FERTILITY PREFERENCES AND CONTRACEPTIVE USE: A PROFITABLE NEXUS FOR UNDERSTANDING THE PROSPECTS FOR FERTILITY DECLINE IN AFRICA*

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A. PREAMBLE

Despite the confirmation of dramatic and long-awaited fertility transitions in selected countries in sub-Saharan Africa, the bulk of the continent retains very high levels of fertility, such that questions about the prospects for fertility decline remain germane. On a continent where, barely two decades ago, transition was considered unlikely because the socio-cultural context was deemed to support, if not promote, high fertility (Bongaarts et al., 1984; Caldwell and Caldwell, 1987, 1990), it stands to reason that the success stories, spotted as they may be, may provide considerable insight into facilitating transition elsewhere on the continent.

Not surprisingly, there have been numerous attempts to explain (or understand) African fertility over the last two decades, and the preponderance of these studies have concentrated on the triumvirate of factors that are fertility levels (or indicators of such), contraceptive use, and fertility preferences. Reason for this focus exists in the literature. Essentially, the argument runs, fertility behavior is driven by fertility demand or motivation both of which are reflected in preferences that, in turn, influence contraceptive use, which represents the most significant determinant of fertility (Ajzen and Fishbein, 1980).

This paper constitutes an attempt to make sense of how the relationships among these three variables may be useful for understanding the prospects of fertility transition on the continent, and facilitating such. The paper initially describes how the levels of these three variables vary across the continent. Then, it turns to a brief discussion of the published literature on the focal variables, before discussing the theoretical model that undergirds existing research. Subsequently, a conceptual alternative to the theoretical framework guiding current thinking on the topic is forwarded (Dodoo and van Landewijk, 1996; Dodoo and Tempenis, 2002). The proposed model should enhance understanding of the prospects for fertility decline by promoting more valid analyses of the nexus in which these three central variables come together. This paper ends with some suggestions about avenues for profitable research in the future.

Leaning on the available literature, the paper uses a broad brush to paint these three variables in a manner that should clarify the relationships among them. Understanding the dynamics that lie at the core of their relationships should hopefully, provoke discussion about research avenues that will yield profit vis-à-vis facilitating more generalized fertility transitions on the continent. Beyond, the cursory description of the available research, we should note that a limitation of this paper regards its substantial focus on the published, Anglophone literature on Africa.

B. BACKGROUND

1. Levels of Fertility

Although fertility has declined, and very rapidly, in a handful of countries across the continent (e.g., Kenya, Zimbabwe, and Ghana), most of the continent, and especially the countries that constitute what we think of as mid-Africa (i.e., those mainland countries lying south of the Sahara, but north of South Africa), remain untouched by fertility transition, that is, outside their principal urban centers. Leaning on total fertility rates (TFRs), table 1 documents the high levels of fertility that continue to
plague the continent, and particularly Western, Middle, and Eastern Africa, despite more than four decades of family planning programming. In fact, according to data from the Population Reference Bureau (2000), apart from Algeria (3.8), Egypt (3.3), Libya (4.1), Morocco (3.1), Sudan (4.6), and Tunisia (2.8), all of which are in Northern Africa; Botswana (4.1), Lesotho (4.4), and South Africa (2.9) in Southern Africa; and Mauritius (2.0), Reunion (2.2), and Seychelles (2.0) in the Indian Ocean; only Ghana (4.5), Kenya (4.7), and Zimbabwe (4.0) have TFRs below 5.0 children per woman. It is clear from table 1 then that any discussion of high fertility in Africa should primarily point in the direction of mid-Africa; that is, Western, Central, and Eastern Africa. The corollary is that, whatever lessons can derive for countries in mid-Africa will apparently have to derive from the transition experiences of Ghana, Kenya, and Zimbabwe.

2. Contraceptive Use

Table 1 also reports the low levels of contraceptive use that accompany the observed fertility across the continent. The correspondence of fertility and contraceptive levels is clear. The low fertility countries of Northern and Southern Africa, and of the Indian Ocean generally also have levels of modern contraception reflecting use among more than 25% of married women. In the three countries in mid-Africa in which there has been substantial fertility decline—Ghana, Kenya, and Zimbabwe—contraceptive use levels stand at 13%, 32%, and 50%, respectively. Although, the level in Ghana (13%) seems relatively low, the reflection that Ghana is the only country in Western or Central Africa in which more than eight percent of women use modern contraception underscores the aforementioned correspondence between fertility and contraceptive use. Although low themselves, the contraceptive use levels in Eastern Africa countries are somewhat higher than they are in Western and Central Africa.

3. Fertility Preferences

Although numerous measures of fertility preference can be found in the literature, we employ one indicator—preference for no more children—to describe the place of preferences in the fertility-contraceptive use-preference nexus. The third column of table 1 presents the proportion of women in mid-Africa who report wanting no more children. As with fertility and contraceptive use, preferences to cease childbearing are lower in Western and Central Africa than they are in Eastern Africa.

C. A BRIEF LOOK AT THE LITERATURE

A review of the existing literature on the relationship between fertility, contraceptive use and fertility preferences, and even a perfunctory one such as is presented here, evidences certain notable patterns of investigation. Substantial effort has been devoted to understanding the nature of fertility preferences. For instance, some attention has been paid to fleshing out the meaning of the non-numeric responses typically given by reasonably sizeable segments of women interviewed in national or regional surveys (Dodoo and Seal, 1994; Olaleye, 1994; Kritz and Makinwa-Adebusoye, 1995). Even more effort has been directed towards the determinants of, or the factors that influence, fertility preferences presumably because these reflect fertility demand, a reliable predictor of fertility (Dodoo, 1992; Gage, 1994; Campbell and Campbell, 1997; Isiugo-Abanihe, 1997). Indeed, researchers have gone further to examine the effects of childbearing preferences on fertility (Farooq et al., 1987; Takyi, 1993) as well as on contraceptive use (Gage, 1994; Isiugo-Abanihe, 1997). Other aspects of fertility preference have also been the subject of study and these include, but are not restricted to, stopping and spacing behavior. For instance, Rafalimanana and Westoff (2000) have recently examined, among other things, the fertility implications of the gap between preferred and actual birth interval lengths. Recent years have also seen a surge in research on the preferences of males (Becker 1996; Campbell and Campbell, 1997; Rono, 1998;
Despite this, the incorporation of men’s preferences into the thinking about fertility outcomes could still use further development.

The above-referenced works on the effect of preferences on fertility are part of a more general body of work that attempts to explicate the determinants of fertility (Farooq et al., 1987; Bankole, 1995). Yet, the challenges of isolating causal effects in cross-sectional data, when one has measures of past fertility, but only data on current preferences, has provoked considerable interest in contraceptive use as a key variable for study. While some have sorted through the background factors that determine contraceptive use (Njogu, 1991), others have been interested in the projections about future fertility that can be made from the analysis of contraceptive prevalence rates (Westoff, 1994). Still others have used contraceptive prevalence to examine intriguing questions about fertility change. For example, Feyisetan and Casterline (2000) examine changes in contraceptive prevalence (within categories of fertility of preference) over a two-decade period to suggest that the substantial increases in contraception that have conditioned the fertility transition in many African countries are not as traceable to lowered fertility demand, as much as they are to the satisfaction of already existing demand.

Indeed, the literature abounds with research that either analyzes fertility preferences, contraceptive use, or relationships among these variables. Despite the plethora of papers on these relationships, the conceptual framework that has guided the bulk of work in this area precludes even fuller explication of fertility behavior and, hence, more confident and valid speculation about the prospects for fertility transition. As mentioned above, the exclusion of the male perspective, despite men’s central role in fertility decision-making is limiting (Dodoo, 1993; Ezeh 1993; Dodoo and van Landewijk, 1996), and even the recent inclusion of men in fertility and related analyses could be further enhanced. Another shortcoming of the published literature is the apparent preponderance of existing research on countries that have experienced some fertility transition. There is considerably less work on countries in which fertility remains stubbornly high, although one might argue that those are the ones most in need of analytical examination. In this vein, comparisons (and decomposition analyses) of the success stories and transitioning ones would seem to yield meaningful benefit to the discussion about prospects for fertility decline. Even though the existing works have contributed great insight to our understanding of fertility behavior, more could be done to expand our perspective on the prospects that exist for fertility decline in Africa. In the next section, we will see how the conceptual framework that guides much of this work can be enhanced to facilitate an improved understanding of future fertility.

D. On Conceptual Frameworks For Studying Fertility

1. The Traditional Framework

The typical model for studying fertility related behavior departs from Becker’s (1981) New Home Economics model, the underlying assumption of which is that couples function as one unit that pools resources and has a joint budget. Likewise, this conventional model also posits that both partners share the same fertility desires and goals, which is why it was not traditionally deemed inappropriate to solicit data about fertility preferences and intentions exclusively from one spouse. Women were deemed the appropriate respondents because they are expected to be more likely to correctly respond to questions about the number and timing of past childbearing.

An example of the conceptual framework that has traditionally been employed in research on fertility decision-making can be noted in figure 1. Even with this solely female perspective the idea, as presented earlier, is that fertility preferences, conditioned by combinations of background factors, constitute a causal precursor to contraceptive use, as the latter become the implementing mechanism for
translating existing preferences into actual fertility. Even within this causal nexus, the existing literature has not optimally tapped the potential contribution that derives from understanding the relationships between preferences, contraceptive use, and actual fertility. For instance, it is not clear that we are anywhere close to estimating algorithms that inform us about precisely what levels of preferences can motivate certain levels of contraceptive use or even about how contraceptive use itself is related to fertility. Of course, any such formulas should probably be indexed by parameters that include the level of fertility. Still, the idea is that, despite knowing that preferences drive contraceptive use, which is in turn inversely related to fertility, we have not moved far along the line of inquiry regarding how robust the predictive relationships among the three key variables are.

E. Evolving the Traditional Framework: Bringing Men into the Picture

Further to improving our ability to comment on the prospects for fertility decline, the inclusion of the male perspective in reproductive decision-making, and thereby the consideration of their preferences in conceptual models of fertility and related behavior, permits analyses of the relative power women have in reproductive decisions (Dodoo, 1993; Dodoo and van Landewijk, 1996). There is arguably no more fundamental human right than the one that concerns what women do with their bodies and, particularly, their bearing children apparently against their preferences (Dodoo, 1998). Time and again, and across space on the continent, demographic surveys have shown that unmet need is high in Africa. Even if unmet need, because of its quantitative target connotations, is less fashionable as a research topic, we should surely be able to recognize a fundamental problem regarding the extent to which women bear children in a context where they report unwillingness to do so.

A growing literature on the male role argues that the patriarchal nature of social arrangements on the African continent which, through lineage, descent, marriage, and bridewealth rules, gives men control over sex (and the power to implement their preferences in associated decision making), begs the incorporation of a couple perspective to fertility and related analyses (Dodoo, 1993; Ezeh, 1993; Dodoo, 1995; Bankole and Ezeh, 1999). In marriage, for example, wealth transfers from the groom and his family to the bride and her family compensate the woman’s kin for losing her labor and that of her offspring’s (Comaroff, 1960; Goody, 1973; Isiugo-Abanihe, 1994; Caldwell and Caldwell, 1990). This bridewealth payment also transfers decision-making authority over childbearing to men (Kayongo-Male and Onyango, 1984; Caldwell and Caldwell, 1990). Men’s higher fertility preferences (Mott and Mott, 1985; Fapohunda and Todaro, 1988; Dodoo and Seal, 1994; Dodoo et al., 1997), which obtain from the lower costs and greater benefits of childbearing that accrue to them relative to women (Boserup, 1985; Fapohunda and Todaro, 1988), then mean that they traditionally dominate childbearing, at least in a way that is supportive of high fertility. The emerging empirical evidence supports this statement (Bankole, 1995; Dodoo, 1998a), and the emphasis of ongoing work is already expanding to include the identification of the sources of this gender inequality (Dodoo, 1998b; Dodoo and Tempenis, 2002).

Figure 2 presents a conceptual framework that is similar to the traditional model except that it incorporates the male perspective. The implication is that gender differences in fertility preferences lead to negotiation of these within couples (Safilios-Rothschild 1970; Beckman 1983; Hollerbach 1983). It is then possible to decipher the relative power that spouses have in fertility decisions, which enhances our understanding of the relevance of autonomy, status, and power for women as well as for men. The model, as shown in figure 2, enables us to distinguish the different impacts of spacing and stopping preference variances between couples or reproductive dyads (although a condensed model might collapse spacing and stopping). A model of this nature allows us to decipher power differences from six disagreement categories (i.e., partner preferences coincide in the other three). Distinguishing spacing and stopping is meaningful because there is a substantive distinction between stopping and spacing as far as the intensity
of the related contraceptive need, and the extent (of time) of contraceptive use. Likewise, having an unwanted child is much costlier for respondents who want to stop than it is for those who want to space, for whom mistimed fertility is less unbearable. It is also the case that spacers are more likely to be ambivalent about contraceptive use, such that they may be less regular users of modern contraception, and may also more often turn to traditional methods.

F. A Few Thoughts About the Way Forward

The above discussion provides some clues about profitable ways to address the preference-contraceptive use-fertility nexus such that we can better address the issue of prospects for fertility decline. Without pretending that the following list is exhaustive in scope, these represent useful arenas for us to consider for future research:

1. Of central importance is the fact that the incorporation of men in analyses of fertility and related behavior on the African continent should become the norm. Further work should explore the significance of introducing other parties who hold significance for the reproductive decision (e.g., in-laws of the male spouse, and particularly mothers-in-law). Couple analyses can also clarify the nature and extent of gender inequality associated with high fertility in Africa. The roots of such disadvantage certainly need to be empirically fleshed out.

2. More systematic assessment of the relationships between the three variables is needed, with the goal of coming up with robust findings about these relationships. The ideal goal would be to approach algorithms that define the relationship of these variables to each other.

3. Comparisons of countries that have evidenced fertility transition success against those that have had little or no success in reducing fertility can only be beneficial. Decomposition analysis provides one example of a method whose application might facilitate the teasing out of differences between these two sets of countries that comprise viable explanations for the observed fertility variances.

4. In the same vein, more rigorous analysis of countries that have several data points should enhance our understanding of the determinants of transition. Ghana and Kenya, for instance, both have three data sets that provide fertility, contraception, and preference data (for both females and males). In line with recommendation 1 above, for example, it might be insightful to explore the extent to which male versus female preferences have been responsible for the onset and continuation of fertility transition. The data from Ghana, particularly, hold promise for understanding the onset of transition because, although the first Kenyan survey that included men (in 1989) was carried out after fertility transition had begun, in Ghana the onset of fertility transition was subsequent to the 1988 survey.

5. The interest in the determinants of fertility behavior should continue. Particularly important is the need to clarify the role or impact of spousal discussion or communication on contraceptive use. Fast becoming a policy tool that is presumed to enhance the uptake of contraception, recent findings suggest that spousal discussion may actually not have the expected causal impact on fertility behavior (Dodoo et al., 2001). Understanding how valid or robust this relationship is, is important in a climate of depreciating resources and funding.
REFERENCES


Table 1. General Ranges of Fertility, Modern Contraception and Preferences by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>TFR</th>
<th>Modern Contraception</th>
<th>Percent Women Wanting No More</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Africa</td>
<td>5.1-7.0</td>
<td>3%-16%</td>
<td>32%-55%</td>
</tr>
<tr>
<td>&quot;Outliers&quot;:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>4.7</td>
<td>32%</td>
<td>-</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>4.0</td>
<td>50%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Mauritius</td>
<td>2.0</td>
<td>60%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Seychelles</td>
<td>2.0</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Reunion</td>
<td>2.2</td>
<td>67%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Tanzania</td>
<td>-</td>
<td>-</td>
<td>28%</td>
</tr>
<tr>
<td>Burundi</td>
<td>n.a.</td>
<td>n.a.</td>
<td>26%</td>
</tr>
<tr>
<td>North Africa</td>
<td>2.8-4.1</td>
<td>26%-52%</td>
<td></td>
</tr>
<tr>
<td>&quot;Outliers&quot;:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W. Sahara</td>
<td>6.8</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>Sudan</td>
<td>4.6</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Southern Africa</td>
<td>2.9-4.4</td>
<td>26%-55%</td>
<td></td>
</tr>
<tr>
<td>&quot;Outliers&quot;:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Namibia</td>
<td>5.1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Swaziland</td>
<td>5.9</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Lesotho</td>
<td>-</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>West/Middle Africa</td>
<td>5.1-7.5</td>
<td>1%-8%</td>
<td>14%-27%</td>
</tr>
<tr>
<td>&quot;Outliers&quot;:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>4.8</td>
<td>13%</td>
<td>32%</td>
</tr>
<tr>
<td>Niger</td>
<td>-</td>
<td>-</td>
<td>4%</td>
</tr>
</tbody>
</table>

Sources:
1. Total fertility rates and Modern contraceptive levels come from the 2000 World Population Data Sheet published by the Population Reference Bureau.
2. Percent wanting no more children comes from Ezeh et al. (1996).
Figure 1. Conventional Framework of Contraceptive Use Determination

Source: Dodoo and Tempenis (2002).
Figure 2. Enhanced Framework of Contraceptive Use Determination (Joint Preferences)

Source: Dodoo and Tempenis (2002).
Table 2. Trends in Preferences, Contraceptive Use, and Fertility

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Kenya</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preferences (% women wanting no more)(^{b,c})</td>
<td>49.4</td>
<td>51.7</td>
<td>53.3</td>
</tr>
<tr>
<td>Preferences (% men wanting no more)</td>
<td>48.6(^a)</td>
<td>38.4</td>
<td>45.5</td>
</tr>
<tr>
<td>Contraceptive use (% modern methods)(^b)</td>
<td>17.9</td>
<td>27.3</td>
<td>31.5</td>
</tr>
<tr>
<td>Fertility (total fertility rate)</td>
<td>6.7(^d)</td>
<td>5.4</td>
<td>4.7</td>
</tr>
<tr>
<td>Ghana</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preferences (% women wanting no more)(^{b,c})</td>
<td>22.8</td>
<td>33.9</td>
<td>35.0</td>
</tr>
<tr>
<td>Preferences (% men wanting no more)</td>
<td>19.2(^a)</td>
<td>31.8</td>
<td>32.4</td>
</tr>
<tr>
<td>Contraceptive use (% modern methods)(^b)</td>
<td>5.2</td>
<td>10.1</td>
<td>13.3</td>
</tr>
<tr>
<td>Fertility (total fertility rate)</td>
<td>6.4</td>
<td>5.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Notes:  
\(^a\) Survey was of husband samples  
\(^b\) Figures are from currently married female samples  
\(^c\) Includes sterilization  
\(^d\) Calculated for three year period preceding the survey  
Sources: Kenya and Ghana Demographic and Health Survey Reports.