A cohort analysis of the timing of first birth and fertility in Ghana

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Abstract. This paper examines the nature of the inverse association between age at first birth and fertility across successive generations of Ghanaian women. Within the context of enhanced non-marital opportunities for contemporary women and declining fertility, we develop a rationale for and test the hypothesis that in a medium fertility environment as currently found in Ghana, the effect of age at first birth on fertility becomes more important than ever before. Five birth cohorts were identified (1938–1944; 1945–1949; 1950–1954; 1955–1959; 1960–1964) from a merged file of the 1988, 1993 and 1998 Ghana Demographic and Health Surveys. The analyses were restricted to women over 35 years old at the time of the surveys, which allowed us to use current parity as a reasonable proxy for completed fertility. Preliminary results suggest that women who had first births early tend to have a higher number of births than those whose first births occur late, regardless of birth cohort. In multivariate analyses, the effect of age at first birth as a determinant of fertility was found to be more substantial among later cohorts. The implications of the findings are discussed.

Keywords: Age at first birth, Birth cohort, Fertility, Ghana, Sub-Saharan Africa

Introduction

There is a growing body of literature that associates early life events with later ones. In social scientific research, the timing of the first birth is known to affect a variety of demographic and non-demographic phenomena in the life course of women (see, for example, Mirowsky 2002, Taniguchi 1999, and Morgan & Rindfuss 1999). In the absence of effective contraception, for example, the total number of children a woman bears is principally a function of the age at which childbearing begins. Invariably, women who start reproduction very early in life tend to have a large number of children than those who start late. This negative association has been known for some time now and constitutes an important empirical regularity in the fertility patterns (Trussell & Menken 1978; Bumpass et al. 1978).

A number of theoretical reasons have been given as to why age at first birth is an important predictor of completed fertility. Besides the direct demographic risk of the long exposure during the high fecundity years of the late teens and early twenties, there are indirect socio-economic links. Early childbearing can interrupt a young woman’s education and also limit outside
opportunities that compete with childbearing. Early child bearers thus spend less time preparing for their careers, limiting them to low paying jobs and socio-economic status and ultimately reinforcing high fertility. As Morgan and Rindfuss (1999: 62) sum it, “...an early birth is a burden that makes other goals seem less attainable”.

The strong inverse relationship between age at first birth and fertility has, however, come under closer scrutiny in some low fertility countries. In both Canada and the United States, there is evidence that the strength of the association has weakened substantially over time (Morgan & Rindfuss 1999; Grindstaff et al. 1991; Balakrishnan et al. 1988; Wineberg 1988). The conclusion from these studies is that in the context of very low fertility, the timing of the first birth loses its significance as an important determinant of completed fertility. To our knowledge, the nature of this relationship has not been empirically assessed in much of sub-Saharan Africa. Moreover, the few studies that exist tend to be descriptive or cross-sectional (see, for example, Westoff 1992), making it difficult to assess the relative effect of age at first birth across generations. With the availability of Demographic and Health Survey (DHS) data in the last 15 years, this paper explores the nature of the association between age at first birth and fertility across successive generations of Ghanaian women. Of central importance is whether the relationship has weakened among younger women as has been observed elsewhere.

**Research context and hypotheses**

Much has been done on reproductive-related behaviour of women in sub-Saharan Africa (Caldwell & Caldwell 1987; Lesthaeghe 1989; Dodoo & van Landewijk 1996; Addai 1996; Gyimah 2001; Takyi & Addai 2002). In general, these studies suggest that African women tend to have more children than their counterparts in other parts of the developing world because of the inter-related factors of early childbearing, high infant mortality, low education and contraceptive use, and persistence of high fertility-sustaining social customs.

More recent data, however, provide evidence of fertility transition in some parts of the region, notably Kenya, Botswana, Zimbabwe and Ghana (Kirk & Pillet 1998). In Ghana, for example, the total fertility rate declined from 6.4 to 4.5 children between 1988 and 1998, while the median age at first birth increased from 19.6 years to 21 years within the same period (Ghana Statistical Service & Macro International 1999). Factors generally thought to be implicated in this development include enhanced educational opportunities for women accompanied by greater investments in secondary and post-secondary education which not only delay entry into the marriage market and births but