A DISCUSSION OF UPPER LIMIT OF HUMAN LIFE DISTRIBUTION BASED ON ANALYSIS OF DATA ON OLDEST-OLD SURVIVORS

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A list of oldest-old survivors whose ages are 100 years and over is made in public on Respect-for-the-Aged Day every year in Japan, where the numbers of survivors are counted by age on the top of that list. In this study, based on the extreme theory, the upper limit of the distribution of human longevity is discussed by fitting a special type of multinomial distribution model with probabilities calculated from the generalize Pareto distribution to data taken form those lists by cohorts. Because the numbers of terms in that model vary depending on the right end point of the generalize Pareto distribution, the regularity conditions for ML estimation do not hold so that the asymptotic efficiency is not granted. So the existence and consistency of ML estimates are discussed. Further, base on the results of fitting that model to data by cohorts, it is discussed whether the limit of human longevity is prolonged as the years rolled on.