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Religious affiliation, religious milieu, and contraceptive use in Nigeria
(extended abstract)

Introduction

Religion has played an increasing role everyday life, social institutions, and politics of many developing countries. This increased importance of religion calls upon demographers to examine its demographic implications. Most demographic studies concerning religion have typically focused on reproduction and have assumed the "characteristics hypothesis" perspective seeking to explain away whatever religious differentials in demographic behavior by controlling for more traditional demographic characteristics in their statistical models. An alternative approach, christened the "minority-status group hypothesis" has sought explanations for religious (and ethnic) differentials in demographic outcomes in socio-political positions of minority groups. According to this perspective, minorities adjust their demographic behavior, especially in matters of reproduction, either to protect or to improve their positions.

This paper engages these two main perspectives to examine Muslim-Christian differentials in contraceptive use in Nigeria. Africa's most populous nation, Nigeria has also been one of its most divided ones, and religious cleavages have played a central role in these divisions. Demographically, Nigeria has been among the countries where the fertility transition has barely begun, with the TFR of 5.7 and modern contraceptive prevalence among married women of only eight percent.

Conceptual model

Our conceptual model and hypotheses are as follows. We believe that religious differentials in contraception are deeply rooted in more general and long-standing historico-cultural and political tensions between the two main religions of Nigeria, the tensions that go back to the time of the colonial conquest. We see religion as a fundamental and powerful force in Nigeria's political discourse and social mobilization, and reproductive and contraceptive matters as symbolic markers that religion may enlist to enhance the social construction of the contested socio-political terrain and identities.

Religious relations and tensions are usually asymmetrical: in most real-life situations there are groups that are—or perceive themselves as—minorities struggling to protect their identity (and sometimes the very lives of its members) from what is seen as mainstream or to achieve greater political inclusion into that mainstream. While our approach conforms to the logic of the "minority-status" perspective, we emphasize that Muslims have been a political minority in Nigeria: although a sizable group, rivaling (and perhaps exceeding) Christians numerically, they have been on the defensive politically and symbolically since the time of the colonial conquest, and remain so today despite considerable headways in Islam's long-lasting quest for symbolic preeminence and political influence. It therefore makes sense to look at the Muslim-Christian division and resulting fertility and contraceptive differentials from Muslims' perspective. Because Muslims have been historically relegated to the margins of western culture in Nigeria and because of the corresponding tendency to equate things western with things Christian, we expect Nigerian Muslims to lag behind Christians in contraceptive use. Some of this "disadvantage" may be due to other sociodemographic characteristics, especially secular (i.e., western-type) education, that distinguish Christians and Muslims, but we also anticipate that the conventional sociodemographic controls will not erase the Christian-Muslim differences completely.

While most studies that deal with religion and demographic outcomes are focused uniquely on individual-level religious characteristics, we argue that religion is equally important in shaping the social and moral milieu in which individuals live and make decisions such as whether to use contraception or not. Two competing hypotheses about the contextual effects of religion, derived from two different interpretations of the minority status group thesis, are tested here. On the one hand, one may expect that the smaller the minority group (Muslims), the more likely it is to symbolically resist the majority and to differ from it. On the other hand, as the relative size of the minority population increases so that it becomes a numeric majority in a community, the pressure of the norms and preferences that its religion promotes influence corresponding choices and behavior among all groups that make up this community. Specifically, in communities where Muslims numerically predominate, Islamic norms and proscriptions that guide reproductive behavior may influence not only Muslims but also Christians living there. Importantly, we do not claim that the Islamic doctrine is in overt opposition to birth control. (In fact, some Christian denominations, such as the Roman Catholic Church typically articulate such opposition more explicitly). Yet given Nigeria's politico-religious history and context, even the norms and proscriptions that are only indirectly related to reproduction and contraception (such as women's status and others that we cannot measure directly with our data) may work to discourage contraceptive use not only among the community's Muslims and Christians alike. The two hypotheses may not be mutually exclusive, and we therefore explore the data for possible non-linearity.

Data and methods

The data used to test the hypotheses come from the 1999 Nigeria Demographic and Health Survey (NDHS) that interviewed a representative sample of Nigerian women aged 15-49. As all DHS, the NDHS questionnaire included only one question on religion affiliation ("What is your

religion?"). Lack of measures of religiosity and little available distinctions among Christian denominations limit our analysis.

To sharpen our comparison, we restrict this analysis to Christians and Muslims, excluding respondents who either identified themselves as followers of traditional/other religions or declared no religious affiliation. The dependent variable is a dichotomous indicator of whether or not the woman is currently using a modern contraceptive method (i.e., the pill, IUD, injections, Norplant, diaphragm/foam/jelly, condom, or sterilization). This variable is coded 1 if the woman is using such a method; in all other cases, such as no contraceptive use or use of a traditional or folkloric method, the variable is coded 0.

The independent variables of primary interest are religion variables, which are measured at two levels. At the individual level, religion is measured with a dichotomous indicator that is coded 1 if the woman is Muslim, and 0 if the woman is Christian. At the level of the locality, or enumeration area, a measure was created that is the percent of the women in the area who are Muslim. We also try an alternative specification of this measure by breaking this continuous variable into a set of discrete categories with the following cutoff points for percentage of Muslims: 0-10 percent, 11-35 percent, 36-55 percent (to be used as the reference category), and 66-90 percent, and 91-100 percent.

As controls we include several measures to reduce confounding of religion with socioeconomic measures that are expected to correlate with religious denomination in Nigeria. For example, in this context Muslim women are characterized by less education, less urban residence, lower labor force participation, lower average parity (related mainly to higher age at first union) than their Christian counterparts. We control for education with a set of dummy variables to represent three categories: no education, primary education, and secondary education.

Whether or not the woman's household owns a radio is a simple proxy for household affluence. Rural/urban residence is controlled with a variable coded 1 if rural, 0 otherwise. Labor force participation is coded 1 if the woman is currently working outside the home, and 0 otherwise. We also control for the number of living children. Remaining controls include the woman's age and marital status. In the Nigerian setting, polygyny are common, and thus we code marital status into three categories: single, married monogamously, and married polygynously.

Because we hypothesize effects of religion not only at the individual but also community level, it is also important to control for community-level characteristics that could also be confounded with religious milieu. Thus Muslims may tend to live in areas that are more disadvantaged than areas inhabited by Christians in terms of educational and employment opportunities, wealth, access to health and family planning services, etc. We control for these aggregate characteristics to the extent the data allow.

Because our dependent outcome is dichotomous, logistic regression models are appropriate. These models estimate the relationship between independent variables on the log odds of being in one outcome category versus the other: in our case, using a modern form of contraception versus not using.

An additional methodological concern in our models is the clustered nature of the data. The nearly 6000 Muslim and Christian women in our study were chosen from 399 enumeration areas. Thus women in the same areas likely share unmeasured characteristics, which violates the independence assumptions in logistic regression models. Furthermore, by our study design, women in the same enumeration areas are assigned identical community measures. To protect against deflated standard errors and a bias in test results, we estimate multilevel models that account for clustering of the women into those enumeration areas. We employ a random

intercepts model, i.e., a model that allows the intercept level of modern contraceptive use to vary randomly by area. Finally, we also apply the NDHS sample weights to properly reflect the population of Muslim and Christian women in Nigeria in 1999.

Results

Preliminary results confirm our expectations that Muslims, on average, are much less likely to use modern contraception: the odds that Muslims use modern contraception is about 50% less than the odds that Christian use contraception. When we add individual-level controls, the difference weakens—the odds of Muslims using a modern contraceptive method are about 28% less than Christians—but does remain strong and statistically significant.

At the contextual level, the results differ depending on whether we use the continuous specification of Muslim presence in the community (exact percentage of Muslims) or a set of categories to allow for nonlinear effects. The percentage measure shows a significant negative associated between the percent of Muslims in the community and the odds of modern contraception. When we substitute the discrete specification for the continuous one, however, the results become much more informative and interesting. It turns out that the negative effect of the Muslim presence on contraceptive use is significant where the share of Muslim is either very small (10% or less) or very large (two thirds or more), whereas no statistical effect can be detected when the share of Muslims stands somewhere between the two extremes (i.e., in communities with a more or less balanced religious makeup).

When we look at Christians and Muslims separately, the picture becomes even more intriguing. The inverted U-shaped association pattern is repeated only for Christians: Christians are less likely to use contraceptives where they strongly predominate (where Muslims make up only 10 percent of the population or less) and where, on the contrary, they are a small minority. In

contrast, for Muslims, the share of Muslims in the community is inversely related to the likelihood of contraceptive use. The relationship is almost linear: living in a community where Muslims constitute a small minority increases Muslims' contraceptive use, relative to residing in a community where the religious split is more or less balanced. However, as the share of Muslims rises beyond 90%, the likelihood of Muslims to use contraception declines significantly.

Discussion and Conclusion

Although this analysis is still in progress, the preliminary results already suggest important adjustments in the theoretical perspectives on the role of religion in reproductive and contraceptive behavior. The analysis questions the established notions of "minority" and "majority" by casting them within a historico-cultural and socio-political framework. Most significantly, the analysis highlights the importance of assessing the role religion at both the individual level and at the contextual level. The community religious environment, however, does not simply reinforce individual religious identity; the interaction between religious identity and religious milieu depends on the religious mix in a community and has different implications for the religious groups that are differently positioned in the politico-cultural system. These results also raise questions about possible changes in the religion-contraception associations as the politico-religious evolves and the contraceptive uptake gains momentum. The Nigeria 2003 data should become available soon, and we plan to replicate our 1999 NDHS analyses with these new data and to include in the final version of the paper a comparison of the two sets of tests.