

Econometría Avanzada: Series de Tiempo

Clave	: ECO781	Créditos	: 3
Tipo	: Obligatorio	Semestre	: 2013-2
Horario	: Miércoles de 7:00 a 10:00 pm Sábados de 1:00 a 3:00 pm	Requisitos	: Econometría 2
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1 Sumilla

Análisis Univariado No Estacionario. Tests de Raíces Unitarias. Distribuciones. Outliers Aditivos. Análisis Multivariado y Cointegración. Vectores Autoregresivos, VAR estructural. Tests de Cointegración Univariados y Multivariados. Volatilidad. Modelos ARCH, GARCH, EGARCH, TARCH, FIGARCH. Modelos No-Lineales. Modelos Markov Switching, Modelos autorregresivos. Transición.

2 Objetivos de aprendizaje

En estos cuatro módulos se desarrollan algunos temas similares a cursos regulares de series de tiempo pero con mayor énfasis en la formalidad y el desarrollo analítico. Asimismo se desarrollarán algunos nuevos temas en la literatura que complementarán la formación del estudiante. El dictado del curso pondrá énfasis en la presentación y discusión de códigos elaborados en programas econométricos lo que permitirá ilustrar los principales temas discutidos. Asimismo, el dictado contempla la discusión de textos relevantes en la literatura econométrica.

3 Contenido

3.1 Módulo 1

(Clases: 21/08/2013, 28/08/2013, 04/09/2013, 11/09/2013)

1. Conceptos de Teoría Asintótica, Teoría Asintótica y el Modelo de Regresión Clásico
2. Estacionariedad y Procesos Estocásticos Estacionarios
3. Procesos de Wiener y Teoría Asintótica para Procesos Dependientes

3.2 Módulo 2

(Clases: 18/09/2013, 25/09/2013, 02/10/2013, 09/10/2013)

1. No Estacionariedad Univariada: Raíces Unitarias (Tests, Distribuciones, Aplicaciones)
2. Outliers (Efectos, Identificación y Modelización, Aplicaciones)
3. Tests de Cambio Estructural con Perturbaciones Estacionarias o No Estacionarias
4. Estimación de Modelos con Cambio Estructural (Opcional)

3.3 Módulo 3

(Clases: 23/10/2013, 30/10/2013, 06/11/2013, 13/11/2013)

1. Cointegración (Tests, Distribuciones, Aplicaciones)
2. Modelos de Volatilidad
3. Introducción a Econometría Bayesiana (Opcional)

3.4 Módulo 4

(Clases: 20/11/2013, 27/11/2013, 04/12/2013, 11/12/2013)

1. Modelos de Cambios de Régimen de Transición Determinística
2. Modelos de Cambios de Régimen de Transición Estocástica
3. Modelos de Cambios de Régimen para Volatilidad

4 Metodología

El curso se desarrollará mediante el dictado de sesiones teóricas y prácticas. Se presentarán ejercicios y se discutirá la aplicación de los conceptos expuestos.

4.1 Computador

Uno de los objetivos del curso es el análisis empírico univariado y/o multivariado de series macroeconómicas y/o financieras. En este sentido, el uso del computador es un elemento importante en el desarrollo del curso. En general, los estudiantes son libres de desarrollar los ejercicios en el programa econométrico de su preferencia. Sin embargo, en el curso haremos uso de los programas (según sea el caso): Eviews, Gauss, Matlab, R, Rats, Ox-Metrics, JMulti, o WinBugs. Se recomienda leer alguna guía introductoria o práctica relacionada con el programa *Gauss*. La dirección <http://faculty.washington.edu/ezivot/gaussfaq.htm> contiene algunas direcciones que pueden ser útiles a este respecto. De otro lado, un programa que puede resultar útil es el llamado *Jmulti*, el cual es gratuito y permite la aplicación de diversas metodologías. Este programa puede ser obtenido gratuitamente entrando a la página web del Profesor Helmut Lütkepohl.

5 Sistema de evaluación

La evaluación del curso consta de 4 ejercicios grupales (uno por cada módulo) y dos exámenes (parcial y final). Los pesos de dichas evaluaciones es la siguiente:

1. Ejercicios Calificados (una hoja por cada módulo): 40% del total del curso
2. Examen Parcial: 30% del total del curso (Fecha: 16/10/2013)
3. Examen Final: 30% del total del curso (Fecha: 18/12/2013)

6 Bibliografía

El campo de series temporales se ha desarrollado de manera importante en los últimos 15-20 años y consecuentemente debemos hacer algunas priorizaciones debido al corto tiempo del curso. Una lista de referencias (no exhaustiva) es otorgada con la finalidad de completar detalles o profundizar en ciertos temas de mayor interés del estudiante. Ningún libro es obligatorio como manual del curso. Sin embargo, el material dictado en las clases teóricas y prácticas es el material fundamental para la comprensión y el éxito del curso. A continuación se presenta una lista de referencias (libros y papers). Es necesario notar que la lista de papers incluye aplicaciones empíricas en la mayoría de los casos.

6.1 Libros

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29. Wang, P. (2003), *Financial Econometrics*, Routledge.
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6.2 Papers

6.2.1 Tests de Raiz Unitaria

1. Banerjee, A., R. Lumsdaine, and J. H. Stock (1992), "Recursive and Sequential Tests of the Unit Root and Trend Break Hypothesis," *Journal of Business and Economic Statistics* 10, 271-288.
2. Campbell, J. Y. and P. Perron (1991), "Pitfalls and Opportunities: What Macroeconomists Should Know About Unit Roots," in *NBER Macroeconomics Annual*, O. J. Blanchard and S. Fisher, Editors, Vol. 6, 141-201.
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6.2.2 Outliers

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6.2.3 Tests de Cambio Estructural, Estimación de Modelos con Cambio Estructural

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6.2.4 Cointegración

1. Elliott, G., M. Jansson, and E. Pesavento (2005), "Optimal Power for Testing Potential Cointegrating Vectors with Known Parameters for Nonstationarity," *Journal of Business & Economic Statistics* 23 (1), 34-48.
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6.2.5 Modelos de Volatilidad

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6.2.6 Modelos No Lineales

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