Evaluating the impact of a disruption in publicly-provided contraceptive supply on fertility and health outcomes in the Philippines

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Extended abstract of ongoing research

The fertility rate in the Philippines, a predominantly Catholic country, continues to be high compared to other countries in Asia. It is considered one of the main reasons for its poor socioeconomic development. While its government has adopted an objective of reducing family size in the early 1970s, persistent opposition from the country's Catholic church hierarchy on the promotion and use of modern methods of contraception (e.g. condom, pills, IUD, and injectable) has brought about wavering policy thrusts and a weak institutional environment for the family planning program that is heavily reliant on international agencies for funding support.

From 2004 to 2008, USAID gradually phased out its contraceptive donations, which accounted for 80% of the country's requirements in 1990-2001. Instead of compensating for the shortfall, as the government initially set out to do, the president at the time, a devout Catholic, banned the purchase of contraceptives by the national government and directed local governments to take responsibility for it. However, because of limited resources, most local governments did not carry this out.

In order to accommodate the uneven institutional capacities of local governments during the transition, the national government adopted a staggered allocation schedule for the distribution of the declining contraceptive supply from the central office to the provincial offices (which would then distribute it to public health facilities in the province's component cities and rural areas). The planned distribution schedule was based on poverty incidence such that full phase out would happen sooner for richer provinces and later for poorer ones (see Figure 1 for an illustrative index, where actual quarterly consumption in 2003 is used as the base figure). However, because of shipment delays in donation receipt and inventory miscues at the central office, actual distribution was erratic and intermittent, although the progressive character of the original scheme was largely intact (see Figure 2 for the corresponding index).

Because more than two-thirds of modern contraceptive users obtained their supply for free from public health facilities, the phase out had the potential to significantly affect childbearing risk through an increase in intermittent contraceptive usage, a shift towards the use of cheaper but less reliable methods (e.g. calendar/rhythm and withdrawal), or an outright drop in contraceptive usage. This impact is expected to be especially salient for the poor, the less educated, and the youth who were living in areas which were not able to respond commensurately to the diminishing public supply. However, because there is considerable scope for compensating behavior, such as couples availing of permanent family planning methods (i.e. ligation or vasectomy) or setting aside personal funds to purchase contraceptives from the commercial market, the net fertility impact might be weaker than anticipated.

Figure 1. Planned contraceptive distribution schedule

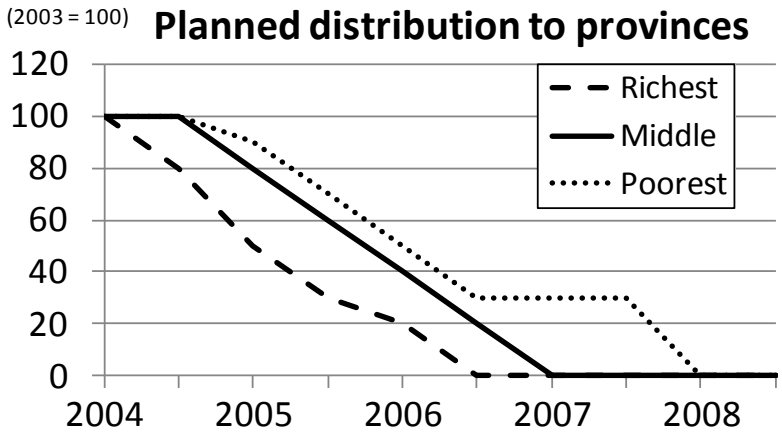
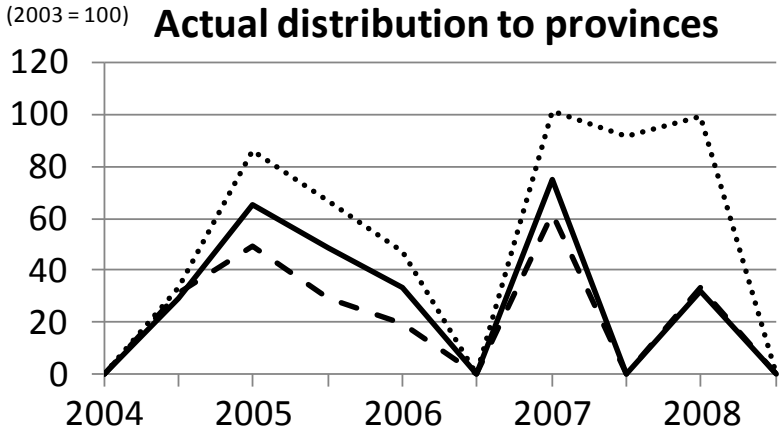


Figure 2. Actual contraceptive distribution scheme



Utilizing geographic and temporal variation in publicly-provided contraceptive supply coverage[1] at the province-quarter level, this research looks into the demographic and health consequences of the policy reversal in terms of the following outcomes: a decline in the frequency of sexual intercourse; an increase in the rates of unplanned pregnancies, unwanted births, and induced abortions; an increase in the rates of teenage pregnancies and shotgun marriages; shorter birth intervals; lower average birth weights; and higher mortality rates for infants and mothers.

The unanticipated and idiosyncratic nature of the distribution scheme that materialized during the phase out period[2] will help secure stronger identification of the supply-side determinants of fertility behavior, at least as it relates to public provision of contraceptive supply (with full

[1] I define contraceptive supply coverage as the proportion of women of childbearing age that has provisions for an annual supply of contraceptives, where quantities of different contraceptive commodities are converted into a common unit using its couple years of protection (CYP)-equivalent.

[2] Demand-side conditions were relatively stable during this period.

subsidy). In addition, the transparently progressive nature of the allocation scheme will help reduce confounding due to feedback effects[3] that may arise if the government behaves strategically and incorporates emerging fertility outcomes in its supply-setting decision. Both these features enhance the plausibility of obtaining estimates of the causal impact on fertility and health outcomes of taking funding away from the contraceptive supply component of publicly-managed family planning programs.

This research is relying on several datasets in its econometric analysis:

- Contraceptives Distribution and Logistics Management Information System from the Department of Health (quarterly): 2000-2008
- Vital Statistics System's natality, marriage, and mortality tables (annual): 2000-2008
- Demographic and Health Survey (past five years coverage): 2003, 2008
- Family Planning Survey (annual, past three years coverage): 1999-2002, 2004-2006
- Population Census: 2000, 2007
- Field Health Service Information System (annual): 2000-2008

Initial results[4] obtained from a (balanced) panel linear regression with province and year fixed effects show that a 10-percentage point decrease in publicly-provided contraceptive supply coverage (ave. 6%, range 0-30%) is associated with a contemporaneous 0.59 uptick in the crude birth rate (ave. 20.7 births per 1,000 population) and a contemporaneous 2.2 increase in the general fertility rate (ave. 90 births per 1,000 women of reproductive age), both of which are statistically significant at the 1% level (N=770). Accounting for possible delays in the subsequent distribution to local health facilities of up to two years produce similar magnitudes and statistical significance.

The next steps are to examine how robust this reduced-form result is to different specifications and to placebo tests, how consistent it is with results using other outcomes, and to consider the possible mechanisms that underlie these findings (changes in contraceptive usage and method mix as outlined above[5]). Furthermore, it would be important to determine if a demonstrable linkage exists between diminishing contraceptive supply from the public sector and unfavorable fertility and health outcomes for vulnerable groups, so that reducing or eliminating publicly-provided contraceptive supply has important welfare consequences.

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[3] This has been referred to as the issue of non-random program placement in the context of the introduction of government interventions.

[4] Data on actual contraceptive distribution was recently obtained in August 2011.

[5] Recent surveys have shown that modern contraceptive prevalence rates have been largely stable, but because this is defined at a specific point in time, it does not provide adequate information as regards intermittent contraceptive usage.