

Differentials in the Proximate Determinants of Fertility in Ghana¹

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ABSTRACT

This paper analyses subpopulation fertility patterns in Ghana since 1998 using data from the three Demographic and Health Surveys of 1998, 2003 and 2008. The impacts of sexual activity contraceptive use, abortion, postpartum infecundability and sterility on fertility in each subpopulation are quantified using the model of the proximate determinants of fertility reformulated by John Stover. Substantial and persistent subpopulation differentials in the proximate determinants of fertility are identified. The index of postpartum infecundability (C_i) had the highest fertility inhibition effect in 1998, 2003 and 2008 for both rural and urban areas with the rural areas having the highest in all the ten regions of Ghana. The Northern region had the highest percentage reduction due to the index of postpartum infecundability (C_i). Upper East and Upper West also had very high percentage reduction due to postpartum infecundability (C_i). Among all the regions, the Greater Accra Region had the highest percentage reduction in fertility due to abortion followed by Ashanti. The inhibition effect of abortion is relatively high in the Greater Accra Region and the Ashanti Region possibly because these two Regions have the two largest cities in Ghana. The higher rate of urbanisation with associated abandonment of cultural practices that frown upon abortion may result in the high rates of abortion. Different policy approaches are needed to manage fertility decline in the different regions as suggested by the findings.

KEYWORDS: sexual activity, contraception, post-partum infecundability, fertility decline, proximate determinants, Ghana

INTRODUCTION

Comparison of the proximate determinants across subpopulations helps identify the background factors (educational attainment, type of place of residence, region of residence, religion/religiosity) that underlie fertility differentials. For example, observed fertility is generally higher among women with no education, and the proximate determinants provide an understanding of what behavioural or biological factors are associated with fertility differential. There has been a substantial and persistent differential in fertility by background characteristics in Ghana. For example The TFR for rural areas (4.9 births) is higher than the TFR for urban areas (3.1 births). Over the five-year period preceding the 2008 GDHS there was a decline in fertility among women in rural areas from 5.6 births per woman in 2003 to 4.9 births currently, while the TFR for women in urban areas remained the same. The total fertility rate is highest in the Northern region (6.8 children per woman) and lowest in the Greater Accra region (2.5

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children per woman). TFR decreased from 6.0 children among women with no education to 2.1 children among women with at least secondary education.

The differentials in fertility are linked to variations in socio-economic development in the country. The Greater Accra in southern Ghana, which is the most developed, and the rest of the southern part have lower fertility than the northern areas. The proximate determinants of fertility should also be expected to contribute to fertility differentials in the country. The purpose of this paper is to examine the relative contributions of the proximate determinants to fertility variations in Ghana.

METHODOLOGY

Stover's (1998) refinement of the Bongaarts formulation uses the proportion sexually active in the last month plus women who are not currently sexually active but who are currently pregnant or abstaining postpartum (since they have recently been exposed to the risk of pregnancy) as the population directly exposed to pregnancy. He also modified the components used in the calculation of the index of abortion (by multiplying contraceptive prevalence by the effectiveness to describe more accurately the proportion of women protected by contraception) and the index of contraception (by removing infecundity consideration since it is now included in the sterility index).

Stover's (1998) formulations will be used to estimate the proximate determinants indices to assess their inhibiting effect on fertility. as stated below:

$$TFR = C_x \times C_c \times C_a \times C_i \times C_f \times PF$$

$$C_x = s$$

$$C_i = \frac{20}{18.5 + i}$$

$$C_a = \frac{TFR}{TFR + 0.4 \times (1 + u \times e) \times TAR}$$

$$C_f = 1 - f$$

$$C_u = 1 - u \times e$$

where s = proportion of women aged 15-49 who are sexually active (where sexually active means active in the last month or pregnant or abstaining postpartum); i = the mean duration (in months) of postpartum infecundability; u = the proportion of sexually active, fecund women using contraceptives that does not overlap with that experiencing postpartum amenorrhea; e = the average effectiveness of contraception; TAR = the total abortion rate; f = the proportion of sexually active women who are infecund; and PF = the index of potential fertility.

RESULTS

Fertility levels are also higher among rural residents compared to those in the urban areas (see Figure 1). Substantial differences equally exist in the fertility levels of women by level of education, with fertility being negatively associated with level of education. Gaisie (2005), Mba

(2003) Tutu (2011) also found these regional, residential and educational differentials in the national studies that they carried out in the country. Region, place of residence as well as educational Variations in fertility levels among regions have also been reported in other parts of the world including Sub Sahara African countries (Mboup and Saha, 1998; Moultrie and Timaeus, 2002; APHRC, 2002, Ibisomi 2007).

The index of sexual activity had the highest fertility inhibition effect in 1998, 2003 and 2008 for both rural and urban areas with the rural areas having the highest. In all the regions in Ghana, Greater had highest percentage reduction due to abortion in Ashanti Region had the second highest. The inhibiting effect of abortion is relatively high in the percentage reduction. This may possibly be that women in the rural areas are more likely to adhere to traditional practices with regard to postpartum abstinence and are more likely to breastfeed for a longer period because they are less likely to be in formal employment and may have enough time for their children and even have them with them while working. The Northern region had the highest percentage reduction due to the index of postpartum infecundability, Upper East and Upper West also had very high percentage reduction due to Ci. These are the least urbanised regions.

Among all the regions Greater Accra had the highest percentage reduction in fertility due to abortion followed by Ashanti. The inhibition effect of abortion is relatively high in the Greater Accra Region and the Ashanti Region possibly because these two Regions have the two largest cities in Ghana. These cities have more educational and job opportunities, hence women may stay for long hours in jobs and work away from home or have educational aspiration and may not desire to take pregnancy to term.

Figure 1: **Relative contribution due to the proximate determinant by socio-economic groups**

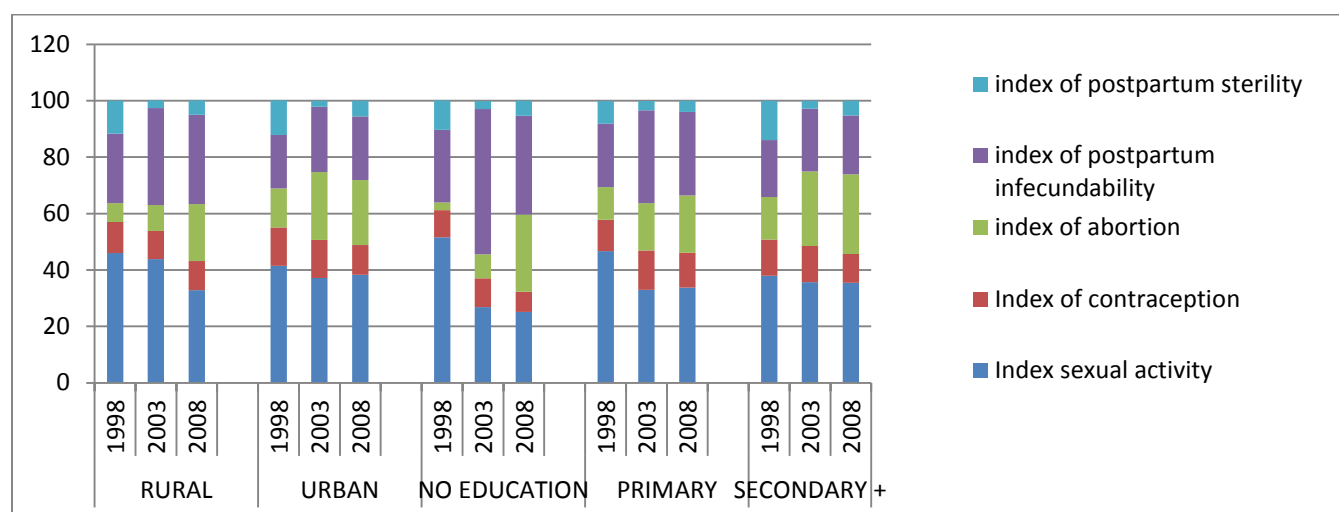
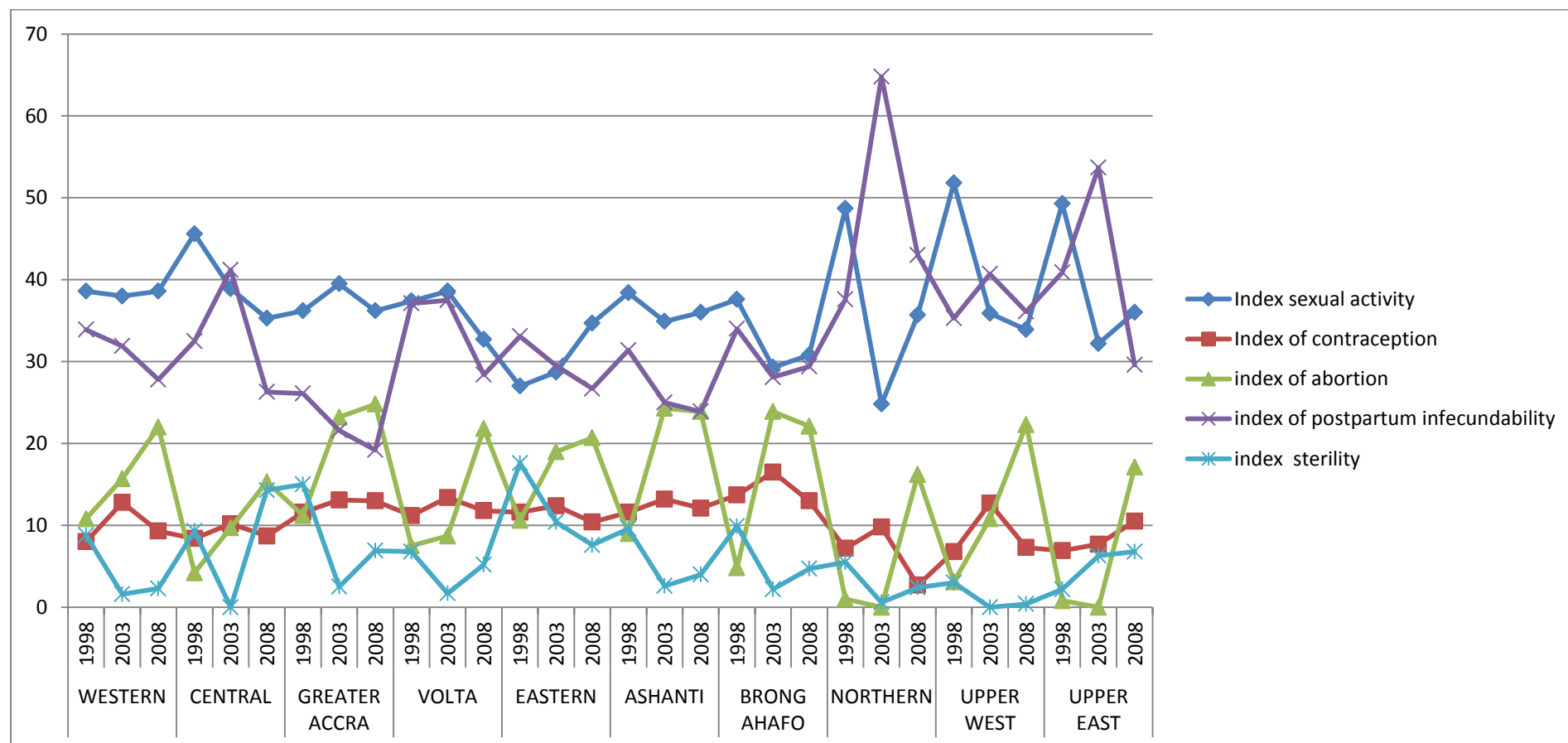


Figure 2: **Relative contribution due to the proximate determinants by Region of residence**



RECOMMENDATION

It is therefore recommended that:

1. Maternal education increases age at first sexual intercourse and contraceptive use increases with level of education, hence education should be provided to girls at least up to secondary level as long term measure of fertility reduction

The existing family planning programmes should be strengthened and expanded through the provision of family planning clinics to areas with no such facilities. Contraceptive use should be encourage

2. Since the overall findings of this study show that, the fertility inhibiting effects of postpartum infecundability is more important than the effects of contraception and sexual activity.

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