

# On the estimation of exponential regression models: an integrated GMM approach

Esmeralda Ramalho

Universidade de Evora, Evora, Portugal - ela@uevora.pt

Joaquim Ramalho\*

Universidade de Evora, Evora, Portugal - jsr@uevora.pt

Exponential regression models are widely used in economic applications. Several estimators have been proposed for these models, e.g. Gamma and Poisson-based quasi-maximum likelihood estimators for cases where regressors are exogenous and generalized method of moments (GMM) estimators based on a residual function from a transformed version of the original model for cases of endogeneity. Building on the latter approach, we propose an unifying new class of GMM estimators that nests the previous estimators and, additionally, incorporates more flexible estimators that use spline functions of the regressors or the instrumental variables to approximate the optimal instruments.

**Keywords:** Generalized method of moments; Poisson; Gamma; splines.