An Investigation of Select Birth Cohorts*

Richard MacMinn, Ph.D.
Krzysztof Ostaszewski, Ph.D. FSA, CFA, MAAA
Ranee Thiagarajah, Ph.D.
Frederik Weber
Illinois State University

Abstract

The 20th century has witnessed unprecedented improvement in longevity in the United States, as well as worldwide, commonly termed (among actuaries) "mortality improvement." While this is quite an achievement for public health and public policy in general, it is also a source of risk for governments and corporations providing retirement benefits. In this work we ask whether select birth cohorts of unusually high improvements in longevity exist, where they exist and what their relationships may be in various countries. We begin by discussing criteria for defining such cohorts, and then we identify them from data. We then study the effect of these cohorts on the cost of retirement annuities and compare this effect to interest rates sensitivity.

* The authors acknowledge support from a research grant from the Committee on Knowledge Extension Research and the Committee for Finance Research of the Society of Actuaries.