UNIVERSITÀ DEGLI STUDI FIRENZE

FLORENCE center for DATA SCIENCE

D^2 SEMINAR SERIES

Florence Center for Data Science 'Double' Seminar Series

Florence Center for Data Science is happy to present the next seminar of the Series on **January 20th**, from **2.30 - 4 pm**

Click on the link to register online:
https://us02web.zoom.us/webinar/register/WN_mEFLIP8NRFeKE8mQh8BcNw

SPEAKERS, TITLES, ABSTRACTS:

Giacomo Toscano - Department of Economics and Management, University of Florence

Title: "Central limit theorems for the Fourier-transform estimator of the volatility of volatility"

Abstract: "We study the asymptotic normality of two feasible estimators of the integrated volatility of volatility based on the Fourier methodology, which does not require the pre-estimation of the spot volatility. We show that the bias-corrected estimator reaches the optimal rate n1/4, while the estimator without bias-correction has a slower convergence rate and a smaller asymptotic variance. Additionally, we provide simulation results that support the theoretical asymptotic distribution of the rate-efficient estimator and show the accuracy of the latter in comparison with a rate-optimal estimator based on the pre-estimation of the spot volatility. Finally, using the rate-optimal Fourier estimator, we reconstruct the series of the daily volatility of volatility of the S&P500 and EUROSTOXX50 indices over long samples and provide novel insight into the existence of stylized facts about the volatility of volatility dynamics.

Gabriele Fiorentini - Department of Statistics, Computer Science, Applications "G. Parenti", University of Florence

Title: Specification tests for non-Gaussian structural vector autoregressions

Abstract: We propose specification tests for independent component analysis and structural vector autoregressions that assess the assumed cross-sectional independence of the non-Gaussian shocks. Our tests effectively compare their joint cumulative distribution with the product of their marginals at discrete or continuous grids of values for its arguments, the latter yielding a consistent test. We explicitly consider the sampling variability from using consistent estimators to compute the shocks. We study the finite sample size of our tests in several simulation exercises, with special attention to resampling procedures. We also show that they have non-negligible power against a variety of empirically plausible alternatives.