FAU – School of Business and Economics
Chair of Statistics and Econometrics
MSE-7390: Econometrics seminar
Spring 2019 – Syllabus

First seminar meeting: Tuesday, April 23, 2019, 15:00-16:30, room 3.152/3
Block seminar: Friday/Saturday, July 19/20, 2019, 9:00 - 17:00, room 5.152

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Overview: There have been many discussions about "the replication crisis" in economics, the social sciences in general, psychology, and other disciplines. The term refers to the fact that a huge fraction of empirical papers (both experimental studies and research based on observational data) turns out to be not reproducible by other researchers.

In response, there have been a number of efforts to improve the standards of empirical economic research and to increase the number of replication attempts of research papers. Most prestigious journals, for instance, now require authors to publish data (and often software codes) along with their papers. One prominent example and "pioneer" would be the Journal of Applied Econometrics.

In this seminar, students will select one empirical research paper from any field in economics and try to replicate its results. This might involve testing published software code, replicating results using a different software package, testing sensitivity of results with respect to changes in model specification, cross-checking published data based on primary data sources, confirming results based on updated data sets, etc.

Students can select papers from the list below or make own suggestions. If you come up with a paper yourself, make sure that the data is available on the journal website or can be obtained easily from primary data sources and make sure that either software code is available on the journal website (or the author's homepage) and/or that the used econometric methods are simple enough to warrant a replication in a reasonable amount of time. (A good starting point to search for other papers might this website (http://econ.mathematik.uni-ulm.de:3200/ejd/) or Harvard's Dataverse (https://dataverse.harvard.edu/).) Approval of the supervisor is necessary to select an own proposal.

Registration: Please send an e-mail to wiso-oekonometrie@fau.de if you want to register for this seminar. <u>Please state clearly i) your name and surname, ii) your student ID, iii) your degree program, and iv) your first and second choice of papers that you would like to replicate.</u> **The deadline for registrations is <u>April 18, 2019</u>.** (The

number of students is restricted to a maximum of 20. In the case of more registrations, a lottery will determine who can participate.)

Grading: Grading in the module is based on the seminar paper (80 %) and the presentation of the paper (roughly 30 minutes) during the block seminar (20 %). Information about the formal requirements regarding length and layout of the seminar papers will be distributed during the first seminar meeting.

Required literature for everybody:

Christensen, G. S. and E. Miguel (2016), Transparency, Reproducibility, and the Credibility of Economics Research, NBER Working Paper Series, 22989, National Bureau of Economic Research, Cambridge, MA.

List of papers for replication:

1. Acemoglu, D., U. Akcigit, D. Hanley, and W. Kerr (2016), Transition to clean technology, Journal of Political Economy, 124(1), 52-104. (Code and data available, Python. Please only chose this topic if you are an experienced Python user!)
2. Angrist, J. D. (1990), Lifetime earnings and the Vietnam era draft lottery: Evidence from social security administrative records, The American Economic Review, 80(3), 313-336. (Code and data available, Stata)
3. Angrist, J. D. and Adriana D. Kugler (2003), Protective or counter-productive? Labour market institutions and the effect of immigration on EU natives, The Economic Journal, 113(488), F302-F331. (Code and data available, Stata)
4. Anundsen, A. K., K. Gerdrup, F. Hansen, and K. Kragh-Sørensen (2016), Bubbles and crises: the role of house prices and credit. Journal of Applied Econometrics, 31(7), 1291-1311. (Code and data available, Stata)
5. Benhassine, N., F. Devoto, E. Duflo, P. Dupas, and V. Pouliquen (2015), Turning a shove into a nudge? A "labeled cash transfer" for education, American Economic Journal: Economic Policy 7(3), 86-125. (Data available)
6. Bick, A., N. Fuchs-Schündeln, D. Lagakos (2018), How do hours worked vary with income? Cross-country evidence and implications, American Economic Review, 108(1), 170-199. (Code and data available, Stata)
7. Blanchard, O. and D. Quah (1989), The dynamic effects of aggregate demand and supply disturbances, American Economic Review, 79(4), 655-73. (Code and data available, Matlab or RATS)
8. Bloom, N. (2009), The impact of uncertainty shocks, Econometrica, 77(3), 623-685. (Code and data available, Stata/Matlab)
9. Buser, T. (2015), The effect of income on religiousness, American Economic Journal: Applied Economics, 7(3), 178-195. (Code and data available, Stata)
10. Cerra, V. and S. C. Saxena (2008), Growth dynamics: the myth of economic recovery, American Economic Review, 98(1), 439-57. (Data available) PLUS Mueller, H. (2012), Growth dynamics: the myth of economic recovery: comment, American Economic Review, 102(7), 3774-3777. (Code and data available, Stata)

11. Colvin, C. L., M. McCracken (2017), Work ethic, social ethic, no ethic: Measuring the economics values of modern Christians. Journal of Applied Econometrics, 32(5), 1043-1053. (Code and data available, Stata)

12. DellaVigna, S., J. A. List, U. Malmendier, and G. Rao (2017), Voting to tell others, The Review of Economic Studies, 84(1), 143–181. (Code and data available, Stata)

13. Dueker, M. (2005), Dynamic forecasts of qualitative variables. A qual VAR model of U.S. recessions, Journal of Business & Economic Statistics, 23(1), 96-104. (Code and data available, RATS)

14. Fries, S., J.-S. Mésonnier, S. Mouabbi, and J.-P. Renne (2018), National natural rates of interest and the single monetary policy in the euro area, Journal of Applied Econometrics, 33(6), 763-779. (Code and data available, Matlab)

15. Fuchs, A. and K. Gehring (2017), The Home Bias in sovereign ratings, Journal of the European Economic Association, 15(6), 1386–1423. (Code and data available, Stata)

16. Gerritsen, S., E. Plug, D. Webbink (2017), Teacher quality and student achievement: Evidence from a sample of Dutch twins. Journal of Applied Econometrics, 32(3), 643-660. (Code and data available, Stata)

17. Haushofer, J. and J. Shapiro (2016), The short-term impact of unconditional cash transfers to the poor: Experimental evidence from Kenya, The Quarterly Journal of Economics, 131(4), 1973–2042. (Code and data available, Stata)

18. Leduc, S. and K. Sill (2013), Expectations and economic fluctuations: an analysis using survey data, Review of Economics and Statistics, 95(4), 1352-1367. (Code and data available, RATS)

19. Lindé, J. and M. Trabandt (2018), Should we use linearized models to calculate fiscal multipliers?, Journal of Applied Econometrics, 33(7), 937-965. (Code and data available, Matlab/Dynare)

20. Mian, A., A. Sufi, and E. Verner (2017), Household debt and business cycles worldwide, The Quarterly Journal of Economics, 132(4), 1755-1817 (Code and data available, Stata/Matlab)

21. Primiceri, G. E. (2005), Time varying structural vector autoregressions and monetary policy, The Review of Economic Studies, 72(3), 821-852. PLUS Del Negro, M. and G. E. Primiceri (2015), Time varying structural vector autoregressions and monetary policy: A corrigendum, The Review of Economic Studies, 82(4), 1342-1345. (Code available, R)

22. Rossi, B. and T. Sekhposyan (2015), Macroeconomic uncertainty indices based on nowcast and forecast error distributions, American Economic Review, 105(5), 650-55. (Data available)

23. Tenreyro, S. and G. Thwaites (2016), Pushing on a string: US monetary policy is less powerful in recessions, American Economic Journal: Macroeconomics, 8(4), 43-74. (Code and data available, Matlab)

24. Trebesch, C. and M. Zabel (2017), The output costs of hard and soft sovereign default, European Economic Review, 92(C), 416-432. (Code and data available, Stata)

25. Waldinger, F. (2010), Quality matters: The expulsion of Professors and the consequences for PhD student outcomes in Nazi Germany. Journal of Political Economy, 118(4), 787-831. (Code and data available, Stata)

Course requirements: Course participants are required to

- **Attend.** Students can only pass the course if they attend the block seminar and the first meeting in which the final distribution of topics is made.
- **Be interested in econometrics.** Students have to replicate empirical studies in this seminar and therefore need to be interested in (applied) econometrics and have a solid background in statistics/econometrics.
- **Prepare.** Please read the required literature before the first seminar meeting. Please also read before the block seminar the abstracts of all papers that will be presented.
- **Follow the website.** I'll make course material available through the course website on StudOn. I will also make announcements using this platform.
- **Code.** Replicating other papers usually leads to large learning gains because you have to code a certain econometric method in a software package (or at least understand a given code that implements it).

Online resources for software packages: There are many good online resources available that can help you improve your software skills. Please note, however, that to successfully work on your replication program you should have some prior knowledge of/experience with the software you are going to work with.

In general, you can find many helpful answers for your problems by just googling the question that you have (e.g., by using an error message that you get). This works well for Stata, Matlab as well as R. In the following, a number of example online resources are listed that can be used to learn about R, Stata, or Matlab.

For **R**, there is a good and free course on Coursera offered by Johns Hopkins University. Likewise, the book "R Programming for Data Science" by one of the authors of the Coursera course gives a good introduction to programming in R. Alternatively you can learn more R using courses offered via the swirl project.

For **Stata**, you might want to look at the "Internet Guide to Stata" published by W. Ludwig-Mayerhofer from the University of Siegen. There is also a Stata tutorial available from Princeton University. In any case, the help function of Stata is very good and provides many examples for each function that you are looking for.

For **Matlab**, there is for instance an introductory course from MIT. As with Stata, the Matlab help offers very detailed explanations and many examples.