

International Cause-Specific Mortality Rates: New Insights from a Cointegration Analysis

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Abstract

This work applies cointegration techniques, developed in econometrics to model long-run relationships, to cause-of-death mortality data. We analyze the five main causes of death across five major countries, including USA, Japan, France, England & Wales and Australia. Our analysis provides a better understanding of the long-run equilibrium relationships between the five main causes of death, providing new insights into similarities and differences in trends. The results identify for the first time similarities between countries and genders that are consistent with past studies on the aging process by biologists and demographers. The insights from biological theory on aging is found to be reflected in the cointegrating relations in all of the countries included in the study.

Keywords Causes of death, mortality trends, cointegration, dependence, common trends, biological aging