

SYLLABUS

Subject	Science Category	Faculty	Department
Topics in Econometrics	Economics S 004	School of Economics and Business	

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
6	160	64	96

Annotation

A broad overview about various econometrics concepts and methods is presented. The abilities to define research questions properly and apply a variety of advanced econometric methods using the R programming language are developed.

Main aim: to deepen theoretical and practical skills of applying advanced econometric models.

Course (module) Learning Outcomes:

1. Is able to demonstrate the systematic approach to economic processes and describe them using econometric models.
2. Is able to create econometric model for modelling the economic indicators.
3. Is able to estimate econometric model using R and other special software and interpret the results.
4. Is able to use the scientific literature and various information sources in the analysis of economic problems.

Syllabus:

1. General Econometrics
 - 1.1 Basics Concepts in Statistics and Their Properties
 - 1.2 OLS and Gauss-Markov Theorem
 - 1.3 Causality and Regression
2. Micro-econometrics
 - 2.1 Treatment effect
 - 2.2 Structure of Micro-economic Datasets
 - 2.3 Survey Designs and Regressions
3. Macro-econometrics
 - 3.1 Time Series Data, Autoregressive Models, and Granger Causality
 - 3.2 Stationarity of Time-Series and Forecasting
 - 3.3 Dynamic Causal Effects
 - 3.4 Vector Autoregression
4. Panel Models
 - 4.1 Advantages of Panel Data
 - 4.2 The Static Linear Model
 - 4.3 Model selection criteria
 - 4.4 Dynamic Panel Models

Required reading

1. Min, Ch. K. Applied econometrics: a practical guide. London: Routledge. 2019
2. Racine, J. S. Reproducible econometrics using R. New York: Oxford University Press. 2019
3. Sul, D. Panel data econometrics: common factor analysis for empirical researchers. London: Routledge. 2019
4. Stachurski, John: A Primer in Econometric Theory, The MIT Press, 2016.
5. Stock, J. H., & Watson, M. W. Introduction to Econometrics. Boston: Pearson/Addison Wesley. 2007
6. Cameron, A. C., & Trivedi, P. K. Microeconometrics: methods and applications. Cambridge university press. 2005
7. Fuleky, P. (Ed.). Macroeconomic forecasting in the era of big data : theory and practice. Cham : Springer International Publishing, 2020.
8. Tsionas, M. (Ed.). Panel data econometrics: theory. London : Elsevier, 2019.
9. Angrist, J., & Steffen-Pischke, J. Mastering Metrics, 2015.

Reccomended reading

1. Angrist, Joshua D. and Jörn-Steffen Pischke: Mostly Harmless Econometrics: An Empiricist's Companion, Princeton University Press, 2009.
2. Deaton, A. The Analysis of Household Survey: Microeconomic Analysis for Development Policy. Princeton: John Hopkins. 1997
3. Verbeek M. A guide to modern econometrics. 4th ed. Wiley, 2012. 514 p.

Consulting Professors	Degree	Key publications during the last 5 year
Povilas Lastauskas	Dr.	1. Lastauskas, P., & Stakenas, J. (2018). Structural labour market reforms in the EU-15: Single-country vs. coordinated counterfactuals. Structural Change and Economic Dynamics, 44, 88-99. 2. Lastauskas, P., & Stakenas, J. (2018). Openness and Structural Labor Market Reforms: Ex Ante Counterfactuals. Contemporary Economic Policy, 36(4), 723-757. 3. Constantinescu, M., & Lastauskas, P. (2018). The knotty interplay between credit and housing. The Quarterly Review of Economics and Finance, 70, 241-266.
Swapnil Singh	Dr.	1. Emergence of Subprime Lending in Minority Neighborhoods (2021, Bank of Lithuania Working Paper) 2. Bowling Alone, Buying Alone: The Decline of Co-borrowers in the US Mortgage Market (2020, Bank of Lithuania Working Paper) 3. Economic Development, the Nutrition Trap and Metabolic Disease (2021, NBER Working Paper) 4. Mortgage Foreclosure Risk after the Great Recession (2018, Bank of Lithuania Working Paper) 5. Optimal Monetary Policy under Sector Interconnections (2018, Netherlands Economic Review) 6. Consumption Insurance with Advance Information (2020, Quantitative Economics)
Soroosh Soofi Siavash	Dr.	1. Moench, E., & Siavash, S. S. (2022). Carbon Intensity, Productivity, and Growth. 2. Moench, E., & Siavash, S. S. (2022). What Moves Treasury Yields?, forthcoming in Journal of Financial Economics. 3. Siavash, S. S. (in progress). On the Macroeconomic Effects of Intermediaries Balance Sheet Shocks: Sectoral Propagation 4. Siavash, S. S., Binder, M. (2017). Measuring Global Financial Connectedness 5. Siavash, S. S (2018). Dominant U.S. Manufacturing Sectors: A Factor Model Analysis
Alina Stundžienė	Dr.	1. [S1; CH; OA] Stundziene, Alina; Baliute, Asta. Personnel costs and labour productivity: the case of European

		manufacturing industry // <i>Economies</i>. Basel : MDPI. ISSN 2227-7099. 2022, vol. 10, iss. 2, art. no. 31, p. 1-17. DOI: 10.3390/economies10020031. [Emerging Sources Citation Index (Web of Science); Scopus; DOAJ] [CiteScore: 2,40; SNIP: 1,128; SJR: 0,445; Q2 (2020, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,500] 2. [S1; GB; OA] Grybauskas, Andrius; Pilinkienė, Vaida; Stundžienė, Alina. Predictive analytics using Big Data for the real estate market during the COVID-19 pandemic // <i>Journal of Big Data</i>. London : Springer Nature. ISSN 2196-1115. 2021, vol. 8, iss. 1, art. no. 105, p. 1-20. DOI: 10.1186/s40537-021-00476-0. [Emerging Sources Citation Index (Web of Science); Scopus; MEDLINE] [CiteScore: 8,60; SNIP: 3,478; SJR: 1,031; Q1 (2020, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,333] 3. [S1; CH] Abramavičius, Silvijus; Stundžienė, Alina; Korsakova, Laura; Venslauskas, Mantas; Stankevičius, Edgaras. Stock price reaction to the drug development setbacks in the pharmaceutical industry // <i>DARU journal of pharmaceutical sciences</i>. Cham : Springer. ISSN 2008-2231. 2021, vol. 29, iss. 1, p. 1-11. DOI: 10.1007/s40199-020-00349-6. [Science Citation Index Expanded (Web of Science); Scopus; MEDLINE] [CiteScore: 3,60; SNIP: 0,912; SJR: 0,645; Q3 (2020, Scopus Sources)] [M.kr.: M 001, S 004] [Indėlis: 0,200] 4. [S1; ES; OA] Stundžienė, Alina; Mihi-Ramirez, Antonio; Navarro Pabsdorf, Margarita. Flaws in the European Monetary Union. Does the EMU need a solution? = Las carencias de la Unión Monetaria Europea. ¿necesita la UEM una solución? // <i>Revista de Economía Mundial</i>. Huelva : Universidad de Huelva. ISSN 1576-0162. eISSN 2340-4264. 2020, vol. 55, p. 79-96. DOI: 10.33776/rem.v0i55.3851. [Social Sciences Citation Index (Web of Science); Scopus; DOAJ] [IF: 0,380; AIF: 2,994; IF/AIF: 0,126; Q4 (2020, InCites JCR SSCI)] [CiteScore: 0,70; SNIP: 0,253; SJR: 0,189; Q1 (2020, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,334] 5. [S1; GB; OA] Stundziene, Alina; Sabonienė, Asta. Tangible investment and labour productivity: evidence from European manufacturing // <i>Economic research–Ekonomiska istrazivanja</i>. London : Routledge-Taylor & Francis. ISSN 1331-677X. eISSN 1848-9664. 2019, vol. 32, iss. 1, p. 3519-3537. DOI: 10.1080/1331677X.2019.1666024. [Social Sciences Citation Index (Web of Science); Scopus; DOAJ] [IF: 2,229; AIF: 2,219; IF/AIF: 1,004; Q2 (2019, InCites JCR SSCI)] [CiteScore: 2,30; SNIP: 1,174; SJR: 0,490; Q2 (2019, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,500] 6. [S1; PL; OA] Startiene, Grazina; Dumciuvienė, Daiva; Stundziene, Alina; Januskevicius, Andrius. An impact of the euro adoption on the international trade of new EMU members: the Lithuanian case // <i>Entrepreneurial business and economics review</i>. Kraków : Cracow University of Economics. ISSN 2353-883X. eISSN 2353-8821. 2019, vol. 7, iss. 1, p. 201-215. DOI: 10.15678/EBER.2019.070111. [Emerging Sources Citation
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		Index (Web of Science); Scopus] [CiteScore: 1,90; SNIP: 0,866; SJR: 0,401; Q2 (2019, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,250] 7. [S1; NL] Stundžienė, Alina. Human welfare: can we trust what they say? // Journal of Happiness Studies. Dordrecht : Springer. ISSN 1389-4978. eISSN 1573-7780. 2019, Vol. 20, iss. 2, p. 579-604. DOI: 10.1007/s10902-018-9962-6. [Social Sciences Citation Index (Web of Science); Scopus] [IF: 2,335; AIF: 2,149; IF/AIF: 1,086; Q1 (2019, InCites JCR SSCI)] [CiteScore: 4,70; SNIP: 1,856; SJR: 1,193; Q1 (2019, Scopus Sources)] [M.kr.: S 004] [Indėlis: 1,000] 8. [S1; CH; OA] Vojtovic, Sergej; Stundžienė, Alina; Kontautienė, Rima. The Impact of socio-economic indicators on sustainable consumption of domestic electricity in Lithuania // Sustainability. Basel : MDPI. ISSN 2071-1050. 2018, vol. 10, iss. 2, art. no. 162, p. 1-21. DOI: 10.3390/su10020162. [Social Sciences Citation Index (Web of Science); Scopus; DOAJ] [IF: 2,592; AIF: 3,032; IF/AIF: 0,854; Q2 (2018, InCites JCR SSCI)] [CiteScore: 3,01; SNIP: 1,206; SJR: 0,549; Q1 (2018, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,333] 9. [S1; LT; OA] Pilinkienė, Vaida; Stundziene, Alina; Stankevicius, Evaldas; Grybauskas, Andrius. Impact of the economic stimulus measures on Lithuanian real estate market under the conditions of the COVID-19 pandemic // Inžinerinė ekonomika = Engineering economics. Kaunas : KTU. ISSN 1392-2785. eISSN 2029-5839. 2021, vol. 32, iss. 5, p. 459-468. DOI: 10.5755/j01.ee.32.5.28057. [Social Sciences Citation Index (Web of Science); Scopus; Business Source Complete] [IF: 1,292; AIF: 2,994; IF/AIF: 0,431; Q3 (2020, InCites JCR SSCI)] [CiteScore: 2,30; SNIP: 0,605; SJR: 0,303; Q2 (2020, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,250] 10. [S1; LT; OA] Stundziene, Alina; Barkauskas, Vytautas; Giziene, Vilda. The leading indicators of the economic cycles in Lithuania // Inžinerinė ekonomika = Engineering economics. Kaunas : KTU. ISSN 1392-2785. eISSN 2029-5839. 2017, vol.28, iss.3, p. 280-289. DOI: 10.5755/j01.ee.28.3.16705. [Social Sciences Citation Index (Web of Science); Scopus; Business Source Complete] [IF: 0,709; AIF: 1,766; IF/AIF: 0,401; Q3 (2017, InCites JCR SSCI)] [CiteScore: 0,94; SNIP: 0,587; SJR: 0,341; Q2 (2017, Scopus Sources)] [M.kr.: S 004] [Indėlis: 0,334]
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