1053-62-50 **J, Jian-Jian Ren*** (jren@mail.ucf.edu), Department of Mathematics, University of Central Florida, Orlando, FL 32816. *Full Likelihood Inferences in the Cox Model.*

We derive the full likelihood function for regression parameter β_0 and baseline distribution function F_0 in the continuous Cox model. Using the empirical likelihood parameterization, we explicitly profile out nuisance parameter F_0 to obtain the full-profile likelihood function and the maximum likelihood estimator (MLE) for β_0. We show that the log full-likelihood ratio has an asymptotic chi-squared distribution, while the simulation studies indicate that for small or moderate sample sizes, the MLE performs favorably over Cox's partial likelihood estimator. Moreover, we show that the estimation bias of the MLE is asymptotically smaller than that of Cox's partial likelihood estimator. In a real dataset example, our full likelihood ratio test and Cox's partial likelihood ratio test lead to statistically different conclusions. Part of this work is joint with Mai Zhou. (Received July 22, 2009)