

Estimating Parameters of Makeham's Law of mortality

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Abstract – Actuaries and demographers have a long tradition of using collateral data to improve mortality estimates. Two main approaches have been used to accomplish the improvement, mortality laws and model life tables.

The most common mortality law that used to illustrate the life tables is Makeham's law. In Sri Lanka, Census and Statistics Department presents the life table and calculation of life table had been done using software package Mortpak-lite developed by United Nations and the most insurance companies use UK standard life tables to construct insurance premiums. So my purpose is to construct the life table for Sri Lanka, estimates the constants of Makeham's law of mortality that used to construct life table and also wants to determine whether there's big difference for males and females.

The Makeham's estimates are based upon the equation $\mu(x) = A + BC^x$. Two methods are used to estimates the parameters, namely least square method and using the definition of age specific death rate.

The model is demonstrated the mortality data (year 2001) of Sri Lanka.