On estimation and inference in a partially linear hazard model with varying coefficients

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Abstract We study estimation and inference in a marginal proportional hazards model that can handle (1) linear effects, (2) non-linear effects and (3) interactions between covariates. The model under consideration is an amalgamation of three existing marginal proportional hazards models studied in the literature. Developing an estimation and inference procedure with desirable properties for the amalgamated model is rather challenging due to the co-existence of all three effects listed above. Much of the existing literature has avoided the problem by considering narrow versions of the model. The object of this paper is to show that an estimation and inference procedure that