Do Family Planning Programs Influence Fertility Desires? A Multilevel Analysis of 23 Sub-Saharan Africa Countries

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Abstract:

A fundamental issue entirely unresolved in the literature is whether increased availability of family planning services, and the increased contraceptive prevalence which often ensues, can themselves have a causal effect on fertility desires. That is, do family planning programs generate demand for limiting and spacing births? Social science theory supports such an effect, but empirical evidence is largely lacking. The question is especially salient for sub-Saharan Africa, where fertility is relatively high, demand for children is a major obstacle to decline, and there is renewed NGO and government commitment to family planning. This study uses DHS data for 23 sub-Saharan Africa countries to conduct multilevel regression analysis in which fertility desires are modeled as a function of (i) Contraceptive prevalence at the province level and (ii) Family Planning Effort at the country level. The results have important implications for our understanding of contemporary fertility declines and for population policy.

BACKGROUND

The Impact of Family Planning Programs

A fundamental issue entirely unresolved in the literature is whether increased availability of family planning supplies and services, and the increased prevalence of contraceptive practice which often ensues, can themselves have a causal effect on fertility desires. That is, do family planning programs generate demand for limiting and spacing births? Theoretical support exists for such a relationship. Robinson and Cleland (1992) argue that the presence of family planning services can modify fertility desires by reducing the objective and subjective costs associated with fertility control. Similarly, Azjen and collaborators (1991, 2012) in their formulation of the Theory of Planned Behavior argue that one's perceived control, or self-efficacy, over a particular outcome will influence one's intention to act.

While existing evidence supports the impact of supply of services on contraceptive uptake, much less clear is whether or not the presence of family planning programs can *create* demand for limiting or spacing. Indeed, Freedman (1996) thoroughly reviews the empirical evidence up through the mid-1990s and concludes that the evidence for such an effect is at best weak. More recently, in a multi-country cross-sectional study, Bongaarts (2011) finds a significant effect of the family planning effort (FPE) score on fertility desires as measured by ideal family size. Similarly Wang et al. (2013) operationalize family planning effort as method diversity present at the community level and find a significant effect on fertility desires when comparing villages within Rwanda. These studies offer initial support for the theoretically hypothesized relationship but the importance of the question justifies further empirical investigation.

African Exceptionalism

It is well known that fertility remains relatively high in sub-Saharan Africa and fertility decline has proceeded slowly in most countries, even being considered a region with "stalled declines". An important feature of African reproductive regimes pre-transition and at the onset of transition is high demand for children (Bongaarts and Casterline 2013, Agyei-Mensah and Casterline 2014). This is one type of "African Exceptionalism" which may well distinguish its fertility declines from those observed in other regions. Given the steep requirement for declines in the demand for children, the question of whether intensified family planning services affect fertility desires becomes especially salient in this region (Caldwell et al. 1992). Fertility desires are commonly viewed as a function of socioeconomic conditions and culture – type of economy, wealth, schooling, religion – which directly and indirectly bear on the value of children. However, changes in such factors occur over decades and may be conditional on substantial investment. Investments in family planning services by comparison are far less expensive and potentially can show effects rather quickly (within one decade). If it happens that intensified family planning services has, as one effect, an altering of fertility desires, this justifies the renewed investment in such services (e.g. the London 2012 Family Planning Summit) not only for the sake of reducing "unmet need for family planning" but also for reducing the demand for children, an important obstacle to fertility decline in this region (Agyei-Mensah and Casterline 2014).

Objectives

Given the lack of consensus concerning the impact of family planning programs on fertility desires, this paper draws on the strengths of the multilevel model to address two closely-related questions:

(i) Does increased prevalence of contraception increase women's desire to limit or space their fertility? Such a hypothesis can be derived from the Theory of Planned Behavior and/or the concept of self-efficacy.

(ii) Do increased family planning services increase women's desire to limit or space? This question is directly relevant to policy and program efforts in the region.

DATA AND METHODS

Data and Sampling

For this project, we use Demographic Health Surveys (DHS) from 23 countries within sub-Saharan Africa that meet the following three conditions: (i) the most recent survey was conducted since 2005, (ii) a family planning effort (FPE) score is available, (iii) more than one survey exists (thereby allowing for lagged effects of provincial and country-level variables).. This study uses a hierarchical generalized linear multinomial logit model. Women from the most recent wave are the first level observations, province within country serves as the second-level, and country is the third level of analysis. There are 23 units at the highest level, 220 at the second level and 118, 728 observations at the first level.

The sample is restricted to women of parity two to five. The primary reason for this restriction is that fertility desires – in this analysis, the preference for another child -- is most salient at these parities. In African societies virtually all women desire more than one child making the inclusion of women at parity zero or one less relevant to the theorized relationship to be tested. Women at parities six and above are selective and less numerous as fertility begins to decline in most African countries. We will examine the robustness of our results to this selection rule.

Measures

Fertility desires are operationalized as a multinomial variable based on the prospective preference item (desire for another child). This item is generally recognized as the most valid and reliable of the standard fertility attitude items, especially in high fertility societies (Casterline and el-Zeini 2007). Three responses are distinguished: (i) desire for a child within two years, (ii) desire for another child after two years (iii) desire to have no more children. Women already sterilized are included in category (iii). Respondents who declare themselves infecund are excluded from the study as biological infecundity eliminates the rationale for practicing contraception.

There are two variables of primary interest: (i) contraceptive prevalence, measured as prevalence and "demand satisfied" at the province-level, and (ii) the family planning environment, as indicated by the most recent, comparable four waves of the family planning effort (FPE) score (Ross & Smith 2010). To allow some time for country- and province-level variables to exercise their effects, these two sets of variables are situated three years prior to the survey via interpolation.. We will conduct robustness tests on the choice of three-year lag.

A notable feature of our regression modeling is control for prior fertility demand, operationalized at the provincial level. This reduces the likelihood that the observed effects of intensified family planning services are a response to prior levels of demand rather than a mechanism for *generating* demand.

Finally, the regression analysis will also include controls for relatively conventional socioeconomic factors, including schooling and wealth. Socioeconomic controls of one kind or another will be operationalized at all three levels.

CONCLUSION

To this point scholars have found it difficult to detect the effect of family planning programs on fertility desires. This paper builds upon existing research in its focus on Africa and

in the analytical strategy for evaluating the impact of family planning programs on fertility desires. It is justified by the importance of understanding African fertility declines where the regional challenges and observed trends differ from other developing regions. Furthermore, by enlarging the scope of potential payoffs from intensification of family planning services, this research carries important policy implications.

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