

Abstract

In this project, we have looked into various variables that can affect the Age-specific First Birth Probability of women. As observations in a sample could be obtained differently or that there is an over-sampling of certain types of individuals in a sample, samplings weights were thus introduced. Furthermore, with the combination of various samples and the need to prepare the sample for application of conditional Empirical Likelihood, the modelling of sampling weights was required. In modelling these sampling weights, we have used the model in a paper titled: A conditional empirical likelihood approach to combine sampling design and population level information¹. After modelling these sampling weights, they were then subjected to the conditional Empirical Likelihood approach to obtain final sampling weights. Using these final samplings weights, we then looked into the various factors that can affect the Age-specific First Birth Probability of women in the United States (U.S.). Also, bootstrapping methods on the sample was done to establish confidence intervals based on the various variables. We then looked at how these variables affected the Age-specific First Birth Probability and try to establish the possible causes behind the Bimodality of Age-specific First Birth Probability in the U.S..

¹Chaudhuri S., Handcock M.S. and Rendall M.S. (2010). A conditional empirical likelihood approach to combine sampling design and population level information. In *Technical Report No.3/2010, Department of Statistics and Applied Probability, National University of Singapore*.