

# Estimating Infant Mortality Trends from Child Survivorship Data †

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In this paper a new procedure is developed for estimating infant mortality rates from figures derived from answers to population census questions on the total number of children a woman has borne during her lifetime and on the number of these children who are living at the time of the census. The statistics required are the number of women in a series of quinary age groups, beginning with ages 15-19, the total numbers of children born to women in these age groups, and the numbers of these children born who have survived to the time of the census. Application of the procedure yields estimates of the infant mortality rate for a series of points preceding the census. Both the value of the rate and the number of years preceding the census are derived from the statistics. Figures for ages 15-74 yield a series of twelve estimates ranging from slightly less than 30 years to about one year before the census. Each age group provides one estimate. Older age groups yield estimates further removed from the census, with an average of approximately 2 1/4 years between estimates.

The ideas underlying the new procedure are a natural extension of concepts introduced by W. Brass and subsequently developed by Brass, Coale, Sullivan, Trussell, and others. Relevant details and references are given in the following section. The new procedure differs from those previously proposed in two respects. It results in a dated estimate of the infant mortality rate from each age group of women, and it does not assume knowledge of the rate of change of infant mortality during the years before the census. It thus opens the possibility of estimating from the figures both the level of infant mortality at the time of the census and the rate of change during the years preceding the census.

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† This work has been supported by East-West Center and by Grant Number 1 ROL HD-09927-1 from the National Institute of Child Health and Human Development. My thanks and gratitude are due to the Department of Statistics of Malaysia, to the staff of the Population Institute and research assistant Stephen E. Wilson for their able assistance, and to William Brass, Lee-Jay Cho, Ansley J. Coale, Kenneth Hill, Vasantha Kandiah, James A. Palmore, Jr., Robert D. Retherford and T. James Trussell, for reading drafts of this material and supplying comments.

## (Excerpt)

*Population Studies* **34**(1), March 1980, 102-128.