



INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO

Departamento Académico de Estadística
Río Hondo # 1, Col. Progreso Tizapán,
Ciudad de México, C.P. 01080, México

Seminario Aleatorio

Sesión 349

Modelling Time-Varying Volatility Interactions

Cristina Alexandra Oliveira Amado
(Department of Economics, University of Minho &
CREATES, Aarhus University)

Abstract

In this paper, we propose an additive time-varying (or partially time-varying) structure where a time-dependent component is added to the extended vector GARCH process for modelling the dynamics of volatility interactions. In our framework, co-dependence in volatility is allowed to change smoothly between two extreme states and contagion is identified from these crisis-contingent structural changes. The estimation of the new time-varying vector GARCH process is simplified using an equation by equation estimator for the volatility equations in the first step, and estimating the correlation matrix in the second step. A new Lagrange multiplier test is derived for testing the null hypothesis of constancy co-dependence volatility against a smoothly time-varying interdependence between financial markets. The test allows to investigate the presence of volatility contagion by testing a significant increase in cross-market volatility transmissions. Finite sample properties of the test statistic are investigated by Monte Carlo simulation. An application to sovereign bond yield returns illustrates the modelling strategy of the new specification.

Viernes 12 de junio de 2020, 11:50 hrs.

<https://itam.zoom.us/j/95484905053?pwd=NDRpUOEyWHIETOFINik3MjhHRnNXQT09>

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El Seminario Aleatorio está destinado tanto a profesores como a estudiantes, por lo que el Departamento de Estadística agradece a los profesores que colaboren invitando a sus alumnos a estas sesiones.