

Infant mortality is viewed as a complex mechanism where socio-economic, demographic and biological variables enter into account, those variables having a role at a particular moment of the mechanism. Mosley and Chen (1984) have already highlighted this obviousness in the context of the developing countries. In the developed countries, infant mortality is low but relatively new phenomena (e.g. the increase of parental age at conception) have not been fully incorporated into a structural (causal) model. The objective is consequently to propose and estimate a structural model of neonatal mortality (in a low and late fertility context) respecting the nature of each variable, notably the distinction between endogenous and exogenous variables. As in the Mosley and Chen spirit the structural model is composed of direct and indirect pathways through which neonatal mortality is affected. Due to the insertion of a vector of endogenous variables the proposed statistical model is based on a multi-equations model representing the decomposition of the joint distribution of the vector of the variables by a product of marginal and conditional distributions. This decomposition is based on the structural model. In such a way, the causal effect of each variable should be correctly estimated. Indeed, for each determinant of neonatal mortality, the total, direct and indirect effects are identifiable (and estimable). The database is made of individual linked registration forms for live births and infant deaths collected in Hungary from 1984 to 1988 (600 000 observations). Although this database is extremely rich from a quantity and quality point of view, some important explanatory variables such as behavioral variables are not included. Consequently, the statistical model should be constructed and interpreted by taking the missing information into account. Stability of the model is also tested.