Cairo University
Faculty of Economics and Political Science
Department of Statistics

A Parametric Hazards Model Approach to the Study of the Determinants of Infant Mortality in Egypt

By
Sahar El Sheneity

Supervised by
Prof. Abdel Hamid Negm
Professor
Cairo University
Faculty of Economics and Political Science
Department of Statistics

A. Nigm

Dr. Sahar El Tawila
Assistant Professor
Cairo University
Faculty of Economics and Political Science
Department of Statistics

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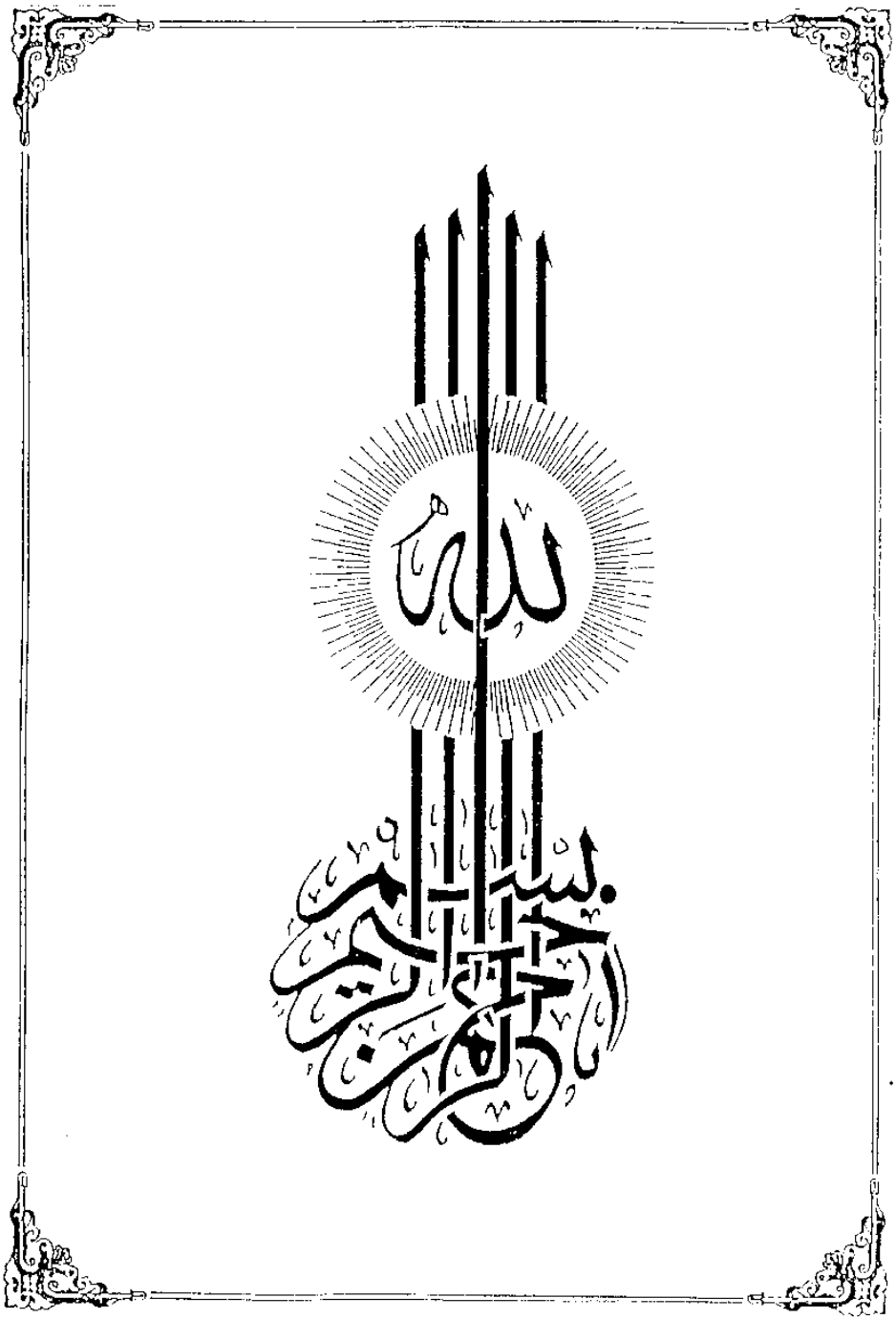

Abstract

The subject of infant mortality occupies a large volume in social and demographic research due to its importance as a measure of human development and welfare. From such a basis, there has been a special interest in studying infant mortality in developing countries where this rate is much higher than its correspondent in developed countries.

Egypt, as a developing country, has witnessed a noticeable decline in the level of infant mortality rate during the past decade which is encouraging to study the determinants underlying such a decline.

Unfortunately, the vital registration system in Egypt suffers from under-registration which hinders an accurate measurement of the level, trend and pattern of infant mortality.

The proposed study discusses the level, trend and pattern of infant mortality from the vital registration data during the past decade and compares the results with those obtained on using the 1991 Egypt Maternal and Child Health Survey (EMCHS) calculated using the life table technique. Thus trying to evaluate whether the trend of infant mortality during the past decade was really a declining one besides evaluating the development occurring in the vital registration system during the past decade.

Using the 1991 EMCHS data, the determinants underlying infant mortality rate are studied using survival analysis with three different choices of parameterization of the underlying hazard, namely: the hazard model. Three types of analyses were applied; the non-parametric Cox model, the semi-parametric piece-wise exponential model and the Weibull model as a parametric regression model. The effect of different ways of model parameterization on the determinants of infant mortality rate during the eighties are studied. Finally, some of the major characteristics of households pertaining lowest and highest infant mortality rate are discussed.

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