The Role of Proximate Determinants in Fertility Transition: A comparative study of Botswana, Zambia and Zimbabwe

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This paper applies the original and the extended version of Bongaarts’ models of the proximate determinants of fertility as a means of pulling together three of the proximate determinants (marriage, contraception and breast-feeding). The Demographic and Health Surveys data are used to investigate the changes within and between the countries in order to determine the extent of fertility change and the fertility-inhibiting factor(s) most responsible for the change. The results show that fertility has been declining in Botswana and Zimbabwe and has just begun to decline in Zambia. Although currently breastfeeding is the major factor for the depressed fertility in all countries, the effect of modern contraception appears to be the major factor behind the fertility decline. There is also evidence to suggest that delayed marriage is assuming a significant role in the fertility transition, particularly in Botswana.

Introduction

Fertility has been changing in most of sub-Saharan Africa due to changing social, cultural, economic and demographic conditions. Among the forces of change in the demographic processes are increasing contraceptive use, changing marriage patterns and age at first marriage, improving status of women, readily accessible health care services, improved infrastructure and improved educational attainments. There is strong evidence showing that fertility has started to decline in Botswana and Zimbabwe (Letamo, 1996; Mhloyi, 1991; Zimbabwe, 1994; Rutenberg and Diamond, 1993; Thomas and Muvandi, 1994). There is also evidence to suggest that there may be some fertility decline in Zambia (Kirk & Pillet, 1998; Zambia, 1996).

The study of proximate determinants of fertility is imperative as it enables policy-makers to formulate appropriate policies aimed at reducing high levels of fertility that may impede social and economic development. The changing socio-economic and cultural conditions of Southern Africa are accompanied by the changes in the demographic behaviour of these populations. This study enables us to understand changes occurring in the region with respect to proximate fertility determinants. Thus this study is aimed at understanding the factors associated with the fertility levels and trends currently observed in the three countries under study. In addition, the relative contribution of each of the proximate determinant of fertility is examined.

The Social, Economic and Cultural Context

Countries in Southern Africa have similarities and differences. Fertility has been high until the 1980s when some declines were noted in Botswana and Zimbabwe (Gaisie, 1998; Mhloyi, 1991). This decline appears to have been driven by the use of modern contraceptives that are efficient and effective in pregnancy prevention (Letamo, 1996). Although fertility transition is clearly underway in Botswana and Zimbabwe, this transition seems to be just beginning in Zambia (Kirk and Pillet, 1998). All three the countries under study are predominantly Christian with little difference in fertility and infant mortality rates throughout the 1960s and 1970s. The pattern of adult literacy decline is similar, from about 60 per cent in 1963 to 33 per cent in 1990. The gross national product (GNP) per capita increased faster in Zimbabwe and Botswana during the 1980s whereas that of Zambia was slower (United Nations Development Programme and World Bank, 1989; World Bank, 1994).

It is clear that in Zimbabwe and Botswana the promotion of family planning has been backed by government and strong political commitment from the onset. In Zambia, however, family planning efforts were spearheaded by a non-governmental organisation (NGO) formed in 1972, the Family Planning Welfare Association of Zambia. This organisation met opposition from large religious groups led by the Catholic Church and Women’s League (Lee et al., 1998). It was not until the mid-1980s, when the United Nations Population Fund (UNFPA) successfully won over key individuals, that a policy coalition in favour of family planning began to form. In Zimbabwe and
Botswana government-funded family planning with support from external funding agencies such as the United States Agency for International Development (USAID), the World Bank, UNFPA and NGOs. In Zambia, family planning received minimal support from government. It should also be noted that, in Zambia, existing laws require married women to have their husband’s permission to obtain contraception (Pillai, 1993).

The evolution and organisation of family planning programmes in these countries probably explain differentials in contraceptive use observed in these countries. For example, the low usage of modern contraceptive observed in Zambia can be explained by weak programme effort.

**Fertility levels and trends**

Overall, there has been a tendency for fertility to decline since the early 1980’s in all three Southern African countries under review. Overall, there has been a tendency for fertility to decline in all the three Southern African countries under review since the early 1980s. For instance, fertility in Zambia slowly declined from 7.2 births per woman in 1980 to 6.1 births in 1996 (Central Statistics Office, 1993, 1997). The contribution of teenage fertility to the total fertility rate is substantial, namely 13 percent in 1996 (Population Council, 1998). In Botswana, fertility started to decline from a high of about 7 children per woman in the 1970s to a low of 4 children in 1996 (Gaisie, 1998: Rutenberg and Diamond, 1993). In Zimbabwe, fertility declined from a high of 6.5 children per woman in 1984 to a low of about 4.3 in 1994 (Central Statistics Office, 1995).

An interesting observation is that fertility decline in both Botswana and Zimbabwe appears to show a fairly similar pattern of decline, possibly because the causes of the decline are similar. Lohah and Hertrich (1991) state that the downward trend of fertility in both Botswana and Zimbabwe can be largely attributed to increases in the use of contraception which in turn is associated with higher levels of female education and effective family planning programmes.

**Contraception**

In sub-Saharan Africa, contraceptive prevalence rates are generally low in comparison with other regions of the world (Rutenberg et al., 1991: cited in Jolly and Gribble, 1993). The same source states that there is also a substantial use of traditional methods in sub-Saharan Africa, which are not as effective in preventing pregnancy as modern methods. In the countries under study, the knowledge of contraceptive use is quite high and the prevalence of the modern contraceptives seems to be increasing since the 1980s (Central Statistics Office, 1989; Central Statistics Office, 1993; Biddleston and Fapohunda, 1998). For instance, the use of modern contraceptives has increased from about 20 per cent in both Botswana and Zimbabwe in 1984 to over 40 per cent in the mid-1990s (Thomas and Muvandi, 1994; Rutenberg and Diamond, 1993).

**Marriage**

In cases where the use of the most effective contraceptive methods is absent, usually the age at first sexual intercourse is very close to the age at first birth. Early age at first marriage may also result in large family sizes if effective birth control measures are not instituted to defer childbearing. The age at first sexual intercourse, age at first marriage and age at first birth may be affected by social, economic and cultural conditions obtaining at the time.

Although the proportion of women married has been declining in Botswana and Zimbabwe, this proportion has remained stable between 1992 and 1994 in Zambia. In Zambia, it appears that differentials in median age at first birth are minimal. For instance, the median age at first birth between women who had no education and those who had secondary and above education differed by only 2.2 years (Population Council, 1998). It is apparent that premarital sexual activity and premarital childbearing are common in the three countries in question. Since the age at first marriage can be used as a proxy for exposure to pregnancy, this indicator is less useful because many young women do not marry and those who do, tend to marry late.

**Postpartum variables**

Lactation suppresses ovulation and menstruation. The effects of lactation depend on the intensity and frequency of breastfeeding. The postpartum amenorrhoea length is determined by the duration and intensity of breastfeeding. Lengthy and intense breastfeeding lengthen the duration of postpartum amenorrhoea. The duration of amenorrhoea is much shorter among women who partially breastfeed than among women who fully breastfeed their infants (Perez et al., 1971). Breastfeeding is known to delay the return of ovulation following a birth, thereby contributing to longer birth intervals than would otherwise occur in the absence of lactation. Both breastfeeding and postpartum abstinence delay the return of the period during which the woman is exposed to the risk of getting pregnant. The effect of breastfeeding on fertility is to delay the return of menstrual periods after birth (postpartum amenorrhoea), leading to longer birth intervals. Breastfeeding appears to be common in all countries studied. The result of both abstinence and breastfeeding (postpartum insusceptible period) appears to be higher than 10 months in all the three countries under study.
Data

The data used in this paper comes from the Demographic and Health Surveys (DHS). The DHS is undertaken by the Institute for Resource Development/Macro International, which has so far conducted these surveys in 26 of the 44 countries of sub-Saharan Africa (Kirk & Pillet, 1998). The DHS surveys were carried out worldwide as a means of obtaining information on the health, family planning, birth histories, socioeconomic and demographic characteristics of the interviewed sample.

In this study, the DHS data were used to evaluate the impact of contraception, non-marriage and breastfeeding on fertility. For calculating the index of contraception the proportion of married women currently using contraception together with the average use-effectiveness for each method are needed. For calculating the index of non-marriage, data on age-specific proportion of women currently married and age-specific marital fertility rates are needed. In order to estimate the index of postpartum infecundability, only the mean duration of postpartum infecundability (i) that can be estimated either directly or indirectly using the following equation is required:

\[ i = 1.753 \times e^{0.1396 \times B - 0.001872 \times B^2} \]

where \( B \) = mean or median duration of breastfeeding in months.

Methods

The Proximate Determinants Model

Bongaarts' model of the four primary fertility-inhibiting variables (nuptiality, contraceptive use, abortion and breastfeeding) that directly influence fertility consists of four indexes (Bongaarts, 1978; 1982). In this study abortion is not included because there are no reliable statistics on abortion rate. The indexes range from 0 to 1 and are computed as follows:

(a) **Index of proportion married, \( C_m \)**

\( C_m \) equals 1 if all women of reproductive age are married and 0 in the absence of marriage.

\[ C_m = \frac{\sum f(a)}{\sum (f(a)/m(a))} \]

where \( m(a) \) is the proportion currently married among females by age and \( f(a) \) is a schedule of age-specific fertility rates.

The intention of this index is to estimate the effect of periods during which a woman is not sexually active. The model uses marriage as a proxy for sexual activity.

(b) **Index of contraception, \( C_c \)**

\( C_c \) equals 1 in the absence of contraception and 0 if all fecund women use modern effective contraceptives.

\[ C_c = 1 - 1.08 \times e \times u \]

where \( e \) is the average use-effectiveness of contraception and \( u \) is the prevalence of contraceptive current use among married women.

The 1.08 adjustment factor (or the age-specific equivalents: 1.02; 1.02; 1.03; 1.04; 1.12; 1.33; 2.08) is designed to remove infecund women from the equation so that the contraceptive index would become zero if effective prevalence reached 92.5 per cent (the remaining women are assumed to be infecund) (Stover, 1998). The equation assumes that only fecund women use contraceptives.

(c) **Index of postpartum infecundability, \( C_i \)**

\( C_i \) equals 1 in the absence of lactation and postpartum abstinence and 0 if the duration of infecundability is infinite.

\[ C_i = 20 / (18.5 + i) \]

Where \( i \) is the mean duration of infecundability in months.

Bongaarts Extended Version Model

Since one of the aims of this paper is to disaggregate the proximate determinants, we employed the extended version of the model. Each of the indices is decomposed into its constituent components as follows:

(a) **\( C_m \) is split into two components as follows:**

(i) **\( C_{em} \)** which reflects the effect of delayed entry into marriage and of the proportion never married. This value is obtained as TFR / TEMFR, where TFR = total fertility rate and TEMFR = total ever-married fertility rate.

(ii) **\( C_{dis} \)** which reflects the effect of marital dissolution and is obtained as TEMFR / TMFR, where TMFR is total marital fertility rate.

(b) **\( C_c \) is split into two as follows:**

(i) **\( C_{mod} \)**

\[ C_{mod} = 1 - 1.08 U_{mod} \]

(ii) **\( C_{trad} \)**

\[ C_{trad} = 1 - (1.08 U_{trad} / C_{mod}) \]

where \( U_{mod} \) refers to the proportion currently using modern contraception and \( U_{trad} \) is the proportion using traditional methods.
(c) \( C_i \) is divided into the following constituent parts:

(i) \( C_{amen} = 20 / (18.5 + \text{amen}) \)

(ii) \( C_{oral} = (18.5 + \text{amen}) / (18.5 + \text{amen} + j) \),

where \( C_{amen} \) measures the effect of the extended lactational amenorrhea; \( C_{oral} \) measures the effect of postpartum sexual abstinence beyond the period of postpartum amenorrhea and \( j \) is the number of months by which the combined postpartum period exceeds the period of postpartum amenorrhea.

Results

The contribution of each index on fertility

(a) Breastfeeding

The complement of the index gives the percentage contribution of each index. Table 1 shows that the period during which a woman is not exposed to pregnancy is more than a year in the countries under study.

Table 1 Trends in the proximate determinants of fertility in Southern African countries

<table>
<thead>
<tr>
<th>Country and year</th>
<th>Fertility-inhibiting effects of:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( C_{oral} ) ( C_{oral} ) ( C_{oral} ) ( C_{oral} ) <em>Actual</em></td>
</tr>
<tr>
<td>Botswana 1984</td>
<td>0.794 0.754 0.560 0.460 5.5</td>
</tr>
<tr>
<td>1986</td>
<td>0.391 0.713 0.567 0.419 5.0</td>
</tr>
<tr>
<td>1995</td>
<td>0.387 0.587 0.615 0.362 4.3</td>
</tr>
<tr>
<td>Zambia 1992</td>
<td>0.633 0.886 0.661 0.563 6.5</td>
</tr>
<tr>
<td>1995</td>
<td>0.611 0.775 0.613 0.475 4.1</td>
</tr>
<tr>
<td>Zimbabwe 1998*</td>
<td>0.775 0.650 0.660 0.542 4.5</td>
</tr>
<tr>
<td>1999</td>
<td>0.629 0.629 0.629 0.389 5.5</td>
</tr>
<tr>
<td>1994</td>
<td>0.610 0.592 0.613 0.367 4.3</td>
</tr>
</tbody>
</table>


The length of breastfeeding and postpartum abstinence are known to be inversely related to fertility. Using the Bongaarts’ extended version model to evaluate the impact of each of these components, we found that postpartum amenorrhea had the largest fertility impact in all countries (Table 3). Its fertility impact is particularly strong in Botswana even though breastfeeding practice, which lengths the duration of infecundability, appears to be dying out. Since the length of abstinence does not extend beyond the duration of postpartum amenorrhea, abstinence has no impact on fertility.

Table 2 Estimates of the indices of the proximate determinants of fertility using Bongaarts’ Extended Version Model.

<table>
<thead>
<tr>
<th>Country &amp; Index</th>
<th>Year of survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td>1984 1968 1996</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Delayed Marriage 0.9191 0.7670 0.7530</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Marriage Dissolution 0.8953 0.8924 0.8977</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Modern Contraception 0.7991 0.6576 0.4892</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Traditional Contraception 0.6757 0.4976 0.9934</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Post-partum Abstinence 0.5797 0.9647 1.0000</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Post-partum Amenorrhea 0.6431 0.6945 0.6621</td>
</tr>
<tr>
<td>Zambia</td>
<td>1992 1996</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Delayed Marriage 0.7525 0.6551</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Marriage Dissolution 0.8588 0.8455</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Modern Contraception 0.9039 0.8445</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Traditional Contraception 0.8164 0.8529</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Post-partum Abstinence 1.0000 1.0000</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Post-partum Amenorrhea 0.6623 0.6667</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>1988 1994</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Delayed Marriage 0.6660 0.6392</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Marriage Dissolution 0.8715 0.6694</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Modern Contraception 0.6101 0.5442</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Traditional Contraception 0.8761 0.8829</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Post-partum Abstinence 1.0000 1.0000</td>
</tr>
<tr>
<td>( C_{oral} )</td>
<td>Post-partum Amenorrhea 0.6431 0.6369</td>
</tr>
</tbody>
</table>

(b) Marriage

Non-marriage has the second largest fertility-inhibiting effect. The impact of non-marriage on fertility is largest in Botswana in both 1988 and 1996. An interesting observation can be made with regard to Zambia where the decline in the level of fertility is rather slow. The impact of non-marriage on fertility has been negligible between
1992 and 1996 in Zambia. The fertility-inhibiting effect of non-marriage appears to increase slowly in both Zambia and Zimbabwe. The assumption of universality and early marriage does not appear to obtain in these countries. In the case of Botswana, Letamo (1996) used age at first sexual intercourse, age at first marriage and age at first birth since childbearing is not confined to marriage and because of the loose connections of marriage with fertility. This study found that a substantial number of women do reproduce outside the institution of marriage.

The fertility-inhibiting of non-marriage is effected through two processes: increases in age at first marriage and marital dissolution. The Bongaarts' Extended Version Model uses these disaggregated data to estimate the fertility effect of each of these components. Based on this model, we found that in all countries under study delayed marriage rather than marriage dissolution was mainly responsible for the reduction of fertility. The impact of delayed marriage on fertility is particularly strong in Zimbabwe and Zambia. For instance, in Zimbabwe delayed marriage-reduced fertility by 37 per cent in 1994 and by only 24 per cent in 1996 in Botswana. It should be noted that the increase in age at first marriage is complemented by the age at first birth which is shown to have increased in the three countries (Cleland et al., 1991).

(c) Contraception

With regard to contraception, its fertility impact ranges from a low of 13 per cent in Zambia in 1992 to a high of 42 per cent in Zimbabwe in 1994. Overall, it appears that contraception has the smallest fertility-inhibiting impact in Zambia. It is not surprising that contraceptive use in Zimbabwe and Botswana had the biggest impact on fertility because over 40 per cent of the women were using modern contraception in these two countries. In Zambia, however, only 14 per cent of women were using modern methods of contraception in 1996. The combined effect of breastfeeding and contraceptive use is also important because it has been argued that a decline in breastfeeding is normally offset by an increase in contraceptive use. However, a fairly strong impact of postpartum infecundability may coexist with moderate levels of contraceptive use (United Nations, 1987:169), which seems to be the picture emerging from this analysis.

The effectiveness of contraception varies according to whether it is traditional or modern. This dichotomy is used to apply Bongaarts' Extended Version Model to estimate the fertility impact of each type of contraception. The results show that the use of modern contraception is mainly responsible for fertility decline. It is obvious that the contribution of the traditional methods of contraception to fertility decline has been declining over the past several years. However, in Zambia traditional methods of contraception appear to be used by a substantial number of women in the country. For instance, in 1996 about 12 per cent of Zambian women were using traditional methods as a means of averting unwanted pregnancies. In fact, about 15 per cent of fertility decline was attributed to traditional methods of contraception in 1996.

Relative percentage change of each proximate determinant of fertility

Another way of investigating the impact of each determinant of fertility is to assess the relative percentage change to fertility decline. The idea is to present a simple decomposition of the difference between the observed total fertility rate and the estimated total fecundity rate using a logarithmic transformation. Table 4 presents the results of this analysis.

<table>
<thead>
<tr>
<th>Country and year</th>
<th>Total</th>
<th>Marriage</th>
<th>Contraception</th>
<th>Breastfeeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana 1994</td>
<td>100</td>
<td>22</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>1989</td>
<td>100</td>
<td>52</td>
<td>19</td>
<td>39</td>
</tr>
<tr>
<td>1990</td>
<td>100</td>
<td>46</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td>Zambia 1992</td>
<td>100</td>
<td>41</td>
<td>13</td>
<td>46</td>
</tr>
<tr>
<td>1995</td>
<td>100</td>
<td>40</td>
<td>21</td>
<td>39</td>
</tr>
<tr>
<td>Zimbabwe 1984</td>
<td>100</td>
<td>24</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>1988</td>
<td>100</td>
<td>33</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>1984</td>
<td>100</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

N. B. 100 x (log Cx / log Cs + log Cx + log Cx) where for Cx values of C, Cx and C are successfully employed. That is, Cx is a variable that can assume the C value, the Cx value or the Cx value.

It is apparent that the impact of breastfeeding on fertility is being reduced as a result of short and less intense breastfeeding practice. The decline in the duration and intensity of breastfeeding appears likely to continue into the future despite efforts by government to promote breastfeeding in all countries. The impact of promote breastfeeding on the other hand seems to be increasing over the years. Both non-marriage and delayed marriage are likely to contribute to future fertility declines if the observed trends persist in the current direction.

Discussion and conclusion

The emerging fertility transition in Southern Africa appears to be driven mainly by the adoption of modern forms of contraception, except in Zambia where the role of traditional methods of contraception is still important. In both Botswana and Zimbabwe, the pace of the fertility transition and context appear to be very similar. For instance, in both countries we observe a strong family planning programme fully backed by government. The use of modern forms of contraception is quite high in the two countries.
Mortality appears to have declined at a fairly similar rate.

Zambia presents us with a different picture. The pace of fertility decline is rather sluggish, the use of traditional methods of contraception is common, the family planning programme has been and probably is still largely the responsibility of NGOs and for a woman to be given contraceptives, her husband must have given permission. All these conditions may impede the fast decline in fertility in Zambia. Thus in Botswana and Zimbabwe, a shift to more effective contraceptive methods contributed to an acceleration of the fertility decline and resistance to use modern contraceptive methods in Zambia could explain the slow fertility decline in the country.

Marriage presented problems in the analysis. The proportions of women who report themselves as formally married or living with a partner at the time of survey were considered as currently in union. Using this proportion of women as representatives of women exposed to pregnancy is likely to provide misleading results simply because a sizeable number of women reproduce outside marriage, particularly in Botswana (Letamo, 1996). Some researchers have noted that fertility transition in Botswana is driven by a decline in fertility of unmarried women who form a substantial section of women in their reproductive years (Gaisie, 1998). Since the Bongaarts proximate determinants model of fertility assumes marriage is an exposure variable, the results presented in the paper should be interpreted with caution. Instead of using the index of marriage, an alternative index of exposure to sexual intercourse is usually calculated (Blanc & Poulkouta, 1997; Stover, 1998). Secondary data were used in this paper, thus it was not possible to calculate this index. Since some of the indices could have been underestimated, it is worth noting that the underestimation of the indices results in predicted fertility levels that are often significantly below observed levels.

Some of the unexplained variation in fertility could be explained by factors not included in the analysis. For instance, induced abortion, natural fecundability, intra-uterine mortality and the prevalence of permanent sterility do affect fertility but have not been factored into the equation for various reasons. Although there is a dearth of data on the incidence of induced abortion, there is evidence to suggest that a substantial number of women resort to induced abortion (Majelanette & Letamo, 1999). The impact of this phenomenon will no doubt reduce the level of fertility. It should also be noted that improved medical services might make women who would otherwise be sterile able to reproduce, thereby increasing fertility. Improved medical facilities could also reduce intra-uterine mortality, which may increase fertility. The provision of dietary supplements to a nursing infant shortens the interval of lactational anovulation because the intensity of breastfeeding declines. Also, improved nutrition could have reduced the age at menarche, which in turn increases the reproductive age range, which may again in turn lead to increased fertility. All these factors operate to increase fertility.

Whether the emerging fertility transition will be sustained or not remains to be seen. The fertility trend is highly likely to be influenced by HIV/AIDS. It could happen that couples may avoid having sex for fear of becoming infected with the HIV virus or worsening the progression from HIV to AIDS if they are already seropositive. Kumar et al. (1997) found that HIV-seropositive women tend to have lower fertility possibly because they know that pregnancy may lead to early progression to AIDS and early death. Ntomi et al. (1999) also found that fertility was higher among women in non-AIDS-affected households than AIDS-affected households.

They conclude that, while AIDS may contribute to the desired fertility decline in the medium term, the post-epidemic period may see fertility increase to compensate for the dead ones. Whatever the outcome will depend on a multifaceted set of factors. Mortality, urbanisation and migration patterns are some of the factors that are highly likely to determine whether or not the current fertility transition is sustained in the next millennium.

References


