Assessing CCT's impact on communities' valuation of social development in the Philippines

Motivation

It is worldwide recognized that conditional cash transfer (CCT) programs have the potential role in breaking the intergenerational poverty link by fostering human capital accumulation (ADB 2008; World Bank 2009). While there is a sizeable literature (ADB 2010) reviewing the immediate impact of CCT programs on school attendance, nutrition, immunization rate, attendance to pre- and postnatal care and health services for children, as a consequence of behavioural changes, there has been much more limited research on what triggers such changes. In particular, an important question for policy makers is whether improved outcomes are simply explained by the short-term effect of cash incentives (and may thus disappear if such transfers stop), or at least partially reflect beneficiary households' increased awareness and valuation of children's health and education, which could have longer-term impacts even after cash transfers cease. CCT programs in some countries have included specific interventions that aim to make such changes in parents' attitudes: the Philippines Family Development Sessions (FDS) is a noteworthy example as a CCT innovation, and was introduced largely to promote such attitude change. However, little is known as to whether CCT programs can be effective in changing attitudes.

The question of whether CCT programs (at least those including attitude-change interventions such as FDS) can raise households' valuation of investments in education and health has important policy implications for developing countries in terms of sustainability of the impact of CCT programs. A closely related question that this proposal more directly addresses is whether such attitude changes affect communities' demands for public service provision.

For the Philippines, this is a particularly urgent question for at least two reasons, which may also have relevance to existing or potential CCT programs in at least some other countries. First, unlike CCT programs in countries like Brazil and Mexico, the CCT in the Philippines has a hard 5-year limit. This is under review, but under current policy, households in the initial geographic areas (termed 'Set 1') that started receiving CCT grants in 2008 will exit the program starting in late 2013. Second, the Philippines faces considerable 'supply-side' challenges (e.g., overcrowded schools), partly due to underinvestment by local government units (LGUs), while the country is also trying to shift to more decentralized and participatory governance (ADB 2010).

The recent introduction of both major CCT program and community driven development (CDD) program in large and overlapping sets of barangays (villages) in the Philippines offers a unique opportunity to employ quantitative impact evaluation to explore the potential effect of participation in CCT on poor communities' valuation of education and health: in particular, the extent to which they prioritize education and health in allocating government funding under the CDD program.

Overview of the policy and program environment

The Philippines introduced the KALAHI-CIDSS program of CDD in 2003 with an aim to empower poor communities through their enhanced participation in project identification and implementation. In the process, barangays (local district) prioritize the funding by selecting projects from an open menu, ranging from infrastructure (such as road and irrigation) to social development projects (including schools, clinics, drinking water, and sanitation) (World Bank 2011).

Following small-scale piloting in 2007 and in 2008, the Philippines began to introduce its Pantawid Pamilyang Pilipino Program of CCT, aimed at supporting improved health and education outcomes of poor children and pregnant women by granting a small amount of cash to eligible households pertain to certain conditionalities (ADB 2011 for more detail). The CCT adopted a phase-in approach, starting from so-called 'Set 1' barangays located in the poorest areas in the poorest regions.

Both the CDD and CCT programs are administered by the Philippine Department of Social Welfare and Development (DSWD).

Since both programs were targeted to very poor areas, there was significant overlap between barangays covered in CCT Set 1 and KALAHI-CIDSS. As detailed below, the proposed evaluation takes advantage of this geographic overlap combined with the CCT program's use of randomization in assigning CCT participation across Set 1 areas in order to examine whether exposure to CCT has any impact on communities' valuation of social development. The latter is proxied barangays' decision to submit CDD project proposals focused on social development versus other types of interventions (e.g., the choice to build a school versus build a road).

Research question

Two questions are of particular interest:

1. Among communities participating in CDD, whether exposure to CCT makes a community more likely to propose CDD projects that focus on social development—for the purpose of this research, social development is defined as any proposal that uses at least 50% of funds for initiatives related to education or training (e.g., construction of a school or day-care centre), health, or drinking water and sanitation;
2. Whether the effect of CCT on CDD proposals is immediate or may change with length of exposure to CCT.

Research design, methodology, and data

To investigate the 2 key questions above, the study proposes to employ a difference-in-difference (DID) methodology that also utilizes the fact that the Philippines' CCT program used randomization to divide virtually identical sets of barangays in Set 1 areas into initial and delayed CCT participation. Namely, the CCT program randomly divided 130 eligible barangays in Set 1, splitting them into treatment and control groups of 65 barangays each. The treatment group of 65 barangays started to receive CCT grants in 2008, while the

introduction of CCT in a control group of 65 barangays was postponed. It was initially planned to introduce CCT in the latter barangays in 2009, however this was later delayed until late December 2011.

Due to the geographic overlap in targeting the poorest areas, substantial numbers of these 130 CCT Set 1 barangays also participated in KALAHI-CIDDS and submitted at least one proposal in each of the following 2-year periods: 2006-2007, 2008-2009, and 2010-2011. Note that the first period (2006-2007) was prior to CCT's launch in any Set 1 barangays, while CCT was operating in half of the 130 barangays during the remaining 2 periods. As shown below, this allows for a difference-in-differences (DID) approach: for simplicity of illustration, I assume that 100 of the 130 Set 1 barangays in the randomization submitted CDD proposals in each of the 3 two-year time periods and that these were divided evenly across the control and treatment groups as shown below.

Figure 1: **DID grid**

		Time dimension		
		Pre-intervention	**Post-intervention**	
		Period 1 *2006-2007*	*Period 2* *2008-2009*	*Period 3* *2010-2011*
Geographic dimension	**CCT control** 50 barangays	No CCT CDD	No CCT CDD	No CCT CDD
	CCT treatment 50 barangays	No CCT CDD	**CCT (1 year exposure)** **CDD**	**CCT (2 years exposure)** **CDD**

Source: Author

In large samples, by construction, randomization assures identical baseline characteristics between the treatment and control groups, which rules out heterogeneity concerns and enables the assumption that the two groups experience the same external factors over time. The presence of a baseline allows us to test for any pre-existing differences and also to utilize a DID approach.

Under KALAHI-CIDDS, barangays submit proposals into a municipality-level competition (competing against proposals from other barangays). This study will look only at proposal submission (not final awarding for CDD grants) to avoid effects of municipality-level

preferences. As the agency responsible for both programs, DSWD had and/or can obtain detailed data for all CDD proposals submitted by the barangays covered under the study during the 3 two-year periods.

To answer research question 1, the study will divide proposals submitted into the pre- and post-intervention periods (i.e., 2006-2007 versus the combination of 2008-2009 and 2010-2011), as shown in Figure 1.

The regression specification to test the impact of CCT exposure (regardless of length of that exposure) on the types of proposal submitted by a given barangay:

(1) $S_{it} = a_0 + a_1 D_{CCT} + a_2 D_{post} + a_3 (D_{CCT} * D_{post}) + \varepsilon_{it}$

where

- S_{it} is a 1-0 dummy variable indicating whether a proposal submitted by barangay *i* at time period *t* (t=1, 2, 3) is categorized as a social development project (equal to 1 if the proposal is identified as a social development project, and 0 otherwise);
- D_{CCT} is a dummy, equal to 1 if barangay *i* is in the CCT treatment group, and 0 otherwise. It captures possible differences between treatment and control groups of barangays prior to the introduction of the CCT;
- D_{post}, a time period dummy, allows for a time trend affecting all barangays, that is aggregate factors that would affect outcome S_{it} even in the absence of the CCT intervention;
- The interaction term $D_{CCT} * D_{post}$, captures the impact of interest, which is the impact of CCT effect on preference change towards increased valuation of health and education;
- ε_{it} is a mean-zero error term.

Using barangay proposal submission data from municipal governments, if positive a_3 is obtained, it indicates that CCT indeed raises a community's prioritization of health and education investments, perhaps due to CCT beneficiary households increased valuation on the importance of human capital for child development.

Another question of equal importance is whether attitude change occurs immediately or emerges slowly over time, namely if the duration of exposure to CCT matters. Research question 2 aims to answer the question whether longer exposure to CCT has stronger impact on valuation change towards education and health, that is 2 years CCT exposure versus 1 year exposure, as illustrated in Figure 1). Equation (2) below serves to estimate the impact of longer CCT exposure on the types of proposal submitted by a given barangay:

$$(2)\quad S_{it} = \beta_1 D_{CCT} + \sum_{2}^{t} \beta_2 D_{post} + \sum_{2}^{t} \beta_3 D_{CCT*} D_{post} + \mu_{it}$$

where

- S_{it} is a 1-0 dummy variable indicating whether a proposal submitted by barangay *i* at post-intervention period *t* (t=2, 3) is categorized as a social development project (equal to 1 if the proposal is identified as a social development project, and 0 otherwise);
- D_{CCT} is a dummy, equal to 1 if barangay *i* is in the CCT treatment group, and 0 otherwise. It captures possible differences between treatment and control groups of barangays prior to the introduction of the CCT;
- D_{post}, a time period dummy, allows for a time trend affecting all barangays, that is aggregate factors that would affect outcome S_{it} even in the absence of the CCT intervention;
- The interaction term $D_{CCT*}D_{post}$, captures the impact of interest, which is the impact of longer exposure to CCT on preference change towards increased valuation of health and education;
- μ_{it} is a mean-zero error term.

Expected outcomes

The research proposal seeks to shed light on the impact of CCT on community-level valuation change on two grounds. First, among communities participating in CDD, whether CCT exposure increases the valuation of a community towards health and education. Second, whether the effect of CCT on CDD proposals is immediate or may change with length of exposure to CCT.

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