Extended Abstract
Ethnicity and Fertility Change in West Africa: An Application of Diffusion Theory

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Introduction

West Africa is a region where colonial interests determined national boundaries. As in other regions in Africa, scant attention was paid to the ethno-linguistic composition of nations with ethnic groups divided between countries. However, this is even more acute in West Africa where nations were often delineated from the interior to the coast, whereas ethnic groups were often geographically concentrated perpendicularly, according to the climate band and the ensuing impact upon their livelihoods and way of life. In the African setting in particular, a person's primary allegiance is to his family, lineage and ethnic group; national identity is often weak (Caldwell and Caldwell, 1987; Weinreb, 2001). Despite the heterogeneous nature of the West African nation state, fertility data is still analyzed according to national demarcations in the first instance. However, one of the central theories of fertility decline, ideational or diffusion theory predicts that fertility behavior should be similar in ethno-linguistic groups. Therefore, it is possible that certain ethnic groups are undergoing fertility changes that are being overlooked in national figures.

Historically, fertility transition theory developed out of the European experience, in the 19th and early 20th centuries. Even so, the debate over the cause of fertility decline, and indeed fully explaining any fertility change, has not yet been resolved, as described below. Furthermore, the fertility transition in many African countries seems to be delayed or slow in cases where it has begun, particularly in comparison with many Asian transitions. In sub-Saharan African countries that are showing signs of entering the fertility transition, there are concerns over data quality, as well as deliberations regarding the explanatory sufficiency of these declines and prospects for the future (Agyei-Mensah & Aase 1998). It is possible that due to the heterogeneous nature of many African countries there are ethnic groups undergoing more rapid transitions, whereas studies tend to be at the national level (Casterline, 2001). This could be misplaced given the weak nature of the state and the importance of ethnicity in an identity of self. Such a finding would be of profound importance for any analysis or estimations of future fertility trends. Additionally, this study seeks to develop upon the concept of ideational theory, comparing homogeneous cultural groups in differing socio-economic conditions, which would provide a much needed African perspective to a largely Eurocentric framework.

Research questions

In this paper, I examine the evidence for diffusion theory using ethnic differences in fertility in West Africa.

1. Are cross national ethnic groups more homogeneous in their fertility behavior than national groups?
2. If homogeneity does exist, does it occur despite different socio-economic conditions?

3. Does the relative size of the ethnic group within the country determine the extent to which ethnicity is an important predictor of fertility?
4. What is the state of the fertility transition according to ethnic groupings? Do national data hide sub-groups for whom the fertility transition is more advanced?

Ethnicity and fertility

The fertility of ethnic groups could be influenced by both structural and cultural determinants. As Brunette (1996) points out, it is important not to equate ethnicity with culture; ethnicity is just one element in culture and vice versa. Ethnic groups, particularly in Africa where often one group was designated the favored group and bestowed education and (relative) power by their colonial overlords, differ in their structural assimilation. They have different levels of socioeconomic development, including education, employment opportunities, occupational structure, migratory behavior, mortality levels and housing. All of these are known to affect fertility. Once socioeconomic development passes a threshold level, it has a negative effect on fertility. If this is the case, then controlling for socioeconomic determinants should render insignificant any differences in fertility.

However, ethnic groups also differ in their socio-cultural characteristics. Undoubtedly, in any society, sexual and reproductive behavior is socially prescribed. As well as directly determining reproductive preferences, other factors that can directly influence fertility and are culturally shaped are, for example, post-partum abstinence, sexual promiscuity and coital frequency, age at first union/marriage, extended breastfeeding, sterility and rates of fetal loss. These proximate determinants are of greater significance in the African context, particularly pre-transition countries, where there is little conscious fertility control (Bogaarts et al., 1984). These themselves are shaped by other indirect social determinants such as the lineage system and female autonomy (Derose et al., 2002). Bongaarts and Watkins (1996) stated that patterns of nuptiality and breastfeeding are largely determined by community customs and thus under social control. Indeed, Bongaarts et al. (1984) found that even in pre-transition African societies there were wide variations in fertility, despite very low levels of direct fertility regulation. Barriers to contraceptive use could also be ethnically influenced, being subject to widespread myths and fears regarding its effect on the woman. If ethnicity itself is an important factor, then it would be expected that once socioeconomic conditions are controlled for, then any differences in fertility by ethnic group would still remain. Furthermore, if ethnic group determines culturally led reproductive behavior in West Africa, then there will be more homogeneity among ethnic groups than among national groups, with the differences between states being accounted for by structural characteristics.

Minority group status and fertility

A potentially confounding factor could be minority group status which may be important in determining fertility behavior, as proposed by Goldscheider & Uhlenberg (1966). The minority group seeks to improve their security, social mobility, or both through their fertility behavior (Agadjanian, 2001). It is generally the case that minority groups have elevated fertility when compared with the same ethnic group in a majority position. (Knodel, et al. 1999; Attane & Courbage, 2000; Malwade Basu, 1997; Courbage, 1992,

van Heek, 1956; Mosher & Hendershot, 1984). Therefore, it is necessary to account for the proportion of the national population that each national-ethnic group represents.

Hypotheses

It is expected that:

1. After controlling for socioeconomic differences, the differentials in fertility between ethnic groups will remain.
2. The fertility behavior of ethnic groups in different countries will also be similar. If the fertility transition has commenced then the timing of the transition should be similar among each ethnic group.
3.
    a. The effect of socioeconomic variables on fertility will be different in each national ethnic group; in other words, the effect of socioeconomic development and modernization on fertility differs between ethnic groups and between countries.
    b. One of the main determinants of the differential relationship between ethnicity and fertility at the national level will be the proportion of the population represented by that ethnic group.

Data

The analysis is based on Demographic and Health Surveys conducted in various West African countries, where data on ethnicity are available. Although some of the countries involved are generally considered to be Middle or Central Africa (such as Chad, Cameroon, CAR and Gabon), they are contiguous with West African countries and share the same ethnic groups. The following surveys meet the criteria:

Country	**Survey years**
Benin	1996, 2001
Burkina Faso	1992/3, 1998/9, 2003
Cameroon	1991, 1998
Central African Republic	1994/5
Chad	1996/7
Cote d'Ivoire	1994, 1998/9
Gabon	2000
Ghana	1988, 1993, 1998, 2003
Guinea	1992, 1999
Liberia	1986
Mali	1987, 1995/6 , 2001
Niger	1992 , 1998
Nigeria	1990, 1996, 1999, 2003
Senegal	1986, 1992/3, 1997, 1999
Togo	1988, 1998

Analysis

The analysis is based upon a proportional hazards model using current fertility, with the dependent variable being the hazard of a birth in the past 3 years. The main ethnic groups in each country are included as dummy variables. In the first instance, each country is

analyzed separately. The second step is to create a multi-country file that includes country as a dummy variable which allows for interactions to be included.

Preliminary results

Initial results, based on bi-variate analyses, show, as expected, that there is an ethnic effect to fertility in West Africa.

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