

Resistant Parametric and Nonparametric Modelling in Finance

E. Ronchetti

¹ Department of Econometrics, University of Geneva, Blv. Pont d'Arve 40, CH-1211 Geneva, Switzerland

Keywords: Robustness, One-factor models, Bandwidth selection

We discuss how resistant parametric and nonparametric techniques can be used in the statistical analysis of financial models. As an illustration we re-examine the empirical evidence concerning one factor models for the short rate process and we focus on the estimation of the drift and the volatility.

Standard classical parametric procedures are highly unstable in this application. On the other hand, robust procedures deal with deviations from the assumptions on the model and are still reliable and reasonably efficient in a neighborhood of the model.

Finally, we show that resistant techniques are necessary also in the nonparametric framework, in particular for reliable bandwidth selection.

This is joint work with Rosario Dell'Aquila and Fabio Trojani, University of Southern Switzerland, Lugano.

My abstract fits best to topic number 7 (second choice: 12).