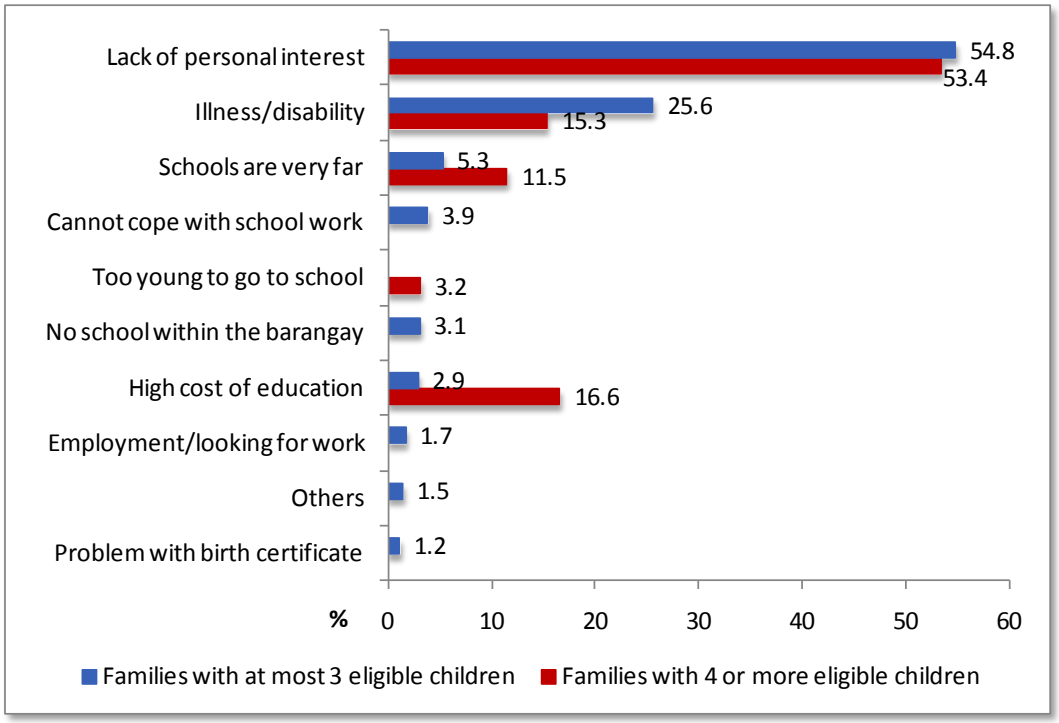
Age	Families with at most 3 eligible children	Families with 4 or more eligible children
6	42.1	44.7
7	17.0	9.5
8	7.7	14.1
9	4.2	7.8
10	1.1	7.0
11	8.0	4.4
12	5.7	7.5
13	8.0	2.6
14	6.2	2.5

Source of basic data: APIS 2011, NSO

When asked about the reasons for not attending school, the most common answer is, again, lack of interest. More than half of children beneficiaries in both smaller and larger families are not attending school because of lack of interest. Other commonly cited reasons are illness/disability, high cost of education and schools are very far. One-fourth of children beneficiaries who belong to smaller families answered illness/disability while only

15 percent of those who belong to larger families cited this particular reason. Interestingly, the second most cited reason for school non-attendance among those who belong to larger 4Ps families is high cost of education (16.6%), followed by distance of schools (11.5%).

Figure 10. 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, share to total (%)

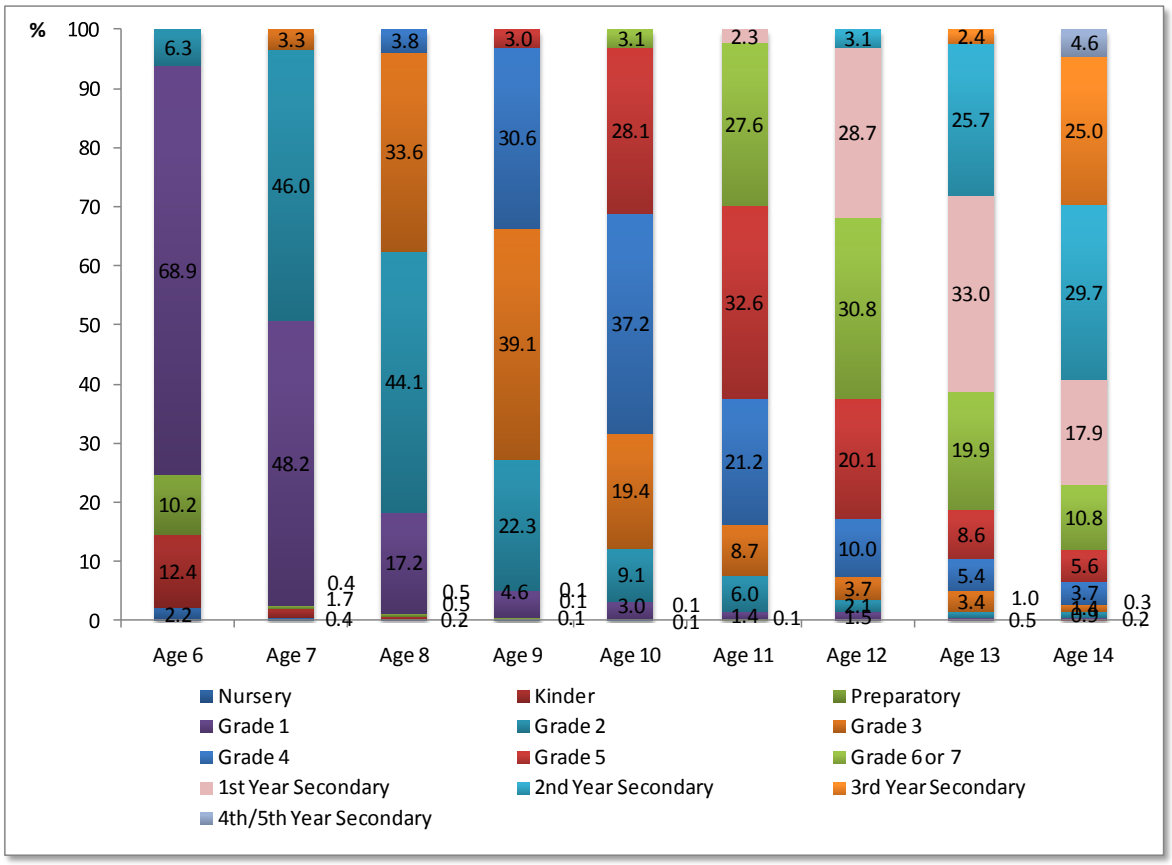


Source of basic data: APIS 2011, NSO

5.4 Timing of schooling

We can likewise examine the characteristics of children beneficiaries in terms of grade level to determine whether they are delayed or not in their schooling. The figure below shows that 68.9 percent of six-year-olds are attending first grade while about one-fourth are still in pre-school. 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. Meanwhile, 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 11. Distribution of 4Ps eligible children aged 6-14, by current grade level and by single year of age, 2011



Source of basic data: APIS 2011, NSO

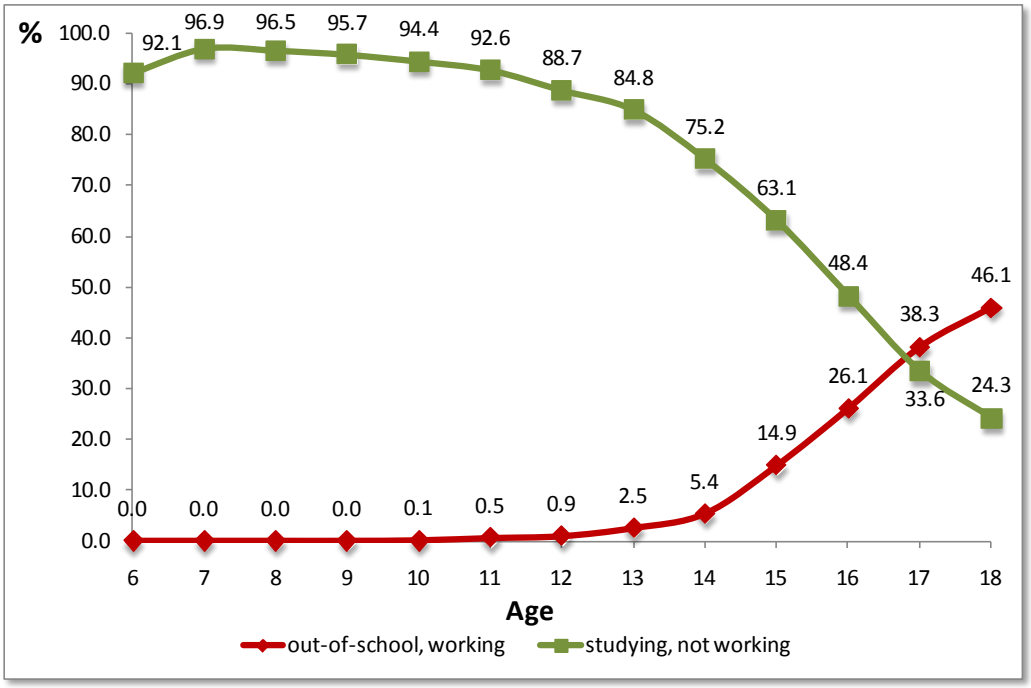
5.5 Working children

To understand better the condition of children among 4Ps and non-4Ps families, the proportions of those attending school and/or working are mapped out in the figures that follow. To allow comparability of the data, only matched 4Ps and non-4Ps families were considered in this sub-section.

The school participation rates of 4Ps children (aged 6-14) are relatively higher than those of their non-4Ps counterparts. When we go beyond age 14, we can see that school participation rates are higher among non-4Ps families. However, when we look at finer categories of whether the child is studying and/or working, it can be seen that the proportion of children who are both studying and working is higher among 4Ps families than among non-4Ps families for all age groups.

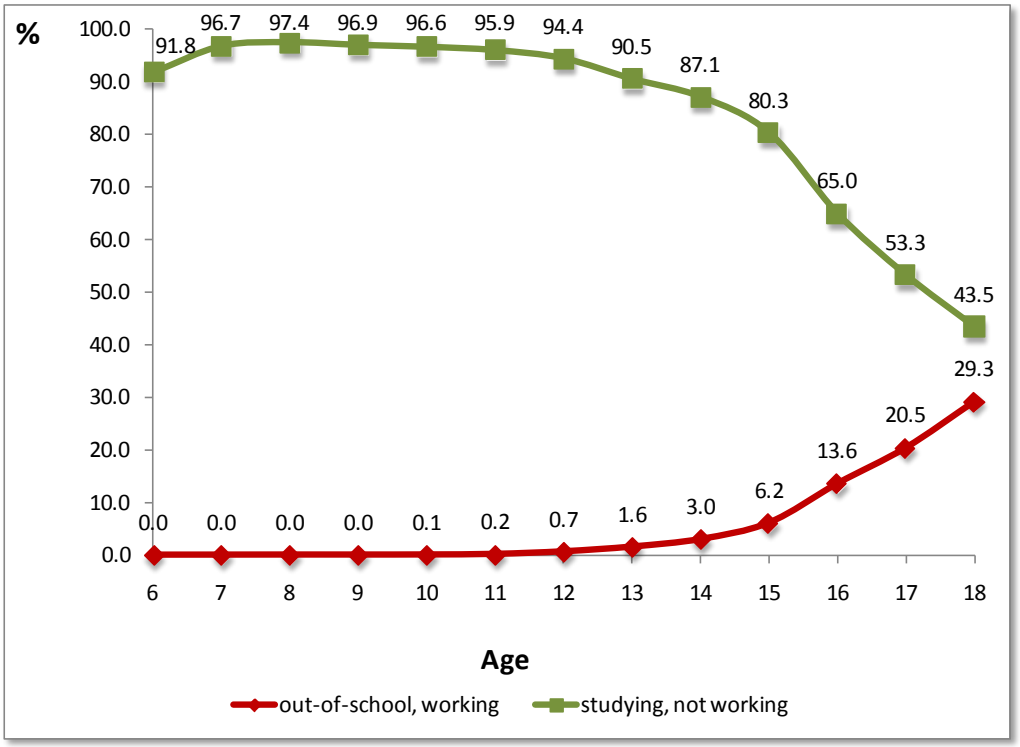
Among children in 4Ps families, those who are attending school started working at an early age of 6. The proportion of those who are both studying and working is higher among older children, with its peak at age 14. While this proportion declines after age 14, the proportion of those who are not attending 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 started focusing on employment and dropping schooling from their list of activities. This pattern can also be observed among non-4Ps families but it is more evident among 4Ps families.

Figure 12. Proportion of children in matched 4Ps families who are attending school and/or working, both sexes, by single year of age, 2011



Source of basic data: APIS 2011, NSO

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



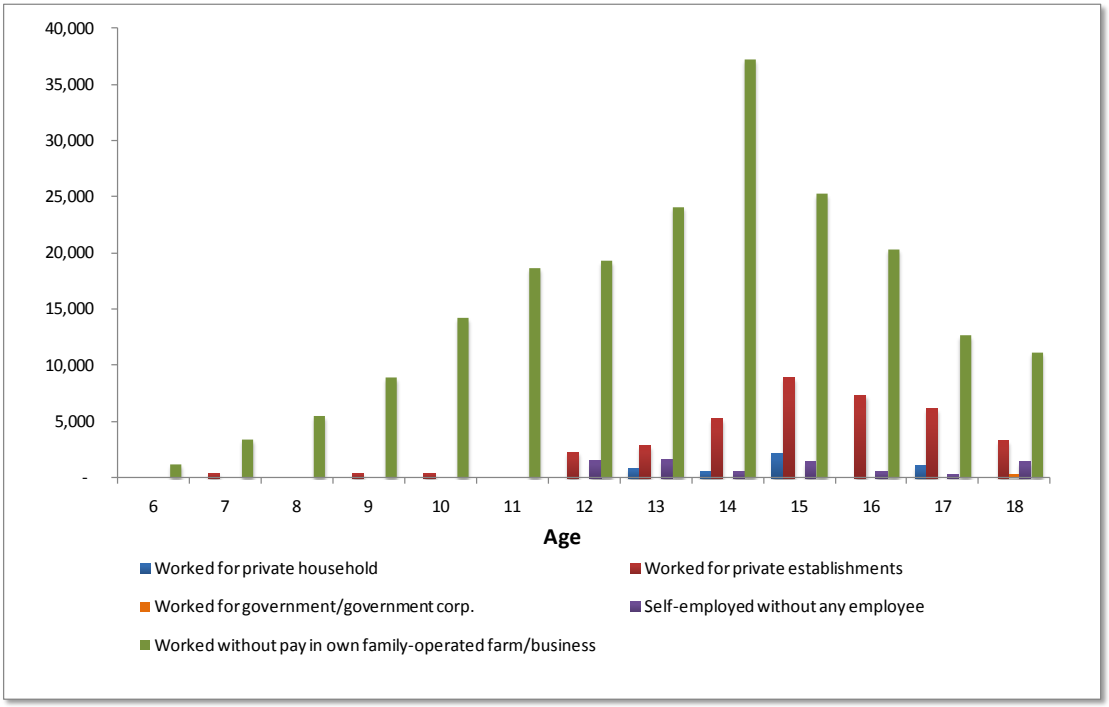
Source of basic data: APIS 2011, NSO

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. There are a few young children who are working for private establishment but many from this group are at least 12 years old. On the other hand, children who are working but not attending school are aged 10 and above, although very few of them are less than 13 years old.

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

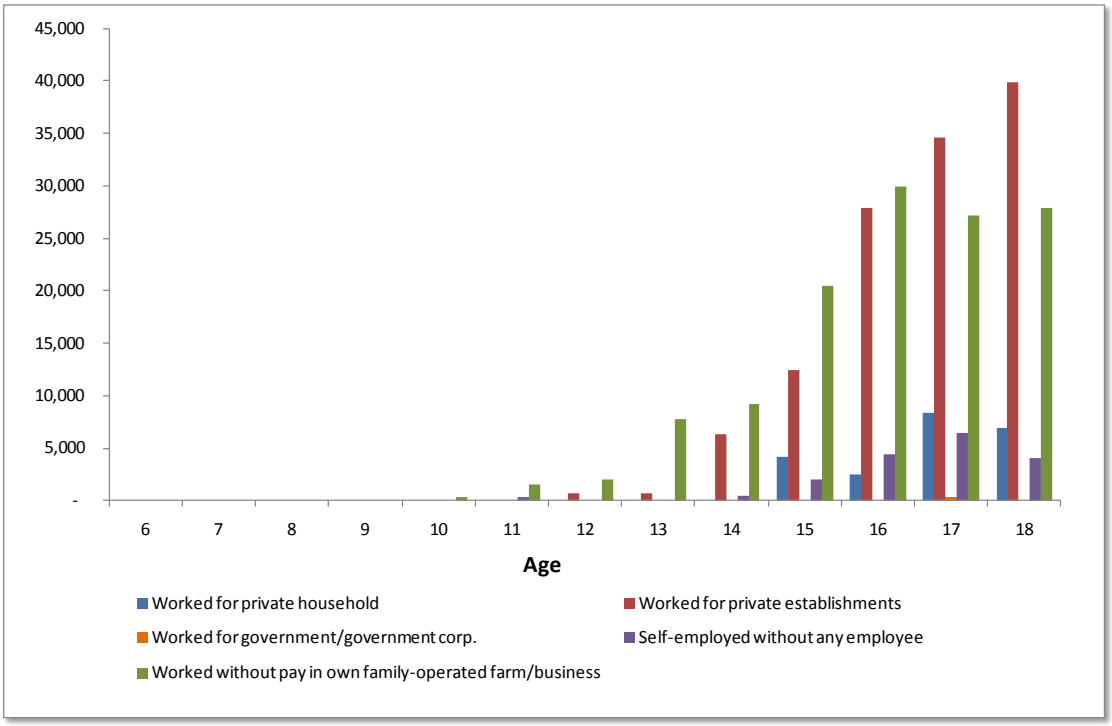
The above findings tell us that 4Ps families whose children are working but are not attending school tend to have relatively less capability to send their children to high school than those families whose children are working but are still studying. We can then say that 4Ps is indeed an important intervention, particularly in addressing the lower school participation rate yet higher employment rate among the secondary school-aged children.

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



Source of basic data: APIS 2011, NSO

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

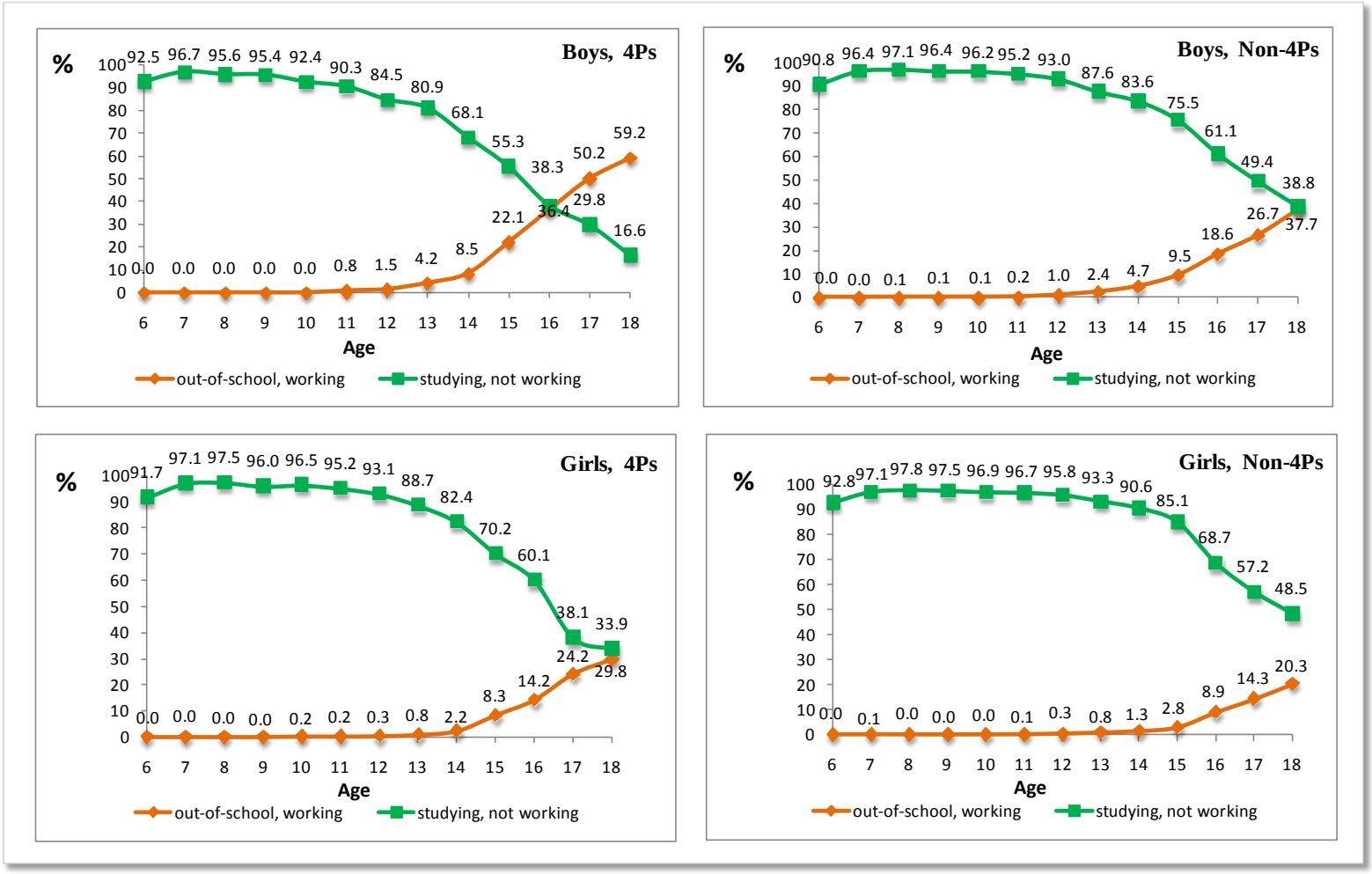


Source of basic data: APIS 2011, NSO

In general, 4Ps families have lower proportion of children who are in school but higher proportion of children who are working than non-4Ps families do. As mentioned earlier, this pattern is more evident among the secondary school-aged children. When we disaggregate this by gender, we can observe that boys are more at a disadvantage than girls, regardless of whether they belong to 4Ps or non-4Ps families. Some boys in 4Ps families started working while attending school as early as 7 years old while some who are not attending school started working at age 11. The proportions go up as we go to older children. In fact, about half (49.4%) of the boys aged 16 are already working while only about a quarter (23.9%) of the girls are. Also, there are twice as many boys aged 14 who are working than there are girls (26.4% versus 13.8%). This scenario is not unique to children in 4Ps families.

This reflects the opportunity cost of going to school being higher for boys than 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 4Ps program (*Oportunidades*) 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 single year of age, 2011



Source of basic data: APIS 2011, NSO

6. Conclusions and Recommendations

This chapter looked into the assessments that have been conducted on the 4Ps and various issues surrounding its design and implementation. The program can play a very important role in upgrading the country's human capital. For this, there are modifications in the design and implementation of CCT that are suggested to facilitate inclusive growth and reduction of chronic poverty.

6.1 Summary and Conclusions

1. The 4Ps program leads to an increase in the school participation rate by 3.5 percentage points among children aged 6-14 years old.
    a. 96.31 percent of children of 4Ps families attend school, whereas 92.84 percent of children of non-4Ps families (using matched samples) do.
    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 the school facilities.

2. 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 (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.

3. The current coverage of 4Ps to 6-14 year old children is intended to enable the child to finish elementary. However, the maximum 5 years support may mean that a child who was 6 years old at the time that 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 even lower Grades. Thus, for the very poor who rely solely on the assistance from 4Ps to send their children to school, they may not finish elementary school.

4. School attendance rate is lower for older children than for 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% and 47% for 15-year olds and 18-year olds, respectively. The school participation rate is higher among girls than boys even among 4Ps children with the gap more apparent from age 13 and above. ARMM has the lowest school participation rate among the regions.

5. 90.3 percent of children aged 6-11 in the 3 poorest groups of families were already attending school in 2007 while only half of those aged 15-18 are. The gap between the richest households and the poorest ones are much wider for the older children than for the younger ones. This gap has widened between 2007 and 2011.

6. The average daily wage of someone who has finished high school is 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 18 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 that 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.

7. 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 5 years really deserve to be given support.
    a. The leakage rate in the Pantawid Pamilya program 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.

6.2 Recommendations

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

a. 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 beneficiary families to ensure that the children of 4Ps families finish high school. This would mean extending coverage to 16 or 18 (taking into account K+12) years old so that the CCT children can finish high school and increasing the number of coverage from 5 years to 10 years or even longer. Due to the financial burden of supporting till the child finishes high school, it is also worthwhile considering starting the education support at a higher grade.

This would likely increase the wages of these children by 40 percent more when they enter the labor market than if they only reached elementary. This would then increase their chances of breaking intergenerational poverty.

b. Improve the targeting system

It is imperative to improve the targeting system to reduce leakages to the non-poor and exclusion of the very poor.

Update the PMT model

This can be done by updating the proxy means test model 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 non-poor. The most recent FIES data and the revised

estimates of the poverty thresholds should be used in estimating the PMT model. The 2012 FIES data for the first semester is now available. This would likely address the seemingly too large number of eligible beneficiaries being identified by the National Household Targeting System.

Move away from 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 small area estimates may lead to significant exclusion. Data will show that there are poor even in areas which 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.

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), offers an alternative way of collecting data from the families and individuals on a regular basis. Partnering with 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. The 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, 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 data base with the local government units.

c. 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 consists 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 which 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 extent the program coverage to enable the children to finish high school.

d. Improve implementation of the program

It is recommended that the cash grants be released regularly at monthly intervals. At present, cash grants are released every two or three months. Some are released through 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 allowance of their children in going to school, this can be problematic and has led some to borrow using the future cash grants as "collateral".

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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.

e. 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 the health, education, nutrition, and poverty outcomes of these families. This would also be an opportune time to see if the children would continue attending school or 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 finetuning the program.

f. Pilot test innovations before scaling up

The results of the assessments being done by various groups are likely to point to some changes in the program. However, it is critical that the innovations or changes are pilot-tested first before they are scaled up. For instance, if the results will show that children of 4Ps families drop out of high school when they exit from the program, then it is important to pilot test for a small sample what would be the effects of different variations of the program. One variation could be extending the coverage for 10 years with the same amount of cash grant, and another could be extending the coverage with a higher amount of cash grant for children in high school compared to those in elementary.

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