



**HSB**  
Hochschule Bremen  
City University of Applied Sciences



HSB-International Summer School 2017  
International Summer School for Advanced Study

## FINANCIAL ECONOMETRICS WITH APPLICATIONS

Course dates: 9 July – 3 August 2017

Credit hours: 4 credit hours - US / 8 credit points-ECTS

### Syllabus

Instructor:	Assist. Professor Dr. Şaban Çelik	Email: saban.celik@yasar.edu.tr
	Yasar University Izmir Turkey	
	Professor of Economics	

Time: Monday-Thursday 9:30 – 12:45

### HSB-INTERNATIONAL SUMMER SCHOOL

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**HOCHSCHULE BREMEN**  
**CITY UNIVERSITY OF APPLIED SCIENCES**  
**THE INTERNATIONAL SUMMER SCHOOL**  
**SYLLABUS –2017**

**Course Title** : Financial Econometrics with Applications  
**Credit Hours (ECTS)** : 8  
**Instructor** : Assist. Prof. Dr. Şaban Çelik  
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<b>Course Description</b>	<p>This course introduces students various research methods and tools used in financial research. Students will learn probability distributions, single and multiple regression models, parameter estimates, hypothesis testing, goodness of fit tests, properties of financial time series, basic forecasting techniques and modelling volatility. In addition to theoretical aspect of econometrics, there will be applied empirical exercises conducted on real data. Students are welcome to bring their own data for their project or thesis. The last session of the lecture will be a forum to discuss the proposed case studies.</p> <p>This course differs from a regular econometric course for several aspects. First of all, this is an important opportunity to analyse financial and economic data through up to data econometric methods with application. Secondly, every student may bring their own dataset of their thesis or project to analyse during the lecture. The last but the least, a report of the analysis, an academic article, will be produced for each student proposal after assessing its drawbacks before submitting to an academic journal.</p>
<b>Assessment</b>	50% active participation; 50% Final Exam (or a paper submission)
<b>Prerequisites</b>	Although this course does not have any prerequisites, Introduction to Calculus and introduction to statistics are important courses before taking such econometric course. However, in the structure of the lecture, there will be some intense sessions to cover basic maths and statistics.
<b>Main Textbook</b>	<p>[1] Introductory Econometrics for Finance, Cambridge University Press, 2<sup>ND</sup> Ed. by Brooks, C.</p> <p>[2] Basic Econometrics, McGraw–Hill, 4<sup>th</sup> Ed., by Gujarati, D.N.</p> <p>[3] The Econometrics of Financial Markets, Princeton University Press, by Campbell, J.Y., Lo, A.W., and MacKinlay, A.G.</p>

<b>Supplementary Resources</b>	<p>[4] Econometric Analysis, Prentice Hall, 5<sup>th</sup> Ed., by Green, W.H.</p> <p>[5] Time Series Applications to Finance, Wiley, by Chan, N.H.</p> <p>[6] Econometric Analysis of Panel Data, John Wiley &amp; Sons, 3<sup>RD</sup> Ed. by Baltagi, B. H.</p> <p>[7] Discrete Choice Methods with Simulations, Cambridge University Press, by Train, K.E.</p> <p>[8] Analysis of Financial Time Series, Wiley, 3<sup>rd</sup> Ed., by Tsay, R.S.</p> <p>[9] Econometric Theory and Methods, Oxford University Press, by Davidson, R. and MacKinnon, J.G.</p> <p>[10] Financial Econometrics Methods and Models, Routledge, by, Wang, P.</p> <p>[11] Introductory Econometrics A Modern Approach, Cengage Learning, 4<sup>th</sup> Ed., by Wooldridge, J.M.</p> <p>[12] Evaluating Econometric Forecasts of Economic and Financial Variables, Palgrave, by Clements, M.P.</p>
<b>Additional Resources</b>	will be announced and distributed during lectures
<b>Databases</b>	<p>IMF</p> <p>World Bank</p> <p>EU Stat</p> <p>OECD Stat</p> <p>Stock Exchange Federation</p>
<b>Web Resources : Turkish Capital Markets Institutions</b>	<p>Istanbul Stock Exchange (Borsa Istanbul)</p> <p>Public Disclosure Platform (Kamuyu Aydınlatma Platformu)</p> <p>Central Bank of Turkish Republic (Türkiye Cumhuriyet Merkez Bankası)</p> <p>Capital Markets Board of Turkey (Sermaye Piyasası Kurulu)</p> <p>The Association of Capital Market Intermediary Institutions of Turkey (Türkiye Sermaye Piyasaları Aracı Kuruluşları Birliği)</p> <p>Turkish Statistical Institute (Türkiye İstatistik Kurumu)</p> <p>Turkish Derivative Exchange (Vadeli İşlem ve Opsiyon Borsası)</p> <p>Precious Metal and Diamond Markets (Kıymetli Madenler ve Kıymetli Taşlar Piyasası)</p> <p>Central Registry Agency (Merkezi Kayıt Kuruluşu)</p> <p>Clearing-Settlement and Custody (Takasbank)</p> <p>Banking Regulation and Supervision Agency (Bankacılık Düzenleme ve Denetleme Kurumu)</p> <p>The Banks Association of Turkey (Türkiye Bankalar Birliği)</p> <p>Energy Market Regulatory Authority (Energy Piyasası Düzenleme Kurumu)</p>

### Course Outline (Summary)

WEEK	CONTENT	Resources
1	Introduction	[1] chapter 1
2	Classical Linear Regression Model (CLRM)	[1] chapter 2
3	Further development and analysis of the CLRM	[1] chapter 3
4	CLRM Assumptions and Diagnostic Tests	[1] chapter 4
5	Univariate Time Series	[1] chapter 5
6	Multivariate Model	[1] chapter 6
7	Modelling Long-Run Relationships in Finance	[1] chapter 7
8	Modelling Volatility and Correlation	[1] chapter 8
9	Switching Models	[1] chapter 9
10	Panel Data	[1] chapter 10
11	Limited Dependent Variable Models	[1] chapter 11
12	Workshop: empirical assessment of students proposal	

Note: Detailed version will be distributed during the lectures.