

DECOMPOSITION OF NATURAL POPULATION GROWTH RATE IN SRI LANKA, 1946-2012

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Abstract: *This paper decomposes natural population growth into the growth attributed to the changes in fertility and mortality (intrinsic growth), and the growth attributed to the change in population composition (momentum growth) in Sri Lanka. The study uses population and selected demographic indicators for Sri Lanka obtained from various sources available at the Department of Census and Statistics and the Department of Registrar General in Sri Lanka. It was observed that the change in natural population growth rate has been negative throughout the 1946 to 2012 period mainly owing to the fact that the change in birth rate (Δb) in subsequent time periods, which has been greater than the change in the death rate (Δd). It means changes in fertility effects were greater than mortality effects to the total change in natural population growth. When change in the natural population growth was further decomposed into the change in intrinsic growth and change in population composition (momentum growth), we found that both components have attributed significantly to the change in the rate of growth although the intrinsic growth made a higher contribution. It is quite important to note that age compositional effects will continue into the future until the youth cohort already produced by the high fertility prevailed in the past and also recent fertility increase observed during the 200-12 period, which will in turn make significant impact of fertility on the population growth in Sri Lanka although the rate of growth of the population has been declining.*

Keywords: Natural Population Growth, Age Independent Birth Rate, Intrinsic Rate of Growth, Decomposition of Population Change

Introduction

This paper decomposes natural population growth into the growth attributed to the changes in fertility and mortality (intrinsic growth), and the growth attributed to the change in population composition (momentum growth). Population trajectories depend on assumptions about trends in fertility, mortality and migration. Furthermore, the population age structure impacts growth by essentially disturbing the overall number of births, deaths and migrations that are implied by fertility, mortality and migration rates. All three demographic components can have a noteworthy bearing, positive or negative, on population growth.

Fertility offers a positive contribution to population growth if fertility is above replacement³ and a negative contribution to population growth if fertility is below

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