International Family Planning Perspectives

Table 1. Total percentage change in total fertility rate that occurred in Egypt and Morocco from the 1970s to the 1990s, and percentage of that change attributable to changes in the proximate determinants of fertility

<table>
<thead>
<tr>
<th>Measure</th>
<th>Egypt</th>
<th>Morocco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total change in fertility</td>
<td>−28.3%</td>
<td>−44.1%</td>
</tr>
<tr>
<td>% attributable to changes in marriage</td>
<td>−9.7%</td>
<td>−32.9%</td>
</tr>
<tr>
<td>Contraception</td>
<td>−30.5%</td>
<td>−36.6%</td>
</tr>
<tr>
<td>Postpartum infecundability</td>
<td>13.7%</td>
<td>21.0%</td>
</tr>
<tr>
<td>Other proximate determinants</td>
<td>0.0%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Interaction between determinants</td>
<td>−1.8%</td>
<td>−0.8%</td>
</tr>
</tbody>
</table>

Note: The equations used for the values in the table are as follows: Overall decline in TFR=(TFR[90s]/TFR[70s] −1)×100; percentage of change in TFR attributable to changes in marriage=−(Cm[90s]/Cm[70s]−1)×100; percentage of change in TFR attributable to changes in contraceptive use=(Cc[90s]/Cc[70s]−1)×100; percentage of change in TFR attributable to changes in postpartum infecundability=(Ci[90s]/Ci[70s]−1)×100; percentage of change in TFR attributable to changes in other proximate determinants=(C[90s]/C[70s]−1)×100; and percentage of change in TFR attributable to changes in interaction between determinants=(C[90s]/C[70s]·I[90s]/I[70s]−1)×100 (where C=change, m=marriage, c=contraceptive use, i=infecundability, r=other determinants and I=interaction).

throughout the 1980s, from three in 1981 to 11 in 1983, to all 39 provinces as of 1986.

This article attempts to examine the factors behind differences in the pace of fertility change in Morocco and Egypt. The approach is to analyze the dynamics of family building in both countries, by disaggregating this process into a series of stages. These begin with marriage and proceed to the first-, second- and successively higher-order births.

Methodology

Data Sources and Quality

This comparative study of Egyptian and Moroccan fertility decline is based on two data sets—data collected in the World Fertility Surveys (WFS) program and data collected through the third round of the Demographic and Health Surveys (DHS) program.

The WFS survey for Egypt (the 1980 Egyptian Fertility Survey, or EFS–80) and the WFS for Morocco (the 1979–1980 Enquête Nationale sur la Fécondité et la Planification Familiale, or ENFPP–79/80) covered 8,788 and 4,101 ever-married women aged 15–49, respectively. For the 1995 Egypt Demographic and Health Survey (EDHS–95), 14,779 ever-married women of reproductive age were interviewed. The Morocco DHS (the 1995 Enquête de Panel sur la Population et la Santé, or ENPS–95) was a panel survey based on a subsample of 3,168 ever-married women who were originally interviewed in the 1992 DHS (the Enquête Nationale sur la Population et la Santé, or ENPS–II), plus 1,585 other women who were substituted for those who had moved out of the cluster sample by the time the 1995 interview was conducted. These “replacement” women were older and less educated than the women who were included in the original sample. Thus, the ENPS–95 sample may not be nationally representative, and fertility estimates derived from these data should be interpreted with caution, since they might be biased upward.

All four surveys collected detailed birth histories and information on the demographic and socioeconomic characteristics of both the respondents and their households. The WFS and DHS surveys used similar instruments, which allowed comparable variables to be constructed.

Retrospective surveys such as those used in this analysis represent the best available source for studying women’s reproductive lives. However, recall errors are a common feature of this type of survey, although the extent of recall bias differs among surveys. Since the propensity to forget is stronger for events that occurred in the more distant past, this analysis is limited to births that occurred fewer than seven years before each survey. Moreover, because of limited exposure time, birth intervals that started within two years before each survey are excluded. Thus, the analysis covers all births between 1973–1974 and 1977–1978 for the WFS data, and all births occurring between 1989 and 1993 for the DHS–III data.

Analytic Methods

This article begins its examination of the respective fertility decline in each country by considering the extent to which the proximate determinants of fertility—primarily marriage, contraception and postpartum infecundability—contributed to that decline. Trends in TFRs over time are decomposed according to these factors.

Changes in nuptiality are then examined more closely by a consideration of trends in Egypt and Morocco in the singulate mean age at marriage, an estimate of the mean number of years lived by a cohort of women before their first marriage. As such, this period measure approximates the nuptiality experience of a birth cohort.

However, during periods of rapid change in nuptiality (e.g., a rise in the age at first marriage), the measure may bias upward the estimate of the average number of years spent never-married.

Finally, parity progression analyses are used to identify whether changes occurred in the family-building process and the extent of those changes. Life-table methods are used to calculate the probability of progressing from one parity to the next within five years; this measure solves the problem of censoring that is commonly encountered when cross-sectional data are used to study demographic events. Further, by incorporating the exposure time contributed by both open and closed birth intervals, life-table techniques avoid the bias toward shorter durations that results from examining closed intervals only.

Separate life tables are calculated for each birth transition (i.e., marriage to first birth, first to second birth, second to third birth, and so on). Two summary measures of the level and pace of childbearing are estimated—the cumulative proportion of women of a given parity who progress to the next within five years, and the median length of the interval between successive births among women who will give birth within five years (i.e., the duration at which 50% of these women have done so).

Results

Trends in Fertility and Marriage

According to the earlier surveys conducted in both countries, the estimated TFRs for the period 1976–1980 were 5.3 lifetime births per woman in Egypt and 5.9 in Morocco. By 1991–1995, the later surveys indicate a decline of 44% in Morocco, to 3.3 births, and a decline of 28% in Egypt, to 3.8 births, (Table 1).

These considerable drops in fertility rates were produced by changes in the proximate determinants of fertility: The Bongaarts-Potter model, which quantifies the relative contribution of the proximate determinants to overall fertility decline, indicates that changes in both contraceptive use (i.e., an increase in prevalence) and in marriage (i.e., a decrease in the proportion married) were important contributors to overall fertility decline in Morocco, but that change in contraceptive practice was the primary determinant of the drop in fertility in Egypt (Table 1).

The importance of marriage in influencing fertility levels in Egypt and Morocco is related to the fact that in Muslim society, marriage represents the only recognized institution within which childbearing is permitted. In both countries,