Preface

In the 1970s Forsdahl, a medical doctor in Norway, observed that regional differences in adult lung cancer and heart disease were not related to contemporary differences in lifestyle, smoking behavior, or socioeconomic status but rather to differences in regional infant mortality during childhood and youth of the cohorts under study. His study is now considered to be the starting point of a large and productive area of research that tries to link early-life conditions to the manifestation of chronic disease later in life. The discussion about early-life effects on health at adult ages gained momentum with studies conducted by the Southampton group of Barker and colleagues. The group developed the fetal-origins hypothesis of adult disease (also known as the 'Barker hypothesis'), which suggests that coronary heart disease at adult ages results from poor conditions *in-utero* caused by inadequate nutrition on the part of the mother and infectious diseases she suffered during pregnancy. Since inadequate nutrition of the fetus is reflected in low birth weight, the Barker hypothesis claims that growth retardation *in-utero* leads to low birth weight and to an increased risk of chronic disease later in life.

Critics of the hypothesis frequently bring forward the argument that birth weight is confounded with socioeconomic status. Negative social factors in the early-life environment may set people onto life trajectories that negatively affect their health over the whole life course. Therefore, the almost universally observed relationship between birth weight and the risk of chronic disease later in life may be an outcome of the whole life course rather than the result of a critical period early in life.

This criticism leads to the question whether one can find an indicator for the prenatal and early postnatal environment that is not related to the life-course. This monograph shows that month of birth can be used as an indicator for the seasonally changing environment around the time of birth. It tests a series of alternative hypotheses which all assume the existence of life-course factors or social factors that are related to the month of birth. Only after having rejected all these hypotheses is a thorough analysis of the possible causal mechanisms performed.

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