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Financial Incentives for Female Births and Parental Investments in Daughters: Evidence From a Program in North India

Since the early 1990s, several states in India have introduced financial incentive programs to discourage son preference among parents and encourage investment in daughters' education and health. This study evaluates one program in the state of Haryana, *Apni Beti Apna Dhan* ("Our Daughter, Our Wealth"). Since 1994, eligible parents in Haryana have been offered a financial incentive if they give birth to a daughter. The incentive consists of an immediate cash grant and a long-term savings bond redeemable on the daughter's 18th birthday provided she is unmarried, with additional bonuses for education. Although no specific program participation data are available, we estimate early intent-to-treat program effects on mothers (sex ratio among live children, fertility preferences) and children (mother's use of antenatal care, survival, nutritional status, immunization, schooling) using statewide household survey data on fertility and child health, and constructing proxies for household and individual program eligibility.

Country where the research will take place

India

How does the research describe the impact of population/reproductive health on poverty reduction and/or economic growth?

The research addresses the implications of fertility decline on household poverty. Fertility decline is accompanied by intensification of sex selection so that parents can have sons, who are able to provide support to their parents as they age—unlike daughters, who are married out of the household and thus of little economic value to their parents thereafter. The program being evaluated seeks to encourage parents to raise girls, while partially compensating them for the financial burden they incur as a result.

How will the research address a policy need, and what kind of policy lesson is expected?

The research addresses the policy need to maintain a balanced sex ratio in the population, while reducing the financial burden parents incur in raising girls. The policy lesson is that such programs can be effective, especially if the financial transfers are increased to be more meaningful to parents, and perhaps also if they are supported by more CCTs to encourage girls' education.

Methods used

Clean identification of program effects is not straightforward for two reasons. We do not have explicit individual-level or household-level measures of actual program participation

from any household survey data. So, we are limited to estimating an intent-to-treat effect, relying on the statutory eligibility criteria for the program. Also, Haryana introduced ABAD in all districts simultaneously. As a result, we are unable to exploit any time variation in the program's introduction to identify effects, as there is no possibility of observing "treatment" and "control" areas within Haryana at the same time.

Identification of treatment effects depends on the assumption that outcomes such as parental investment in health are exogenous to a jointly determined measure of program eligibility. For both women and children, our measure of ABAD treatment at the time of each survey is determined by the combination of interview date, family composition as of October 1994, gender, family economic status, and caste affiliation.

We first construct proxy measures of poverty criteria and combine them with caste affiliation to identify eligible and noneligible households across all rounds of the National Family Health Survey (NFHS). We then classify women and children within these households as individually qualified for the program based on their birth history (in the former case) and their birth order (in the latter).

Under this identification assumption, we compare eligible and noneligible groups of women and children in the "baseline" and "follow-up" years of the survey while controlling for relevant household-level and individual-level characteristics. This comparison is a standard difference-in-difference

methodology, controlling for common (additive) time trends and preprogram differences between the two groups.

Data used

We use three cross-sections of household survey data collected over a period that spans program implementation by the NFHS. The NFHS is a widely used, nationally representative survey of maternal and child health. The first wave of the NFHS was carried out before the reform in 1992 to 1993 (NFHS-1) and repeated, with some modification in 1998 to 1999 (NFHS-2) and in 2006 (NFHS-3). The survey covers women of reproductive ages (15 to 49), including a complete birth history and retrospective health histories for recent births. The timing of the NFHS allows us to view the Haryana sample within the NFHS as follows; the 1992 to 1993 data may be regarded as a baseline survey and the next two surveys as follow-ups, where the 1998 to 1999 data covers the short term and 2006 covers the medium term.

Research results

The results based on these limited data imply that *Apni Beti Apna Dhan* had a positive effect on the sex ratio of living children, but inconclusive effects on mothers' preferences for having female children as well as total desired fertility. The findings also show that parents increased their investment in daughters' human capital as a result of the program. Families made greater postnatal health investments in eligible girls, with some mixed evidence of improving health status in the short and medium term. Further evidence also suggests that the early cohort of eligible school-age girls was not significantly more likely to attend school; however, conditional on first attending any school, they may be more likely to continue their education.

Research product

Nistha Sinha and Joanne Yoong, "Long-Term Financial Incentives and Investment in Daughters: Evidence from Conditional Cash Transfers in North India," World Bank Policy Research Working Paper, No. 4860.