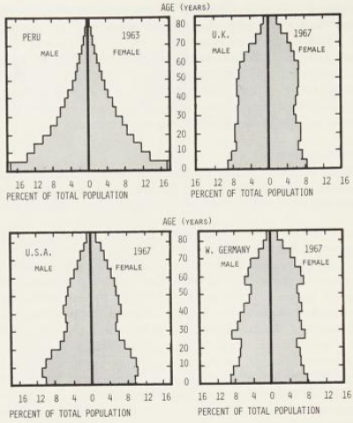

Figure 2-9 Population age structures
Source: Keyfitz and Flieger 1971.

years more women will reach the age of puberty than the age of menopause. Thus, even if the average fertility should fall tomorrow, it would be largely counterbalanced by the increasing number of women experiencing that lower fertility. The population would still continue to grow for many years, even if the average fertility of each woman were at the replacement level. Figure 2-10 illustrates the effects of population momentum on hypothetical future population trends in India and the United States under varying assumptions of declining fertility.* It is clear that a high rate of fertility in the past makes it more difficult to slow population growth through future declining fertility:

> Populations that are growing rapidly have by virtue of that growth, age distributions favorable to reproduction. Even if fertility falls to a stationary level, such regions continue to grow for at least 50 years before tapering off to their stationary

*Note that the time required for the population to reach equilibrium after replacement fertility has been attained is nearly constant. The percentage increase in the population during that time is greater for the population with a young age structure.

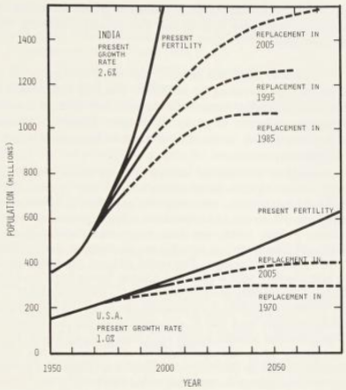

Figure 2-10 Population momentum, the United States and India, 1950–2050
Sources: Frejka 1968, Population Reference Bureau 1970.

value at 60 percent or more above the present numbers. If the adoption of the stationary birth rates is postponed even as little as 15 years, the increase to stationarity would be not 60 percent but nearly 150 percent. [Keyfitz 1971*b*]

The age structure of the population affects the future death rate as well as the birth rate. The number of deaths depends both on the average mortality risk at each age and on the number of people of that age. The probability of death as a function of increasing age is highly nonlinear in all populations. Except for the first few years of life, the mortality risk increases significantly only at very high ages. A population with a relatively large fraction of older people, as in Great Britain, will have a relatively high crude death rate even though its general health conditions are excellent. Many nonindustrialized populations have poorer health conditions and lower life expectancies than industrialized populations, but their crude death rates are lower because the proportion of young people in their populations is extremely high. Thus a country with a history of high fertility and a young population will have a double impetus toward high population growth rates in the future. First, its crude birth rate will tend to be high because of increasing numbers of fertile people; second, its crude death rate will be low because of a low proportion of older people. In the short run,