1125-62-2290　　　　**Marechal** and **Vanhems*** (`a.vanhems@tbs-education.fr`), Toulouse Business School, 20 bd Lascrosses BP 7010, 31068 Toulouse, France. *Solving inverse problems in econometrics using a mollication approach.*

The overall purpose of this research is to provide new tools for the analysis of structural econometric models. Our focus will be on nonparametric procedures that permit estimation of causal effects while avoiding the strong assumptions required by parametric procedures or deconvolution models. In the first case, our research is motivated by the analysis of structural causal models with endogeneity. Endogeneity may be due to omitted variables, measurement errors, or simultaneity. Nonparametric regression with endogeneity gives rise to an ill-posed inverse problem. In the second case, our objective is to reconstruct the density function of a random variable from the observation of noisy data, which also leads to an ill-posed inverse problem. Our contribution is to solve both problems using a mollification approach. Mollification has been investigated for linear ill-posed equations, specifically for deconvolution in signal and image processing, by Lannes et al (1987), and has been recently extended by Bonnefond and Marechal (2009) and Marechal (2016) to more general situations. We investigate the use of this technique in the econometric context. (Received September 20, 2016)