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### Semiparametric Selection Models with Binary Outcomes

by Roger Klein, Chan Shen, Francis Vella  
(October 2011)

**Abstract:**

This paper addresses the estimation of a semiparametric sample selection index model where both the selection rule and the outcome variable are binary. Since the marginal effects are often of primary interest and are difficult to recover in a semiparametric setting, we develop estimators for both the marginal effects and the underlying model parameters. The marginal effect estimator only uses observations which are members of a high probability set in which the selection problem is not present. A key innovation is that this high probability set is data dependent. The model parameter estimator is a quasi-likelihood estimator based on regular kernels with bias corrections. We establish their large sample properties and provide simulation evidence confirming that these estimators perform well in finite samples.

**Text:** See [Discussion Paper No. 6008](#)

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