

## CHAPTER 9

# Distributional Analysis of Period Fertility

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Two broad themes pervade and inform the study of population. The first is the Malthusian preoccupation with population growth, which focuses analysis on unraveling influences on population growth rates. The second, exemplified by the life table, may be characterized as the search for population statistics that best illuminate individual behavior patterns. Life tables originated with the interest of life insurance companies in the mortality patterns of their policyholders; but, as every demographer knows, they provide a general model used in the study of fertility, marriage, divorce, and every other demographic process.

There is no logical incompatibility between these two perspectives, and they intertwine and merge at various points. There are elements of self-reinforcing ethos in both, however, and they exert a strong and often divergent influence on the framing and pursuit of research. To call them “paradigms” in the Kuhnian sense would no doubt be going too far, but would be appropriately suggestive.

The study of fertility provides a striking illustration. If one is concerned primarily with population growth, it is important to know how many children women bear collectively, but not particularly to know the distribution of children among women. If one is concerned with childbearing behavior, however, it would be difficult to imagine more fundamental intelligence. From a purely logical point of view, for example, the demographic transition might involve a shift from most women having six children to a few women having six children and most women having no children. We know that this is not what happens, but imagine how different the world would be if it were.

Similarly, if we begin with an interest in childbearing behavior, crude birth rates have no role and age-specific birth rates a distinctly modest one. The obvious questions are how many children do women have and when do they have them. The raw data are birth histories of individual women. The natural units of aggregation are cohorts of various kinds, including birth, marriage, and parity cohorts. Formal population concepts provide a rich array of statistical methods for describing and analyzing these cohorts.

It is thus both puzzling and entirely natural that the study of fertility trends should have relied as exclusively as it has on crude and age-specific birth rates. Natural because the Malthusian perspective is dominant, and puzzling because a serious interest in fertility as such points so clearly and urgently to more interesting and useful statistics.

However this may be, age-specific birth rates and their immediate derivatives are insufficient to the needs of fertility analysis, whether pursued out of pure scientific curiosity or from a concern with actual or potential effects of government policies. Many research questions cannot be suitably framed, much less answered, without statistics that focus in more tightly on the fine structure of childbearing behavior. The relation between fertility and female employment is illustrative (Ni Bhrolcháin 1980; 1985), as is the effect of son preference on fertility (Feeney and Yu, 1987; Park, 1978). Our purpose in this chapter is to outline and illustrate the more important possibilities for the analysis of fertility trends with particular reference to the low fertility currently prevailing in most developed countries (Davis *et al.*, 1986).

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