

## ECONOMIC ANALYSIS

1. Additional financing for the Social Protection Support Project (SPSP) will support the expanded scope of the *Pantawid Pamilyang Pilipino* Program (Pantawid).<sup>1</sup> Pantawid (formerly known as the 4Ps) provides conditional cash transfers (CCTs) to eligible beneficiaries identified by *Listahanan*, the government's national household targeting system for poverty reduction. CCTs, a type of results-based financing, aim to reduce the intergenerational transmission of poverty. In 2014, the government raised the program's eligibility age limit from 14 to 18 years to allow children to complete high school. This analysis investigates whether the benefits of investing more resources in Pantawid through additional financing are worth the economic cost. It recognizes that many of the SPSP's most important benefits—e.g. welfare improvements, positive cross-generational effects, and broader social protection reforms—are not directly quantifiable in financial or economic terms. This analysis updates the economic analysis done in 2009 for the current SPSP. It reviews the design and logic of Pantawid, assesses performance and impact evaluation, and looks at the program's track record, development relevance, and risks. It finds that the potential private and social returns of investing in Pantawid remain substantial, and that such an investment is strongly justified, especially considering the public goods that CCTs provide by improving education and health, reducing poverty, and creating greater social equity.

### A. Program Design and Logic

2. The original SPSP economic analysis found that Pantawid and the *Listahanan* poverty targeting system would deliver benefits through (i) substantial short-term effects on income and consumption poverty and vulnerability; (ii) broader, long-term socioeconomic impacts, particularly by building human capital; and (iii) improved efficiency in government programs aimed at reducing poverty and vulnerability. The first two areas are discussed here, while the third is discussed in the financial analysis.<sup>2</sup> Pantawid can impact the well-being of poor families through a variety of mechanisms and dimensions and over varying periods of time. Within the framework of conventional economics, CCTs can enhance demand for more education and better health through the enabling power of additional resources and the incentive or price effect of giving a discount to the price of education and health.<sup>3</sup>

3. **Short-term effects on income poverty and vulnerability.** The SPSP aimed to generate substantial short-term effects on income poverty through CCTs. A 2008 ADB ex-ante assessment indicated that the CCT could lift 31.1% of poor households out of poverty, reduce the poverty incidence by 8.3 percentage points, and decrease the national poverty gap by 52.5%.<sup>4</sup> However, both the impact of numerous major natural disasters and inflation have minimized the immediate poverty reduction impact. In addition, the CCT benefit levels have not been adjusted for inflation and now represent only 7% of poor households' average income, down from 23% in 2008. Nevertheless, poverty would have been worse without the CCTs. The World Bank estimates that as of 2013, the cash grant resulted in a 12.5% reduction in the poverty headcount and a 27.3% reduction in the poverty gap.<sup>5</sup>

4. **Broad and long-term socioeconomic impacts.** The Philippines has a low probability of reaching its 2015 Millennium Development Goal targets of reducing extreme hunger and poverty, achieving the cohort survival and completion target rates for elementary education, and improving

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<sup>1</sup> ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan, Technical Assistance Grant, and Administration of Technical Assistance Grant to the Republic of the Philippines for the Social Protection Support Project*. Manila.

<sup>2</sup> Financial Analysis (accessible from the list of linked documents in Appendix 2).

<sup>3</sup> Banerjee, A. et al. 2013. *Expanding Access and Increasing Student Learning in Post-Primary Education in Developing Countries: A Review of the Evidence*. Abdul Latif Jameel Poverty Action Lab. Cambridge.

<sup>4</sup> Son, H. and J. Florentino. 2008. Ex-ante Impact Evaluation of Conditional Cash Transfer Program on School Attendance and Poverty: The Case of the Philippines. *ADB Economics Working Paper Series No. 142*. Manila.

<sup>5</sup> World Bank. 2015. *The State of Social Safety Nets 2015*. Washington DC.

maternal health. Low human capital accumulation results in lost economic opportunities and increased poverty. By addressing demand-side constraints, Pantawid can yield considerable social and economic benefits by (i) increasing educational attainment, and (ii) improving nutrition and health outcomes. CCTs address both the direct expenses and opportunity costs of sending children to school—i.e., the cost incurred by households when a child goes to school rather than contributing to household income via labor. Economic rates of return to education are typically estimated at around 10% per year of schooling. Completion rates for primary and secondary schooling in the Philippines have hovered at or below 75%, meaning that about one in four entrants leave the system without completing education. Given that returns to education are nonlinear (rising sharply with completion of another higher level of schooling), dropping out in lower secondary grades represents a considerable loss to both individuals and the schooling system. Issues in access to nutrition and health services include financial barriers, low health awareness, and cultural norms, particularly in poor rural areas and among indigenous peoples. Pantawid has considerable potential to increase the use of health services by the poor by providing additional cash to offset direct and indirect costs, as well as by promoting increased use of health and reproductive health services. Better nutrition and sanitation are promoted through family development sessions.

5. Broader benefits are expected to be significant, if non-quantifiable. The Philippine Health Insurance Corporation now covers all Pantawid households with subsidized health insurance. The transfer of grants to bank accounts opened in mothers' names (more than 90% of grant recipients are women) may magnify the multiplier effect of cash inflows on local economic activity, since women typically invest more than men do in locally produced goods and services such as food and other basic necessities for their families. Regular grants and counseling during beneficiary assemblies and family development sessions may help increase women's financial literacy. Combined with increased exposure to the banking system, this could potentially increase their savings behavior. Pantawid could also help lower the fertility rate among the poor, which is higher than that for the non-poor.

## **B. Program Performance and Impact, 2008–2014**

6. Pantawid has one of the most accurate poverty targeting systems in the world—82% of beneficiaries are from the bottom 40% of the income distribution. Rigorous impact evaluation shows that Pantawid is on track to meet its targets for keeping children healthy and in school.<sup>6</sup> The 2012 evaluation found that the program had increased the enrollment of children aged 3–11 by 10 percentage points, as well as the attendance of students 6–17 years old. The first evaluation did not find a significant impact on the enrollment rate of children 12–17 years old, but the higher grant for high school students was only introduced in 2013, and eligibility for children aged 15–18 was only introduced in 2014. The 2014 evaluation found a 10.5 percentage point increase in portion of pregnant women who received a minimum of four prenatal care visits. The CCT also increased facility-based deliveries and access to postnatal care. The 2012 study found an increase in the number of Pantawid children who received age-appropriate child health services, including (i) a 15 percentage point increase in their regular growth monitoring, and (ii) a 6.2 percentage point increase in both the receipt of deworming pills and Vitamin A supplementation. Use of curative care for sick children also rose because of Pantawid grants. The CCT appears to have reduced stunting among very young children, indicating an improvement in human capital and potentially greater productivity in the long run. Pantawid assistance received in the first 1,000 days of a child's life significantly benefitted child development. It also appears that CCTs have positive effects beyond the original objectives, including more beneficiaries with sanitary toilets.

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<sup>6</sup> World Bank. 2012. *Philippines Conditional Cash Transfer Program Impact Evaluation 2012*. Washington DC: The World Bank; and Department of Social Welfare and Development. 2014. *Keeping children healthy and in school: Evaluating the Pantawid Pamilya Using Regression Discontinuity Design*. Manila.

7. Unusually, neither the 2012 nor 2014 evaluation found a significant difference in aggregate per capita consumption expenditure between beneficiary and non-beneficiary households. One explanation may be the accuracy of the 2012 income and consumption data. The data may be too noisy to detect the impact of the relatively low Pantawid benefits on household income. The second is that the 2014 evaluation was unable to assess impact on the poorest of the poor because by design the methodology only compared households just below the poverty line with those just above it. These data weaknesses make it essential to consider other measures of well-being in evaluating Pantawid, including subjective ones. The 2014 evaluation found that Pantawid families believe that they are better off as a result of the CCTs. Self-rated poverty among Pantawid beneficiaries was lower by 7 percentage points than among non-beneficiaries. Pantawid parents' optimism about their children's future was also significantly higher.

### C. Updated Economic Analysis

8. The economic analysis for the proposed additional financing focused on (i) Pantawid's track record and potential additional benefits and costs, (ii) its development relevance, and (iii) the potential risks. Pantawid has a solid track record, and continued investment in the expanded program makes sense. It will give poor children an opportunity to complete secondary education and to earn substantially more income once they do. Pantawid remains highly relevant to ADB's overarching goal of inclusive growth. The stubbornly high poverty incidence in the Philippines is a result of other forces that have overwhelmed the program's effects on income poverty (para. 4.). The updated economic analysis finds that the Pantawid CCTs continue to be relevant and that benefit levels should be increased.

9. **Benefits to education.** The enrollment rate of children 6–12 years old was 98% in 2013, according to that year's APIS. Thanks in part to the CCT, enrollment among poor children in this age group also reached 98% after climbing during 2011–2013. Elementary school enrollment is thus no longer a major issue, and the main education challenges are low enrollment and a low completion rate in secondary education. The enrollment of poor children drops off dramatically after they reach 12 years of age. By the time they are 17, 9 in 10 children in the richest income quintile households have completed high school, compared with only 3 in 10 children from households in the poorest quintile. The potential economic yield from high school graduation is about three times that from completing primary education, according to 2011 APIS data—73.6%, compared with 24.7% (Table 1).<sup>7</sup>

**Table 1: Returns to Education by Level Completed**

Level Completed	Annual Marginal Cost to the	Returns of Education
	Private Individual (P)	
Elementary	627.9	24.7
Secondary	1,913.6	73.8
Tertiary (4 years)	16,776.8	173.8

Source: ADB estimates based on Annual Poverty Indicators Survey (APIS) 2011.

10. The social rate of return for secondary education in the Philippines is 12.3%, based on the Department of Education subsidy cost, and the Pantawid-assisted social rate of return is 12.2%.<sup>8</sup> The calculation of social returns from education does not include the positive externalities generated by a household's investment in its children's education. Though difficult to quantify, the

<sup>7</sup> The APIS 2011 provides the most recent individual income data. The returns to education were estimated using a Mincer model of human capital: simple ordinary least squares regressions controlling for age, gender, and location. The dependent variable was log hourly wage. Reference categories were rural, female, and less than primary education (including no education).

<sup>8</sup> Marginal social cost used to compute the social rate of return includes the Department of Education subsidy, plus the economic cost of the impact on enrollment (see Table 2).

economic value of these externalities in the form of improved citizenship and faster production and diffusion of knowledge and good practices are well recognized in education literature and are believed to be large. These public goods traditionally provide strong justification for the huge subsidies provided worldwide for public education. The Pantawid high school grant of up to P5,000 per year for 15–18 year olds introduced in 2014 is expected to raise enrollment and completion rates by inducing greater demand for high school education. This amount covers nearly seven times the marginal out-of-pocket cost of the first two years of high school enrollment by poor children (P729 annually for 2013) and nearly five times that of third- and fourth-year enrollment of poor children (P1,044 annually for 2013). When the child's foregone earnings are included, the grant amount still constitutes a substantial share of the combined out-of-pocket costs and foregone income (P884 for a poor 13-year-old and P1,394 for a poor 14-year old).<sup>9</sup>

11. **Benefits of health and nutrition.** Continued investment in Pantawid will provide more opportunities to achieve the program's intended health and nutrition impacts. Challenges include ensuring the full immunization of children prescribed by the Department of Health schedule of vaccinations. According to the 2014 evaluation, full immunization coverage was low for both Pantawid (31%) and non-Pantawid children (39%).<sup>10</sup> Another challenge is helping mothers meet the prescribed number of prenatal check-ups. Third, Pantawid's success in increasing the monitoring of the growth of children has not translated into significant improvements in nutrition outcomes for Pantawid children under the age of 6. The 2014 evaluation found no significant differences between Pantawid and non-Pantawid children with respect to wasting, being underweight, and stunting. However, a cohort analysis of the 2012 data found a significant reduction in stunting among poor children whose households benefited from CCT interventions during the first 1,000 days of their lives. This result points to the need to ensure delivery of services to pregnant mothers and children in that critical window of opportunity. Impacts could also be improved by outreach to ensure households comply with the prescribed use of two deworming pills per year, which has significant the economic benefits.<sup>11</sup>

12. **Economic cost.** It is reasonable to conclude that continued investment in Pantawid Pamilya will be highly beneficial to the poor. Assessing whether the program's benefits are worth its cost requires establishing the economic cost. The program is projected to cost about P60 billion per year in the medium term. However, from the perspective of society as a whole, not all of these pesos are economic costs. Economic cost refers to the benefits foregone in allocating resources to one activity rather than another. In a closed society, money given to poor beneficiary households is a transfer from one pocket to another within the same society. Therefore, under certain simplifying assumptions, the net economic cost to society of cash transfers is zero.<sup>12</sup> The analysis assumed that (i) the administrative costs for the maintenance of CCTs are minimal, (ii) the program creates no deadweight losses, and (iii) the marginal utility of money is the same for all.<sup>13</sup> In reality, of course, economic costs are incurred in implementing, monitoring, and ensuring good governance and management of the CCT program. It is also likely the marginal utility of money is higher for the poor than for the well-off. Hence, it is likely that transferring a peso from the well-off to the poor

<sup>9</sup> The marginal out-of-pocket expenditures for education were calculated by regressing the number of children in different levels of education on the household expenditures on education. The foregone income was calculated by multiplying the average income of the 13- and 14-year olds (in 2013 prices) in the lowest income quintile households by their probability of employment.

<sup>10</sup> The impact evaluation found low immunization rates due to strict criteria set by the Department of Health for considering a child to be fully immunized by the age of 12 months. The Philippine Statistics Authority reports a 62% full immunization rate.

<sup>11</sup> The study was not able to identify a reason for a non-uptake of the second pill. Supply-side problems could be an explanation, since providing basic health care is the responsibility of the country's local government units.

<sup>12</sup> I. Dhaliwal, E. Duflo, R. Glennerster, and C. Tullock. 2011. *Comparative Cost-Effectiveness Analysis to Inform Policy in Developing Countries: A General Framework with Applications for Education*. Cambridge: Abdul Latif Jameel Poverty Action Lab, Massachusetts Institute of Technology.

<sup>13</sup> A deadweight loss is the welfare loss due to allocative inefficiencies arising from taxation, price control, and other market distortions. Deadweight losses could include the administrative cost of collecting additional taxes to finance the implementation of Pantawid and inefficiencies from reallocating resources from more to less productive activities.

actually raises overall social well-being. Pantawid's administrative and overhead costs are about 8%–10% of the total program budget. Based on the 2014 Pantawid budget of P62.6 billion, but not including deadweight losses, the real economic cost for implementing CCT operations would have only been about P6 billion in that year.<sup>14</sup> This cost should be compared with Pantawid's economic benefits. A summary of costs is in Table 2.<sup>15</sup> The cost of the impact for the health component is likely to be overstated, given the multiple conditions of the health grant. The private marginal economic cost to health facility use is about equal to the marginal private benefit.<sup>16</sup> While this does not account for positive externalities of health care service utilization, it does highlight the importance of looking at the supply-side aspect of the delivery of health care service.

**Table 2: Financial vs. Economic Costs (in P)**

Grant Component	Cost per Household		Cost per Beneficiary		Cost of Impact	
	Financial Cost	Economic Cost	Financial Cost	Economic Cost	Financial Cost	Economic Cost
Education	7,278	727	3,146 <sup>a</sup>	315 <sup>a</sup>	5,000 <sup>b</sup>	500 <sup>b</sup>
					4,286 <sup>c</sup>	429 <sup>c</sup>
Health	5,346	535	1,873	187	21,383 <sup>d</sup>	2,138 <sup>d</sup>
					48,597 <sup>e</sup>	4,860 <sup>e</sup>

<sup>a</sup> Cost per beneficiary child aged 7–16.

<sup>b</sup> Impact on enrolment of children aged 12–15 at 6%.

<sup>c</sup> Impact on enrolment of children aged 12–15 at 7%.

<sup>d</sup> Impact on number of outpatient visits by the household to a health facility.

<sup>e</sup> Impact on number of outpatient visits related to conditionality by the household.

13. **Potential risks.** The high level of benefits expected from Pantawid provides a solid foundation for the proposed ADB additional financing. A number of risks may undermine the realization of these benefits, but they can be mitigated. First, the future impact of Pantawid on elementary enrollment will be very small. With enrollment already at 98%, little scope exists for making a difference. DSWD needs to set clear objectives for the elementary school grants—e.g., to encourage better rates of attendance, completion, and transition to high school. Second, the impact on high school enrollment could be below expectations in areas that do not have high schools, and returns to education may also be lower because of the low quality of the schools in which poor children enroll. Department of Education reforms are addressing these supply-side issues. Third, misinformation in the public arena could undermine political support. Continued dissemination of evaluation results is essential. Fourth, it is possible that the educational rate of return could fall as the supply of high school graduates increases if the economy does not create enough jobs. The ADB-financed Increasing Competitiveness for Inclusive Growth Program, which supports employment facilitation services for young people, helps mitigate this risk.<sup>17</sup>

14. **Conclusion.** Pantawid Pamilya is on track to achieving its objectives. Impact evaluations show promising results in terms of education and health outcomes for children. The demand-side support provided by the program to poor families is essential to ensure the achievement of the desired outcomes in health, education, and poverty reduction. Risks can be mitigated, and the potential private and social returns to investing in Pantawid remain substantial. The justification for additional financing by ADB is strong, especially when taking into account the public good benefits from improving education and health, reducing the intergenerational transmission of poverty, and improved socioeconomic equity in the Philippines.

<sup>14</sup> Estimates of deadweight losses are not available, but Pantawid is unlikely to generate any because billions of real economic resources are currently allocated to ineffective and inefficient government programs. As a credible alternative, reallocation of their budget to the program could reduce deadweight losses instead of adding to them.

<sup>15</sup> The economic costs shown in Table 2 are computed by taking 10% of the financial cost, based on the program's administrative cost ceiling proposed in 2014 by the country's Senate during the legislative process.

<sup>16</sup> Marginal benefit is estimated based on a household's willingness to pay for an extra visit to its health facility.

<sup>17</sup> Asian Development Bank. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Policy-Based Loan for Subprogram 2 to the Republic of the Philippines for Increasing Competitiveness for Inclusive Growth Program*. Manila.